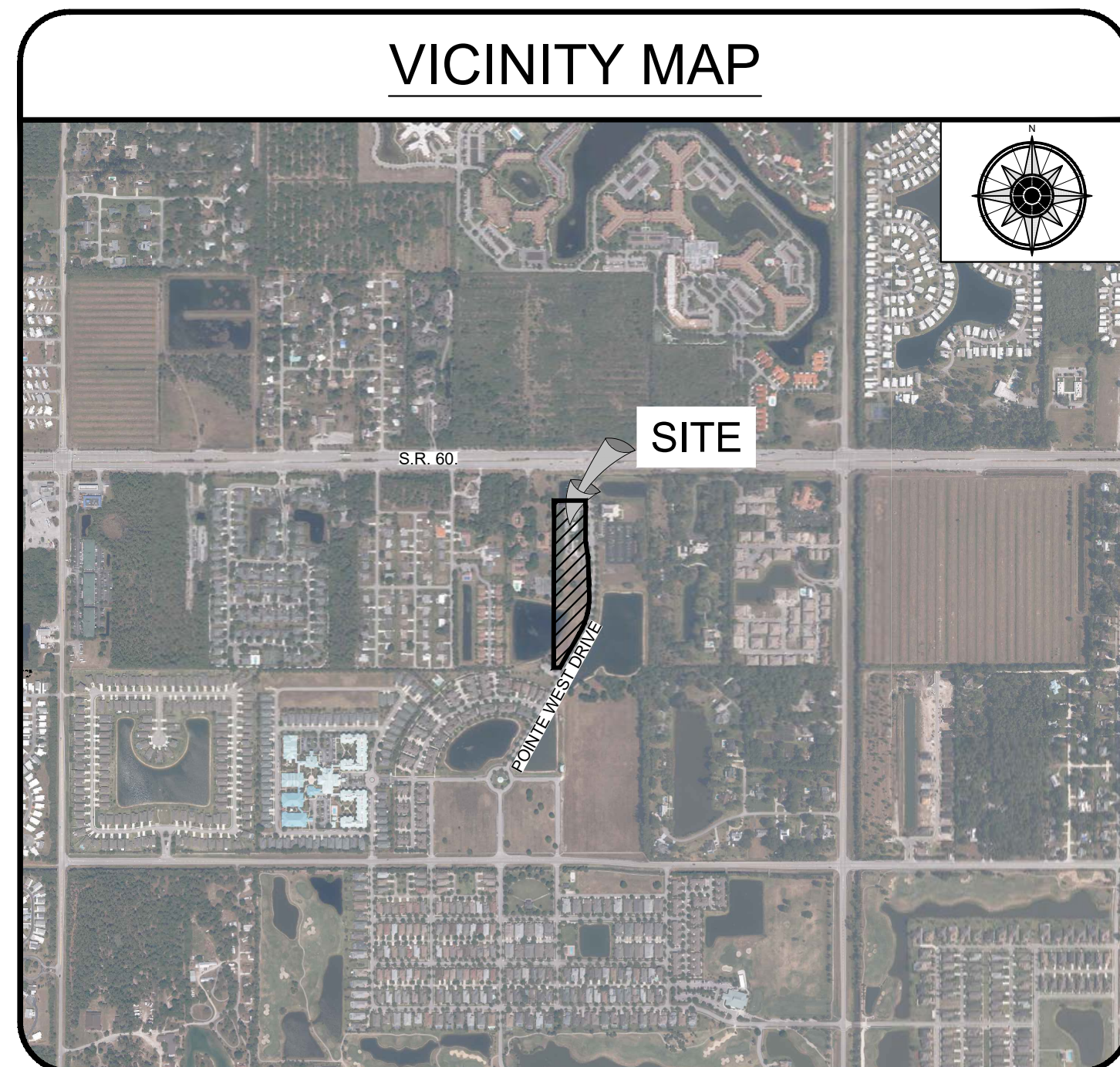
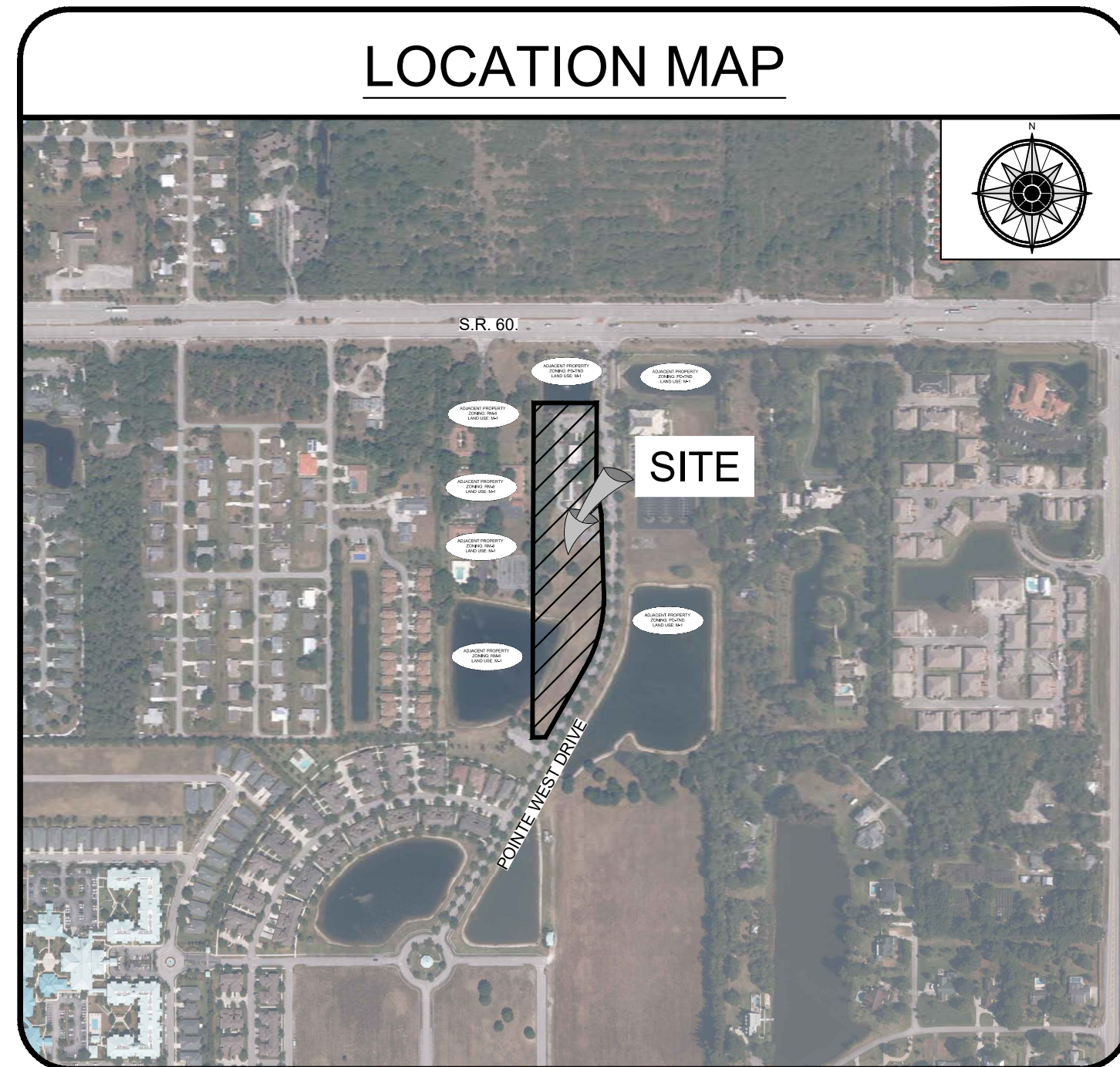


SITE PLAN FOR SPALLONE DENTAL OFFICE

TRACT 'P' POINTE WEST NORTH VILLAGE SECTION 01, TOWNSHIP 33 SOUTH, RANGE 38 EAST 1985 POINTE WESTDRIVE, VERO BEACH INDIAN RIVER COUNTY, FLORIDA 32966



SITE DATA	
OWNER:	DENTAL DREAM TEAM, LLC 132 ANCHOR DRIVE VERO BEACH, FLORIDA 32963 (772) 532-1260
APPLICANT:	TIFFANY SPALLONE 132 ANCHOR DRIVE VERO BEACH, FLORIDA 32963 (772) 532-1260
ENGINEER:	SCHULKE, BITTLE AND STODDARD, L.L.C. 1717 INDIAN RIVER BOULEVARD SUITE 201 VERO BEACH, FLORIDA 32960 (772) 770-9622
SURVEYOR:	MERIDIAN LAND SURVEYORS, INC LB#6905 1717 INDIAN RIVER BOULEVARD, SUITE 201 VERO BEACH, FLORIDA 32960 (772) 794-1213
SITE LOCATION:	1985 POINTE WEST DRIVE VERO BEACH, FLORIDA 32966
TAX I.D. #:	3338010001900000000.1

REQUIRED PERMITS	
INDIAN RIVER COUNTY	SITE PLAN CONCURRENCY LAND CLEARING TREE REMOVAL UTILITIES CONSTRUCTION TYPE A STORMWATER MANAGEMENT BUILDING PERMIT
SJRWMD	ENVIRONMENTAL RESOURCE PERMIT (COMPLIANCE DETERMINATION)
FLORIDA DEP	NOTICE OF INTENT
IRFWCD	GENERAL SITE REVIEW
DOH	GREASE TRAP/INTERCEPTOR (IF REQUIRED) PHASE 2 AND 3

LEGAL DESCRIPTION	
TRACT P, POINTE WEST NORTH VILLAGE, PHASE 1 PD, AS RECORDED IN PLAT BOOK 15, PAGE 82, PUBLIC RECORDS OF INDIAN RIVER COUNTY FLORIDA.	
LESS AND EXCEPT ANY PART OF THE CAPTION LYING WITHIN THE LANDS DESCRIBED IN ORB 1887, PG. 1423 (EAST 10 ACRES OF WEST 20.68 ACRES OF TRACT 10)	

GENERAL NOTES	
1. SUBMITTALS	
A. PRODUCT DATA AND SHOP DRAWINGS	
1. FOR ALL SITE WORK CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT PRODUCT DATA IN THE FORM OF MANUFACTURERS' CUT SHEETS AND CATALOG DATA FOR ALL PRODUCTS, MATERIAL AND EQUIPMENT CLEARLY INDICATING THE SPECIFIC PART OR PRODUCT CATALOG NUMBER(S) FOR APPROVAL.	
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PRODUCTS, MATERIALS AND EQUIPMENT REQUIRED TO BE FABRICATED, OR WHEN STANDARD PUBLISHED PRODUCT DATA IS NOT SUITABLE FOR USE.	
3. SUBMIT 6 COPIES OF REQUESTED INFORMATION, NEATLY BOUND AND INDEXED PER CATEGORY FOR THE FOLLOWING:	
A. UTILITIES:	
ALL PIPE, FITTINGS, VALVES, OTHER MISCELLANEOUS APPURTENANCES, CONTROLS, PUMP STATION EQUIPMENT, COMPONENTS AND STRUCTURES, AND ALL OTHER UTILITY SYSTEM PRODUCTS, MATERIALS AND COMPONENTS AND SIMILAR CONTROLS.	
B. DRAINAGE:	
ALL PIPE, FITTINGS, AND COMPONENTS THEREOF, STRUCTURES, FRAMES, GRATES, LIDS, GASKETS, FASTENERS, COUPLERS, AND ALL OTHER DRAINAGE SYSTEM PRODUCTS, MATERIALS, AND COMPONENTS AND SIMILAR CONTROLS.	
C. PAVING AND GRADING:	
FDOT CERTIFICATIONS AND LAB ANALYSIS/RESULTS FOR PAVEMENT, BASE, SUBGRADE, AND FILL MATERIALS, INCLUDE EVIDENCE (CERTIFICATIONS) THAT THE MATERIALS PROPOSED TO BE USED MEET OR EXCEED FDOT SPECIFICATIONS AND THE CONTRACT DOCUMENTS.	
D. SIGNING AND PAVEMENT MARKING:	
SIGN AND PAVEMENT MARKING PRODUCTS AND MATERIALS, AND EVIDENCE THAT THE PRODUCTS AND MATERIALS PROPOSED TO BE USED MEET OR EXCEED REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS, LOCAL ENGINEERING DEPARTMENT, MUTCO AND FDOT SPECIFICATIONS.	
E. IRRIGATION:	
ALL PIPE, FITTINGS, VALVES, OTHER MISCELLANEOUS APPURTENANCES, CONTROLS, PUMP STATION EQUIPMENT, COMPONENTS AND STRUCTURES, AND ALL OTHER UTILITY SYSTEM PRODUCTS, MATERIALS AND COMPONENTS AND SIMILAR CONTROLS, WELLS, AND/OR OTHER IRRIGATION SOURCES. THE CONTRACTOR SHALL SUBMIT AN IRRIGATION COORDINATION DRAWING, INDICATING CONTRACTOR'S PROPOSED LOCATION OF MAIN LINES, SECONDARY LINES, HEAD LOCATIONS, WELL, PUMP, CONTROL PANEL, SENSORS, CONTROL VALVE AND VALVE LOCATIONS. THIS DRAWING SHOULD CLEARLY DEPICT ADJUSTMENTS OR CHANGES THE CONTRACTOR PROPOSES. THE DRAWING SHALL INDICATE ALL PROPOSED SUBSTITUTIONS OF SIZE, MATERIAL, AND/OR MANUFACTURER.	
4. ALLOW TWO WEEKS FOR THE ENGINEER TO COMPLETE REVIEW OF PRODUCT DATA AND SHOP DRAWINGS. ENGINEER WILL NOT BE RESPONSIBLE FOR PROJECT DELAYS RELATED TO DELIVERY AND TRANSMISSION OF THE DOCUMENTS ONCE INFORMATION HAS LEFT ENGINEER'S OFFICE. ITEMS REQUIRING A LONG LEAD TIME SHOULD BE SUBMITTED AS SOON AS POSSIBLE.	
5. THE CONTRACTOR SHALL PROVIDE A STAMP INDICATING ITS REVIEW AND APPROVAL, INITIALED OR SIGNED CERTIFYING TO REVIEW OF SUBMITTAL, VERIFICATION OF PRODUCTS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA, AND COORDINATION OF THE INFORMATION WITHIN THE SUBMITTAL WITH REQUIREMENTS OF THE WORK AND OF CONTRACT DOCUMENTS, INCLUDING PLANS AND SPECIFICATIONS OF OTHER DESIGN PROFESSIONALS (I.E., ARCHITECT, MECHANICAL, ELECTRICAL, AND STRUCTURAL ENGINEERS).	
B. TESTING	
1. WATER, PRESSURE (MAIN AND TAPS), BACTERIOLOGICAL, BACKFILL DENSITIES, BACKFLOW PREVENTOR TESTS AND CERTIFICATION; AND AS PER PROJECT SPECIFICATIONS, LOCAL UTILITIES DEPARTMENT, AND FDEP REQUIREMENTS.	
2. SEWER, EXFIL, TV, AND BACKFILL DENSITIES, PRESSURE TEST (MANS AND TAPS) LIFT STATION START-UP, ALL PER PROJECT SPECIFICATIONS, COVB AND FDEP REQUIREMENTS.	
3. DRAINAGE, EXFIL, LAMPING (FIELD), AND BACKFILL DENSITIES PER PROJECT SPECIFICATIONS AND LOCAL ENGINEERING REQUIREMENTS.	
4. EARTHWORK & PAVING, DENSITIES, LBR'S AND FBV'S AS PER PROJECT SPECIFICATIONS AND LOCAL ENGINEERING REQUIREMENTS.	
5. SUBMIT ALL TEST RESULTS FOR ENGINEERING REVIEW WITHIN 3 DAYS OF TESTING. FAILURE TO PROVIDE TEST RESULTS, OR PROVIDING FAILING TEST RESULTS WILL BE GROUNDS FOR REJECTION OF WORK AND DELAY AND/OR REJECTION OF PAY REQUEST APPLICATIONS.	
C. AS-BUILTS	
1. GRADING, LOCATION AND ELEVATION OF ALL: CONCRETE AND PAVEMENT (VEHICLE USE AND PEDESTRIAN USE IMPROVEMENTS) AT HI/LOW POINTS, EDGE OF PAVEMENT, AND CENTERLINE AT 50' ON CENTER AND AT CHANGE OF DIRECTION, GRADE BREAKS, PROPERTY LINES (CROSS SECTIONS 50' ON CENTER); TOP OF BANK AND T.O.E. OF SLOPE AND/OR CENTERLINE OF SWALES AND RETENTION AREAS; CROSS SECTIONS 50' ON CENTER ON STORMWATER LAKES FROM TOP TO BOTTOM; MECHANICAL PADS AND FINISHED FLOOR ELEVATIONS; DETAILED LOCATION AND TOPOGRAPHY OF DRIVEWAY TURNOUTS.	
2. WATER AND SEWER FORCE MAINS: LOCATION, TOP ELEVATION AND STATE PLANE COORDINATES AT ALL FITTINGS, VALVES, CHANGES OF DIRECTION AND AT 100' ON CENTER.	
3. GRAVITY SEWER: - SEWER STRUCTURES: DIAMETER OR SIZE, AND LOCATION AND ELEVATION OF STRUCTURES, TOP, BOTTOMS, AND SEWER INVERTS. - MAINS AND LATERALS: LOCATION AND INVERT ELEVATIONS AT CONNECTIONS, FITTINGS, AND TERMINATION. - LIFT STATIONS: HORIZONTAL LAYOUT AND LOCATION OF ALL EQUIPMENT, PANELS, VAULTS, WET WELL, VALVES, LOCATION OF CONDUIT RUNS AND WATER'S EDGE BIBBS; LOCATION AND INVERT ELEVATIONS OF GRAVITY AND FORCE MAINS TO AND FROM LIFT STATION; WET WELL DIAMETER, TOP AND BOTTOM ELEVATIONS; PUMP(S) SIZE, TYPE, DISCHARGE DIAMETER, MANUFACTURER AND MODEL #.	
4. DRAINAGE: ALL STRUCTURES DIAMETER OR SIZE, LOCATION AND ELEVATION OF TOP, BOTTOM, AND INVERT ELEVATIONS, ALL PIPES, DIAMETER, TYPE/MATERIAL, LOCATION AND INVERT ELEVATION AT CONNECTIONS, FITTINGS, AND TERMINATION POINTS.	
5. IRRIGATION: ALL LINES, SYSTEM EQUIPMENT COMPONENTS, MATERIALS INCLUDING PIPES, VALVES, FITTINGS, SPRINKLER HEADS, AND MISCELLANEOUS APPURTENANCES.	
D. OPERATION AND MAINTENANCE MANUALS	
1. CONTRACTOR SHALL PROVIDE THE OWNER WITH OPERATION AND MAINTENANCE MANUALS FOR ALL OPERABLE EQUIPMENT (PUMP STATIONS AND CONTROLS, AUTOMATIC CONTROL VALVES, AND OTHER AUTOMATED EQUIPMENT; CONTROL PANELS, ETC.).	
2. OPERATION AND MAINTENANCE MANUALS SHALL BE SUBMITTED AS A PRE-REQUISITE TO THE PROJECT BEING DEEMED SUBSTANTIALLY COMPLETE.	
E. WARRANTY	
THE CONTRACTOR SHALL PROVIDE ALL WARRANTIES, CERTIFICATIONS, GUARANTIES, AND WARRANTY BONDS AS SPECIFIED IN THE CONTRACT DOCUMENTS AND PERMIT CONDITIONS INCLUDING: - UTILITY MAINTENANCE BOND - FOR ALL PUBLIC WATER AND SEWER UTILITIES INFRASTRUCTURE - (25% OF CONTRACT VALUE) - ENGINEERING MAINTENANCE BOND - FOR ALL PAVING, GRADING, AND DRAINAGE IMPROVEMENTS AND INFRASTRUCTURE (25% OF CONTRACT VALUE)	
4. OWNER TRAINING THE CONTRACTOR SHALL INCLUDE 2 HOURS OF OWNER TRAINING (FOR EACH WATER, SEWER, DRAINAGE, AND IRRIGATION SYSTEMS) FOR ALL OPERABLE EQUIPMENT AND SHALL INCLUDE THE TIME FOR INITIAL ADJUSTMENTS OF EQUIPMENT AND TIME FOR ONE FOLLOW-UP VISIT AND ADJUSTMENTS OF EQUIPMENT 60 DAYS AFTER END USER HAD OPERATIONAL TIME WITH THE EQUIPMENT	

Sheet List Table	
Sheet Number	Sheet Title
C-000	COVER
C-100	AERIAL
C-200	EXISTING CONDITIONS
C-201	EXISTING CONDITIONS (20 SCALE)
C-202	GEOTECHNICAL REPORT AND SOIL BORINGS-I
C-203	GEOTECHNICAL REPORT AND SOIL BORINGS-II
C-300	STORM WATER POLLUTION PREVENTION PLAN
C-301	STORM WATER POLLUTION PREVENTION PLAN DETAILS
C-400	SITE PLAN
C-401	SITE PLAN - PHASE 1
C-402	SITE PLAN - PHASE 2 & 3
C-403	SITE PLAN DETAILS
C-500	PAVING, GRADING, DRAINAGE AND UTILITY PLAN
C-501	PAVING, GRADING, DRAINAGE AND UTILITY PLAN - PHASE 1
C-502	PAVING, GRADING, DRAINAGE AND UTILITY PLAN - PHASE 2 & 3
C-503	SECTIONS
C-504	PAVING, GRADING, UTILITY AND DRAINAGE DETAILS
C-505	PAVING, GRADING, UTILITY AND DRAINAGE DETAILS-II
C-506	IRC UTILITY STANDARD DETAILS - WATER
C-507	IRC UTILITY STANDARD DETAILS - WATER-II
C-508	IRC UTILITY STANDARD DETAILS - SEWER
C-600	LANDSCAPING PLAN
C-601	LANDSCAPING PLAN - PHASE 1
C-602	LANDSCAPING PLAN - PHASE 2 & 3
C-603	LANDSCAPING PLAN DETAILS
C-604	LANDSCAPING SPECIFICATIONS

POINTE WEST P.D. TND USE/INTENSITIES APPROVED AND CHANGED					
YEAR	UNITS	TRACTS J & K		TRACTS O & P	
		COMMERCIAL	USE	COMMERCIAL	USE
1999	36	127,500 SF	MED. OFFICE, RETAIL, RESTAURANT, HOTEL, C-STORE/FUEL STATION, HEALTH/FITNESS, DAY CARE & RESIDENTIAL UNITS	42,500 SF	MED. OFFICE, RETAIL, RESTAURANT
2003 *1 ADD CONDITION	36	77,231 SF	MED. OFFICE, RETAIL, RESTAURANT, HOTEL, C-STORE/FUEL STATION, HEALTH/FITNESS, DAY CARE & RESIDENTIAL UNITS	81,500 SF 10,500 SF 92,000 SF	MED. OFFICE RETAIL (RESTAURANT REMOVED)
2007	3 (*4)	85,866 SF	MED. OFFICE, RETAIL, RESTAURANT, HOTEL, C-STORE/FUEL STATION, HEALTH/FITNESS, DAY CARE & RESIDENTIAL UNITS	102,150 SF 10,500 SF 112,650 SF	MED. OFFICE RETAIL
2008 *2 REVISE CONDITION *3 ADD CONDITION	3	85,866 SF	MED. OFFICE, RETAIL, RESTAURANT, HOTEL, C-STORE/FUEL STATION, HEALTH/FITNESS, DAY CARE & RESIDENTIAL UNITS	102,150 SF 10,500 SF 112,650 SF	MED. OFFICE RETAIL
PROPOSED ⁵	36	72,000 SF	MED. OFFICE, RETAIL, RESTAURANT, HOTEL, C-STORE/FUEL STATION, HEALTH/FITNESS, DAY CARE (ADD: PLACES OF WORSHIP)	4,000 SF 4,000 SF 4,000 SF 11,700 SF 23,700 SF	TRACT "P" RESTAURANT ** RETAIL OFFICE MEDICAL/DENTAL OFFICE (**ADD TO USE ALLOWED)
				21,000 SF	TRACT "O" MEDICAL OFFICE
				47,300 SF	FUTURE TRACTS "P" & "O" PERMITTED
				82,000 SF	TOTAL

*1 - CONDITION ADDED: PRIOR TO C.O. FOR MORE THAN 50,000 S.F. OF COMMERCIAL FLOOR AREA WITHIN S.R. 60 AREA. (TRACTS O & P) A MINIMUM OF 25,000 S.F. OF COMMERCIAL FLOOR AREA MUST BE BUILT IN THE TOWN CENTER

*2 - REVISE CONDITION: INCREASE CONDITION ABOVE TO PERMIT UP TO 65,000 S.F. COMMERCIAL AREA WITHIN S.R. 60 AREA (TRACTS O & P) (IN LIEU OF 50,000 S.F.)

*3 - CONDITION ADDED: PERMITS UP TO 15% TRANSFER OF TOTAL SQUARE FOOTAGE FROM TOWN CENTER TO S.R. 60 AREA

*4 - 33 UNITS REMOVED IN TOWN CENTER, AND TOTAL OF 55 UNITS REMOVED FROM THE TND

*5 - CHANGES PROPOSED WITH THIS APPLICATION

SCHULKE, BITTLE & STODDARD, L.L.C.

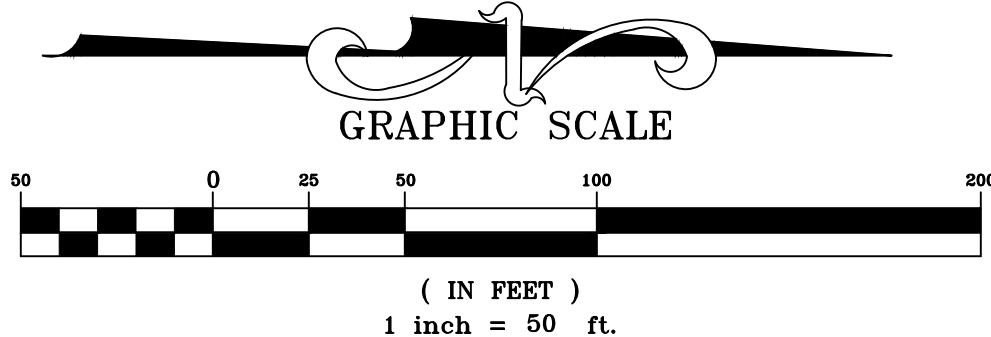
CIVIL & STRUCTURAL ENGINEERING · LAND PLANNING · ENVIRONMENTAL PERMITTING
CERTIFICATION OF AUTHORIZATION NO.: 00008668

1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com



MARK	REVISION	DATE

ENGINEER CERTIFICATION:
DATE:
 JOSEPH W. SCHULKE, P.E. REG. No 47048
 JOAH B. BITTLE, P.E. REG. No 57396
 WILLIAM P. STODDARD, Ph.D., P.E. REG. No 57605



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MARK	REVISION	DATE

DRAWING	DESIGNED	JWS

DATE	SCALE	1" = 50'

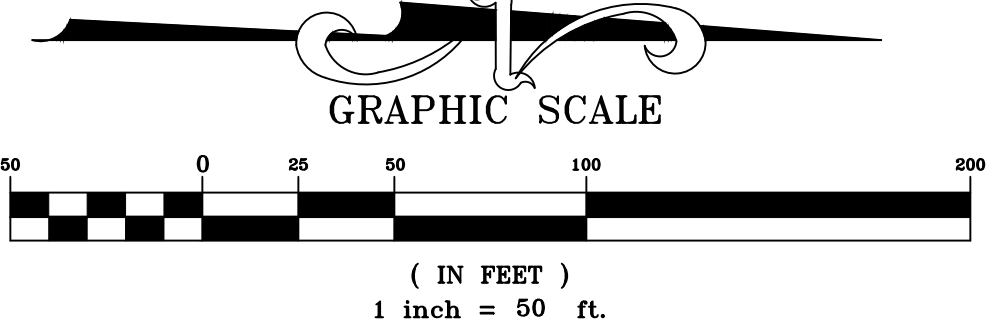
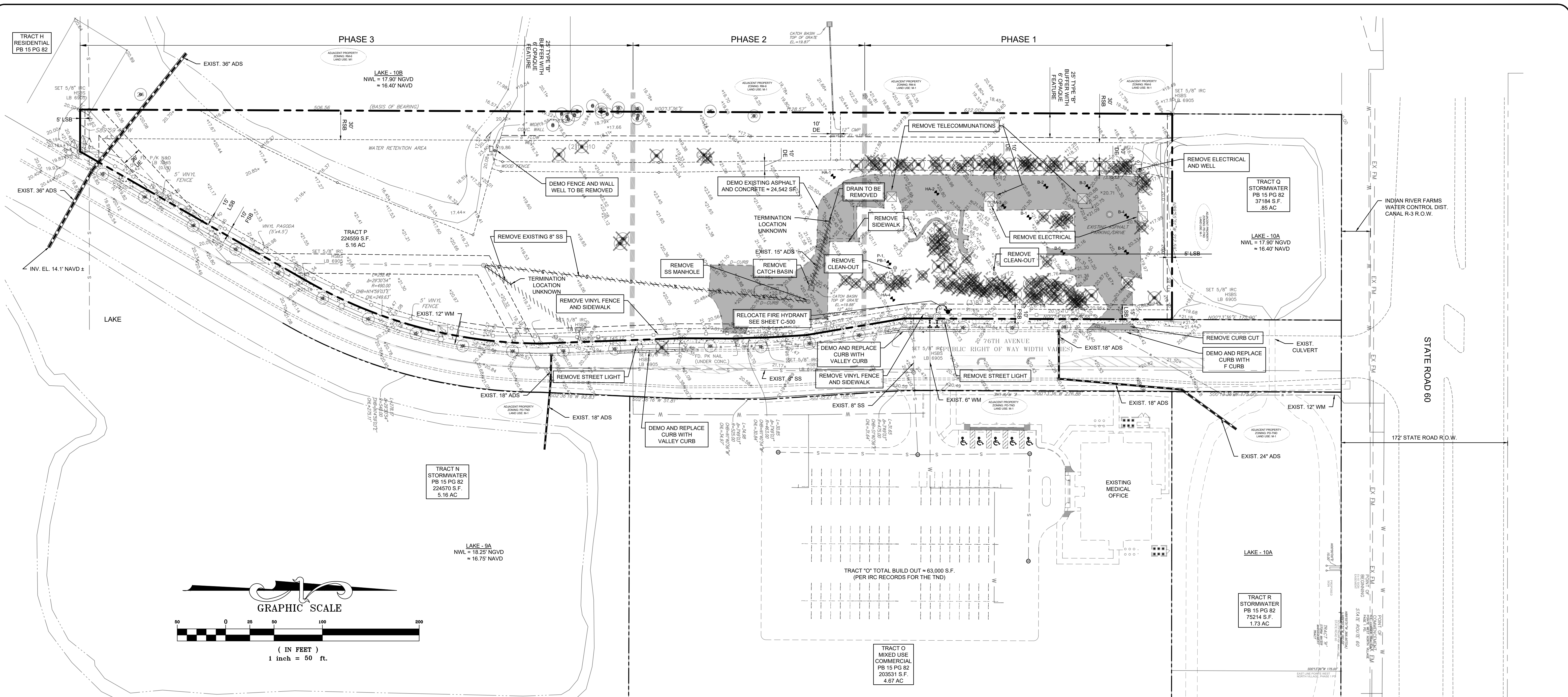
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 REGISTRY #8668
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AERIAL

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION
 JOSEPH W. SCHULKE
 FL. REG. NO. 47048
 ADAM B. BITTLE
 FL. REG. NO. 57386
 WILLIAM P. STODDARD
 FL. REG. NO. 57605

DATE: _____ SHEET: **C-100**
 PROJECT NO.: 21-034



SITE DATA

OWNER
DENTAL DREAM TEAM
132 ANCHOR DRIVE
VERO BEACH, FL 32963
PHONE: 772-532-1260

APPLICANT
TIFFANY SPALLONE
132 ANCHOR DRIVE
VERO BEACH, FL 32963
PHONE: 772-532-1260

ENGINEER
SCHULKE, BITTLE & STODDARD, L.L.C.
1717 INDIAN RIVER BOULEVARD, SUITE 201
VERO BEACH, FLORIDA 32960
TEL: 772-770-9622
FAX: 772-770-9496

SURVEYOR
MERIDIAN LAND SURVEYOR
1717 INDIAN RIVER BOULEVARD
VERO BEACH, FLORIDA 32960
TEL: 772-794-1213

PROJECT LOCATION
1985 POINTE WEST DR.
VERO BEACH, FL 32966

PROPERTY TAX ID NUMBERS
3338010001900000000.1

GROSS AREA
5.16 AC.

ZONING
PDTND

LAND USE
M-T

EXISTING SITE CONDITIONS
PRESENT CONDITIONS: EXISTING BUILDINGS AND PARKING LOT (TO BE DEMOLISHED)

FLOOD ZONE
FLOOD ZONE F.I.R.M. NO. 12061C_STUDY1, 8/30/2017 FLOOD ZONE 'X'

CONSTRUCTION SCHEDULE
CONSTRUCTION START: MAY 2022
CONSTRUCTION FINISH: MAY 2023

LEGAL DESCRIPTION

TRACT P, POINTE WEST NORTH VILLAGE, PHASE 1, PD, AS RECORDED IN PLAT BOOK 15, PAGE 82, PUBLIC RECORDS OF INDIAN RIVER COUNTY FLORIDA.

LESS AND EXCEPT ANY PART OF THE CAPTION LYING WITHIN THE LANDS DESCRIBED IN ORB 1887, PG. 1423 (EAST 10 ACRES OF WEST 20.68 ACRES OF TRACT 10)

TREE SYMBOL LEGEND

EXISTING OAK TREE TO REMAIN

EXISTING PALM TREE TO REMAIN

EXISTING OAK TREE TO BE REMOVED

EXISTING PALM TREE TO BE REMOVED

NOTES: LAND CLEARING

(A) ALL NATIVE UPLAND VEGETATION CONTRIBUTING TO THE STABILIZATION OF BANKS OR EXISTING CANALS, DITCHES OR NATURAL WATERCOURSES SHALL BE RETAINED.

(B) ALL NUISANCE EXOTIC VEGETATION EXISTING ON SITE SHALL BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.

(C) ANY ABANDONED FLOW WELLS EXISTING ON SITE SHALL BE PLUGGED IN CONJUNCTION WITH SITE DEVELOPMENT.

GENERAL NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. RELOCATION OF UTILITIES SHALL BE COORDINATED WITH UTILITY COMPANIES AFTER IDENTIFICATION OF CONFLICT BY CONTRACTOR. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE BEFORE ANY RELOCATION.

2. THE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR 48 HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR UTILITIES SO THAT COMPANY REPRESENTATIVES CAN BE PRESENT.

3. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 833.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.

4. THE CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) FOR FIELD LOCATIONS 48 HOURS BEFORE DIGGING NEAR UNDERGROUND UTILITIES.

5. KNOWN UTILITIES:

AT&T (772) 489-4443
COMCAST CABLE (772) 567-3444
RCOJUS (772) 228-1845
FPL (772) 462-6555

6. THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

DEMOLITION NOTES:

1. SEE UTILITY PLAN FOR PROPOSED UTILITY RELOCATES AND/OR ABANDONMENTS.

2. COORDINATE WITH FPL FOR ELECTRICAL RELOCATIONS AND/OR ABANDONMENTS, AND FOR PROPOSED ELECTRICAL UTILITY SERVICE.

3. COORDINATE WITH UTILITY PROVIDER(FPL) FOR ANY NECESSARY POWER POLE AND CHUTE REMOVAL AND RELOCATIONS.

4. SEE DRAINAGE PLAN FOR DRAINAGE CONSTRUCTION.

5. MUST ADHERE TO STORMWATER POLLUTION PREVENTION PLAN DURING CLEARING/DEMOLITION WORK. A SILT FENCE ALONG PERIMETER SHALL BE INSTALLED PRIOR TO ANY WORK.

6. REMOVAL/DEMOLITION/CLEARING SHALL BE COMPLETED IN A COORDINATED SEQUENCE TO CONTROL EROSION, SEE SHEET C-300 AND C-301.

7. SEE SHEET C-300 AND C-301 THROUGH C-309 FOR LIMITS OF CLEARING AND GRUBBING, PAVEMENT REMOVAL, AND REMOVAL OF STRUCTURES. ALL PAVEMENT AND STRUCTURES SHALL BE REMOVED WITHIN THESE LIMITS. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH ALL SITE CONDITIONS. OMISSION OF STRUCTURES OR PAVEMENT FROM THIS PLAN DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO CLEAR, REMOVE, AND DISPOSE OF ALL STRUCTURES AND ALL PAVEMENT ON THE PREMISES NOT SHOWN TO BE SAVED OR SALVAGED.

8. THE COST FOR CLEARING AND GRUBBING AND REMOVAL OF STRUCTURES, NO ADDITIONAL PAYMENTS WILL BE MADE FOR CLAIMS FOR ADDITIONAL CLEARING OR REMOVAL OF STRUCTURES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH ALL SITE CONDITIONS. OMISSION OF STRUCTURES OR PAVEMENT FROM THIS PLAN DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO CLEAR, REMOVE, AND DISPOSE OF ALL STRUCTURES AND ALL PAVEMENT ON THE PREMISES NOT SHOWN TO BE SAVED OR SALVAGED.

9. TREE PROTECTION: THE COST FOR TREE AND SHRUB PROTECTION SHALL BE INCLUDED WITHIN THE PROPOSAL FOR THE WORK PERFORMED IN THIS CONTRACT. THE WORK SHALL INCLUDE ALL TREE PROTECTION MEASURES NECESSARY FOR TREES AND SHRUBS WITHIN THE PROJECT LIMITS IDENTIFIED TO REMAIN, INCLUDING: TRIM AND/OR PRUNE BRANCHES, LIMBS, AND ROOTS; INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING; APPLICATION OF WATER AND FACILITIES NECESSARY TO MAINTAIN THE HEALTH OF THE SHRUB OR TREE; PROTECTION OF THE TREES FROM FLOODING, EROSION, OR EXCESSIVE WETTING RESULTING FROM DEWATERING OR INTERIM STORMWATER MANAGEMENT PRACTICES; REPAIR AND/OR REPLACE TREES DAMAGED BY CONSTRUCTION OPERATIONS; AND OTHER TREE PROTECTION MEASURES SPECIFIED IN THE CONTRACT DOCUMENTS.

10. DEMOLITION WORK - CONTRACTOR SHALL PREPARE ANY ADDITIONAL DOCUMENTATION (NEEDED TO OBTAIN DEMOLITION PERMITS), AND APPROVALS FROM ALL LOCAL AND STATE AGENCIES. DEMOLITION WORK SHALL BE COMPLETED WITH CAREFUL CONSIDERATION OF THE EXISTING TREES THAT ARE TO BE PRESERVED. THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT OF ANY DAMAGED OR KILLED TREES THAT ARE DEEMED UNACCEPTABLE FOR PRESERVATION BY THE ENGINEER.

11. THIS PLAN SHOULD NOT BE CONSIDERED ALL INCLUSIVE FOR CLEARING, DEMOLITION, ABANDONMENT, AND RELOCATION WORK. THE CONTRACTOR SHALL COORDINATE WITH WORK SPECIFIED ON THE SITE PLAN, PAVING, GRADING, AND UTILITIES PLAN, ELECTRICAL PLANS, AND ALL OTHER CONTRACT DOCUMENTS.

TREE MITIGATION PLAN
(SECTION 927.11(1)(d))

TREE REMOVAL

1. PROTECTED TREES AND PALM

1.1. A TREE REMOVAL PERMIT IS REQUESTED TO REMOVE THE FOLLOWING LISTED TREES:

1.2. TREES TO BE REMOVED

(17) OAK ≤ 12"

(8) OAK > 12"

(5) 16" - 20"

(1) 24"

(108) PALM ≥ 10" CLEAR TRUNK

1.3. TREES TO BE PRESERVED.

(12) OAK

(2) 4"

(4) 5"

(4) 6"

(1) 8"

(1) 20"

MITIGATION REQUIRED

PROVIDE FOR MITIGATION OF HEALTHY PROTECTED AND SPECIMEN HARDWOOD TREES GREATER THAN TWELVE (12) INCHES DBH (OTHER THAN CABBAGE PALMS) AND CABBAGE PALMS WITH TEN (10) FEET OR MORE OF CLEAR TRUNK THAT ARE PROPOSED FOR REMOVAL. THE APPLICABLE MITIGATION RATIO SHALL BE TWO (2) INCHES DBH OF REPLACEMENT TREES FOR EVERY ONE-INCH DBH OF TREE DESTROYED; THE REPLACEMENT TREES MUST BE OF THE SAME GENUS AS THE TREES REMOVED AND MUST BE AT LEAST THREE-INCH CALIPER AT ONE (1) FOOT ABOVE GRADE LEVEL AT TIME OF PLANTING.

HARDWOOD TO BE REMOVED:

OAKS ≤ 12" DBH:

(5) 16"

(2) 20"

(1) 24"

PALMS TO BE REMOVED:

PALMS ≥ 10" CLEAR TRUNK (108)

MITIGATION REQUIREMENT CALCULATION:
(5 x 16") + (2 x 20") + (1 x 24") = 144"

OPTIONS:

- REPLACEMENT: (144" x 2) / 3 = 96 3" OAKS
- FEE IN LIEU: 144" x \$100/INCH = \$14,400
- COMBINATION OF ABOVE

(108) PALMS

- RELOCATE OR REPLACE: 108 PALMS
- FEE IN LIEU: 108 x \$250 = \$27,000
- COMBINATION OF ABOVE

MITIGATION PROVIDED
SEE LANDSCAPE PLAN - SHEET C-600

TREE CREDITS

(10) 3" - 6" OAK X 2 CREDIT = 20 CREDITS

(1) 7" - 12" OAK X 4 CREDIT = 4 CREDITS

(1) 20" OAK X 8 CREDIT = 8 CREDITS

TOTAL CREDITS = 32 CREDITS

DATE	REVISION	MARK	DRAWING
			DESIGNED: JMS DRAWN: WJF/DR CHECKED: JMS SCALE: 1" = 50' DATE: 07-23-21

PREPARED BY THE ENGINEER OR ARCHITECT FOR WHICH IT IS PREPARED OR FOR THE USER OF THE DRAWING. THE USER OF THE DRAWING SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE DRAWING FROM UNAUTHORIZED REPRODUCTION OR USE. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
REGISTRY #8668
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL: 772 / 770-9622 FAX: 772 / 770-9496 EMAIL: info@sbsengineers.com

EXISTING CONDITIONS

SPALLONE DENTAL OFFICE
1985 POINTE WEST DR.
VERO BEACH, FLORIDA
INDIAN RIVER COUNTY

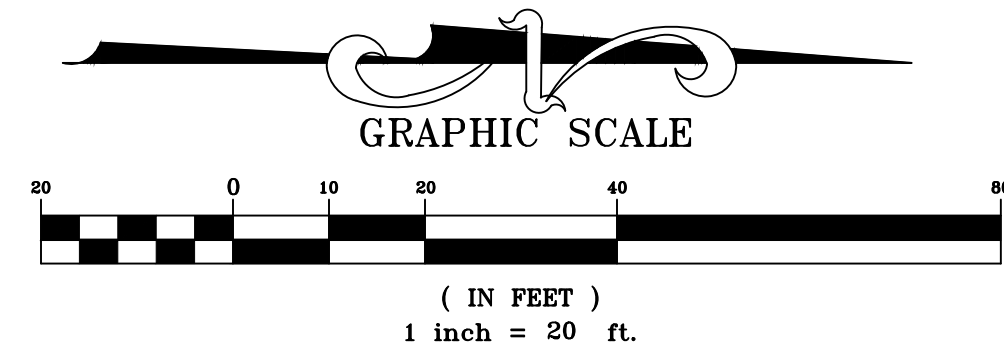
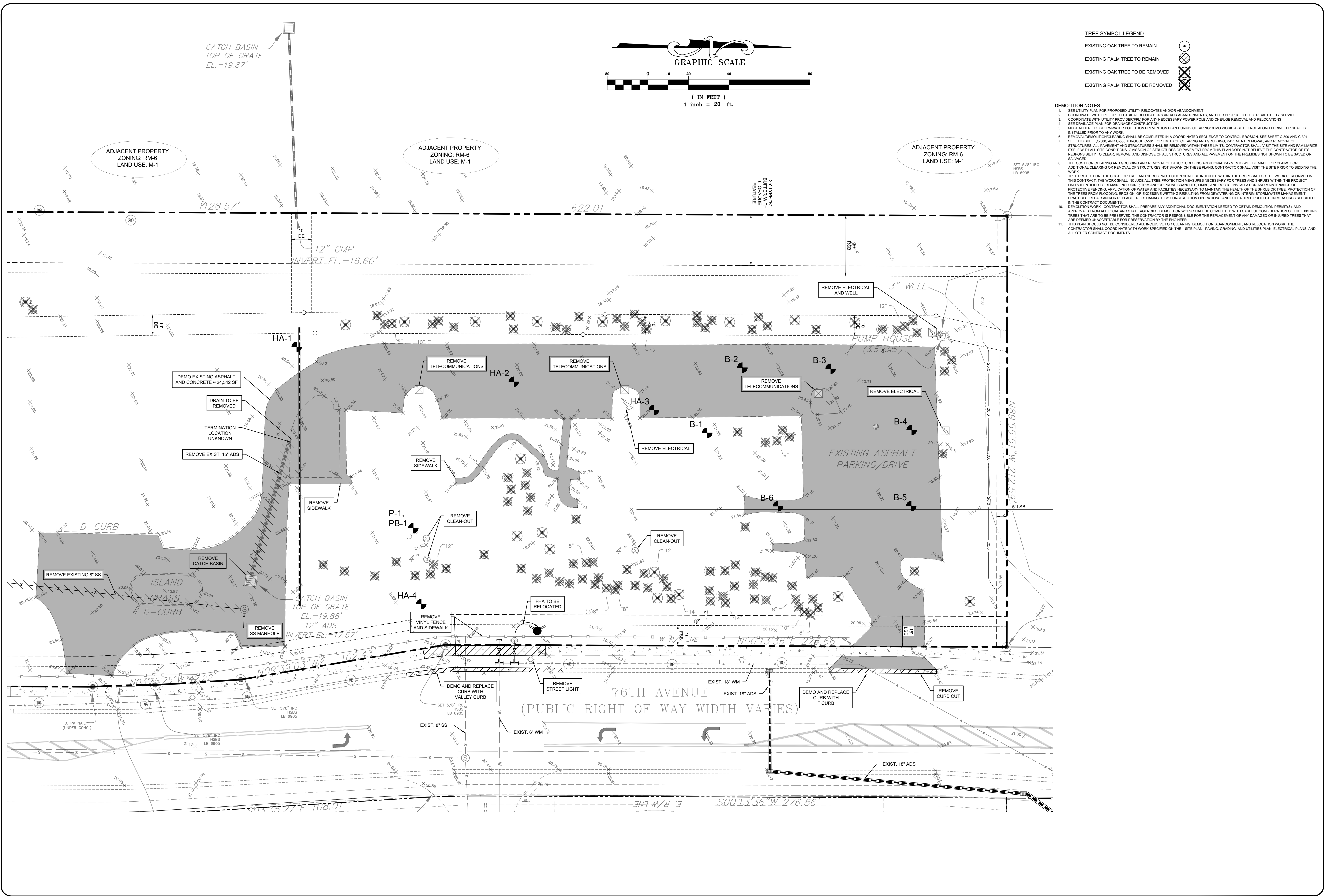
ENGINEER CERTIFICATION

JOSEPH W. SCHULKE
FL. REG. NO. 47048

JOHN B. BITTLE
FL. REG. NO. 57396

WILLIAM P. STODDARD
FL. REG. NO. 57605

DATE: SHEET
C-200
PROJECT NO.
21-034



TREE SYMBOL LEGEND

EXISTING OAK TREE TO REMAIN

EXISTING PALM TREE TO REMAIN

EXISTING OAK TREE TO BE REMOVED

EXISTING PALM TREE TO BE REMOVED

DEMOLITION NOTES:

- SEE UTILITY PLAN FOR PROPOSED UTILITY RELOCATES AND/OR ABANDONMENT.
- COORDINATE WITH FPL FOR ELECTRICAL RELOCATIONS AND/OR ABANDONMENTS, AND FOR PROPOSED ELECTRICAL UTILITY SERVICE.
- COORDINATE WITH UTILITY PROVIDER(FPL) FOR ANY NECESSARY POWER POLE AND OVERHEAD REMOVAL AND RELOCATIONS.
- SEE DRAINAGE PLAN FOR DRAINAGE CONSTRUCTION.
- MUST ADHERE TO STORMWATER POLLUTION PREVENTION PLAN DURING CLEARING/DEMOLITION WORK. A SILT FENCE ALONG PERIMETER SHALL BE INSTALLED PRIOR TO ANY WORK.
- DEMOLITION/CLEARING SHALL BE COMPLETED IN A COORDINATED SEQUENCE TO CONTROL EROSION. SEE SHEET C-300 AND C-301.
- SEE THIS SHEET, C-300, AND C-301 THROUGH C-501 FOR LIMITS OF CLEARING AND GRUBBING, PAVEMENT REMOVAL, AND REMOVAL OF STRUCTURES. ALL PAVEMENT AND STRUCTURES SHALL BE REMOVED WITHIN THESE LIMITS. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH ALL SITE CONDITIONS. OMISSION OF STRUCTURES OR PAVEMENT FROM THIS PLAN DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY TO CLEAR, REMOVE, AND DISPOSE OF ALL STRUCTURES AND ALL PAVEMENT ON THE PREMISES NOT SHOWN TO BE SAVED OR SALVAGED.
- THE COST FOR CLEARING AND GRUBBING AND REMOVAL OF STRUCTURES: NO ADDITIONAL PAYMENTS WILL BE MADE FOR CLARE FOR ADDITIONAL CLEARING OR REMOVAL OF STRUCTURES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING THE WORK.
- TREE PROTECTION: THE COST FOR TREE AND SHRUB PROTECTION SHALL BE INCLUDED WITHIN THE PROPOSAL. FOR THE WORK PERFORMED IN THIS CONTRACT, THE WORK SHALL INCLUDE ALL TREE PROTECTION MEASURES NECESSARY FOR TREES AND SHRUBS WITHIN THE PROJECT LIMITS IDENTIFIED TO REMAIN, INCLUDING TRIM AND/OR PRUNE BRANCHES, LIMBS, AND ROOTS; INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING; APPLICATION OF WATER AND FACILITIES NECESSARY TO MAINTAIN THE HEALTH OF THE SHRUB OR TREE; PROTECTION OF THE TREES FROM FLOODING, EROSION, OR EXCESSIVE WETTING RESULTING FROM DRAINAGE OR INTERIM STORMWATER MANAGEMENT PRACTICES; REPAIR AND/OR REPLACE TREES DAMAGED BY CONSTRUCTION OPERATIONS; AND OTHER TREE PROTECTION MEASURES SPECIFIED IN THE CONTRACT DOCUMENTS.
- DEMOLITION WORK - CONTRACTOR SHALL PREPARE ANY ADDITIONAL DOCUMENTATION NEEDED TO OBTAIN DEMOLITION PERMITS, AND APPROVALS FROM ALL LOCAL AND STATE AGENCIES. DEMOLITION WORK SHALL BE COMPLETED WITH CAREFUL CONSIDERATION OF THE EXISTING TREES THAT ARE TO BE PRESERVED. THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT OF ANY DAMAGED OR INJURED TREES THAT ARE DEEMED UNACCEPTABLE FOR PRESERVATION BY THE ENGINEER.
- THIS PLAN SHOULD NOT BE CONSIDERED ALL INCLUSIVE FOR CLEARING, DEMOLITION, ABANDONMENT, AND RELOCATION WORK. THE CONTRACTOR SHALL COORDINATE WITH WORK SPECIFIED ON THE SITE PLAN, PAVING, GRADING, AND UTILITIES PLAN, ELECTRICAL PLANS, AND ALL OTHER CONTRACT DOCUMENTS.

DATE	REVISION	MARK

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 REGISTRY #8668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com

EXISTING CONDITIONS
(20 SCALE)

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION

<input type="checkbox"/>	JOSEPH W. SCHULKE
<input type="checkbox"/>	FL. REG. NO. 47048
<input type="checkbox"/>	ADAM B. BITTLE
<input type="checkbox"/>	FL. REG. NO. 57396
<input type="checkbox"/>	WILLIAM P. STODDARD
<input type="checkbox"/>	FL. REG. NO. 57605

DATE: SHEET
C-201
 PROJECT NO. 21-034

April 9, 2021

Dr. Tiffany Spallone
132 Anchor Drive
Vero Beach, FL 32963

Re: Proposed Medical/Dental Office
1985 Pointe West Drive
Vero Beach, Florida
KSM Project #: 212047-b&p

Dear Dr. Spallone:

As requested, KSM Engineering & Testing has performed a subsurface investigation at the referenced site. Presentation of the data gathered during the investigation, together with our geotechnical related opinions, are included in this report.

Site Description:

At the time of drilling, the site was fairly flat with an existing asphalt parking lot, light surface vegetation (grass) in the former building areas and many trees around the existing paved areas. Buildings that were on the site previously have been demolished and removed from the site. However, some existing utility boxes remain on the site. Our crew cored through the existing pavement, where necessary, in order to perform the soil borings below the existing pavement.

Project Description:

A 9,665 sq ft medical/dental office building with associated parking is planned to be constructed on the northern portion of the site. Loads from the structure will be transferred to the ground by conventional shallow footings. We estimate the maximum loads will be less than 2,500 pounds per linear foot along the wall foundation.

Some site fill may be required to reach the desired grades.

Page 1 of 7

The scope of our study consisted of the following:

1. Performed Standard Penetration Test borings (SPT), percolation borings (PB), and Hand Auger (HA) in the proposed construction area to estimate the subsurface soil conditions.
2. Measured the observed groundwater level at each boring.
3. Evaluated the existing soil conditions with respect to the proposed construction and provided recommendations for site preparation and foundation design.
4. Obtain Shelby tube soil samples per each soil type encountered in order to perform both a constant head horizontal and vertical permeability tests in our laboratory.
5. Perform engineering calculations to determine the permeability coefficient "K" values along with estimates for the elevation of wet-season and dry-season water tables for the percolation test location.
6. Prepared this report to document our findings.

Site Investigation:

The site investigation program consisted of performing six (6) Standard Penetration Test borings in the proposed building area, one (1) percolation test boring and four (4) hand augers in the proposed pavement area. The SPT borings were terminated at depths ranging from 10 to 25 feet below grade and the hand auger borings were terminated at a depth of 6 feet below grade. The locations of the borings are indicated on the attached location plan.

The SPT borings were completed in accordance with procedures described in ASTM D-1586 A standard 1.5 inch I.D., 2 inch O.D. split-socket sampler is driven into the soil by successive blows of a 140 pound hammer freely falling 30 inches. The number of blows required to drive the sampler 1 foot, after seating 6 in., is designated the Penetration Resistance, or "N" value. At regular intervals the sampler is extracted from the ground and opened to allow visual examination and classification of the retained soil sample. Also, the groundwater table was allowed to stabilize and the depth of the groundwater elevation recorded from existing grade.

The hand-auger borings were performed with a 3 inch diameter bucket auger with a cutting head. It is rotated by hand and at regular intervals is extracted from the ground and the sample visually inspected. During the hand augers, a shaft with a conical point is pushed through the soil and the thrust required to push the cone tip is measured on an attached calibrated gauge. The value of the bearing pressure exerted by the cone point allows the operator to estimate the existing soil density. After the thrust was measured, the hole was advanced with a hand-auger in 1-foot increments to permit a continuation of measurement of relative density versus depth.

The records of the soils encountered, the penetration resistances and groundwater level are shown on the attached logs.

Page 2 of 7

Engineering Evaluation and Conclusions:

Based on the information obtained from this site investigation, we are pleased to offer the following evaluation:

The boring logs indicate the subsurface soils consist mostly of fine-grained sand, slightly silty fine-grained sand and clayed fine-grained sand. Shell fragments were also found in the borings. "N" values recorded during the boring operation indicate the soil density is generally firm to medium-dense. Please refer to the soil borings for specific information relative to the soil description.

Based on the existing soil conditions, the proposed structure can be supported on a shallow foundation system provided that the site is properly prepared.

The following sections provide recommendations for the site preparation and foundation design.

Site Preparation:

The proposed building area and areas to be paved, plus a minimum margin of five feet beyond the proposed construction shall be stripped and grubbed of surface debris, including vegetation, roots and organic matter. Stumps shall be removed entirely. Any remnants of the previous construction, including concrete debris, asphaltic debris and any existing utilities to be removed shall be completely removed from the site. The building area should be graded level and proofrolled. Any soft yielding areas shall be excavated and replaced with clean compacted fill. Sufficient passes should be made during compaction operations to produce a density no less than 95 percent of its modified dry Proctor value (ASTM D 1557) to a depth of two feet.

After the exposed surface has been proofrolled, the building and pavement areas may be filled to the desired grades. The fill material shall consist of clean granular sand containing less than 10% material passing the U.S. Standard No. 200 mesh sieve. Place structural fill in loose layers of 12 inches in thickness and compact each lift to at least 95 percent of its modified dry Proctor value.

After excavating for the footings, the disturbed footing subgrade should be recompact to 95 percent (minimum) of its modified dry Proctor value. This can be best achieved by making several passes with a relatively light-weight walk-behind vibratory sled or roller. Tests in the excavated footings should be conducted prior to placement of any steel or concrete and conducted at every column footing and once for every 100 linear feet of footing trench.

In-place density of the compacted soil can be verified using a nuclear density gauge. The subgrade and each lift of fill should be tested for compaction at a frequency no less than one test per 2,500 of building area, per lift and one test per 10,000 of roadway area, per lift with a minimum of 4 tests in each area prepared.

Page 3 of 7

Foundation:

Provided that our recommendations for site preparation are followed, the proposed structure may be supported on conventional concrete, steel reinforced footings designed for an allowable soil bearing pressure of 2,000 pounds per square foot, or less.

With the foundation properly designed and the site properly prepared, we anticipate total settlements less than 1/4 of an inch and differential settlement of less than 1/8 of an inch. The majority of the settlement should occur during construction. This estimate is based on the assumed loading as shown on the front page of this report and a minimum continuous footer width of 18 inches with a minimum embedment of 16 inches. If the loading or footer is to vary from these parameters, please contact our office for additional settlement calculations.

Floor Slabs:

A conventional slab-on-grade can be used in the "at grade" portion of the building. We recommend the disturbed subgrade below the floor slab be re-compacted to 95 percent of the modified Proctor maximum dry density (ASTM D 1557) prior to placement of the concrete. An estimated modulus of subgrade reaction of 150 pounds per cubic inch (pci) can be used for design of the slab-on-grade. We recommend that control joints be incorporated in the slab at frequent intervals to control shrinkage cracks.

A moisture barrier is recommended beneath the floor slab to prevent moisture migration from the underlying soil resulting in dampness of the slab.

Drives and Parking Areas:

We performed four (4) hand-augers in the proposed roadway to evaluate the soils in relation to the proposed pavement. We did not find any "muck" or other unsuitable material in the test borings. Penetrometer readings recorded during the investigation indicates the existing soil density is medium-dense to dense.

Although a comprehensive pavement evaluation was not within the scope of this study the site may be prepared to support a flexible pavement or rigid concrete pavement. The pavement should be designed for the anticipated loads and frequencies. Refer to Table 1 for the minimum pavement section. The minimum pavement design for standard duty asphalt should include the following:

Clear the roadway area of any surface debris, including vegetation, roots, organic matter and existing pavement. Stumps shall be removed entirely. The cleared areas should be graded level and proof rolled. Any soft yielding areas shall be excavated and replaced with clean compacted fill. Sufficient passes should be made during compaction operations to produce a density no less than 95 percent of its modified dry Proctor value (ASTM D 1557) to a depth of two feet. Additional fill shall consist of clean granular sand containing less than 10% material passing the U.S. Standard No. 200 mesh sieve and placed in loose layers of 12

Page 4 of 7

Soil Percolation and Water Tables:

One in-field permeability test was performed in general conformance with the South Florida Water Management District described procedures for the "Usual Open-Hole Test" method.

The horizontal and vertical permeability flow rates were determined by excavating a test pit adjacent to the soil profiles and obtaining undisturbed Shelby tube samples. We then performed constant head permeability tests on the field samples in our laboratory.

All these tests were performed to evaluate the drainage characteristics of the soils for this particular test location. The results of these test can be found in the following tables.

Pavement Type	Material	Layer Thickness (in)	
		Standard Duty	Heavy Duty
Flexible	Florida DOT Asphalt Type 3	1.5	2
	Cemented Coquina Rock (LBR of 100)*-or- Limerock* Base Course	6	8
Rigid	Clayed soil (LBR of 40)* Stabilized Subgrade	8	12
	Portland Cement (4,000 psi)	5	7
	Clayed Soil (LBR of 40)* Stabilized Subgrade	6	10

* Compacted to minimum 98 percent of its modified dry Proctor value (AASHTO T180)

Usual Open-Hole Test Results

Test Location (See Location Plan)	Hydraulic Conductivity (CFS/SPF-PI Head)
P-1	4.2 x 10 ⁻⁴

NOTES:
1) The above hydraulic conductivity values are for a French drain installed to the same depth as the borehole tests. The designer should apply the appropriate factor of safety.
2) A hole diameter of 3" was used in the computation of the Hydraulic Conductivity values presented in the above table.

Page 5 of 7

Test Location (See Location Plan)	Horizontal Flow Rate (in/hr)	Vertical Flow Rate (in/hr)	Layer Depth (in)
P-1	0.7	0.4	0-5
P-1	8.1	6.7	6-28
P-1	--	11.7	28-44
P-1	--	7.1	44-60

Test Location (See Location Plan)	Observed Water Table	Estimated Wet Season Water Table	Estimated Dry Season Water Table
P-1, PB-1	65" Below Grade	25" Below Grade	65" Below Grade

This estimate is based upon our interpretation of existing site conditions and a review of the USDA Soil Survey for Indian River County, Florida. The majority of the site soils are mapped as (16) Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes, according to the Soil Survey Map of Indian River County, Florida.

Hydrologic Soil Group Classification:

The soils in the test locations can be classified in accordance with Chapter 7, Part 630 of the USDA National Engineering Handbook as follows:

Test Location (See Location Plan)	Hydrologic Soil Group
P-1	C

The soils in test location P-1 are part of the hydrologic soil group "C" due to the moderate fine content in the soil, the relatively low hydraulic conductivity rates of the surface soils, the absence a water impermeable layer and the depth to high season water table which is greater than 24 inches from the surface.

Note that the Hydrologic Soil Group is a dynamic classification which changes with the conditions of the site at any given moment. Changes in water table elevation as well as changes in the ground elevations of the site can affect the hydrologic soil group for any particular location. Please note that in this case, completely removing the top layer of "Brown Sand with Some Clay and Traces of Root" and making no other changes to location "P-1" would improve the HSG classification to an "A".

Page 6 of 7

Closure:
This report has been prepared in accordance with generally accepted soil and foundation engineering practices based on the results of the test borings and the assumed loading conditions. No warranties, either expressed or implied, are intended or made. This report does not reflect any variations which may occur between the borings. If variations appear evident during the course of construction, it would be necessary to re-evaluate the recommendations of this report.

Environmental conditions, wetland delineation, karst activity, water quality, and municipal requirements are not a part of this report.

We are pleased to be of assistance to you on this phase of your project. When we may be further service to you or should you have any questions, please feel free to contact the office.

Respectfully,

Chapman S. Labrun

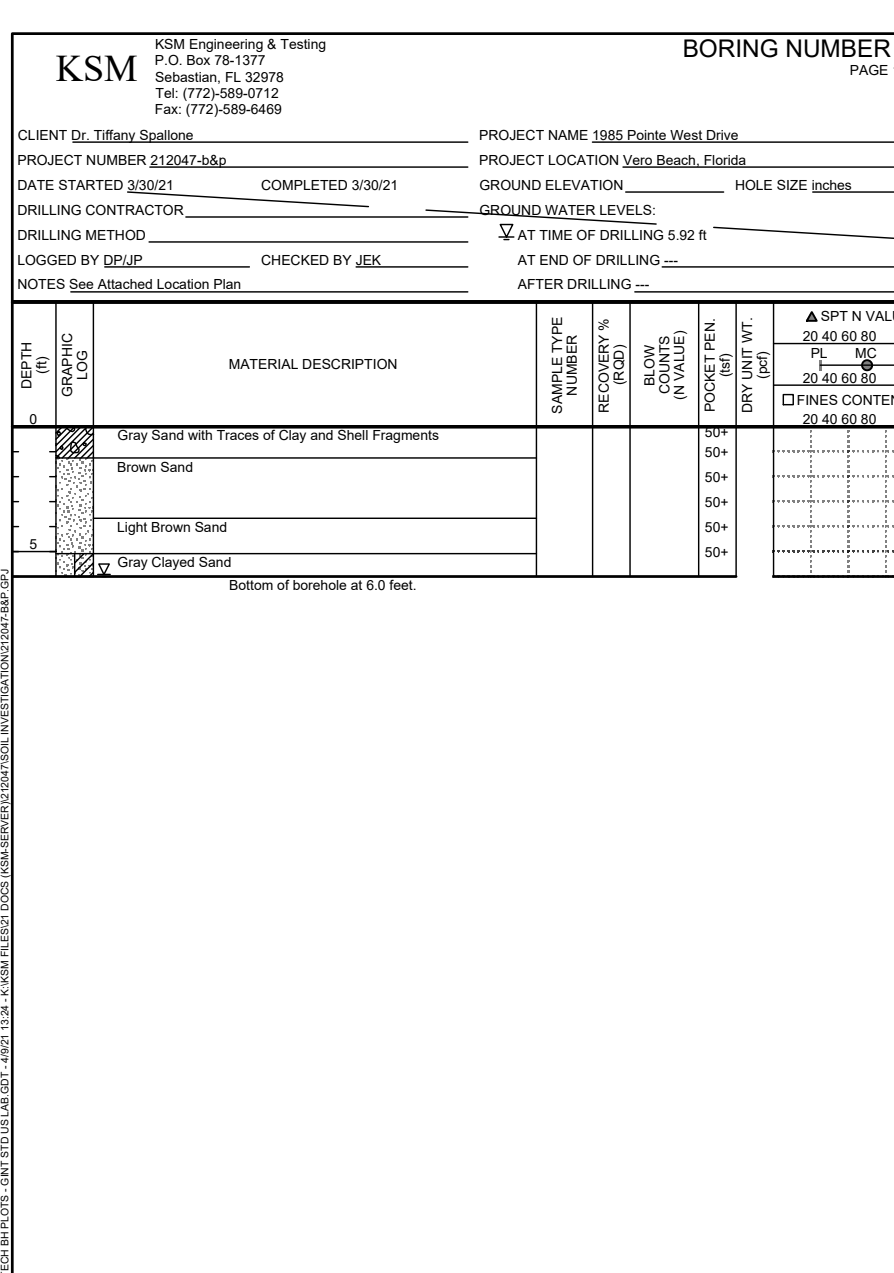
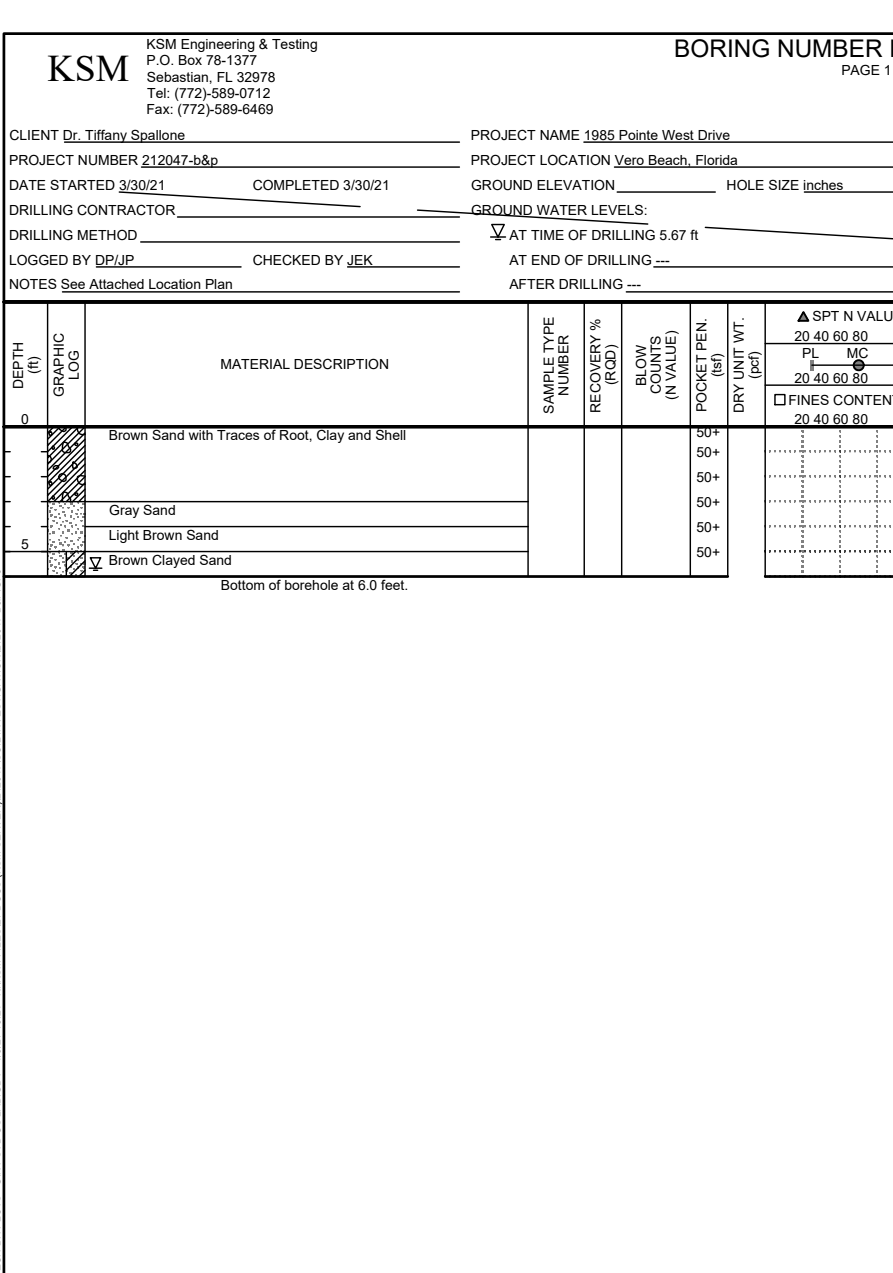
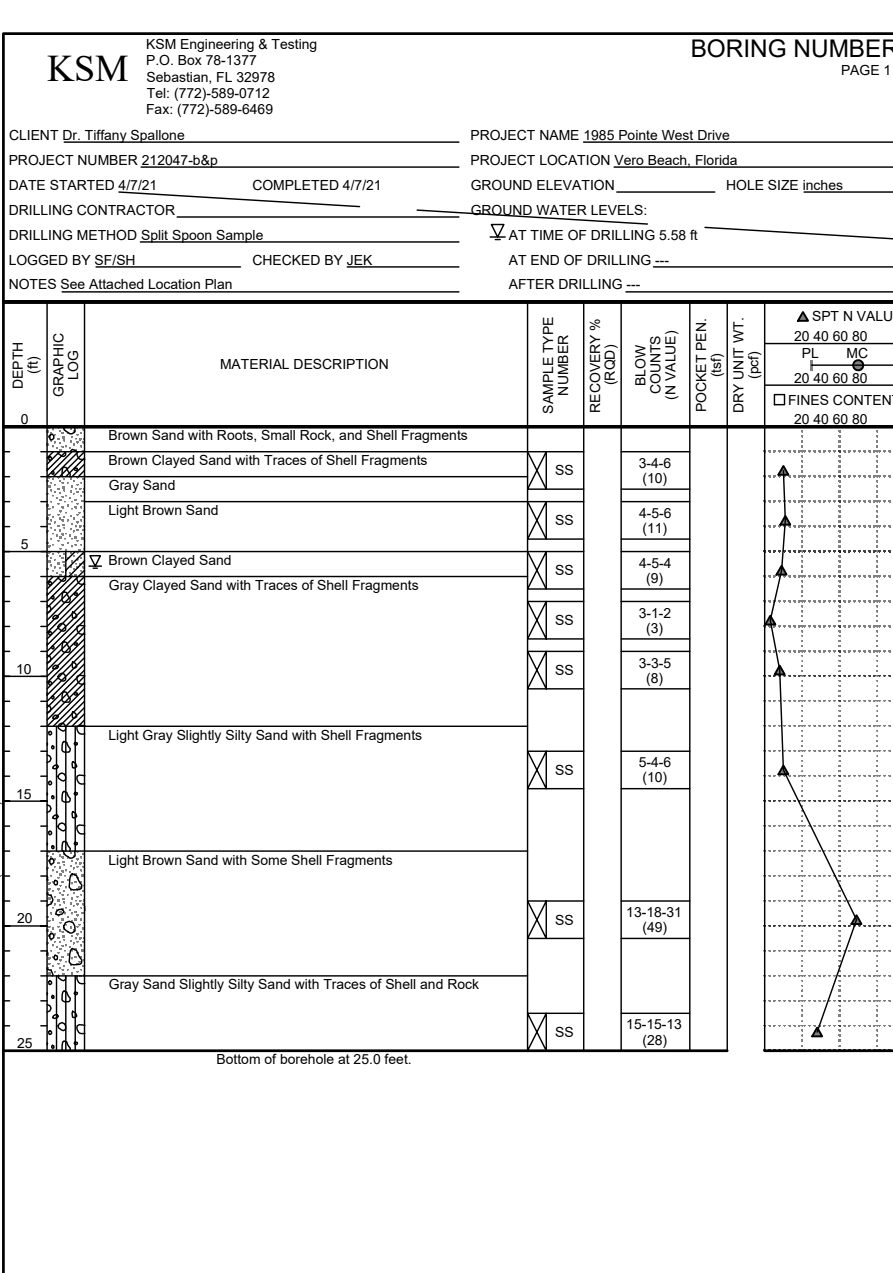
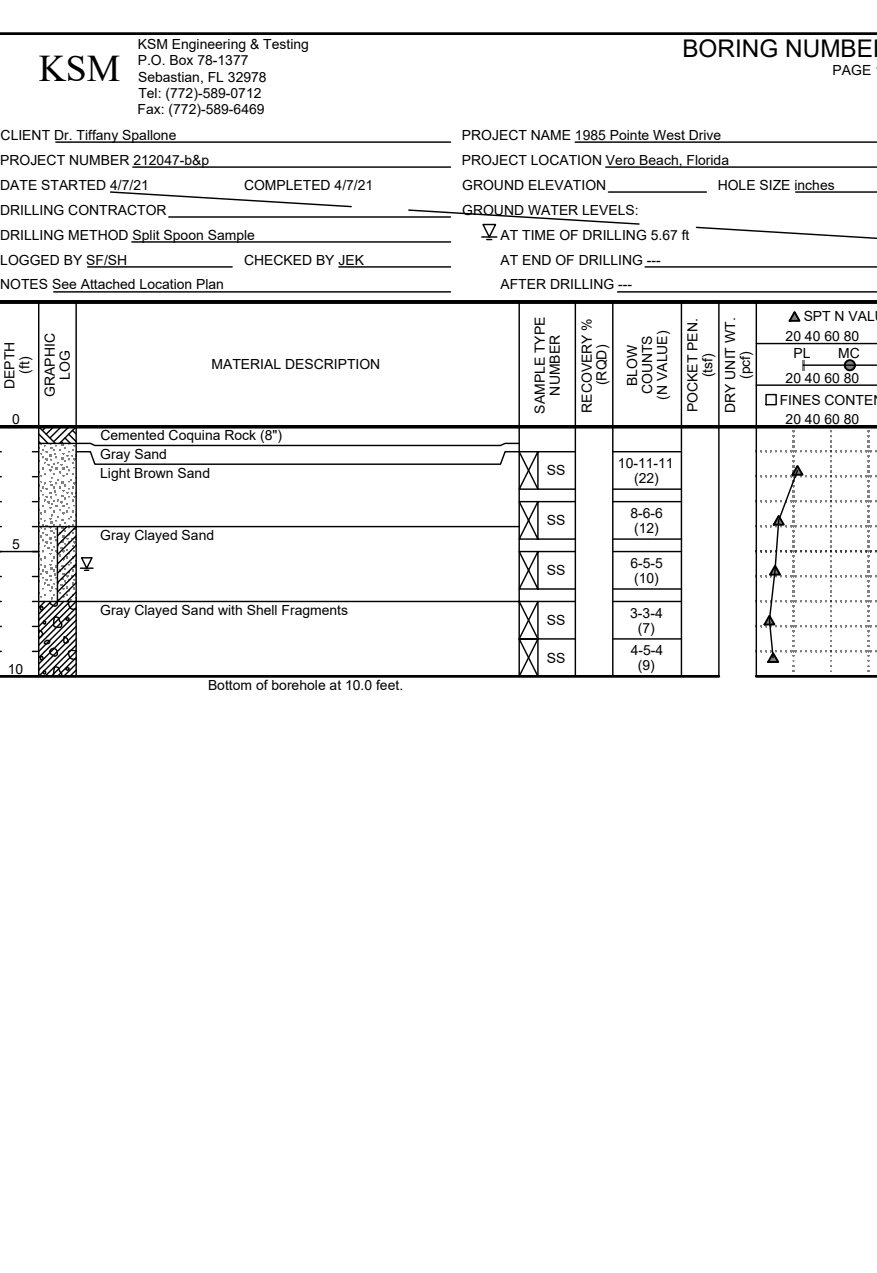
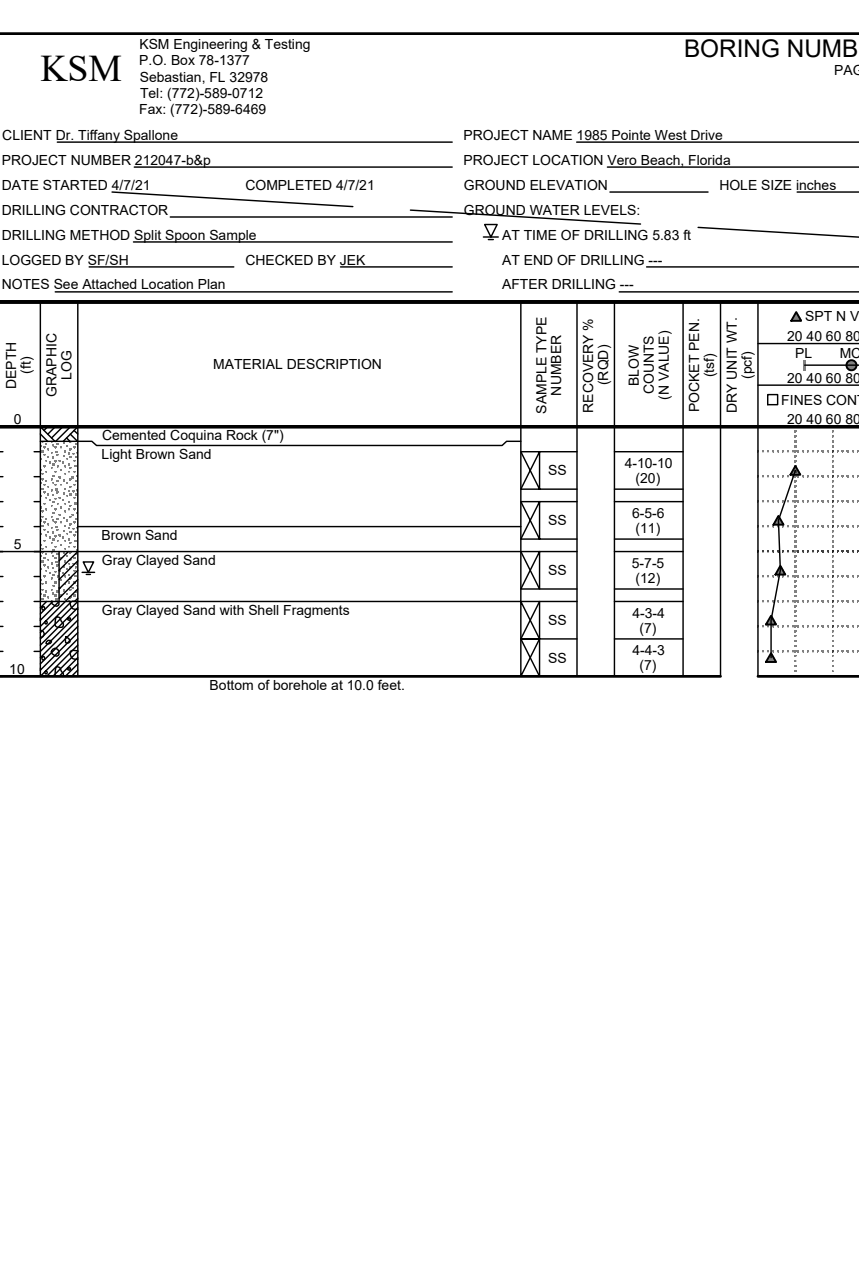
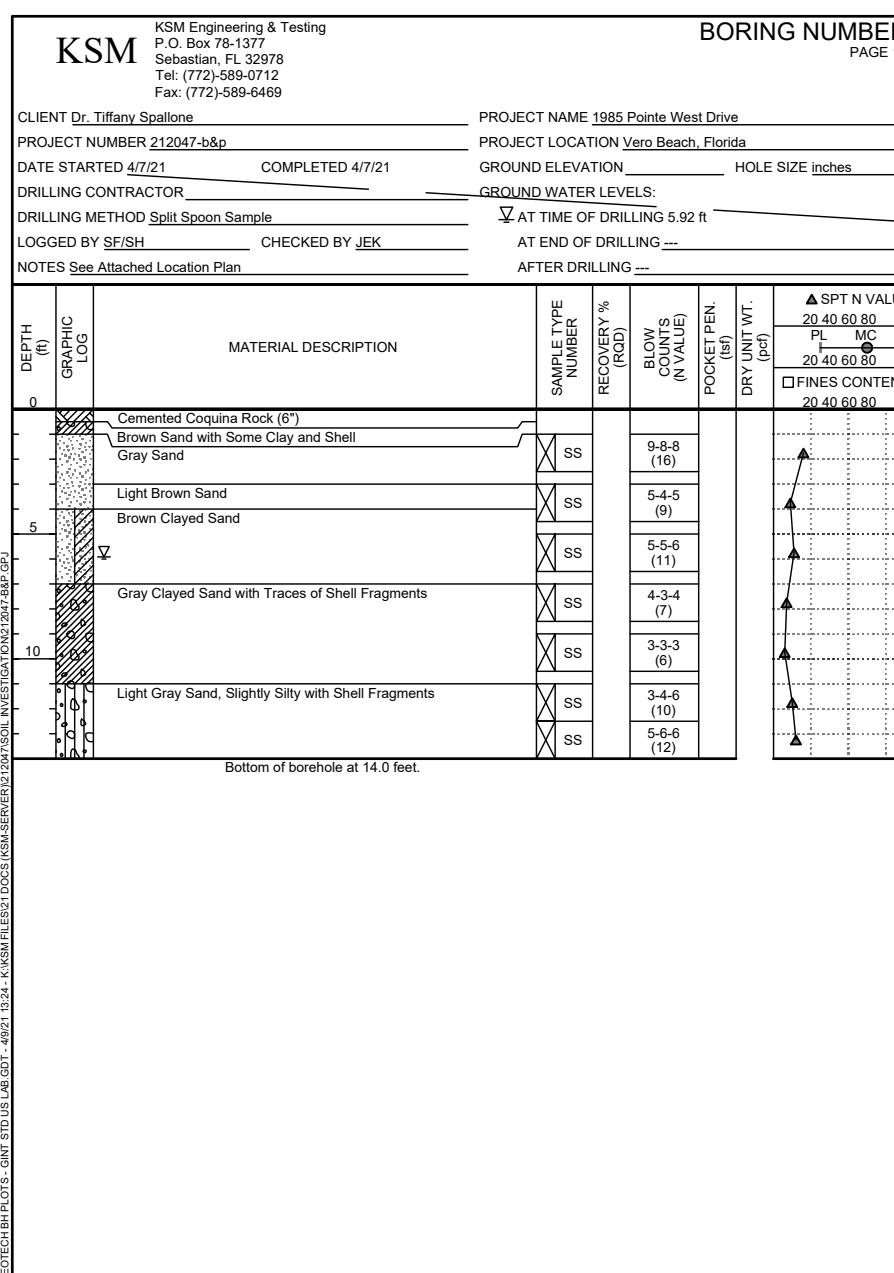
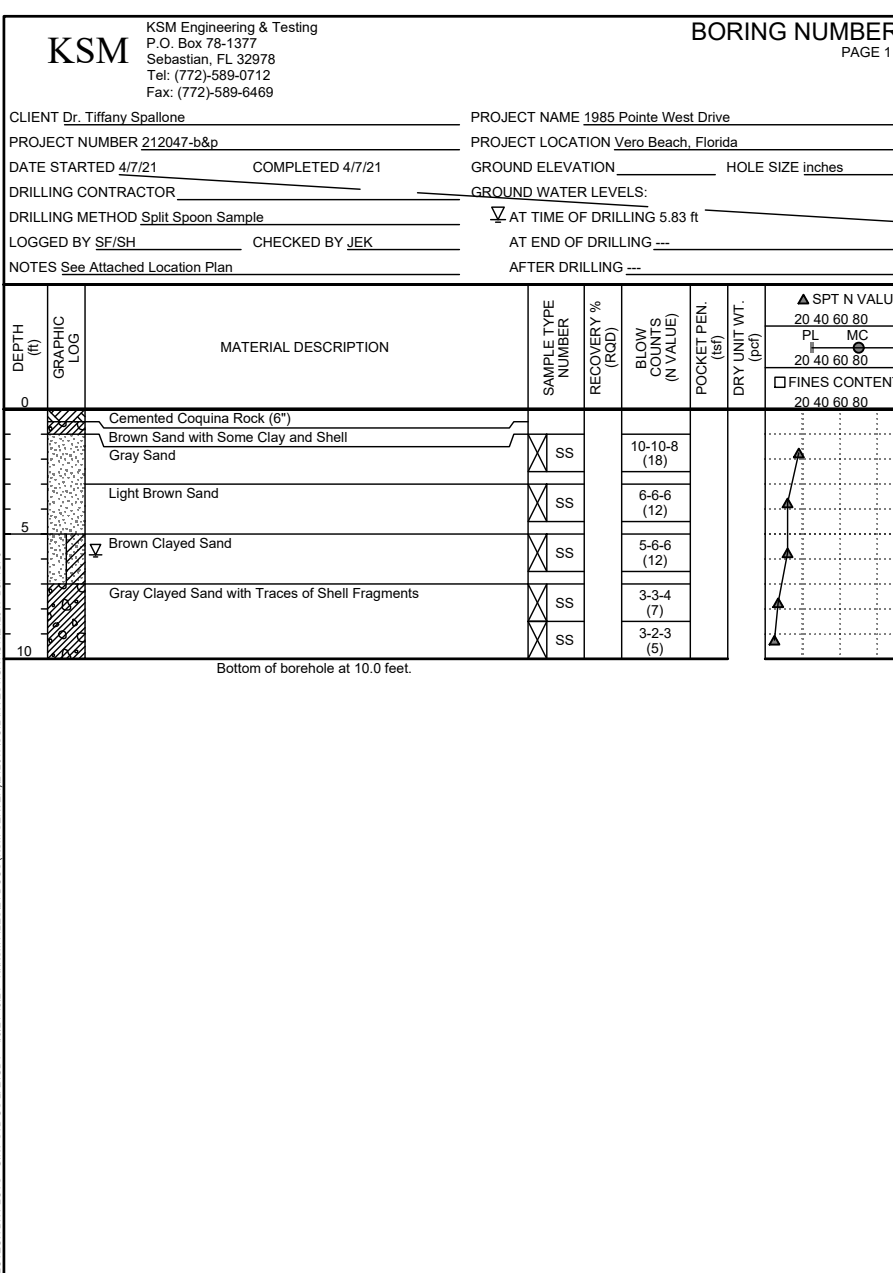
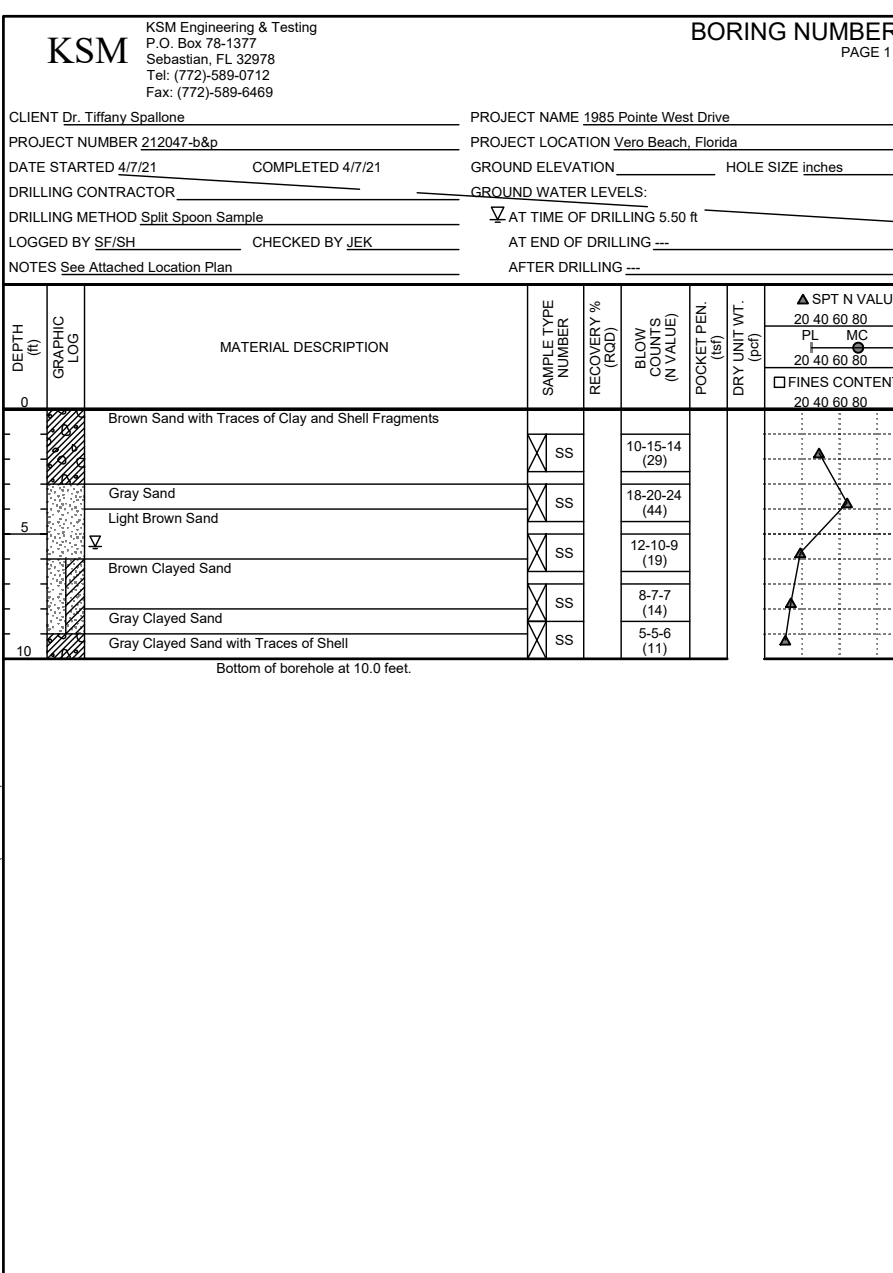
Geotechnical Engineer
Florida Lic. No. 1100022858
4/13/2021

Julie E. Keller, P.E.
President
Florida Lic. No. 68366
4/13/2021

JK/cv

Email to: jschulke@sbsengineers.com; thamilton@sbsengineers.com

Page 7 of 7



DATE	REVISION

SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
REGISTRY #8668
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com

GEOTECHNICAL REPORT AND SOIL BORINGS - I

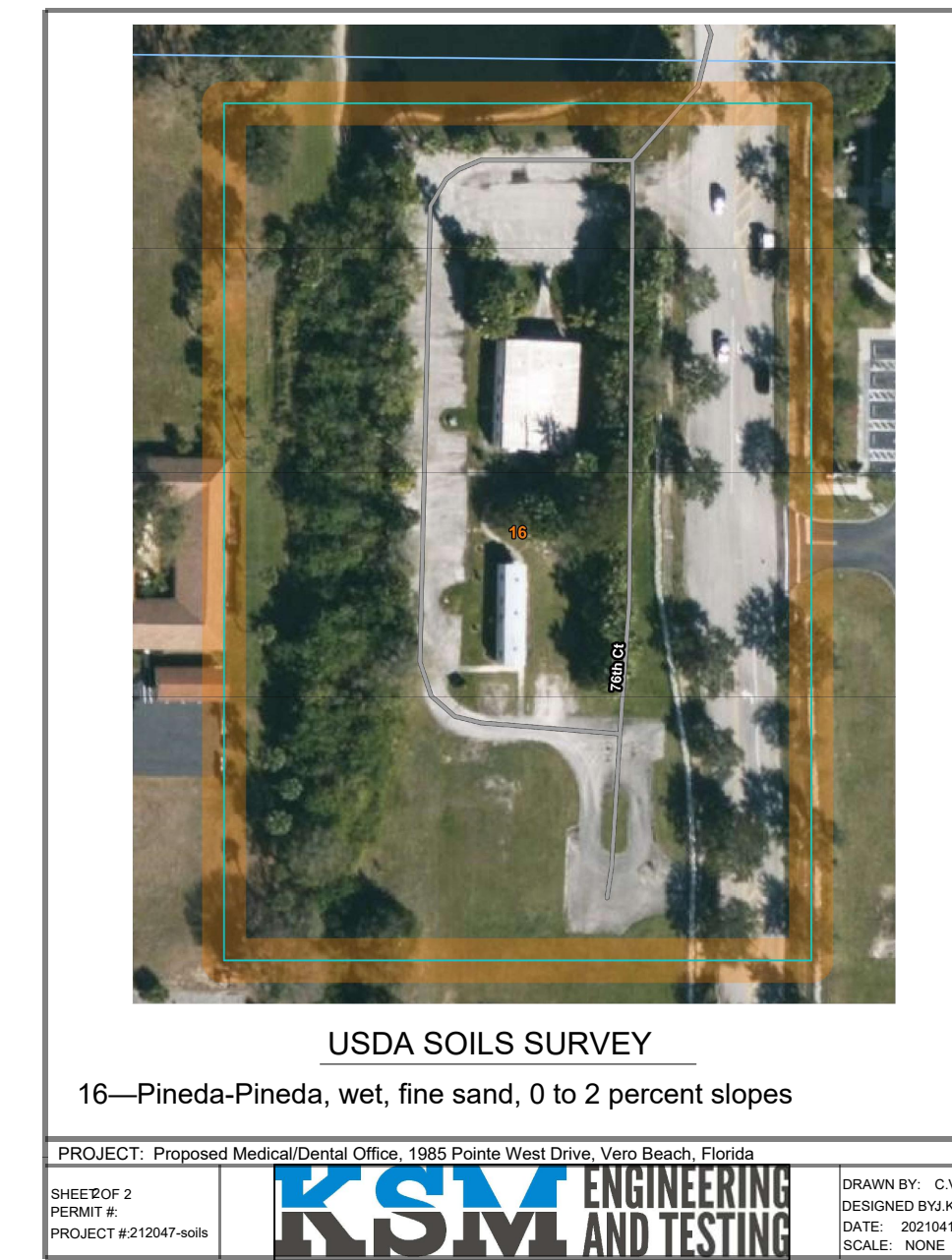
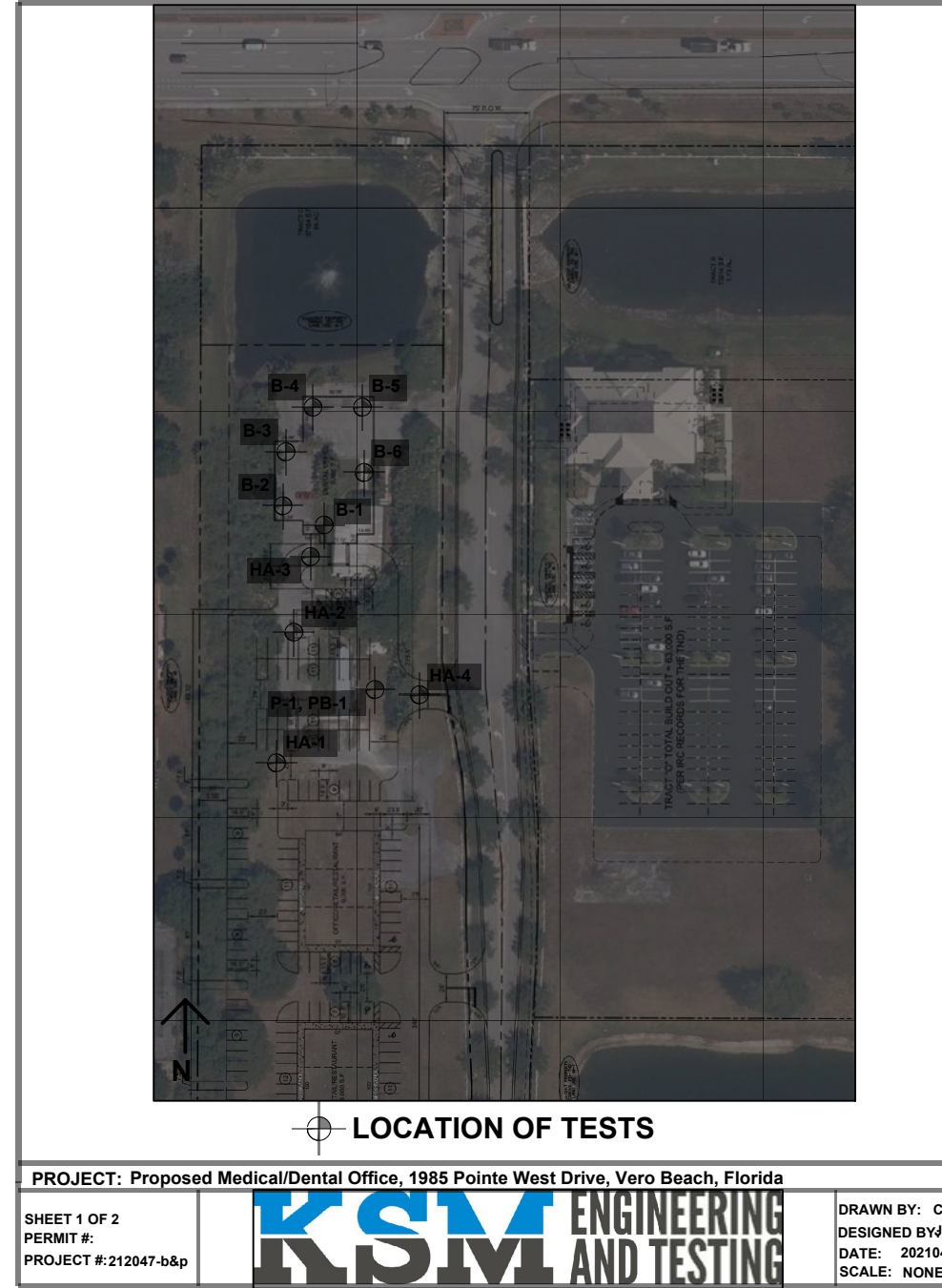
SPALLONE DENTAL OFFICE
1985 POINTE WEST DR.
VERO BEACH, FLORIDA
INDIAN RIVER COUNTY

SHEET
C-202
PROJECT NO.
21-034

KSM		BORING NUMBER HA-3	
KSM Engineering & Testing P.O. Box 78-1273 Sebastian, FL 32978 Tel: (772) 589-6712 Fax: (772) 589-6469		PROJECT NAME: 1985 Pointe West Drive PAGE 1 OF 1	
CLIENT: T. Bittler	PROJECT NUMBER: 212047-086	PROJECT LOCATION: Vero Beach, Florida	DATE STARTED: 3/20/21
PROJECT NUMBER: 212047-086	COMPLETED: 3/20/21	GROUND ELEVATION: _____	HOLE SIZE: 120mm
DRILLING CONTRACTOR: _____	AT TIME OF DRILLING: 5.50 ft	GROUND WATER LEVELS: _____	
DRILLING METHOD: _____	CHECKED BY: J.E.K.	AT END OF DRILLING: _____	
LOGGED BY: G.P.	CHECKED BY: J.E.K.	AFTER DRILLING: _____	
NOTES: See Attached Location Plan			
DEPTH (ft)	MATERIAL DESCRIPTION	WATER CONTENT (%)	SHRINKAGE (%)
0-1	Gray Sand with Traces of Shell Fragments		
1-2	Brown Sand with Traces of Gray and Shell Fragments		
2-3	Gray Sand		
3-4	Light Brown Sand		
4-5	Gray Clayed Sand		
Bottom of borehole at 6.0 feet			

KSM		BORING NUMBER HA-4	
KSM Engineering & Testing P.O. Box 78-1273 Sebastian, FL 32978 Tel: (772) 589-6712 Fax: (772) 589-6469		PROJECT NAME: 1985 Pointe West Drive PAGE 1 OF 1	
CLIENT: T. Bittler	PROJECT NUMBER: 212047-086	PROJECT LOCATION: Vero Beach, Florida	DATE STARTED: 3/20/21
PROJECT NUMBER: 212047-086	COMPLETED: 3/20/21	GROUND ELEVATION: _____	HOLE SIZE: 120mm
DRILLING CONTRACTOR: _____	AT TIME OF DRILLING: 5.71 ft	GROUND WATER LEVELS: _____	
DRILLING METHOD: _____	CHECKED BY: J.E.K.	AT END OF DRILLING: _____	
LOGGED BY: G.P.	CHECKED BY: J.E.K.	AFTER DRILLING: _____	
NOTES: See Attached Location Plan			
DEPTH (ft)	MATERIAL DESCRIPTION	WATER CONTENT (%)	SHRINKAGE (%)
0-1	Gray Sand with Some Clay, Shell and Traces of Roots		
1-2	Yellowish Brown Sand with Traces of Clay		
2-3	Brown Sand with Traces of Clay		
3-4	Light Brown Sand		
4-5	Gray Clayed Sand		
5-6	Brown Clayed Sand		
Bottom of borehole at 6.0 feet			

KSM		BORING NUMBER PB-1	
KSM Engineering & Testing P.O. Box 78-1273 Sebastian, FL 32978 Tel: (772) 589-6712 Fax: (772) 589-6469		PROJECT NAME: 1985 Pointe West Drive PAGE 1 OF 1	
CLIENT: T. Bittler	PROJECT NUMBER: 212047-086	PROJECT LOCATION: Vero Beach, Florida	DATE STARTED: 4/7/21
PROJECT NUMBER: 212047-086	COMPLETED: 4/7/21	GROUND ELEVATION: _____	HOLE SIZE: 120mm
DRILLING CONTRACTOR: _____	AT TIME OF DRILLING: 5.42 ft	GROUND WATER LEVELS: _____	
DRILLING METHOD: _____	CHECKED BY: J.E.K.	AT END OF DRILLING: _____	
LOGGED BY: G.P.	CHECKED BY: J.E.K.	AFTER DRILLING: _____	
NOTES: See Attached Location Plan			
DEPTH (ft)	MATERIAL DESCRIPTION	WATER CONTENT (%)	SHRINKAGE (%)
0-1	Brown Sand with Some Clay and Traces of Root		
1-2	Yellowish Brown Sand		
2-3	Gray Sand		
3-4	Light Brown Sand		
4-5	Brown Sand		
5-6	Gray Clayed Sand		
6-7	Gray Clayed Sand with Traces of Shell Fragments		
Bottom of borehole at 16.0 feet			



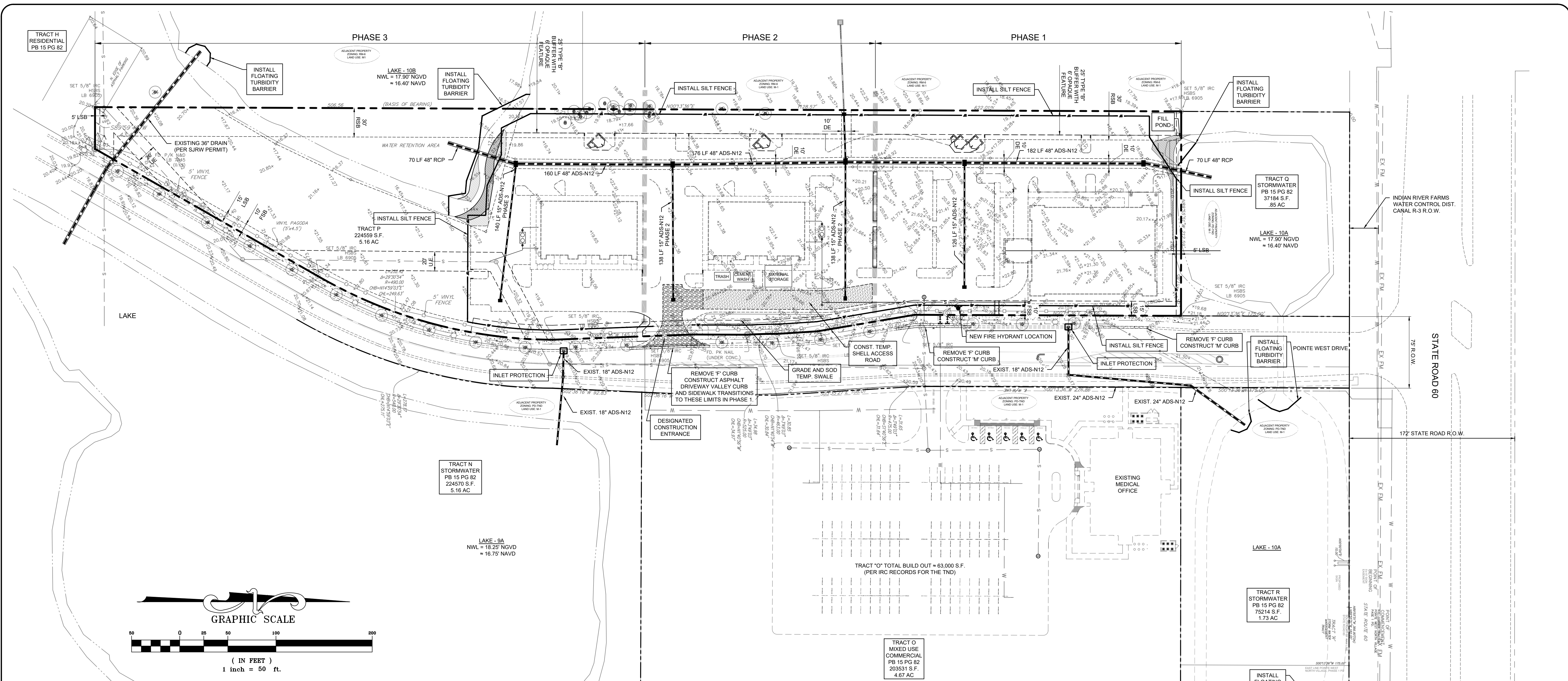
DATE	REVISION	MARK

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
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 TEL: 772 / 770-9622 FAX: 772 / 770-9496 EMAIL: info@sbsengineers.com

**GEOTECHNICAL
 REPORT AND SOIL
 BORINGS - II**

SHEET
C-203
 PROJECT NO.
 21-034

DRAWING DESIGNED BY: JWS
 DRAWN BY: WJF/DR
 CHECKED BY: JWS
 SCALE: N/A
 DATE: 07-23-21



ARCHAEOLOGICAL:
IF PREHISTORIC OR HISTORIC ARTIFACTS, SUCH AS POTTERY OR CERAMICS, STONE TOOLS, OR METAL IMPLEMENTS, OR ANY OTHER PHYSICAL REMAINS THAT COULD BE ASSOCIATED WITH THE NATIVE AMERICAN CULTURES, OR EARLY COLONIAL OR AMERICAN SETTLEMENT ARE ENCOUNTERED AT ANY TIME WITHIN THE PROJECT SITE AREA, THE PERMITTED PROJECT SHOULD CEASE ALL ACTIVITIES INVOLVING SUBSURFACE DISTURBANCE IN THE IMMEDIATE VICINITY OF SUCH DISCOVERIES. THE PERMITEE, OR OTHER DESIGNEE, SHOULD CONTACT THE FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES, REVIEW AND COMPLIANCE SECTION AT (850) 245-6333 OR (800) 847-7278, AS WELL AS THE APPROPRIATE PERMITTING AGENCY OFFICE. PROJECT ACTIVITIES SHOULD NOT RESUME WITHOUT VERBAL AND/OR WRITTEN AUTHORIZATION FROM THE DIVISION OF HISTORICAL RESOURCES. IN THE EVENT THAT UNMARKED HUMAN REMAINS ARE ENCOUNTERED DURING PERMITTED ACTIVITIES, ALL WORK SHALL STOP IMMEDIATELY AND THE PROPER AUTHORITIES NOTIFIED IN ACCORDANCE WITH SECTION 872.05, FLORIDA STATUTES.

EROSION CONTROL NOTES

- SEDIMENT BASINS AND TRAPS, PERMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED, COVERED OR CONTAINED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED.
- AFTER ANY SIGNIFICANT RAINFALL (1/2" OR GREATER) SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUTS OR ON FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, SLOPE DRAIN STRUCTURE OR APPROVED CONTROL.
- SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM WATER SYSTEM, DITCH OR CHANNEL. ALL STORM WATER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- WHEN WORK IN LIVE WATER COURSES IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT. CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT CONTROLS. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
- WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
- PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND EROSION.
- EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NUMBERS 101, 102 AND 103 OF F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS. IN ADDITION TO THESE PLANS, THE CONTRACTOR IS RESPONSIBLE FOR ALL SURFACE WATER DISCHARGES, RAINFALL RUNOFF OR DEWATERING ACTIVITIES. CONTROLS TO BE INCORPORATED: ALL BMP'S NECESSARY TO MEET OR EXCEED STATE WATER QUALITY REQUIREMENTS. POLLUTION PREVENTION PLAN IS A MINIMUM GUIDELINE ONLY. ADDITIONAL BMP'S MAY BE NEEDED AT CONTRACTOR'S EXPENSE. NOT TO BE POSTED ON SITE.
- NO TURBID DISCHARGE. TURBIDITY READINGS ARE REQUIRED ONCE A WEEK AND MUST BE REPORTED TO THE PROJECT ENGINEER.
- DEWATERING ACTIVITIES:
A. DISCHARGE MUST NOT EXCEED STATE WATER QUALITY STANDARDS.
B. CONTRACTOR MUST HAVE OR OBTAIN A TRANSFERABLE SURWOM CONSUMPTIVE USE PERMIT KNOWN AS A "NOTICED GENERAL PERMIT FOR SHORT TERM CONSTRUCTION DEWATERING" UNLESS DEWATERING ACTIVITIES WILL RESULT IN LESS THAN 30,000 GPD FOR 30 DAYS OR LESS.
C. NO HYDRAULIC PUMPS MAY BE USED FOR DEWATERING UNLESS APPROVED BY THE WATER MANAGEMENT DISTRICT FOR THAT AREA. DEWATERING EXISTING STORMWATER RETENTION AREAS POND/LAKES MAY BE EXEMPT FROM THIS CONDITION. CONTRACTOR TO CONFIRM WITH SURWOM.
D. NO TURBID DISCHARGE. TURBIDITY READINGS ARE REQUIRED ONCE A WEEK AND MUST BE REPORTED TO THE PROJECT ENGINEER AND TO INDIAN RIVER COUNTY.
- SEE ADDITIONAL DETAILS, SPECIFICATIONS AND REQUIREMENTS ON SHEET C-301.

BEST MANAGEMENT PRACTICES (BMPs) AND MEASURES THAT WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE AND TIME FRAMES IN WHICH THE CONTROLS WILL BE IMPLEMENTED. THE CONTRACTOR WILL MAINTAIN SILT FENCE, FILTER BARRIERS, AND OTHER BMPs. THE TIME FRAMES FOR CLEANING, EARTHWORK, AND ANTICIPATED BMPs USE.

CLEARING/ EARTHWORK

- INSTALL SILT FENCE AT PERMETER OF SITE AND SILT BARRIERS AT DOWNSTREAM DITCHES/SWALES.
- CLEAR/GRUB AREA NECESSARY FOR TEMPORARY GRAVEL DRIVEWAY AND ADJACENT WALK.
- CONSTRUCT TEMPORARY GRAVEL DRIVEWAY WITH SWALE.
- EXCAVATE RETENTION AREAS AND SWALES. STABILIZE AND SOO THESE AREAS. THESE AREAS WILL BE DESIGNED AS TEMPORARY BASINS TO CAPTURE RUNOFF DURING CONSTRUCTION AND CAN ALSO BE USED TO HOLD WATER FOR ANY DEWATERING ACTIVITIES. NOTE: THE AREAS WILL LIKELY NEED TO BE REGRADED PRIOR TO COMPLETION. (FACTOR THIS INTO SCOPE AND CONSTRUCTION FEE).
- CLEAR BALANCE OF SITE (DEMOLISH STRUCTURES, PAVEMENT, UTILITIES AND DRAINAGE TO BE REMOVED).
- FILL SITE.
- CONTINUE SITE FILL/GRADING.
- CONSTRUCT STORMWATER STRUCTURES AND DRAINAGE PIPING, WHERE POSSIBLE.
- MAINTAIN DOWNSTREAM SILT BARRIERS AND PERMETER SILT FENCE DURING CONSTRUCTION.
- INCORPORATE ADDITIONAL BMPs WHEN NEEDED DURING THE COURSE OF CONSTRUCTION.
- PROVIDE STOCKPILE PROTECTION, CONCRETE/STUCCO WASH AREAS, AND OTHER BMPs WHEN NECESSARY TO CONTAIN PROPOSED WORK.

TEMPORARY AND PERMANENT STABILIZATION PRACTICES:
-TEMP SILT FENCES/ADDITIONAL TURBIDITY BARRIERS PER PLAN.
-FILTER FABRIC SHALL BE PLACED UNDER THE ROCK GRAVEL DRIVEWAY, AT CLEAR LAND, DEMO BUILDINGS, PAVEMENT AND UNDERGROUND INFRASTRUCTURE.
-PERM. SEED/MULCH/CHED/SOIL CONTROL GRADING AND DRAINAGE TO DETENTION BASINS.
-STABILIZE ALL DENUDED AREAS IF LEFT UNDISTURBED FOR MORE THAN 7 DAYS - USE RYE GRASS PER MANUFACTURER'S APPLICATION RATES, AND MULCHED WITH STRIPES AT 400 LB PER ACRE.

STRUCTURAL CONTROLS TO BE IMPLEMENTED TO DIVERT STORMWATER FLOW FROM RECEIVING WATERS:
-TEMP. SILT FENCES/ENTRANCE ROAD, GRADED TO DRAIN TO A TEMPORARY SEDIMENT SWALE OR RETENTION AREA.
-TEMP. BERMS AT PROJECT PERMETER - PER PLAN.
-JACKET OUTLETS WILL BE PROTECTED WITH FILTER FABRIC.
-SILT FENCE SHALL BE PLACED AROUND THE ENTIRE PERMETER OF DISTURBED AREAS.
-A DOUBLE ROW OF SILT FENCE WILL BE PROVIDED AROUND ALL STOCKPILE AREAS.

PERMANENT STORMWATER MANAGEMENT CONTROLS SUCH AS, DETENTION OR RETENTION SYSTEMS OR VEGETATED SWALES.
-ONLY RETENTION SYSTEMS INCORPORATED AS PERMANENT BMP FOR WATER QUALITY CONTROL.

DESCRIBE IN DETAIL CONTROLS FOR THE FOLLOWING POTENTIAL POLLUTANTS:
WASTE OILS
-ALL WASTE OILS WILL BE CONTAINED.
-CONCRETE/STUCCO WASH AREA SHALL BE PROVIDED.
-STOCKPILE AREAS SHALL BE PROTECTED WITH SILT FENCE AND STABILIZED/SEEDED IF LEFT UNATTENDED FOR MORE THAN 7 DAYS.

OFF-SITE VEHICLE TRACKING
-PROVIDE HARD SURFACE AT TEMP. DRIVEWAY (ROCK/GRAVEL DRIVEWAY).
-REGULAR MAINTENANCE OF ADJACENT ROAD RIGHT OF WAY, INCLUDING STREET SWEEPING, R/B REPAIR IN NON-PAVED AREAS.
-APPLICATION RATES OF ALL FERTILIZERS, HERBICIDES AND PESTICIDES: NONE PROPOSED.

STORAGE, APPLICATION, GENERATION AND MIGRATION OF ALL TOXIC SUBSTANCES TO BE STORED AT THE CONSTRUCTION SITE

DESCRIPTION OF THE MAINTENANCE PLAN FOR ALL STRUCTURAL AND NON-STRUCTURAL CONTROLS:
-CONTRACTOR SHALL HAVE SWPPP COMPONENTS INSPECTED BY A DEEP CERTIFIED INSPECTOR AND MAINTAIN ALL CONTROLS DAILY, AND HAVE WEEKLY SWPPP INSPECTION REPORTS PREPARED, AND WITHIN 24 HOURS OF THE END OF ANY RAINFALL EVENT THAT IS 1/2" OR GREATER. ENGINEER SHALL INSPECT PERIODICALLY.

- A SITE PLAN MUST BE DEVELOPED AND MUST CONTAIN, AT A MINIMUM, THE FOLLOWING INFORMATION:
- DRAINAGE PATTERNS - SEE SURVEY. EXISTING CONDITIONS PLAN AND DRAINAGE PLAN, SHEETS C-200, C-300, C-400 TO C-503.
 - APPROXIMATE SLOPES AFTER MAJOR GRADING ACTIVITIES - SEE SHEETS C-200 THRU C-503.
 - AREAS OF SOIL DISTURBANCE - SEE SHEETS C-200, C-300 AND THIS SHEET.
 - OUTLINE ALL AREAS THAT ARE NOT TO BE DISTURBED - THIS SHEET.
 - LOCATION OF ALL MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS - THIS SHEET.
 - LOCATION OF EXPECTED STABILIZATION PRACTICES - THIS SHEET.
 - LOCATIONS WHERE STORMWATER MAY DISCHARGE TO A SURFACE WATER OR MSA. SEE SHEET C-500 AND THIS SHEET.

DESCRIBE THE NATURE OF THE CONSTRUCTION ACTIVITY:
LAND CLEARING, FILLING AND CONSTRUCT INFRASTRUCTURE/BUILDINGS FOR A COMMERCIAL DEVELOPMENT.

DESCRIBE THE INTENDED SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:
1. SITE PREPARATION AND STABILIZE CONSTRUCTION ENTRANCE.
2. INSTALL TURBIDITY BARRIERS AT ALL OUTFALL LOCATIONS. CLEAR LAND, WHERE POSSIBLE.
3. RELOCATE TREES - PROVIDE TREE PROTECTION BARRIERS.
4. CLEAR LAND, DEMO BUILDINGS, PAVEMENT AND UNDERGROUND INFRASTRUCTURE.
5. FILL DITCHES.
6. STABILIZE ALL DENUDED AREAS.

TOTAL AREA OF THE SITE: 3.784 ACRES
TOTAL AREA OF THE SITE TO BE DISTURBED THIS PHASE: 3.784 ACRES
EXISTING DATA DESCRIBING THE SOIL OR QUALITY OF ANY STORMWATER DISCHARGE:
SEE SOIL BORINGS BY OTHERS. NO DISCHARGE FROM DISTURBED AREAS IS ANTICIPATED.

DRAINAGE AREA SIZE FOR EACH DISCHARGE POINT: X.XXX ACRES
LATITUDE AND LONGITUDE OF EACH DISCHARGE POINT RECEIVING WATER OR MSA FOR EACH DISCHARGE POINT: N/A

SWPPP DESCRIPTION OF WORK/ RESPONSIBILITY	NAME TITLE	CONTRACTOR OR SUB CONTRACTOR (NAME, ADDRESS, PHONE)	DATE

PLAN PREPARATION:
1. THIS PLAN ORIGINALLY PREPARED BY THE OWNER'S ENGINEER. THIS PLAN WILL BE MADE AVAILABLE TO CONTRACTOR TO EDIT, CHANGE, MODIFY, AS IT DEEMS NECESSARY FOR COMPLIANCE WITH FDEP REGULATIONS, PERMIT CONDITIONS, AND AS REQUIRED FOR CONTRACTOR TO SIGN THE CERTIFICATION BELOW.
2. THE FOLLOWING CERTIFICATION SHALL BE SIGNED BY THE ENTITY (CONTRACTOR) RESPONSIBLE FOR SWPPP PLAN IMPLEMENTATION:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

BY: _____ DATE: _____

SIGNATURE _____

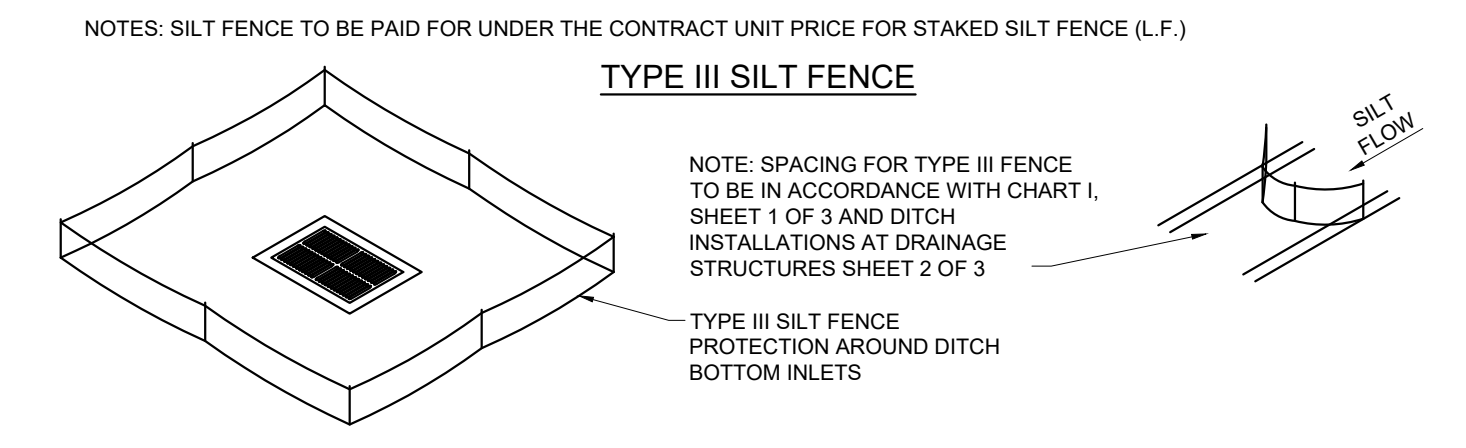
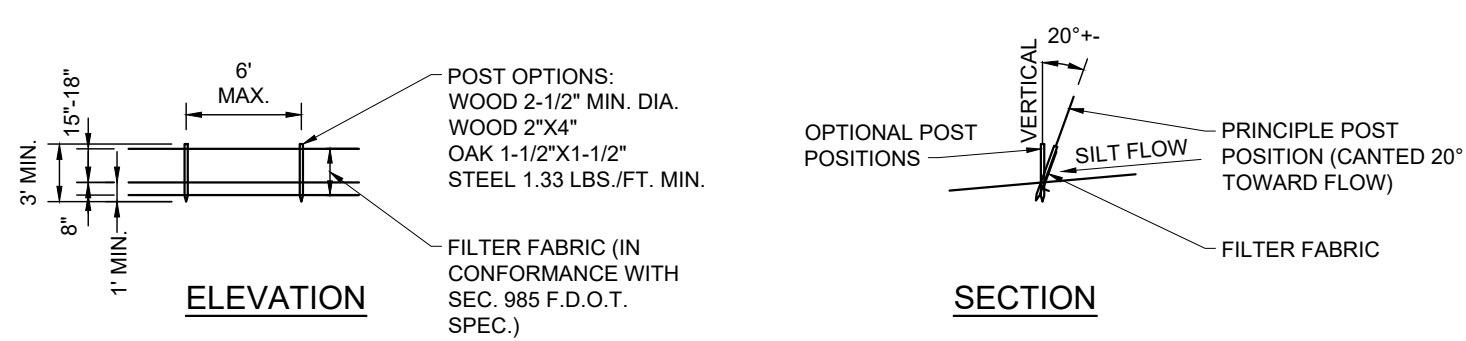
SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
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SWPPP

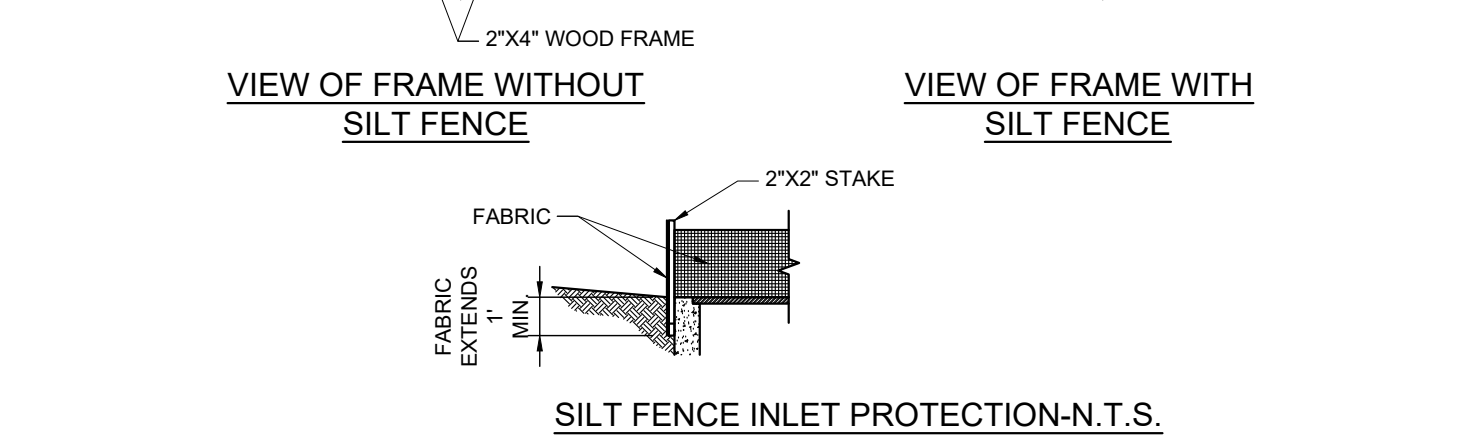
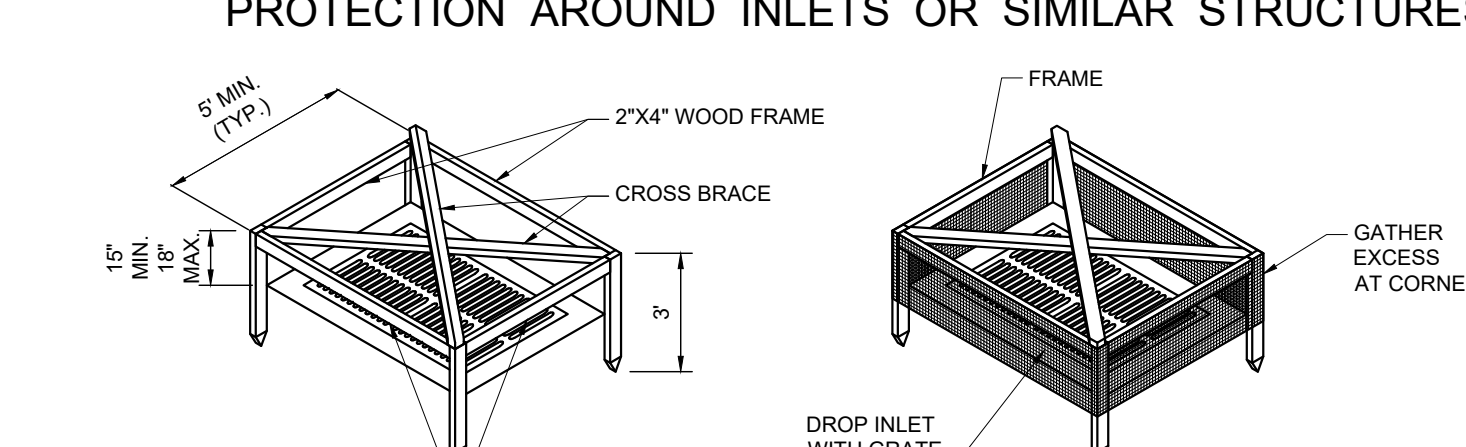
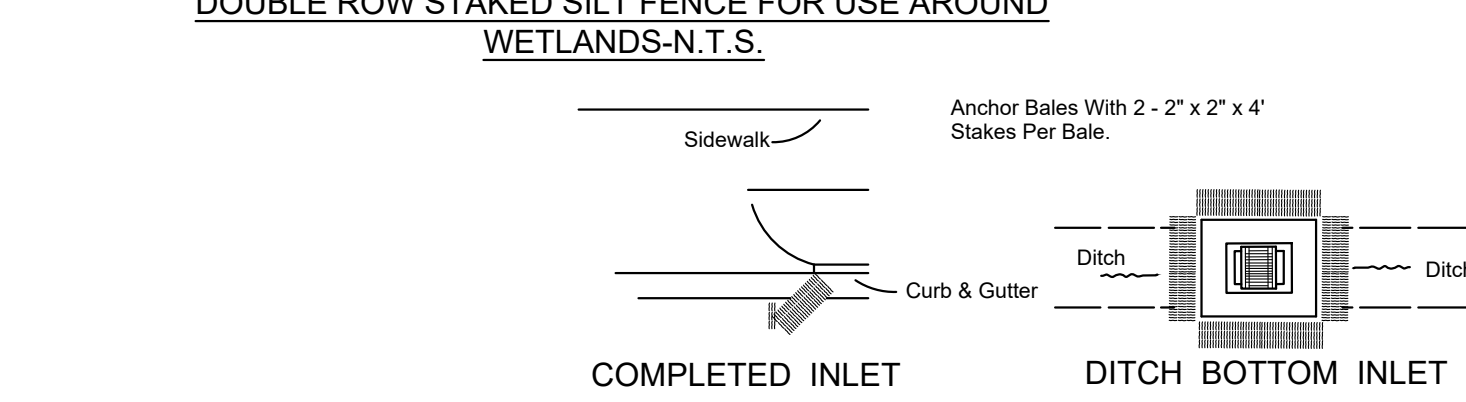
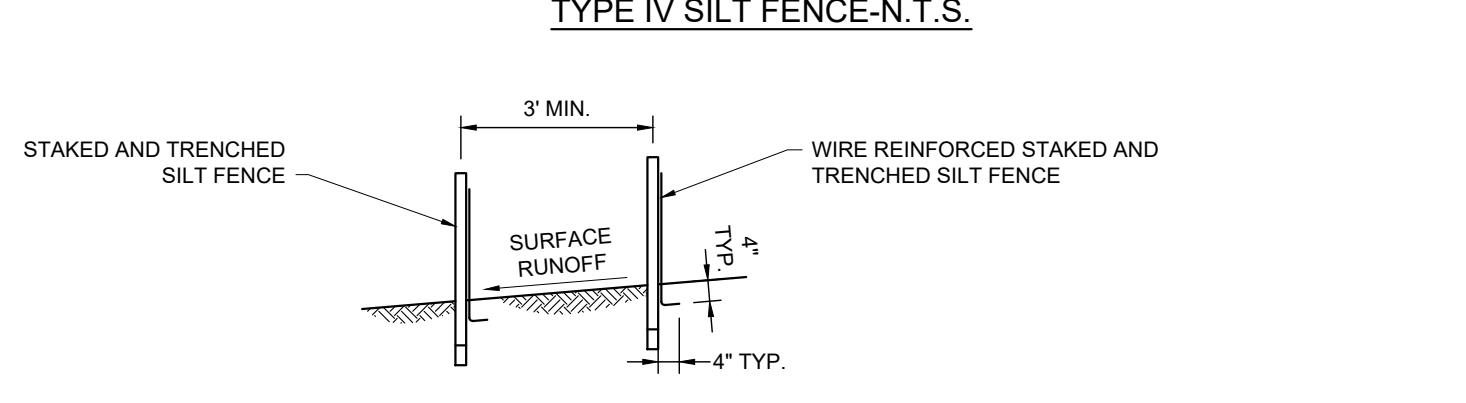
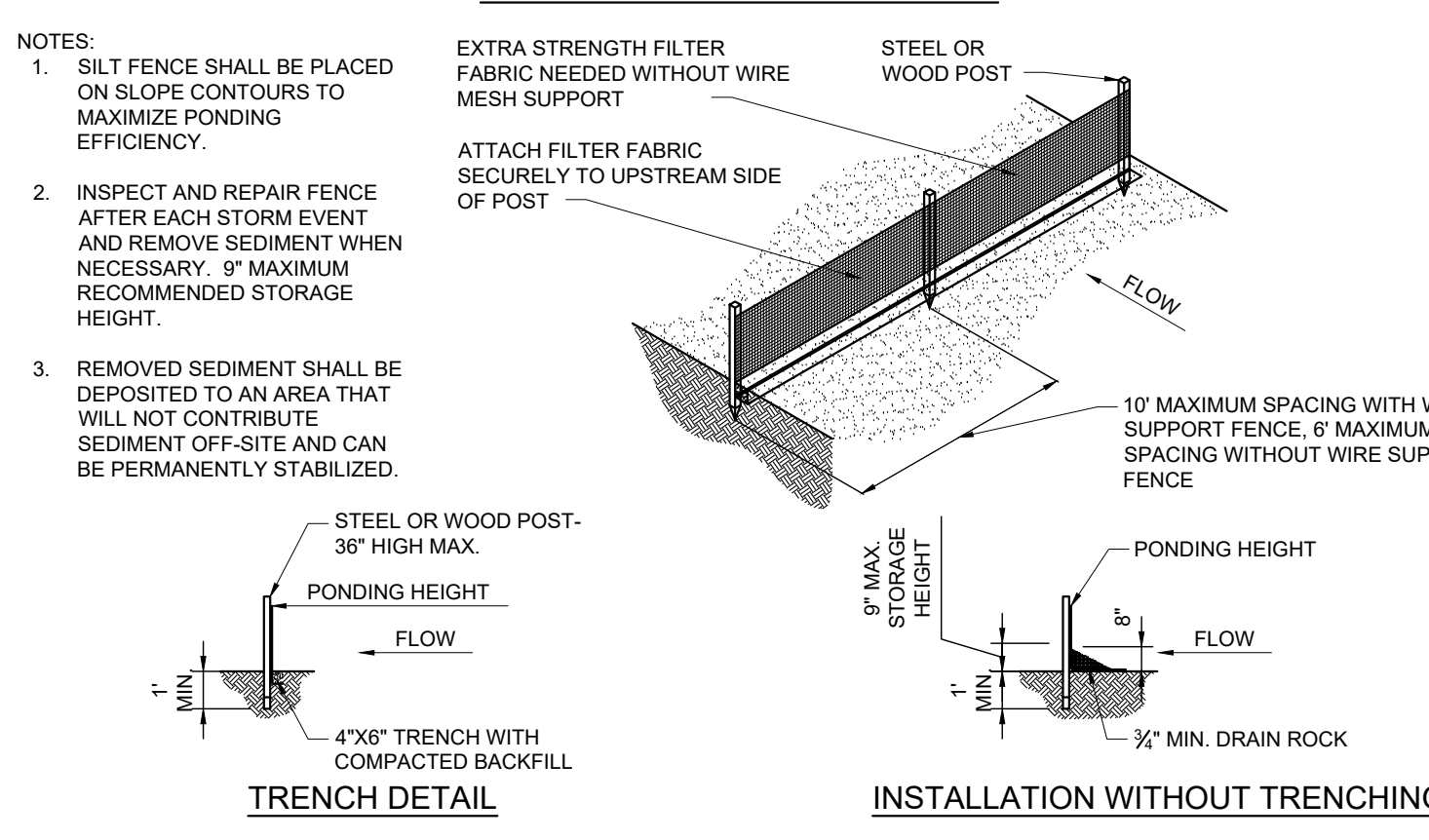
SPALLONE DENTAL OFFICE
1985 POINTE WEST DR.
VERO BEACH, FLORIDA
INDIAN RIVER COUNTY

ENGINEER CERTIFICATION
 JOSEPH W. SCHULKE
FL. REG. NO. 47048
 ADAM R. BITTLE
FL. REG. NO. 57396
 WILLIAM P. STODDARD
FL. REG. NO. 57605

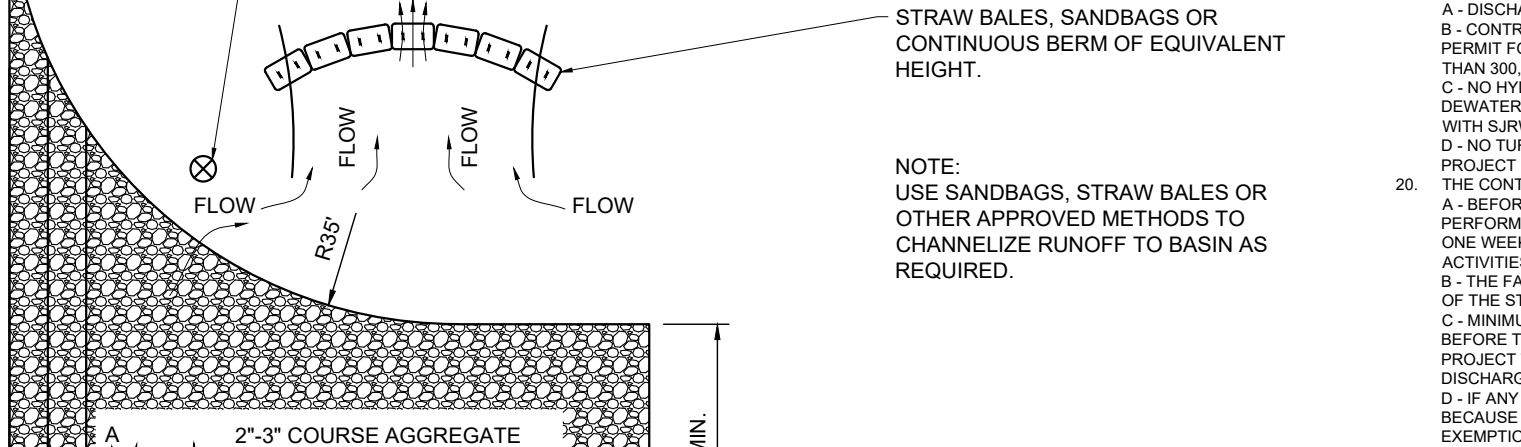
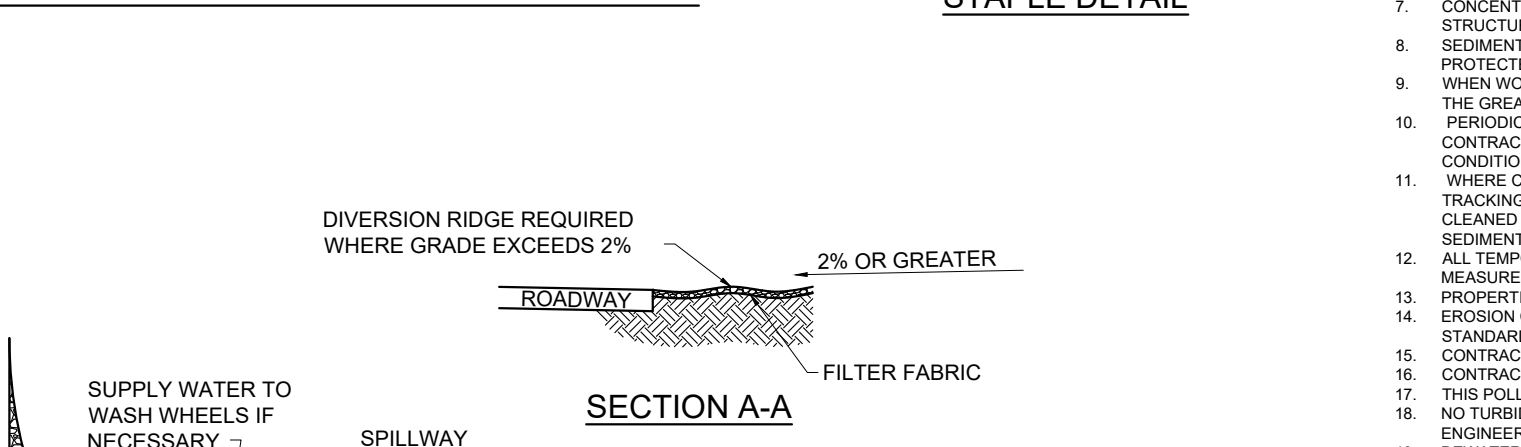
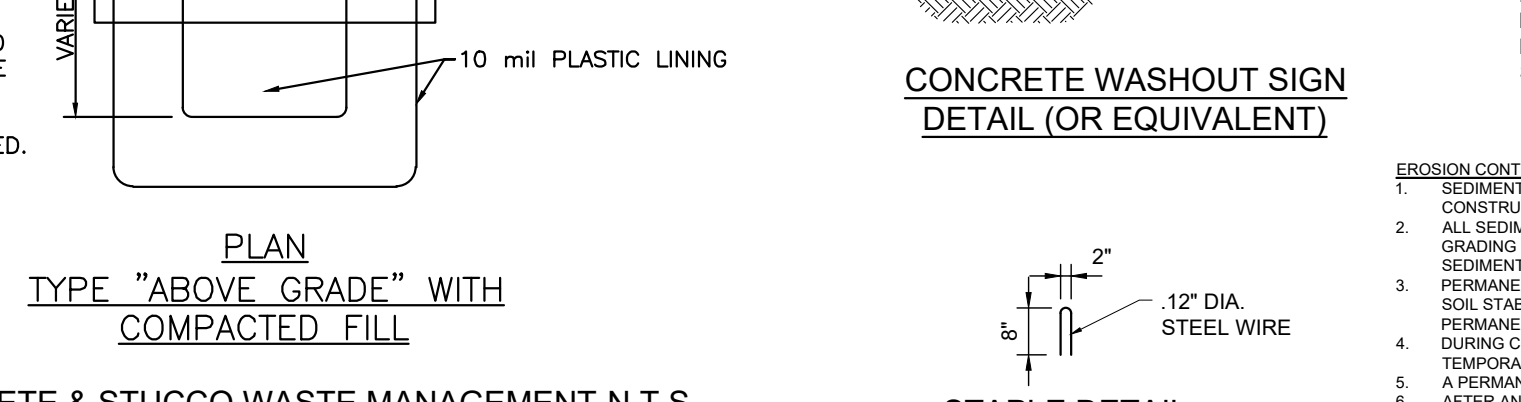
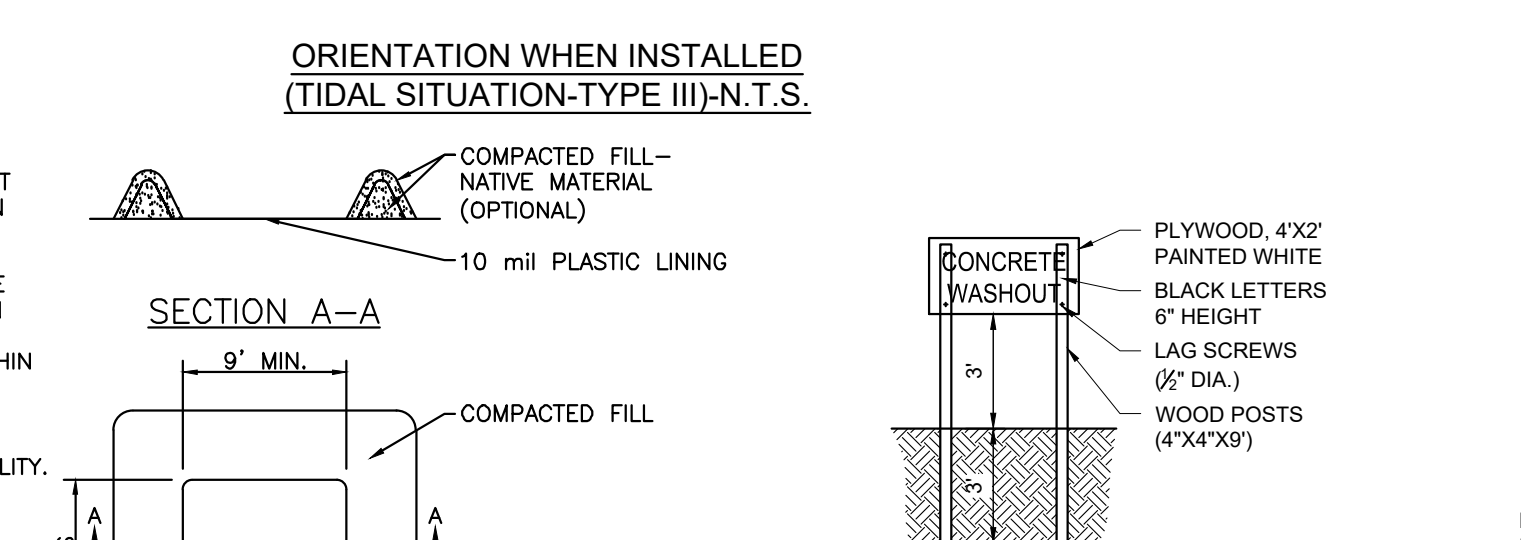
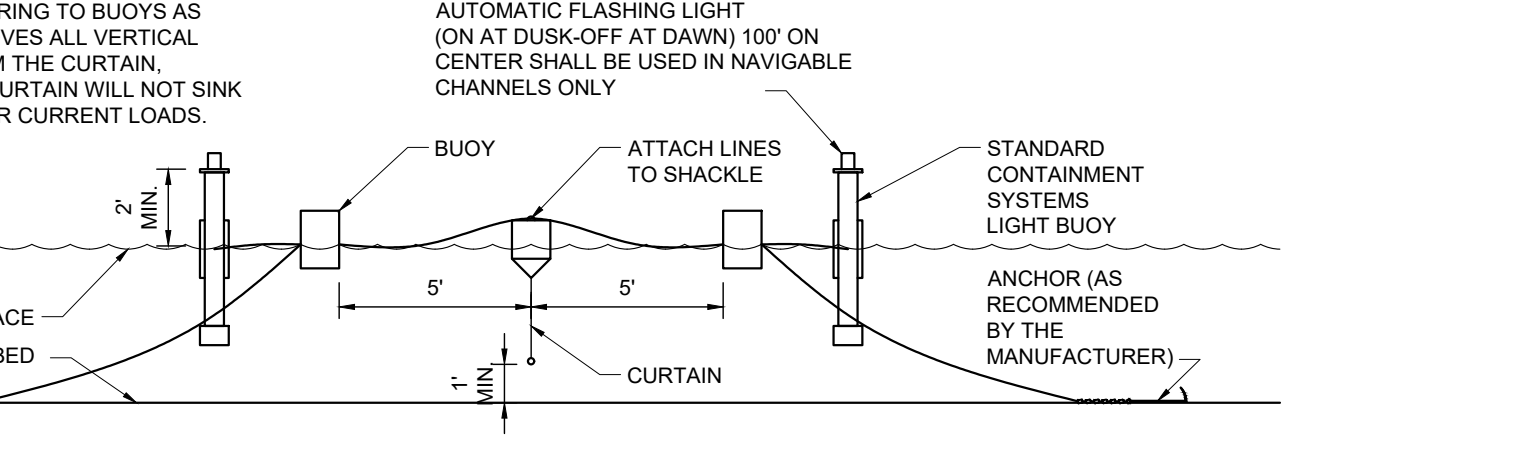
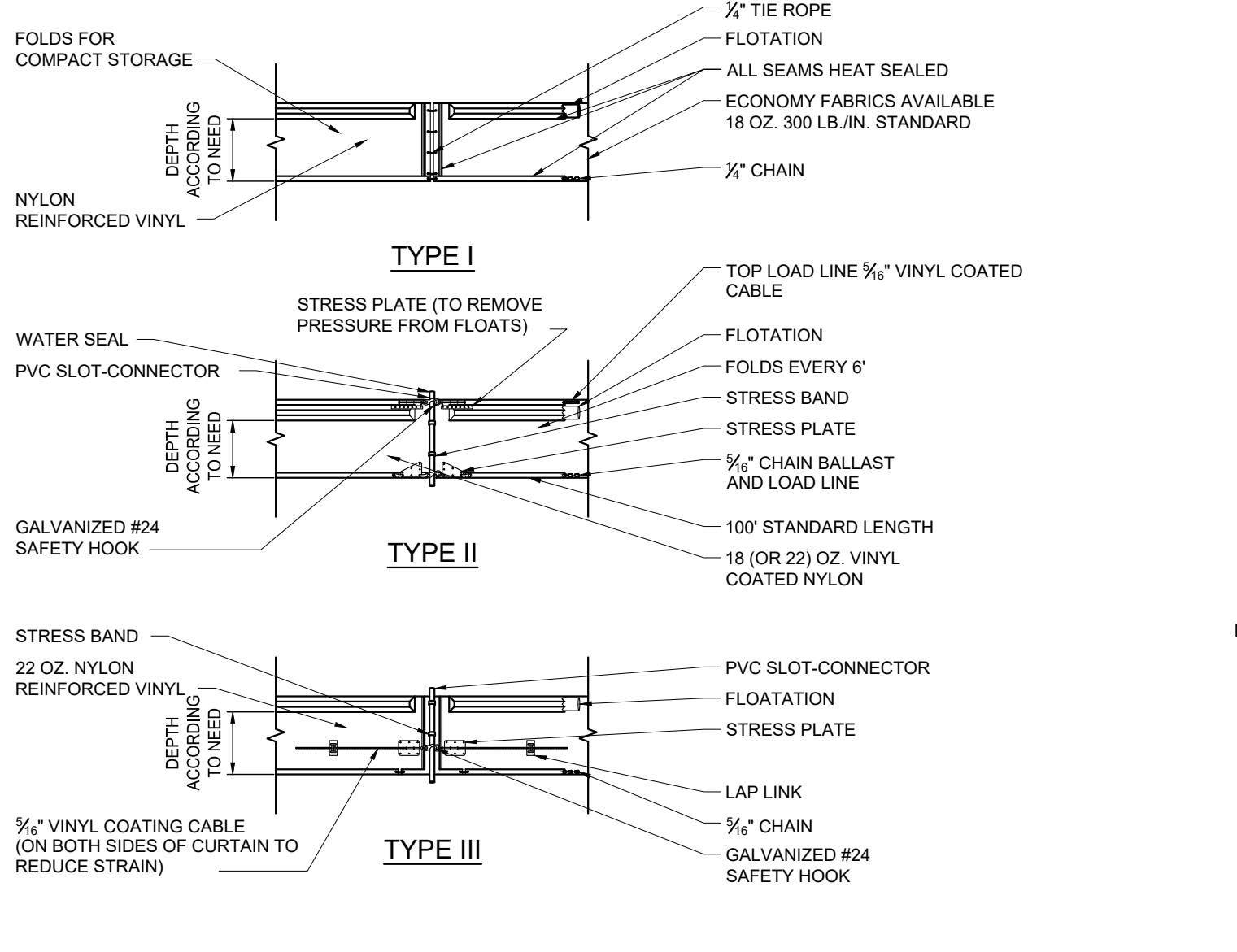
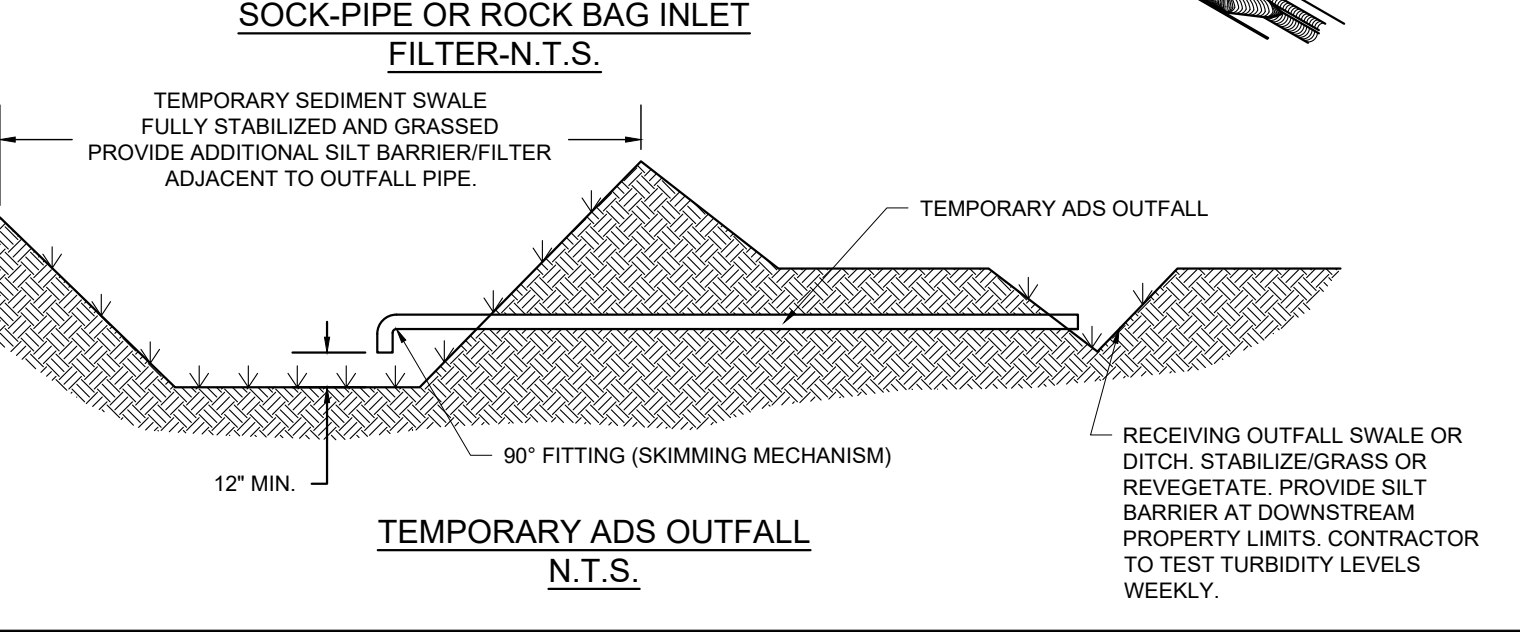
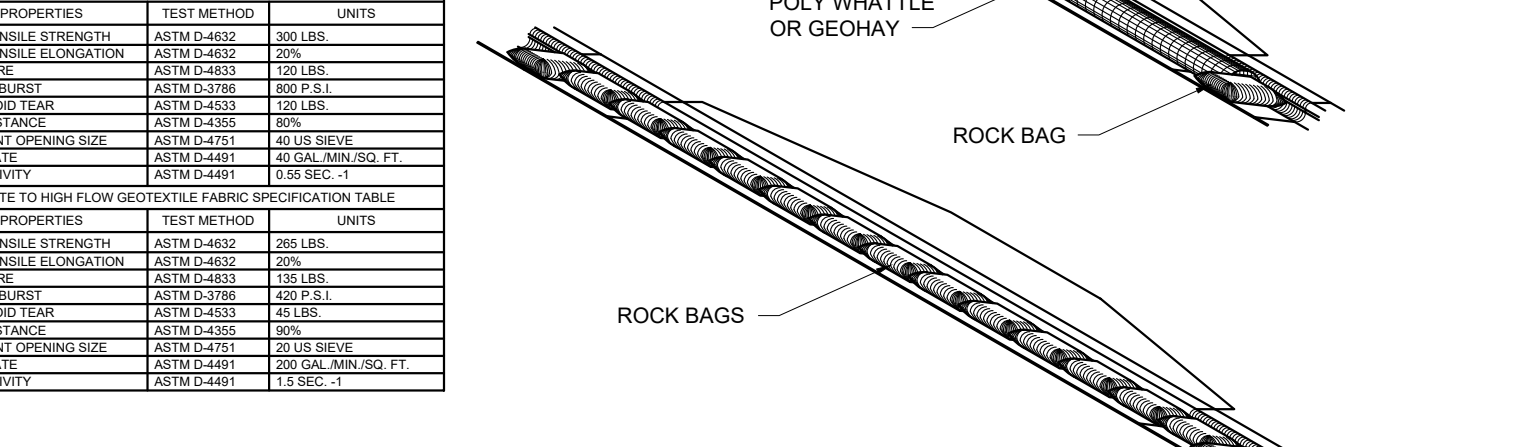
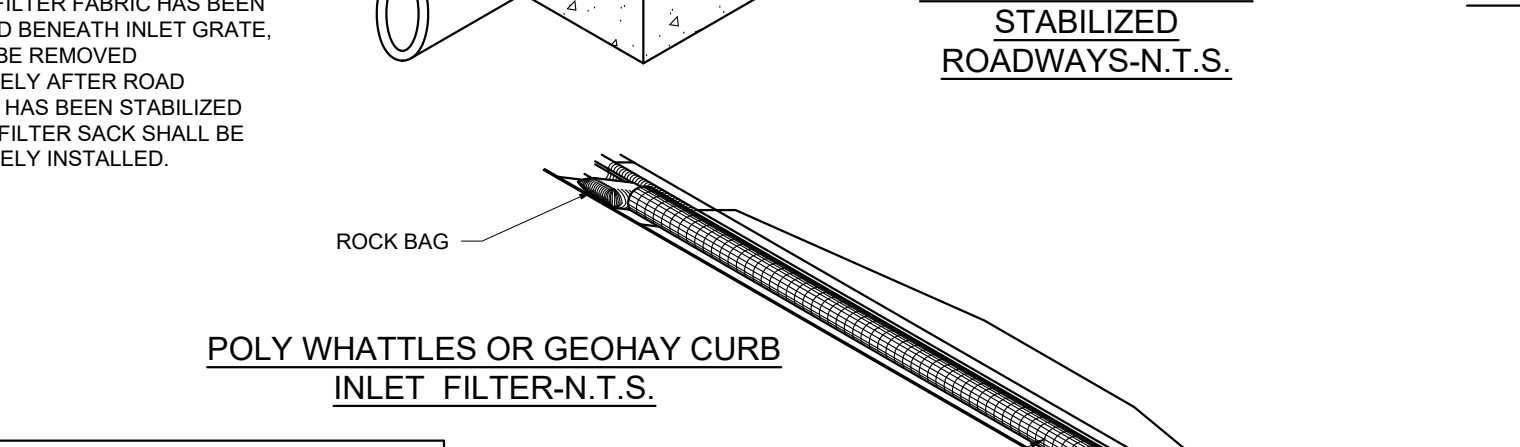
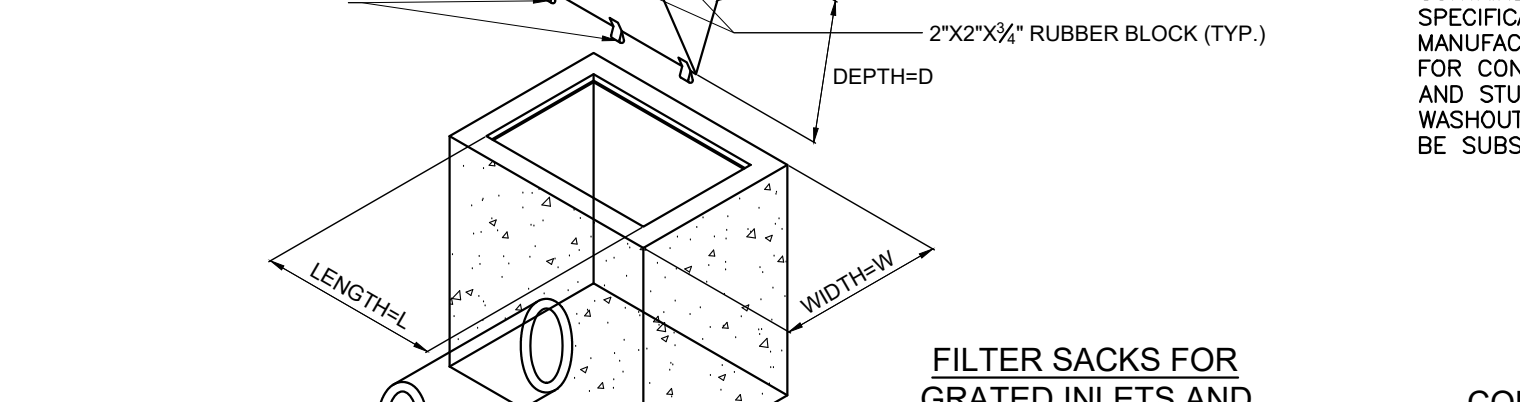
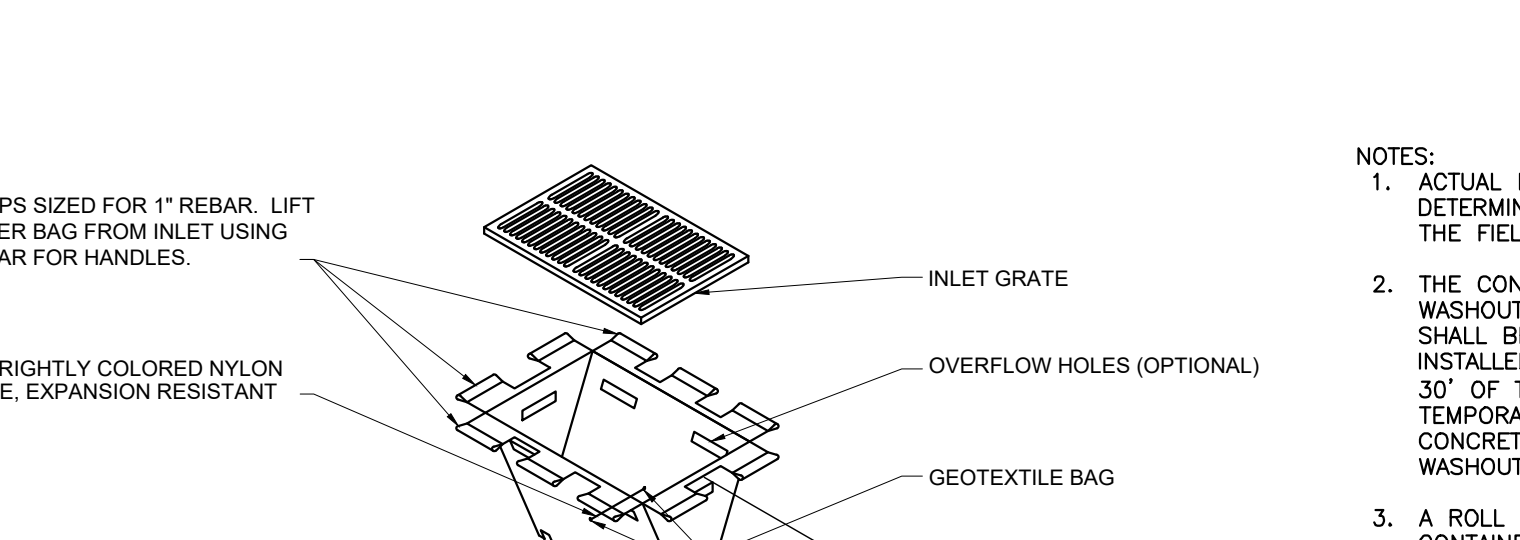
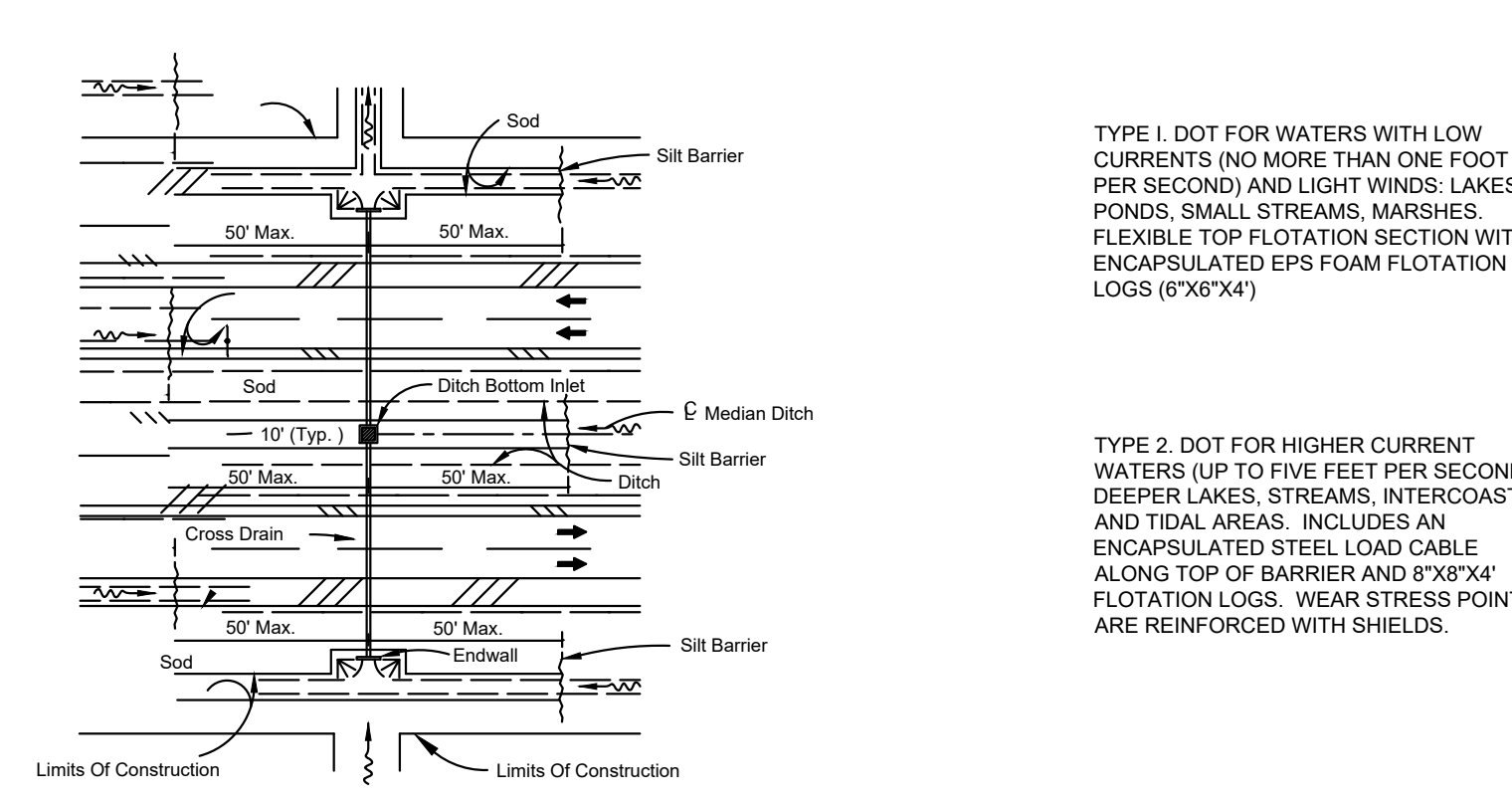
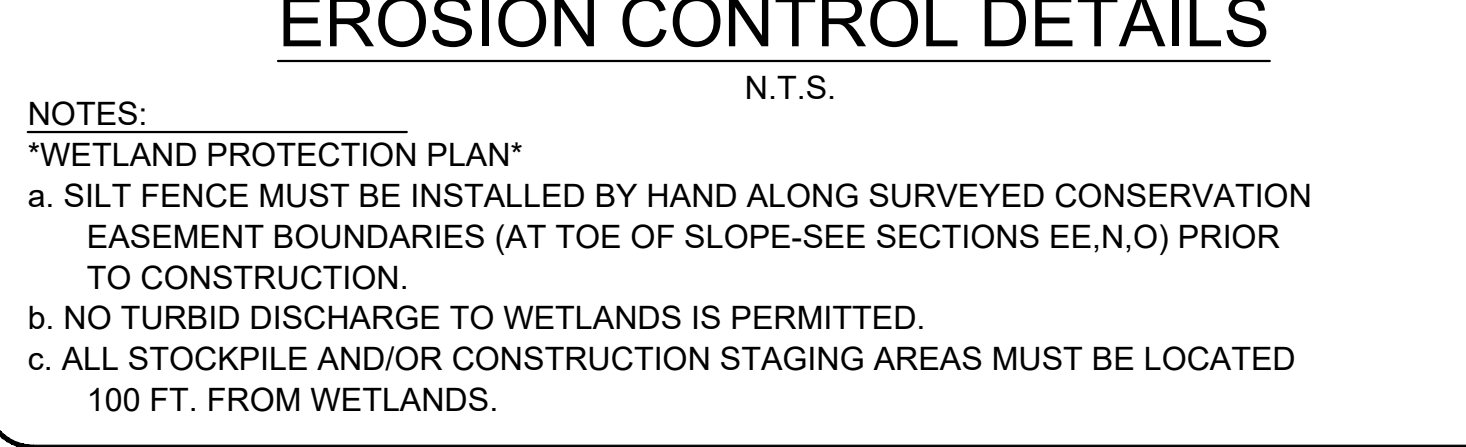
DATE: SHEET
C-300
PROJECT NO. 21-034



DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

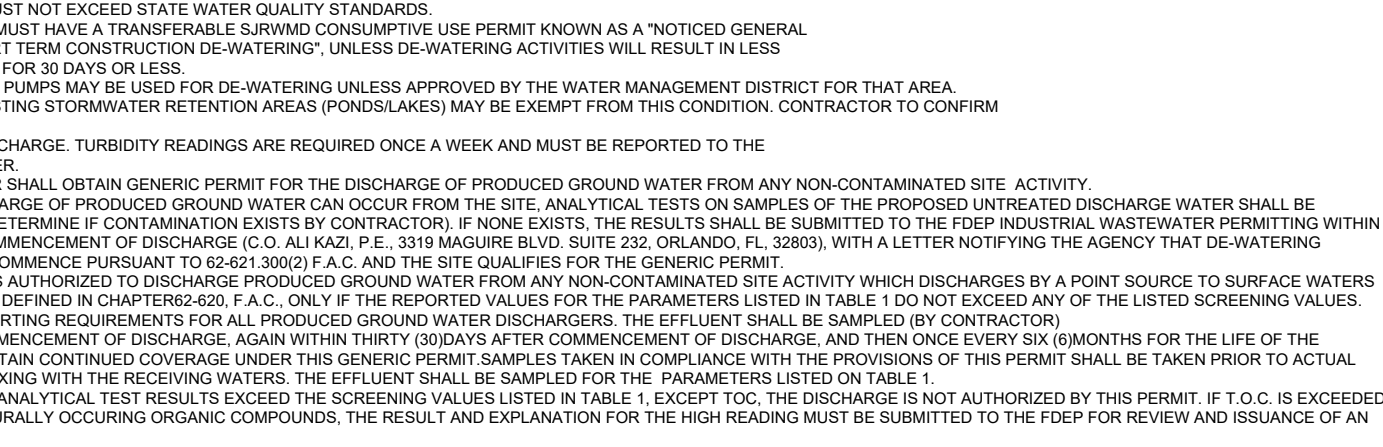
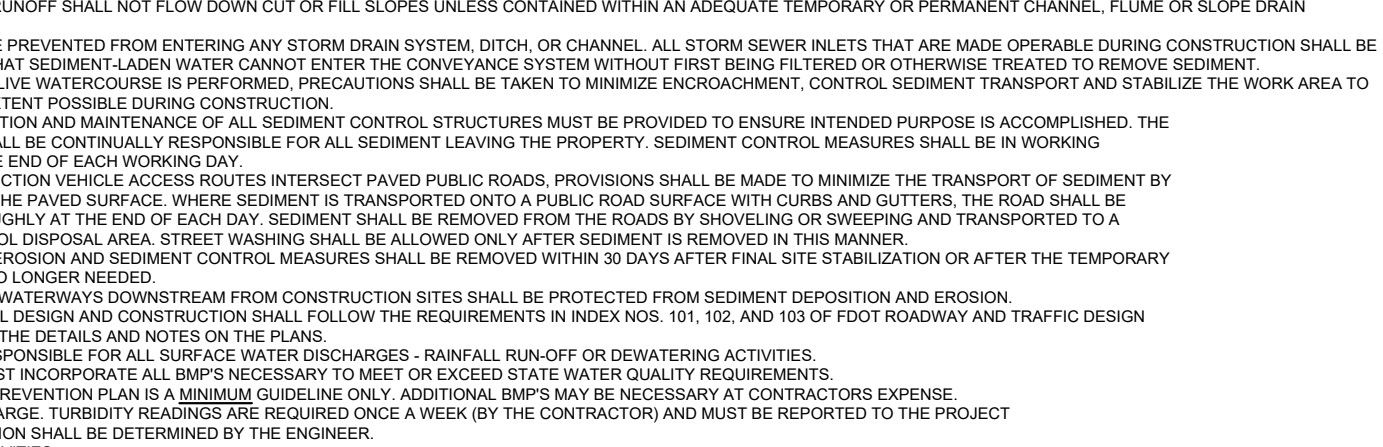
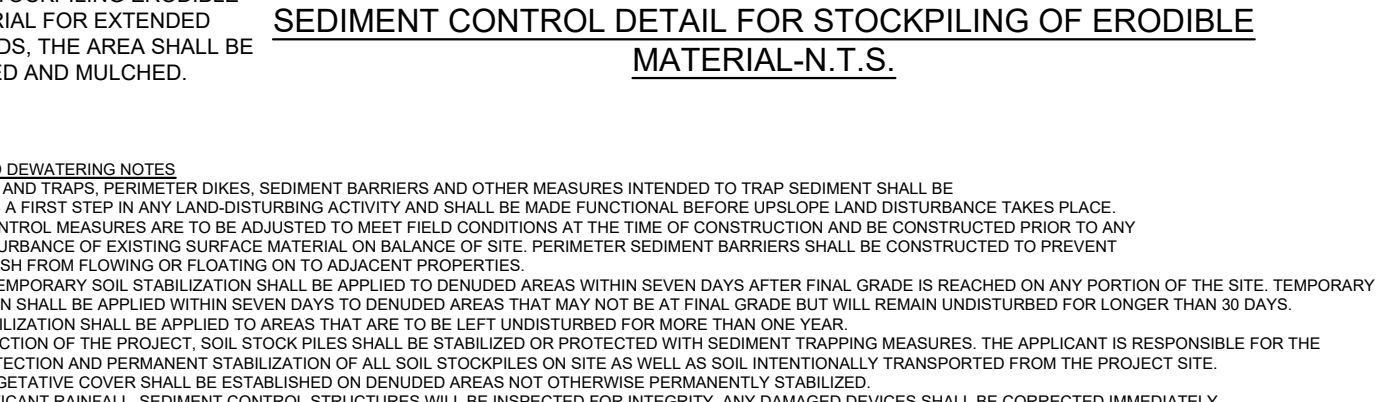
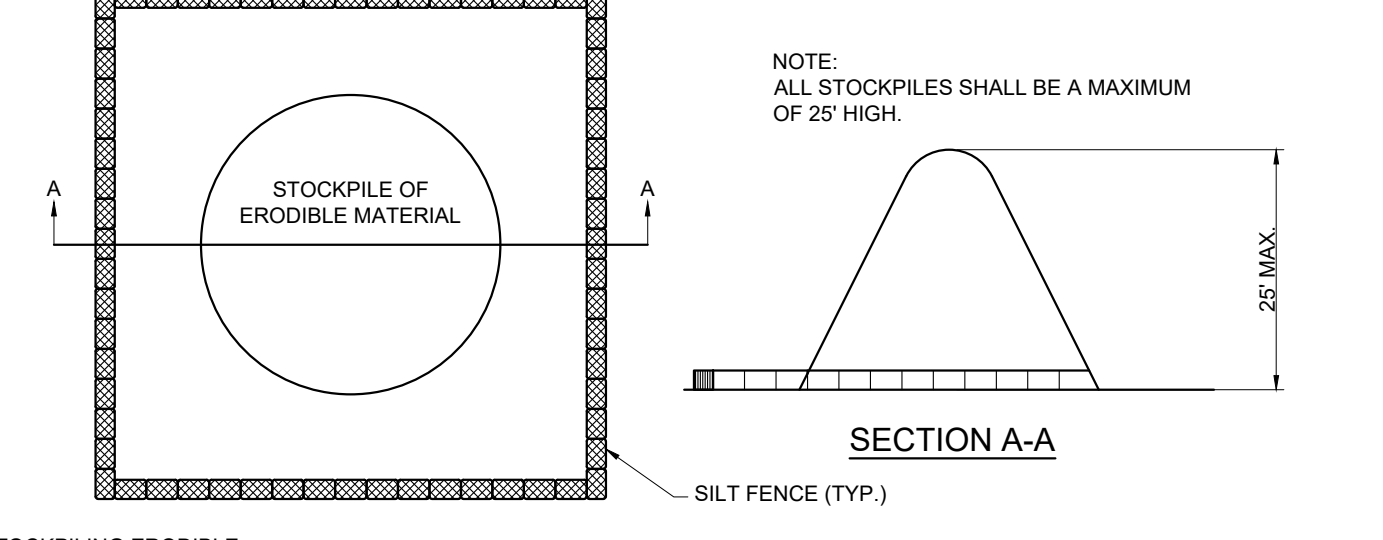
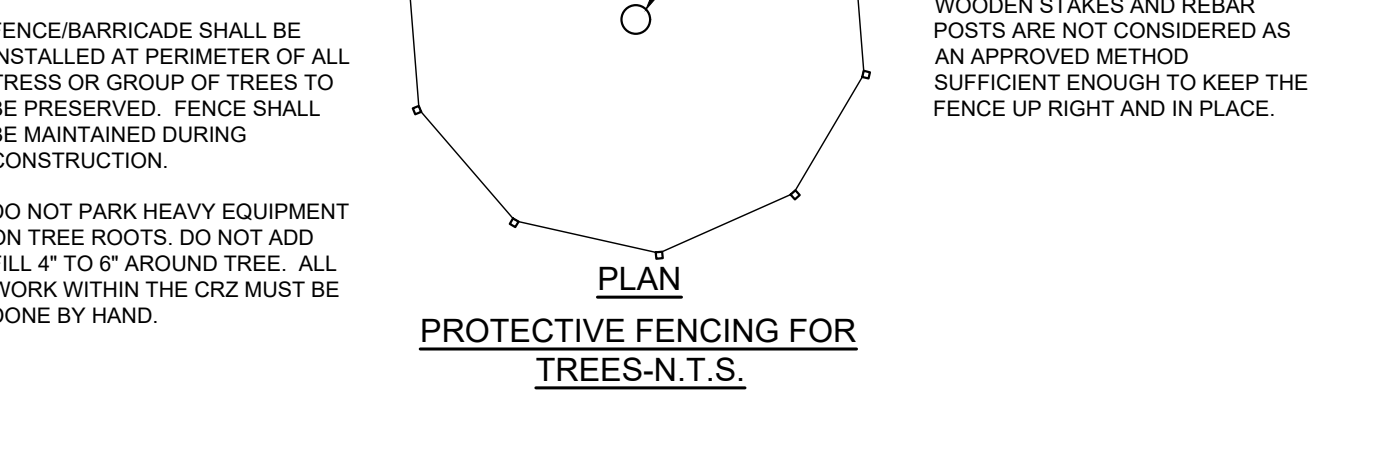
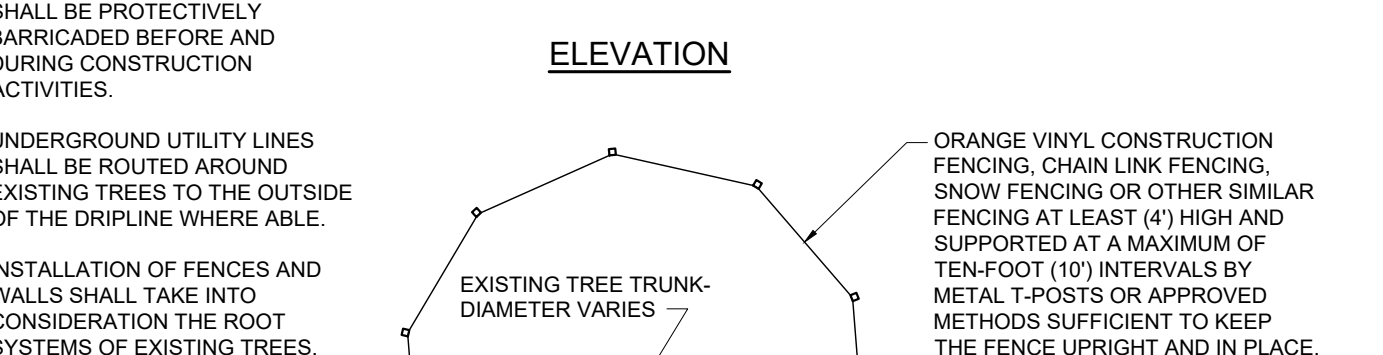
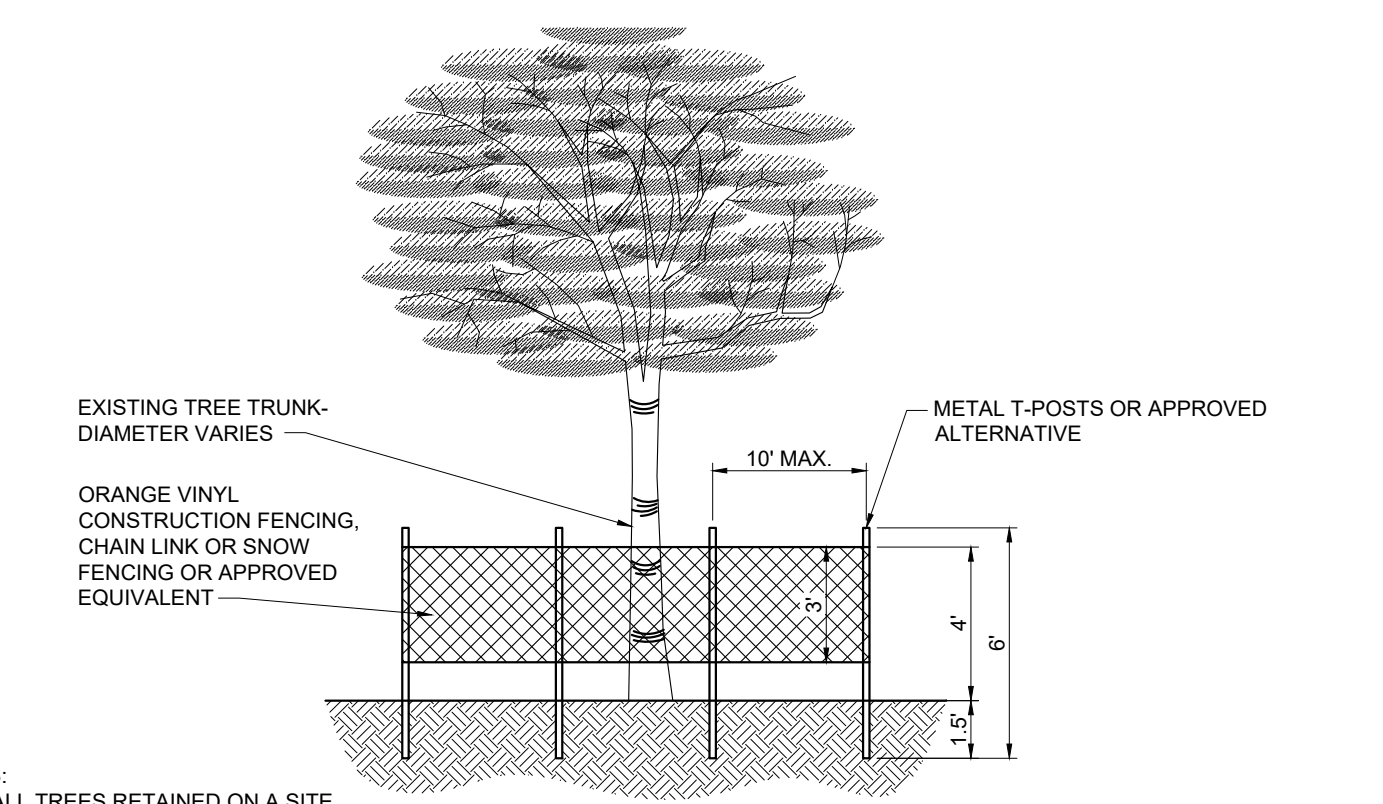


- All turbidity, erosion, and sedimentation controls shall be in accordance with 'Best Management Practices' as described in the Florida Land Development Manual: A Guide to Sound Land and Water Management.
 - Reference F.D.O.T. Index #102.



SCREENING VALUES FOR DISCHARGE INTO

Parameter	SCREENING VALUES FOR DISCHARGE INTO	
	Fresh Waters	Coastal Waters
Total Organic Carbon (TOC)	10.0 mg/L	10.0 mg/L
pH	6.5-8.5	6.5-8.5
Total Recoverable Mercury	0.012 µg/L	0.025 µg/L
Total Recoverable Cadmium	9.3 µg/L	9.3 µg/L
Total Recoverable Copper	2.9 µg/L	2.9 µg/L
Total Recoverable Lead	1.0 µg/L	1.0 µg/L
Total Recoverable Zinc	86.0 µg/L	86.0 µg/L
Total Recoverable Chromium (Hex.)	11.0 µg/L	50.0 µg/L
Benzene	1.0 µg/L	1.0 µg/L
Naphthalene	100.0 µg/L	100.0 µg/L



SCREENING VALUES FOR DISCHARGE INTO

Parameter	SCREENING VALUES FOR DISCHARGE INTO	
	Fresh Waters	Coastal Waters
Total Organic Carbon (TOC)	10.0 mg/L	10.0 mg/L
pH	6.5-8.5	6.5-8.5
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Total Recoverable Zinc	86.0 µg/L	86.0 µg/L
Total Recoverable Chromium (Hex.)	11.0 µg/L	50.0 µg/L
Benzene	1.0 µg/L	1.0 µg/L
Naphthalene	100.0 µg/L	100.0 µg/L

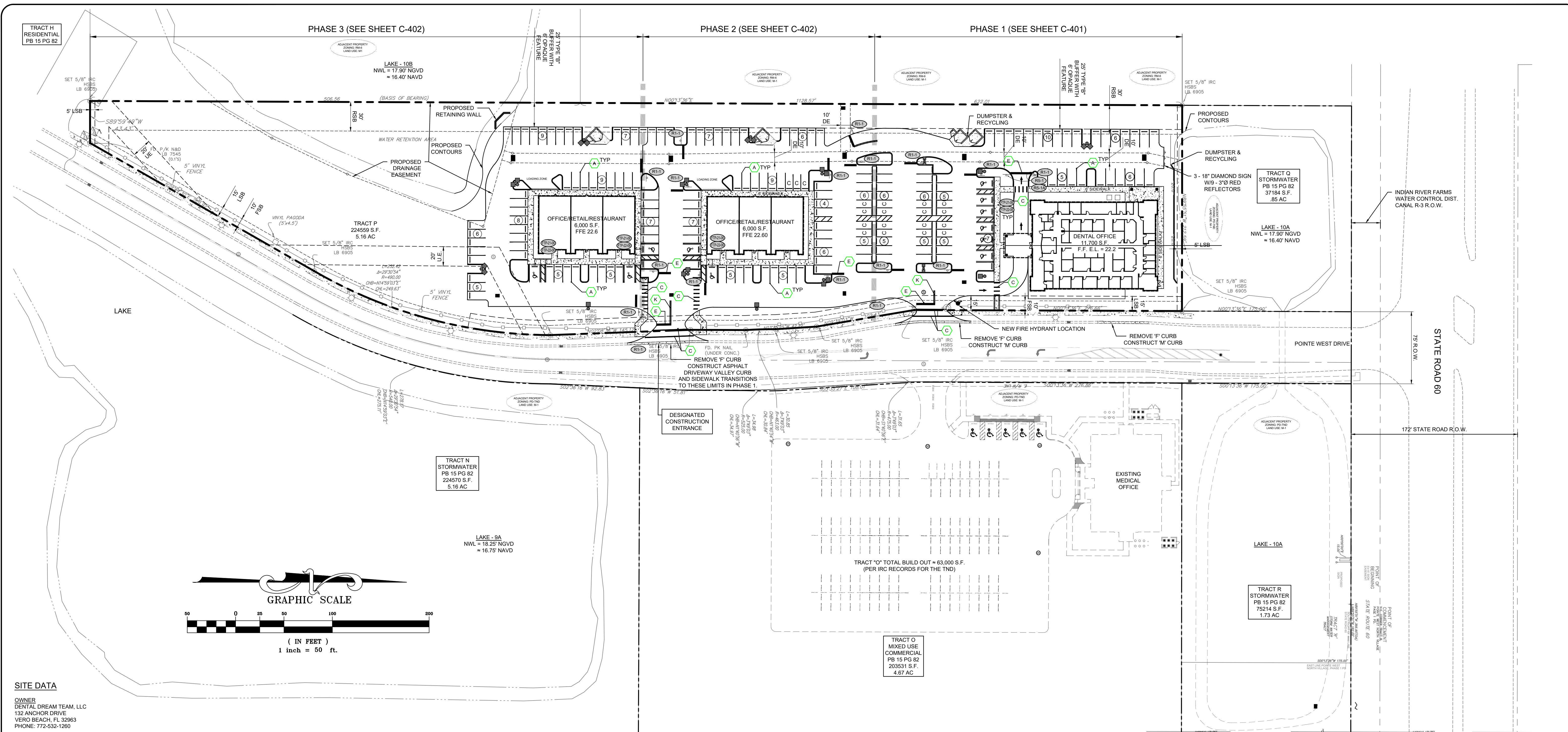
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 TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com

SWPPP DETAILS

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION
 JOSEPH W. SCHULKE
 ADAM B. BITTLE
 WILLIAM P. STODDARD

DATE: SHEET
 PROJECT NO. 21-034



SITE DATA

OWNER
DENTAL DREAM TEAM, LLC
132 ANCHOR DRIVE
VERO BEACH, FL 32963
PHONE: 772-532-1260

APPLICANT
TIFFANY SPALLONE
132 ANCHOR DRIVE
VERO BEACH, FL 32963
PHONE: 772-532-1260

ENGINEER
SCHULKE, BITTLE & STODDARD, L.L.C.
1717 INDIAN RIVER BOULEVARD, SUITE 201
VERO BEACH, FLORIDA 32960
TEL: 772-770-9622
FAX: 772-770-9496

SURVEYOR
MERIDIAN LAND SURVEYOR
1717 INDIAN RIVER BOULEVARD
VERO BEACH, FLORIDA 32960
TEL: 772-794-1213

PROJECT LOCATION
1985 POINTE WEST DR.
VERO BEACH, FL 32966

PROPERTY TAX ID NUMBERS
3338010001900000000.1

GROSS AREA
5.16 AC.

ZONING
PDTND

LAND USE
M-1

EXISTING SITE CONDITIONS
- PRESENT CONDITIONS: EXISTING BUILDINGS AND PARKING LOT (TO BE DEMOLISHED)

FLOOD ZONE
- FLOOD ZONE F.I.R.M. NO. 12061C_STUDY11_8/30/2017 FLOOD ZONE 'X'

CONSTRUCTION SCHEDULE

PHASE	START	FINISH
PHASE 1:	JUNE 2022	JUNE 2023
PHASE 2:	JUNE 2024	JUNE 2025
PHASE 3:	JUNE 2026	JUNE 2027

PARKING CALCULATIONS:

PARKING CALCULATIONS:

REQUIRED:

PHASE	REQUIREMENT	SPACES
PHASE 1:	DENTAL OFFICE:	1 SPACE PER 175 SF x 11,700 SF = 67 SPACES
PHASE 2:	OFFICE SPACE:	1 SPACE PER 300 SF x 2,000 SF = 7 SPACES
	RETAIL SPACE:	1 SPACE PER 200 SF x 2,000 SF = 10 SPACES
	RESTAURANT:	1 SPACE PER 75 SF x 2,000 SF = 27 SPACES
TOTAL:		44 SPACES
PHASE 3:	OFFICE SPACE:	1 SPACE PER 300 SF x 2,000 SF = 7 SPACES
	RETAIL SPACE:	1 SPACE PER 200 SF x 2,000 SF = 10 SPACES
	RESTAURANT:	1 SPACE PER 75 SF x 2,000 SF = 27 SPACES
TOTAL:		44 SPACES
GRAND TOTAL:		155 SPACES

AREA CALCULATIONS:

AREA TYPE	AREA (S.F.)	AREA (AC)	PERCENT
OVERALL SITE AREA	224,559 SF	(5.16 AC)	100.0%
DEVELOPMENT AREA	113,753 SF	(2.61 AC)	50.7%
IMPERVIOUS	23,700 SF	(0.55 AC)	10.5%
- ASPHALT AREA	82,524 SF	(1.89 AC)	36.7%
- CONCRETE AREA	7,529 SF	(0.17 AC)	3.4%
OPEN SPACE	110,806 SF	(2.54 AC)	49.3%

DEVELOPMENT PARAMETERS:

PARAMETER	REQUIRED	PROPOSED
MINIMUM OPEN SPACE	30%	49.3%
MAXIMUM BUILDING HEIGHT	35'	35'
MINIMUM SETBACKS:		
- FRONT (EAST):	10'	20.6'
- SIDE (NORTH & SOUTH):	0'	25' (N), 463.38' (S)
- REAR (WEST):	30'	97.95'

PROPOSED:

TYPE	QUANTITY
HANDICAPPED SPACES	11
COMPACT SPACES	19
STANDARD SPACES	156
TOTAL	186

LEGAL DESCRIPTION

TRACT P, POINTE WEST NORTH VILLAGE, PHASE 1 PD, AS RECORDED IN PLAT BOOK 15, PAGE 82, PUBLIC RECORDS OF INDIAN RIVER COUNTY FLORIDA.

LESS AND EXCEPT ANY PART OF THE CAPTION LYING WITHIN THE LANDS DESCRIBED IN ORB 1887, PG. 1423 (EAST 10 ACRES OF WEST 20.68 ACRES OF TRACT 10)

STRIPING KEY

A = 6" SOLID WHITE	X	EXISTING STRIPING
B = 8" SOLID WHITE	X	PROPOSED STRIPING
C = 12" SOLID WHITE		
D = 18" SOLID WHITE		
E = 24" SOLID WHITE		
F = 6" SKIP WHITE TYP (10'-30')		
G = 6" SKIP WHITE TYP (6'-10')		
H = 6" SKIP WHITE TYP (2'-4')		
I = 6" SOLID YELLOW		
J = 18" SOLID YELLOW		
K = 6" DOUBLE YELLOW		
L = 6" SKIP YELLOW TYP (10'-30')		
M = 6" SKIP YELLOW TYP (6'-10')		
N = 6" SKIP YELLOW TYP (2'-4')		
P = RPM MONO-DIRECTIONAL WHITE/MONO		
Q = RPM BI-DIRECTIONAL AMBER/AMBER		
R = FDP WHITE		
S = FDP YELLOW		
T = RPM BI-DIREC. WHITE/RED		

NOTE: FDP DENOTES FLEXIBLE DELINEATOR POST.

SIGN LEGEND

FTP-21-06	HANDICAPPED PARKING SIGN	PROP CONC. SIDEWALK
FTP-22-06	HANDICAPPED PARKING SIGN	PROP STREET LIGHT (SHIELDED FIXTURE) SEE DETAIL SHEET C-401
R1-1	30" STOP SIGN	BLOG ATTACHED LIGHTING SEE PLAN BY OTHERS
R5-1	DO NOT ENTER SIGN	
R5-1A	WRONG WAY SIGN	
R3-2	30" NO LEFT TURN	

- GENERAL NOTES:**
- PRIOR TO CONSTRUCTION COMMENCEMENT THE CONTRACTOR IS TO NOTIFY THE INDIAN RIVER COUNTY ENGINEERING INSPECTOR SUPERVISOR.
 - ALL UTILITIES MUST BE PLACED UNDERGROUND PURSUANT TO THE INDIAN RIVER COUNTY LAND DEVELOPMENT REGULATION (LDR).
 - THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITY LINES AND STRUCTURES PRIOR TO CONSTRUCTION.
 - EASEMENTS AS REQUIRED SHALL BE RECORDED AS SEPARATE INSTRUMENTS.
 - PROPOSED INDIAN RIVER COUNTY PUBLIC WATER.
 - PROPOSED INDIAN RIVER COUNTY PUBLIC SEWER.
 - EACH SITE SHALL HAVE A MINIMUM 6" HIGH NUMERICAL ADDRESS POSTED ON THE BUILDING FACADE IN A READILY VISIBLE LOCATION.
 - ALL TRAFFIC SIGNS SHALL MEET THE STANDARDS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
 - ALL PROPOSED TRAFFIC CONTROL DEVICES SHOWN ON SITE TO BE PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 - ANY ABANDONED FLOW WELLS FOUND ON SITE SHALL BE PLUGGED PURSUANT TO D.O.H. AND S.J.R. REGULATIONS.
 - ALL PAVEMENT MARKINGS IN THE RIGHT-OF-WAY SHALL BE 90 MIL., EXTRUDED TYPE, ALKYD BASE THERMOPLASTIC.
 - ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE, RETRO-REFLECTIVE TRAFFIC PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 710.
 - WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 710.
 - ALL COMPACT SPACES SHALL BE MARKED "COMPACT" ON THE STALL OR TIRE STOP.
 - ALL STOP SIGNS SHALL BE HIGH INTENSITY RETRO-REFLECTIVITY GRADE.
 - ALL EXISTING EXOTIC VEGETATION EXISTING WITHIN DEVELOPMENT PROJECT SITE PROPERTY MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT [209.08].
 - CLEAR ZONE: ALL SOLID, NON-BREAKAWAY OBJECTS (GATE POSTS/COLUMNS, BOLLARDS, STREET LIGHT POLES, ETC.) ALONGSIDE INTERIOR STREETS AND DRIVING AISLES SHALL BE LOCATED OUTSIDE THE CLEAR ZONE. FOR STREETS AND DRIVING AISLES WITH DESIGN SPEED OF 25 MPH OR LESS, THE MINIMUM CLEAR ZONE IS 1.5 FEET FROM THE FACE OF THE CURB (TYPE "D" OR "F"), OR 6 FEET FROM THE EDGE OF THE OUTSIDE MOTOR VEHICLE TRAVEL WAY WHEN NO CURB AND GUTTER IS PRESENT TO BE IN ACCORDANCE WITH THE FLORIDA GREENBOOK (LAKES), CHAPTER 3 SECTION C.7.F.1. THIS APPLIES TO PUBLIC AND PRIVATE PROPERTY.
 - ALL EXTERIOR LIGHTING SHALL BE ARRANGED TO SHIELD OR DEFLECT THE LIGHT FROM ADJOINING PROPERTIES AND PUBLIC STREETS. CUT-OFF LIGHTING SHALL BE USED IN THE PARKING LOT.
 - ELECTRIC, PAVEMENT & COMMUNICATIONS UTILITIES BE PROVIDED IN EACH UNIT FOR PURPOSES CONSISTENT WITH ACCESSORY RESIDENTIAL TYPE USE, STORAGE/GARAGE OWNERS AND TENANTS MAY USE ELECTRIC AND UTILITIES FOR FISHER RECREATIONAL ENDOAVORS AND HOBBIES, FOR PRIVATE BATHROOMS AND USE/MAINTENANCE OF HIS/HER PROPERTY STORED WITHIN THE UNITS.
 - ANY DAMAGE TO EXISTING SIDEWALKS ALONG THE SITE'S US 1 HWY FRONTAGE WILL NEED TO BE REPAIRED OR REPLACED PRIOR TO CERTIFICATE OF OCCUPANCY
 - TRASH ENCLOSURE SHALL MATCH THE STYLE, FINISH AND COLOR OF THE MAIN BUILDING.

- FIRE DIVISION - SITE REQUIREMENTS**
- A 6 INCH NUMERICAL ADDRESS SHALL BE POSTED ON EACH BUILDING.
 - A 4 INCH NUMERICAL ADDRESS SHALL BE POSTED ON FRONT AND REAR ENTRY DOORS OF EACH UNIT.
 - MINIMUM 35' TURNING RADIUS IS PROVIDED. SEE SHEETS C-401 & C-402.
 - A Knox GATE ENTRY SYSTEM SHALL BE PROVIDED AND THE EMERGENCY SERVICES ACCESS SHALL BE LOCKED AND SECURED.
 - A FIRE HYDRANT IS PROPOSED TO BE CONSTRUCTED ON-SITE AND IS WITHIN 500' OF THE MOST REMOTE PART OF EACH BUILDING.

SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com

SITE PLAN

SPALLONE DENTAL OFFICE
1985 POINTE WEST DR.
VERO BEACH, FLORIDA
INDIAN RIVER COUNTY

ENGINEER CERTIFICATION

DATE: SHEET **C-400** PROJECT NO. 21-034

STRIPING KEY

A = 6" SOLID WHITE
 B = 8" SOLID WHITE
 C = 12" SOLID WHITE
 D = 18" SOLID WHITE
 E = 24" SOLID WHITE
 F = 6" SKIP WHITE TYP (10'-30')
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 P = RPM MONO-DIRECTIONAL WHITE/AMBER
 Q = RPM BI-DIRECTIONAL AMBER/AMBER
 R = FDP WHITE
 S = FDP YELLOW
 T = RPM BI-DIREC. WHITE/RED

NOTE: FDP DENOTES FLEXIBLE DELINEATOR POST.

SIGN LEGEND

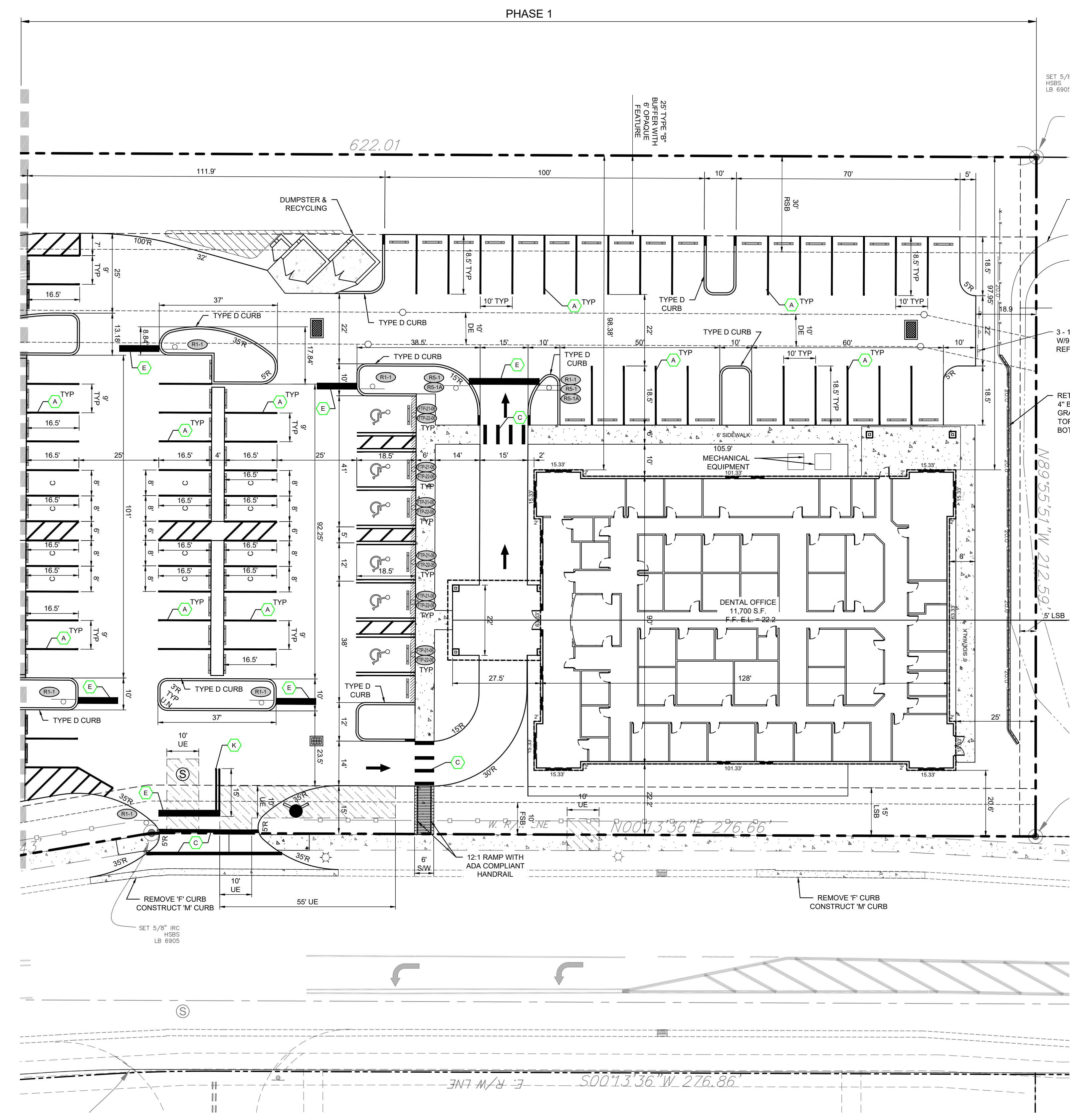
FTP-21-06 HANICAPPED PARKING SIGN
 FTP-22-06 HANICAPPED PARKING SIGN
 R1-1 30' STOP SIGN
 R5-1 DO NOT ENTER SIGN
 R5-1A WRONG WAY SIGN

PARKING CALCULATIONS:

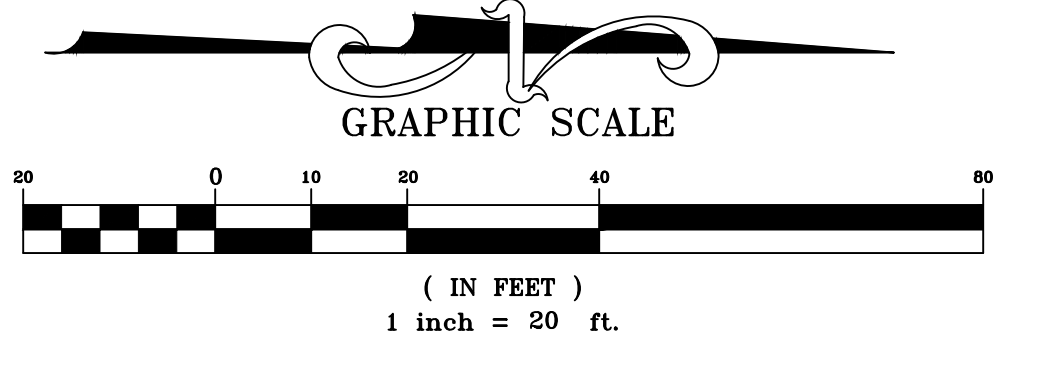
REQUIRED PHASE 1: 1 SPACE PER 175 SF x 11,700 SF = 67 SPACES

PROPOSED:

HANICAPPED SPACES	6
COMPACT SPACES	12
STANDARD SPACES	49
TOTAL	67 SPACES



PHASE 1 - DETAIL



DATE	REVISION	MARK	DRAWING
			DESIGNED: JMS DRAWN: WJF/DR CHECKED: JMS SCALE: 1" = 20' DATE: 07-23-21

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 REGISTRY #8668
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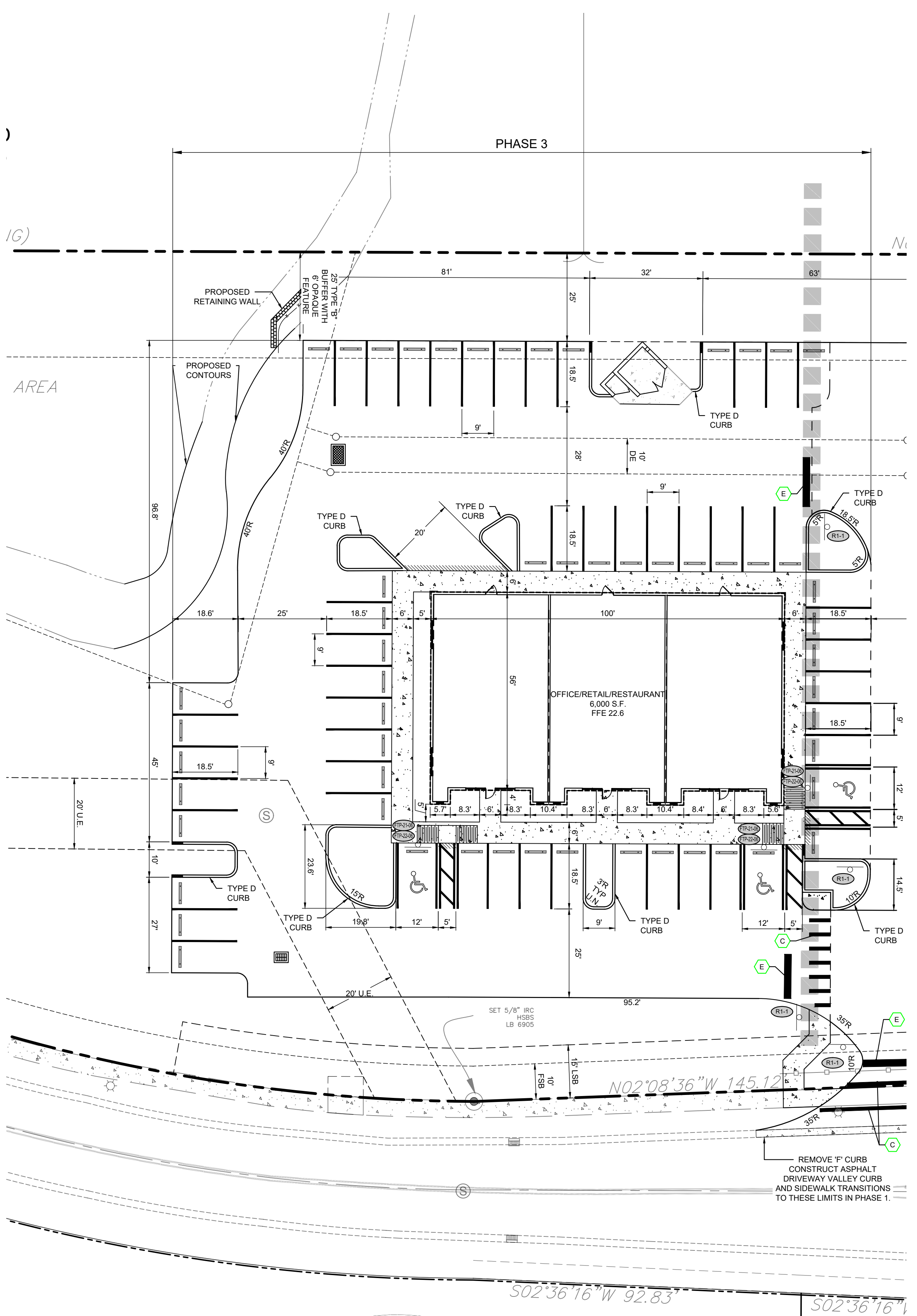
**SITE PLAN
 PHASE - I**

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

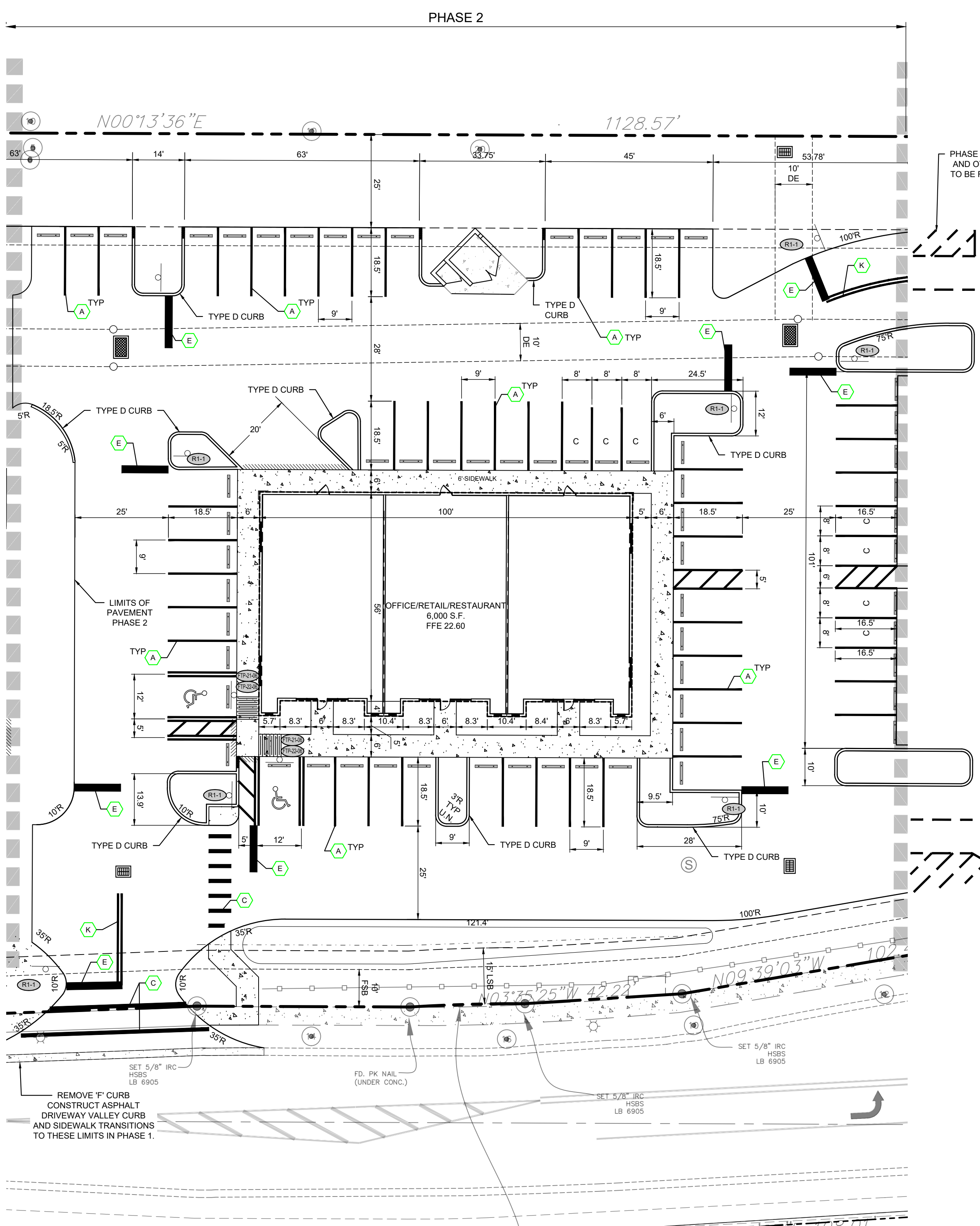
ENGINEER CERTIFICATION

JOSEPH W. SCHULKE
 FL. REG. NO. 47048
 ADAM B. BITTLE
 FL. REG. NO. 57386
 WILLIAM P. STODDARD
 FL. REG. NO. 57605

DATE: SHEET
C-401
 PROJECT NO. 21-034



PHASE 3 - DETAIL



PHASE 2 - DETAIL

STRIPING KEY

A = 6" SOLID WHITE	EXISTING STRIPING
B = 8" SOLID WHITE	PROPOSED STRIPING
C = 12" SOLID WHITE	
D = 18" SOLID WHITE	
E = 24" SOLID WHITE	
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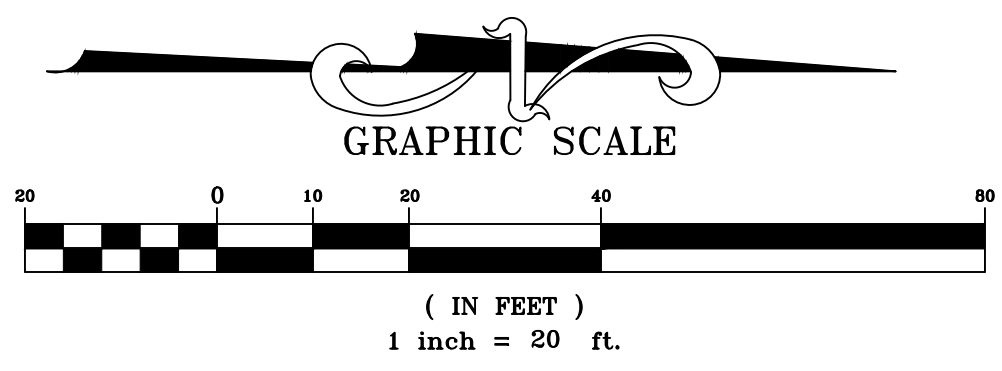
NOTE: FDP DENOTES FLEXIBLE DELINEATOR POST.

SIGN LEGEND

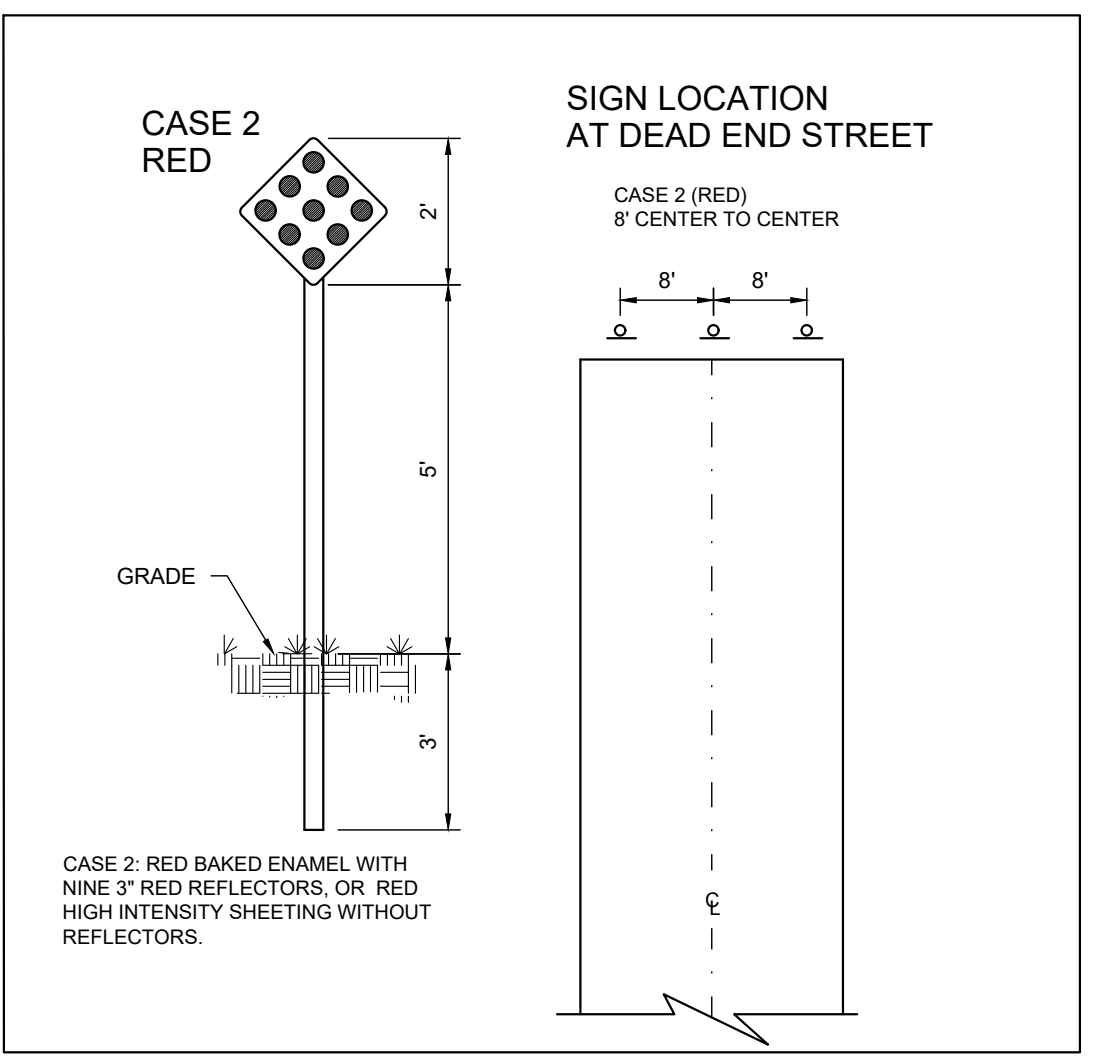
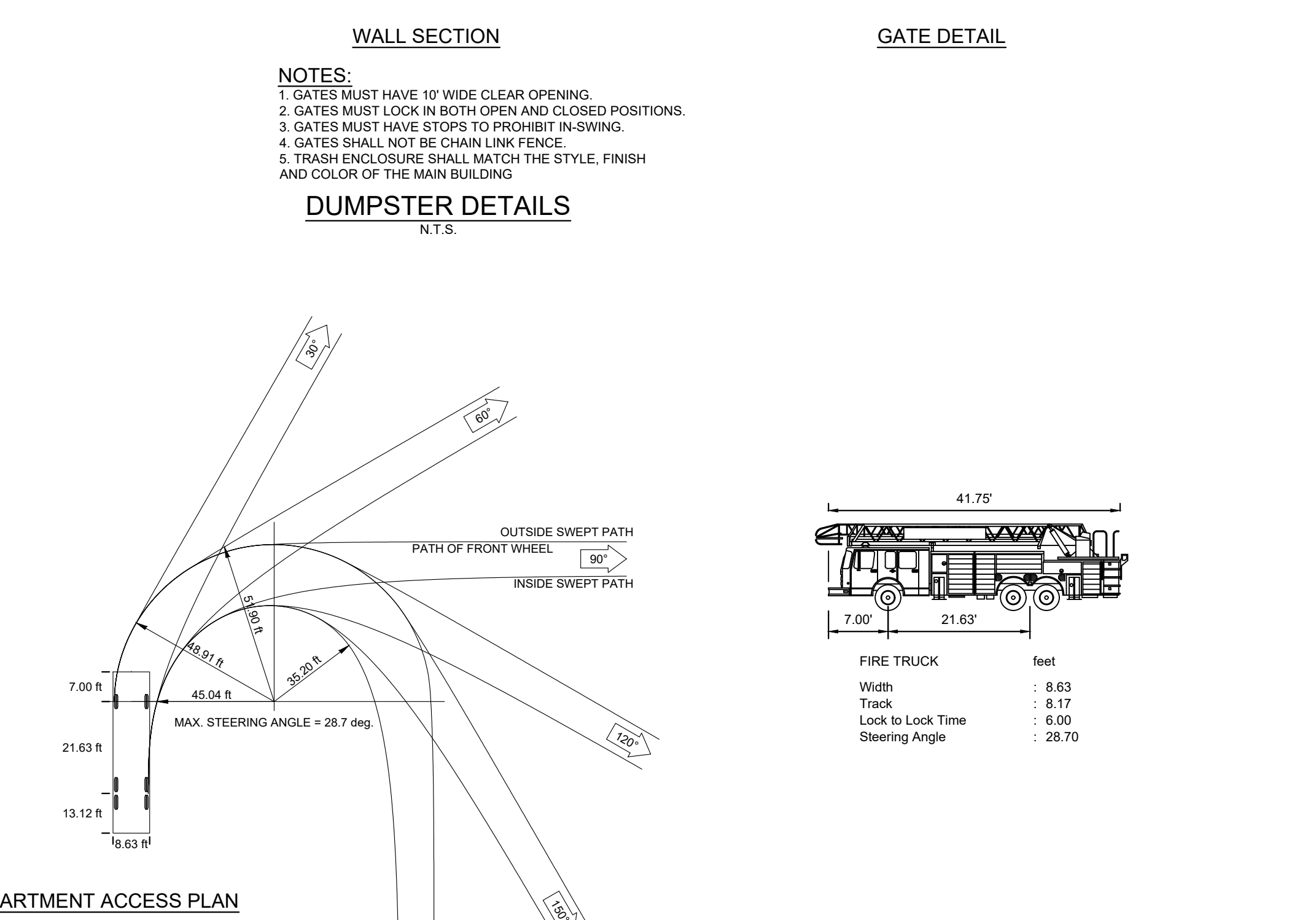
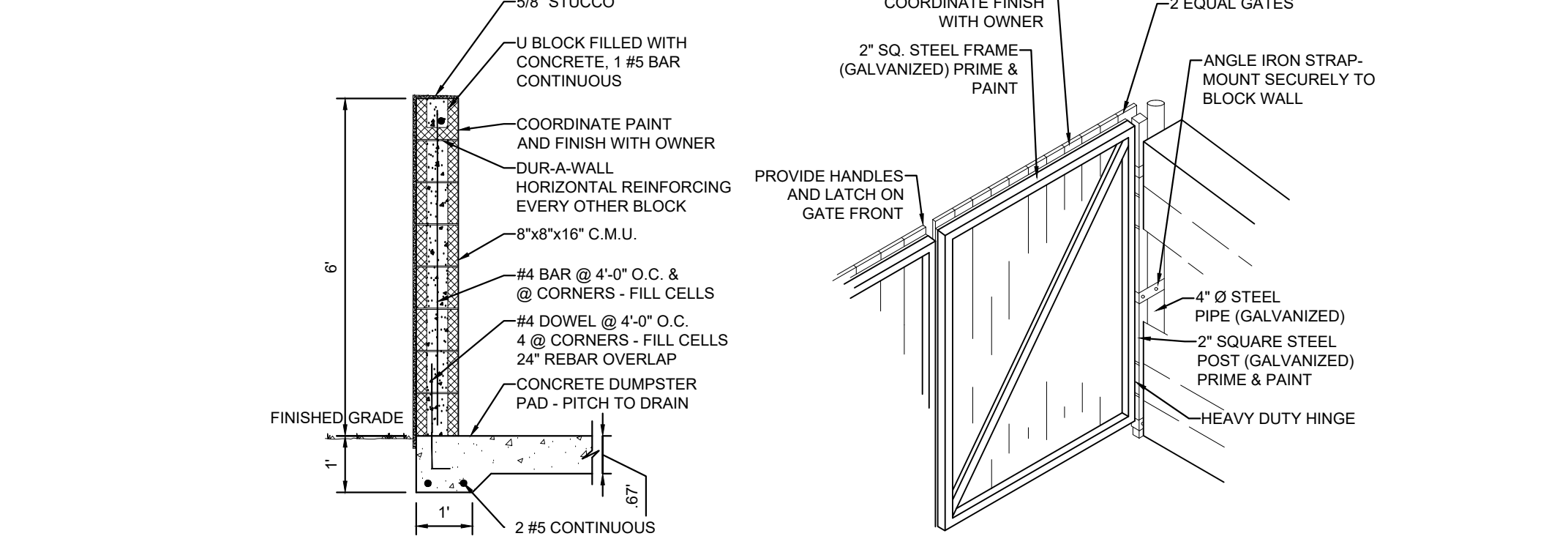
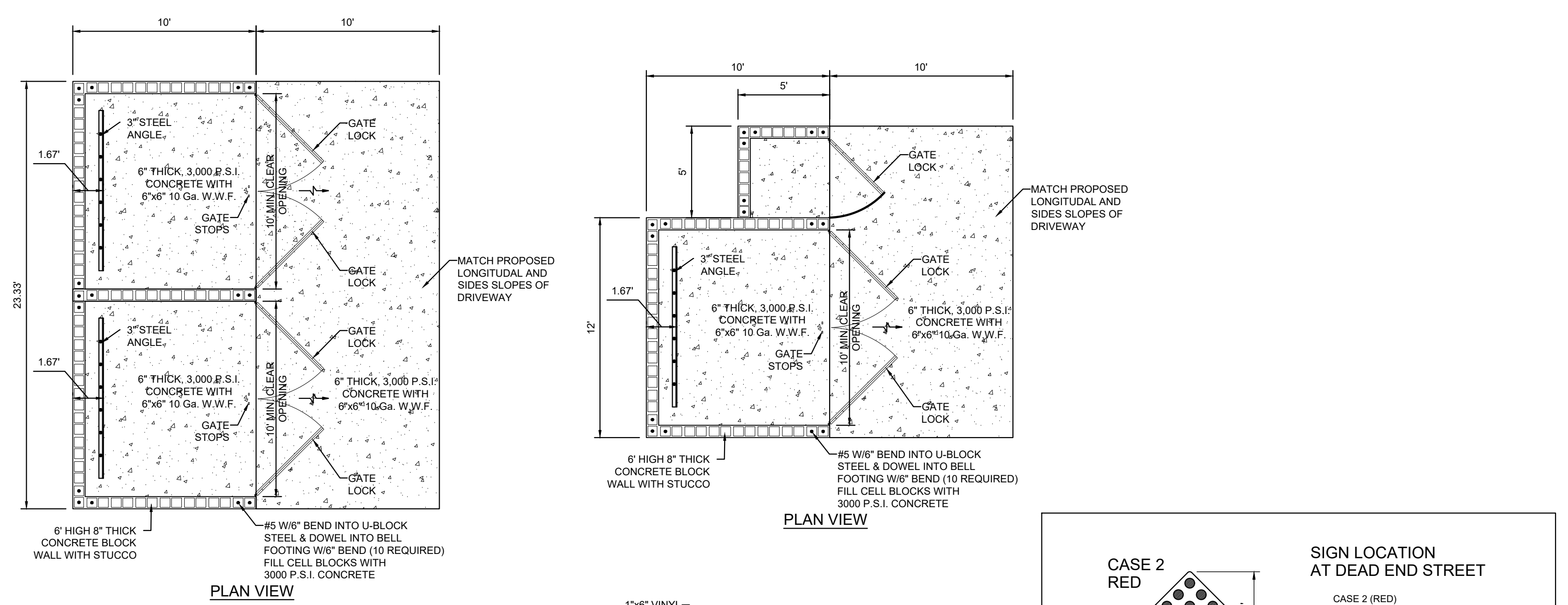
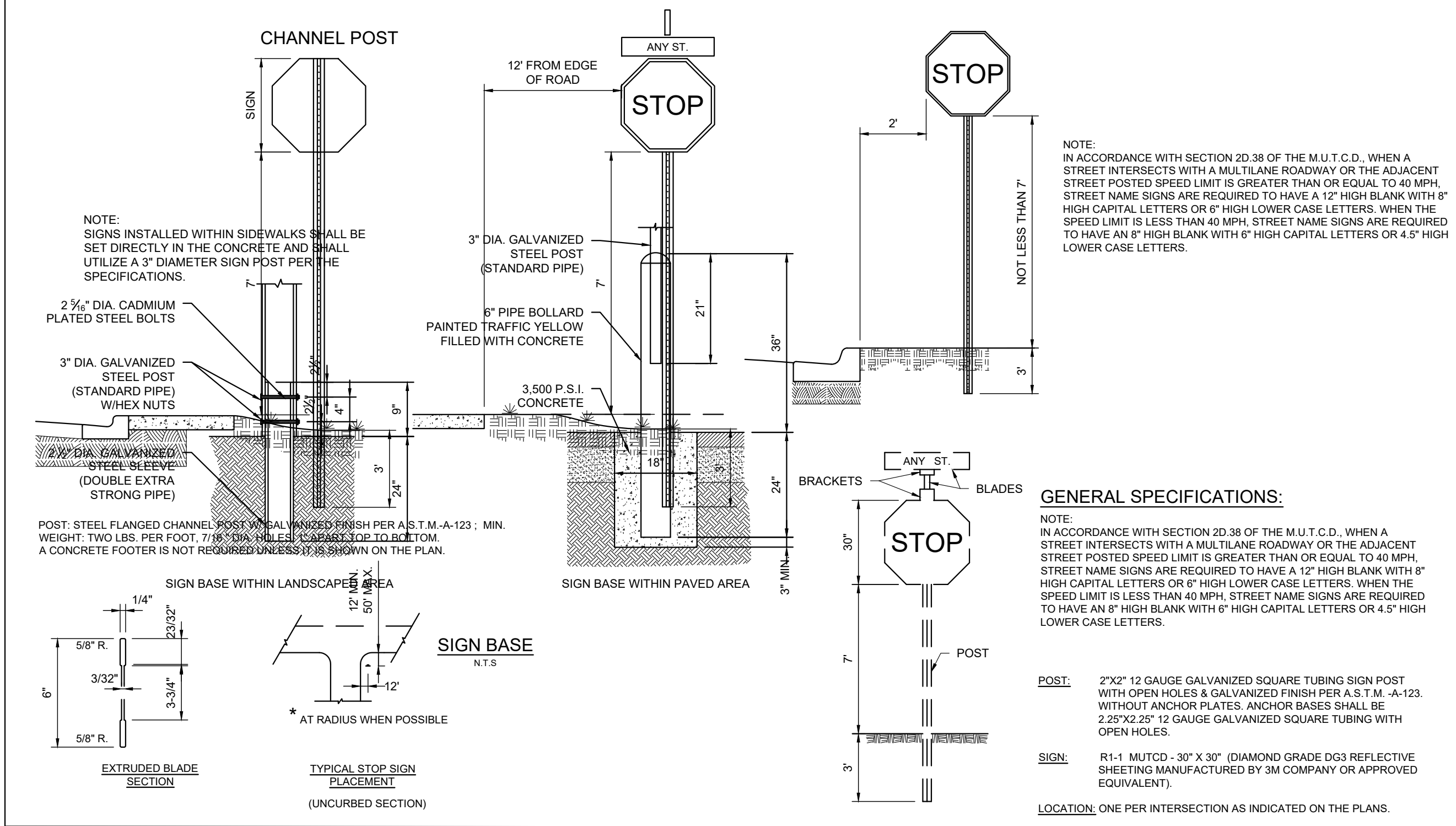
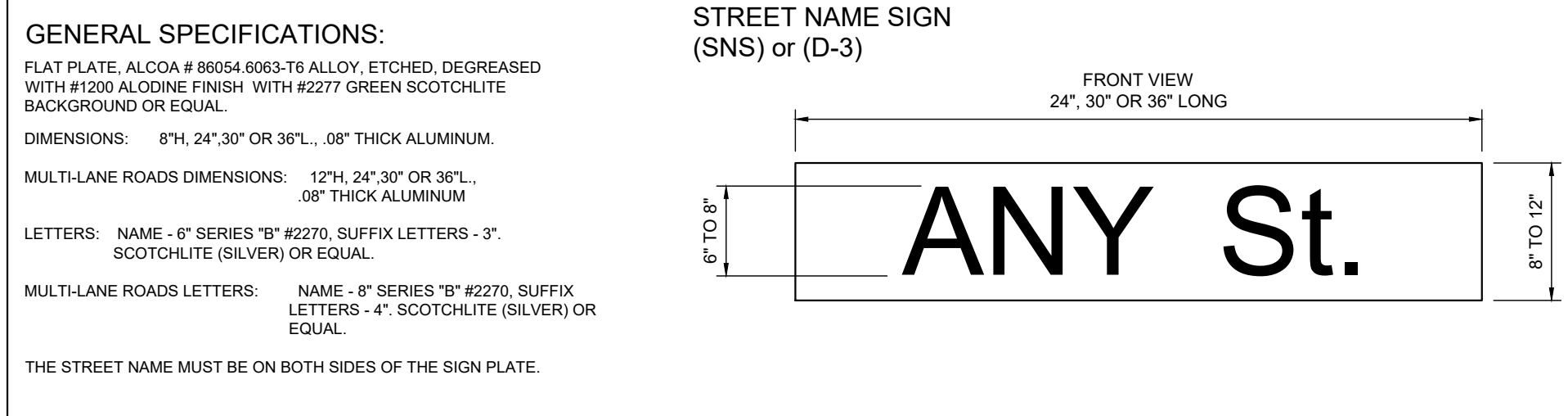
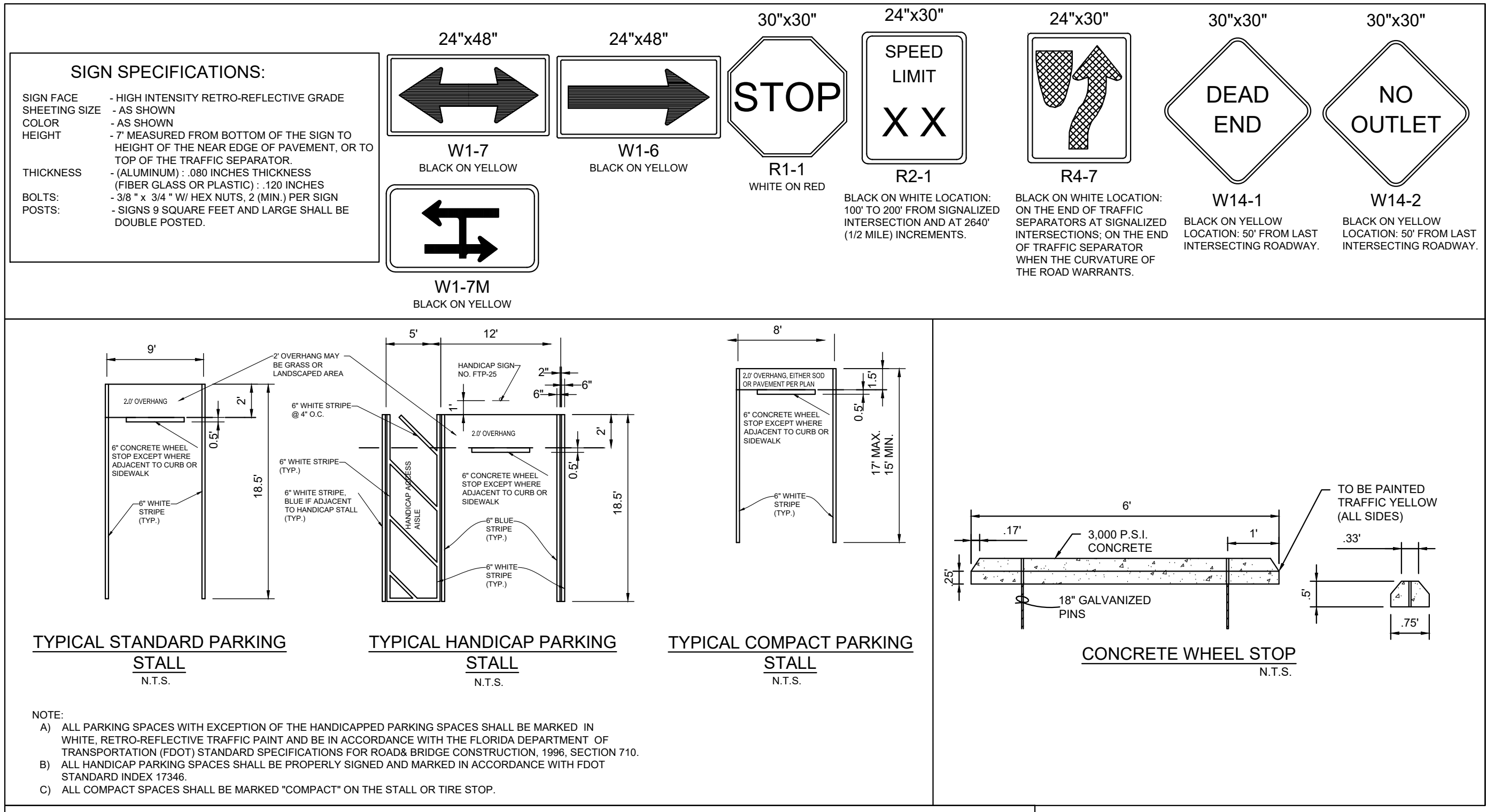
	FTP-21-66 HANDICAPPED PARKING SIGN
	FTP-22-66 HANDICAPPED PARKING SIGN
	R1-1 30" STOP SIGN
	RS-1 RS-1 DO NOT ENTER SIGN
	RS-1A RS-1A WRONG WAY SIGN

PARKING CALCULATIONS:

REQUIRED:	PHASE 2:	PHASE 3:
OFFICE SPACE:	1 SPACE PER 300 SF x 2,000 SF = 7 SPACES	1 SPACE PER 300 SF x 2,000 SF = 7 SPACES
RETAIL SPACE:	1 SPACE PER 200 SF x 2,000 SF = 10 SPACES	1 SPACE PER 200 SF x 2,000 SF = 10 SPACES
RESTAURANT:	1 SPACE PER 75 SF x 2,000 SF = 27 SPACES	1 SPACE PER 75 SF x 2,000 SF = 27 SPACES
TOTAL:	44 SPACES	44 SPACES
PROPOSED:		
HANDICAPPED SPACES:	2	3
COMPACT SPACES:	2	0
STANDARD SPACES:	54	53
TOTAL:	63	56



<p>SCHULKE, BITTLE & STODDARD, L.L.C. CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960 TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>DATE</th><td> </td></tr> <tr><th>REVISION</th><td> </td></tr> <tr><th>MARK</th><td> </td></tr> <tr><th>DRAWING</th><td>DESIGNED: JWS DRAWN: WJF/DR CHECKED: JWS SCALE: 1" = 20' DATE: 07-23-21</td></tr> </table>	DATE		REVISION		MARK		DRAWING	DESIGNED: JWS DRAWN: WJF/DR CHECKED: JWS SCALE: 1" = 20' DATE: 07-23-21
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DRAWING	DESIGNED: JWS DRAWN: WJF/DR CHECKED: JWS SCALE: 1" = 20' DATE: 07-23-21								
<p>SITE PLAN PHASE - 2 & 3</p>									
<p>SPALLONE DENTAL OFFICE 1985 POINTE WEST DR. VERO BEACH, FLORIDA INDIAN RIVER COUNTY</p>									
<p>ENGINEER CERTIFICATION</p> <table border="0"> <tr><td><input type="checkbox"/></td><td>JOSEPH W. SCHULKE FL. REG. NO. 47048</td></tr> <tr><td><input type="checkbox"/></td><td>JOHN B. BITTLE FL. REG. NO. 57396</td></tr> <tr><td><input type="checkbox"/></td><td>WILLIAM P. STODDARD FL. REG. NO. 57605</td></tr> </table>	<input type="checkbox"/>	JOSEPH W. SCHULKE FL. REG. NO. 47048	<input type="checkbox"/>	JOHN B. BITTLE FL. REG. NO. 57396	<input type="checkbox"/>	WILLIAM P. STODDARD FL. REG. NO. 57605			
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<input type="checkbox"/>	WILLIAM P. STODDARD FL. REG. NO. 57605								
<p>DATE: SHEET C-402 PROJECT NO. 21-034</p>									



DATE	REVISION

MARK	REVISION

SCHULKE, BITTLE & STODDARD, L.L.C.
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 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
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SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

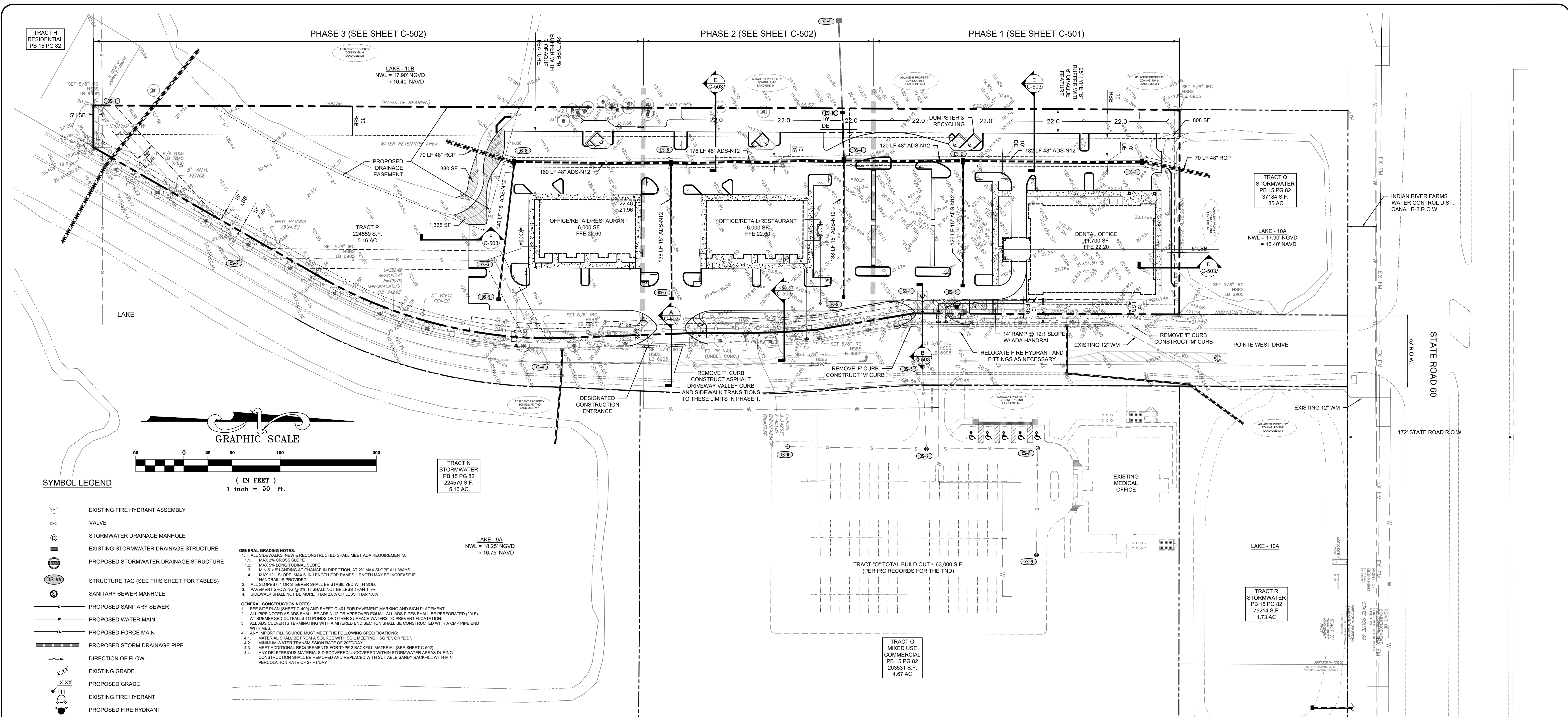
ENGINEER CERTIFICATION

JOSEPH W. SCHULKE
 FL. REG. NO. 47048

ADAM B. BITTLE
 FL. REG. NO. 57396

WILLIAM P. STODDARD
 FL. REG. NO. 57609

DATE: SHEET
C-403
 PROJECT NO.
 21-034



SYMBOL LEGEND

- EXISTING FIRE HYDRANT ASSEMBLY
- VALVE
- STORMWATER DRAINAGE MANHOLE
- EXISTING STORMWATER DRAINAGE STRUCTURE
- PROPOSED STORMWATER DRAINAGE STRUCTURE
- STRUCTURE TAG (SEE THIS SHEET FOR TABLES)
- SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN
- PROPOSED FORCE MAIN
- PROPOSED STORM DRAINAGE PIPE
- DIRECTION OF FLOW
- EXISTING GRADE
- PROPOSED GRADE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- GROUND MOUNT FIXTURE

GENERAL GRADING NOTES:

1. ALL SIDEWALKS, NEW & RECONSTRUCTED SHALL MEET ADA REQUIREMENTS:
- 1.1. MAX 2% CROSS SLOPE
- 1.2. MAX 5% LONGITUDINAL SLOPE
- 1.3. MIN 2' x 5' LANDINGS AT CHANGE IN DIRECTION, AT 2% MAX SLOPE ALL WAYS
- 1.4. MAX 1:21 SLOPE, MAX 8' IN LENGTH FOR RAMPS. LENGTH MAY BE INCREASED IF HANDRAILS ARE PROVIDED
2. ALL SLOPES 8:1 OR STEEPER SHALL BE STABILIZED WITH SO2
3. PAVEMENT FINISHING @ 2% IT SHALL NOT BE LESS THAN 1.5%
4. SIDEWALK SHALL NOT BE MORE THAN 2.0% OR LESS THAN 1.0%

GENERAL CONSTRUCTION NOTES:

1. SEE SITE PLAN (SHEET C-401) FOR PAVEMENT MARKING AND SIGN PLACEMENT
2. ALL PIPE NOTED AS ADS SHALL BE ADS-N-12 OR APPROVED EQUAL. ALL ADS PIPES SHALL BE PERFORMED (20LF) AT SUBMERGED OUTFALLS TO PONDS OR OTHER SURFACE WATERS TO PREVENT FLOATION
3. ALL ADS CULVERTS TERMINATING WITH A METEDED END SECTION SHALL BE CONSTRUCTED WITH A CMP PIPE END WITH MES
4. ANY IMPORT FILL SOURCE MUST MEET THE FOLLOWING SPECIFICATIONS:
 - 4.1. MATERIAL SHALL BE FROM A SOURCE WITH SOIL MEETING HSG 'B' OR 'B/D'
 - 4.2. MINIMUM WATER TRANSMISSION RATE OF 20% TYP
 - 4.3. MEET ADDITIONAL REQUIREMENTS FOR TYPE 2 BACKFILL MATERIAL (SEE SHEET C-502)
 - 4.4. ANY DESTRUCTIVE MATERIALS DISCOVERED/UNCOVERED WITHIN STORMWATER AREAS DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH SUITABLE SANDY BACKFILL WITH MIN PERCOLATION RATE OF 27 FT/DAY

- GENERAL NOTES:**
1. PRIOR TO CONSTRUCTION COMMENCEMENT THE CONTRACTOR IS TO NOTIFY THE INDIAN RIVER COUNTY ENGINEERING INSPECTOR SUPERVISOR
 2. GOVERNING SPECIFICATIONS: STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS LATEST EDITION AND THE SUPPLEMENTS THERETO
 3. CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS LATEST EDITION
 4. CONTRACTOR SHALL ADJUST ALL UTILITY LIDS AND COVERS TO FINISHED GRADE AS REQUIRED. ADJUSTMENTS TO BE INCLUDED IN CONTRACTORS BID
 5. ALL DISTURBED RIGHT OF WAY SHALL BE SOODED
 6. THE CONTRACTOR WILL RESTORE ALL AREAS DISTURBED BY THIS CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN THAT NOW EXISTING
 7. ITEMS IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND BASE AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT THE CONTRACTORS EXPENSE UNLESS THE ITEMS ARE TO BE REUSED ON THE PROJECT
 8. THE MAINTENANCE OF TRAFFIC FOR THE PROJECT SHALL BE IN ACCORDANCE WITH THE APPLICABLE FDOT INDEX NUMBERS (600 SERIES) AND THESE DOCUMENTS; THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (U.S. DEPARTMENT OF TRANSPORTATION, FHWA) SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS. PEDESTRIAN AND VEHICULAR TRAFFIC SHALL BE MAINTAINED AND PROTECTED AT ALL TIMES.
 9. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. RELOCATION OF UTILITIES SHALL BE COORDINATED WITH UTILITY COMPANIES AFTER IDENTIFICATION OF CONFLICT BY CONTRACTOR. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE BEFORE ANY RELOCATION.
 10. THE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR 48 HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR UTILITIES SO THAT COMPANY REPRESENTATIVES CAN BE PRESENT.
 11. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES, UNDERGROUND UTILITIES, OR NEAR CANAL OR RIVER BANKS.
 12. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES.
 13. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
 14. THE CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) FOR FIELD LOCATIONS 48 HOURS BEFORE DIGGING NEAR UNDERGROUND UTILITIES.

EXISTING SEWER STRUCTURE SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	TOP ELEV	N INV ELEV	S INV ELEV	E INV ELEV	W INV ELEV	MISCELLANEOUS
XS-1	MANHOLE	20.63					
XS-2	MANHOLE	20.64					
XS-3	MANHOLE	20.53		14.15	14.34		
XS-4	MANHOLE	20.20	14.76			14.76	
XS-5	MANHOLE	20.64		16.05	15.97	16.00	
XS-6	MANHOLE	20.38	17.06				
XS-7	MANHOLE	20.43	16.49	16.46		16.37	
XS-8	MANHOLE	20.65		16.85	16.93		
XS-9	MANHOLE	20.77				17.40	
XS-10	MANHOLE	20.27					

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	TOP ELEV	N INV ELEV	S INV ELEV	E INV ELEV	W INV ELEV	MISCELLANEOUS
DS-1	TYPE-E	21.00	10.05	10.05			
DS-2	TYPE-E	21.00	10.15	10.15	17.00		
DS-3	TYPE-C	21.00				17.30	
DS-4	TYPE-E	21.00	10.25	10.25	17.00	16.40	
DS-5	TYPE-C	21.00				17.30	
DS-6	TYPE-E	21.00	10.35	10.35	17.00		
DS-7	TYPE-C	21.00				17.30	
DS-8	TYPE-E	21.00	10.45	10.45	17.00		
DS-9	TYPE-C	21.00				17.30	
DS-10	TYPE-C	20.50			16.6 ±	16.6 ±	

SEWER STRUCTURE SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	TOP ELEV	N INV ELEV	S INV ELEV	E INV ELEV	W INV ELEV	MISCELLANEOUS
SS-1	MANHOLE	21.22			16.5 ±		FIELD LOCATE/ MEASURE GRADE OF EXISTING SEWER, CONFIRM PREREQUISITE INV. OF SS-1.

EXISTING DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	TOP ELEV	N INV ELEV	S INV ELEV	E INV ELEV	W INV ELEV	MISCELLANEOUS
XD-1	TYPE 'C'	19.87			??.??		
XD-2	TYPE 'C'	19.88				17.57	

DRAINAGE STATEMENT

1.) TRACT P POINTE WEST NORTH VILLAGE P.D. IS A MIXED USE COMMERCIAL TRACT. STORMWATER RUN-OFF WAS DESIGNED TO BE CONVEYED TO THE MASTER STORMWATER SYSTEM IN BASIN 10. TRACTS N, O, R (PB 15 PG 82)

2.) PERMITTED MAXIMUM IMPERVIOUS AREAS ARE AS DEPICTED ON TABLE BELOW.

POINTE WEST NORTH VILLAGE IMPERVIOUS

NORTH VILLAGE COMMERCIAL BLOCKS	IMP	% IMP	TOTAL	
			IMP	PER
TRACT "K" TOWN CENTER NE	3.57	80%	2.85	0.72
TRACT "J" TOWN CENTER NW	4.37	80%	3.49	0.88
TRACT "O" SR 80 E	4.63	70%	3.24	1.39
TRACT "P" SR 80 W	4.44	70%	3.11	1.33
TOTAL	17.01		12.69	4.32

NORTH VILLAGE M/F BLOCKS

TRACT	IMP	% IMP	IMP	PER
TRACT "E" M/F	2.48	75%	1.86	0.62
TRACT "F" M/F	4.56	70%	3.19	1.37
TRACT "H" M/F	4.59	70%	3.21	1.38
ARRON CORE M/F	9.01	60%	5.41	3.60
TOTAL	20.64		13.67	6.97

NORTH VILLAGE CIVIC

SCHOOL SITE	IMP	% IMP	IMP	PER
ARRON S/F	14.14	50%	7.07	7.07

NORTH VILLAGE S/F BLOCKS

ARRON S/F	IMP	% IMP	IMP	PER
ARRON S/F	12.90	60%	7.74	5.16

NORTH VILLAGE RW

LAKE & PARK AREAS	IMP	% IMP	IMP	PER
LAKE & PARK AREAS	12.62	70%	8.84	3.79

NORTH VILLAGE COMMUNITY

LAKE & PARK AREAS	IMP	% IMP	IMP	PER
LAKE & PARK AREAS	26.50	50%	15.64	10.86

NORTH VILLAGE TOTAL

IMP	% IMP	IMP	PER
103.81		65.65	38.16

- 3.) MAXIMUM PEAK STAGE, PER APPROVED STORMWATER SHEET MODEL (SJR ERP NO. 4-061-0177A) ARE:
 - 25 YEAR/24 HOUR: 19.6 FT
 - 100 YEAR/72 HOUR: 20.65 NAVD (IRFWCD NODE NO. 8113/113)
 NOTE: APPROVED MODEL DID NOT ESTIMATE A 100 YR. ELEVATION; MINIMUM F.F. ELEVATION PROPOSED IS 22.20
- 5.) MINIMUM T.O.B. AT WEST PROPERTY LINE IS 21.25' NGVD = 19.75' NAVD. (ERP NO. 4-061-0177A-ERP)

DATE	REVISION	MARK

DESIGNED: JWS
DRAWN: WJF/DR
CHECKED: JWS
SCALE: 1" = 50'
DATE: 07-23-21

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 REGISTRY #8668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL: 772 / 770-9622 FAX: 772 / 770-9496 EMAIL: info@sbsengineers.com

PAVING, GRADING, DRAINAGE AND UTILITY PLAN

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

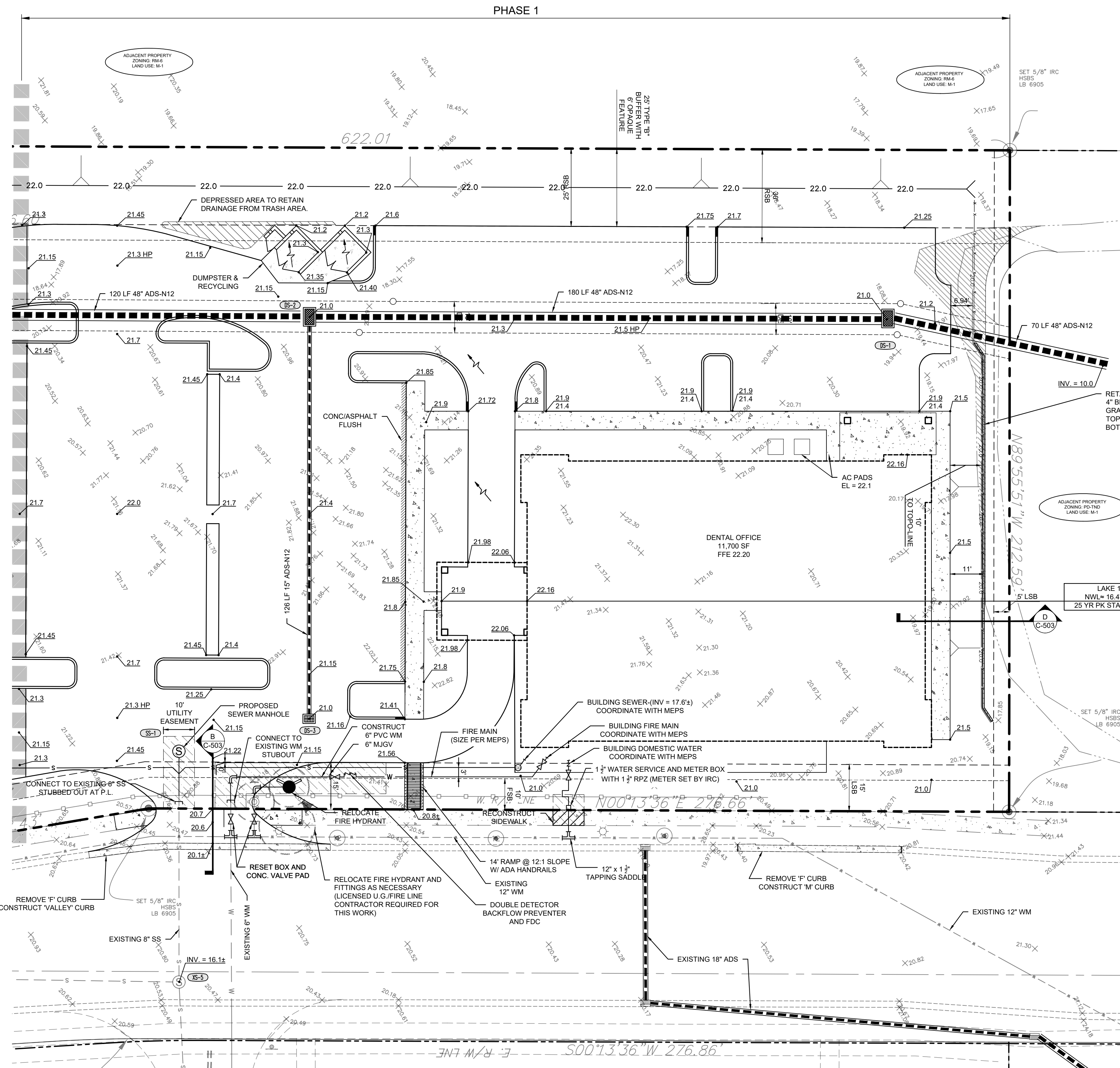
ENGINEER CERTIFICATION

JOSEPH W. SCHULKE
 FL. REG. NO. 47048

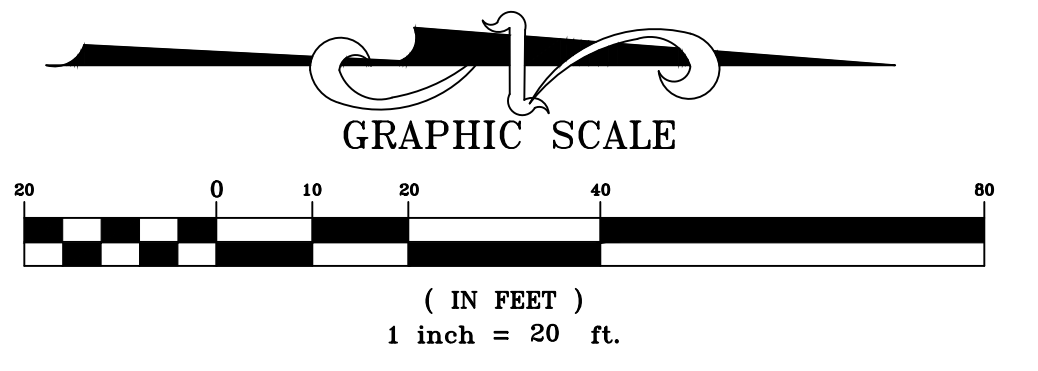
ADAM B. BITTLE
 FL. REG. NO. 57396

WILLIAM P. STODDARD
 FL. REG. NO. 57605

DATE: _____ SHEET: **C-500**
 PROJECT NO: 21-034



PHASE 1 - DETAIL



- GENERAL NOTES:**
- PRIOR TO CONSTRUCTION COMMENCEMENT THE CONTRACTOR IS TO NOTIFY THE INDIAN RIVER COUNTY ENGINEERING INSPECTOR SUPERVISOR.
 - GOVERNING SPECIFICATIONS STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS LATEST EDITION AND THE SUPPLEMENTS THERETO.
 - CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH FDOT STANDARD PLANS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION).
 - CONTRACTOR SHALL ADJUST ALL UTILITY LIDS AND COVERS TO FINISHED GRADE AS REQUIRED. ADJUSTMENTS TO BE INCLUDED IN CONTRACTOR BID.
 - ALL DISTURBED RIGHT OF WAY SHALL BE SCODD.
 - THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY THIS CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN THAT NOW EXISTING.
 - ITEMS IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND BASE AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT THE CONTRACTOR'S EXPENSE UNLESS THE ITEMS ARE TO BE REUSED ON THE PROJECT.
 - THE MAINTENANCE OF TRAFFIC FOR THE PROJECT SHALL BE IN ACCORDANCE WITH THE APPLICABLE FDOT STANDARD PLANS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) 102 - III# SERIES "GENERAL CONSTRUCTION OPERATIONS - MAINTENANCE OF TRAFFIC" AND THESE DOCUMENTS. THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (U.S. DEPARTMENT OF TRANSPORTATION, FHWA) SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS. PEDESTRIAN AND VEHICULAR TRAFFIC SHALL BE MAINTAINED AND PROTECTED AT ALL TIMES.
 - THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. RELOCATION OF UTILITIES SHALL BE COORDINATED WITH UTILITY COMPANIES AFTER IDENTIFICATION OF CONFLICT BY CONTRACTOR. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE BEFORE ANY RELOCATION.
 - THE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR 48 HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR UTILITIES SO THAT COMPANY REPRESENTATIVES CAN BE PRESENT.
 - THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES, UNDERGROUND UTILITIES, OR NEAR CANAL OR RIVER BANKS.
 - PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMEY WITH FLORIDA STATUTE 350.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPES.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
 - THE CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) FOR FIELD LOCATIONS 48 HOURS BEFORE DIGGING NEAR UNDERGROUND UTILITIES.
 - KNOWN UTILITIES:
ATTN: (772) 460-4443
COMCAST CABLE (772) 567-3444
IRGUS (772) 226-1845
FR (772) 287-5400
 - NO EXISTING BASE MATERIAL REMOVED IN EXCAVATION SHALL BE REUSED AS PROPOSED BASE MATERIAL.
 - EROSION CONTROL MEASURES SHALL BE TAKEN BY CONTRACTOR DURING CONSTRUCTION AS PER FDOT STANDARD PLANS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) 100 - III# SERIES "EROSION CONTROL AND WATER QUALITY" AND SPECIFICATIONS AND DETAILS WITHIN THESE PLANS.
 - AT LOCATIONS WHERE PIPE AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED OR REMOVED UNDER THE EXISTING PAVEMENT, THE REPLACEMENT OF EMBANKMENT, BASE, ASPHALT, ETC. NECESSARY FOR EXCAVATION IS TO BE INCLUDED IN THE COST OF PIPE.
 - THE CONTRACTOR MUST NOTIFY AN UTILITY DEPARTMENT INSPECTOR PRIOR TO THE WATER MAIN TAP AND SEWER MAIN CONNECTION AND BE ON SITE DURING INSTALLATION.
 - ALL SIDEWALKS SHOWN ARE TO MEET ADA REQUIREMENTS. SIDEWALKS SHALL BE CONSTRUCTED WITH:
- MAX. 2% SLOPE
- MAX. 2% SLOPE (ALL DIRECTIONS) AT LANDINGS ADJACENT TO RAMPS
- MAX. 5% LONGITUDINAL SLOPE
- AT RAMPS, TYPICALLY 1/4" IN LENGTH AND 1:12 MAX. LONGITUDINAL SLOPE

- SYMBOL LEGEND**
- EXISTING FIRE HYDRANT ASSEMBLY
 - VALVE
 - STORMWATER DRAINAGE MANHOLE
 - EXISTING STORMWATER DRAINAGE STRUCTURE
 - PROPOSED STORMWATER DRAINAGE STRUCTURE
 - STRUCTURE TAG (SEE THIS SHEET FOR TABLES)
 - SANITARY SEWER MANHOLE
 - PROPOSED SANITARY SEWER
 - PROPOSED WATER MAIN
 - PROPOSED FORCE MAIN
 - PROPOSED STORM DRAINAGE PIPE
 - DIRECTION OF FLOW
 - EXISTING GRADE
 - PROPOSED GRADE
 - EXISTING FIRE HYDRANT
 - PROPOSED FIRE HYDRANT
 - GROUND MOUNT FIXTURE
 - IRC EASEMENT

- GENERAL GRADING NOTES:**
- ALL SIDEWALKS, NEW & RECONSTRUCTED SHALL MEET ADA REQUIREMENTS:
 - MAX 2% CROSS SLOPE
 - MAX 5% LONGITUDINAL SLOPE
 - MIN 8" x 8" LANDING AT CHANGE IN DIRECTION, AT 2% MAX SLOPE ALL WAYS
 - MAX 2% SLOPE, MAX 8" IN LENGTH FOR RAMPS. LENGTH MAY BE INCREASE IF HANDRAIL IS PROVIDED
 - ALL SLOPES 6% OR STEEPER SHALL BE STABILIZED WITH SOO.
 - PAVEMENT SHOWING @ 2% IT SHALL NOT BE LESS THAN 1.5%.
 - SIDEWALK SHALL NOT BE MORE THAN 2.5% OR LESS THAN 1.5%.

- GENERAL CONSTRUCTION NOTES:**
- SEE SITE PLAN SHEET C-400 AND SHEET C-401 FOR PAVEMENT MARKING AND SIGN PLACEMENT.
 - ALL PIPE NOTED AS ADS SHALL BE ADS N-12 OR APPROVED EQUAL. ALL ADS PIPES SHALL BE PERFORATED (200') AT SUBMERGED OUTFALLS TO PONDS OR OTHER SURFACE WATERS TO PREVENT FLOATION.
 - ALL ADS CULVERTS TERMINATING WITH A MITERED END SECTION SHALL BE CONSTRUCTED WITH A CMP PIPE END WITH RIES.
 - ANY IMPORT FILL SOURCE MUST MEET THE FOLLOWING SPECIFICATIONS:
 - MATERIAL SHALL BE FROM A SOURCE WITH SOIL MEETING HS-10" OR "B".
 - MINIMUM WATER TRANSMISSION RATE OF 20 FT/DAY
 - MEET ADDITIONAL REQUIREMENTS FOR TYPE 2 BACKFILL MATERIAL (SEE SHEET C-502)
 - ANY DELETERIOUS MATERIALS DISCOVERED/UNCOVERED WITHIN STORMWATER AREAS DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH SUITABLE SANDY BACKFILL WITH MIN PERCOLATION RATE OF 27 FT/DAY

-SEE SHEET C-500 FOR STRUCTURE SCHEDULE

DATE	REVISION	MARK

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com

PAVING, GRADING,
 DRAINAGE AND
 UTILITY PLAN - PH 1

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION

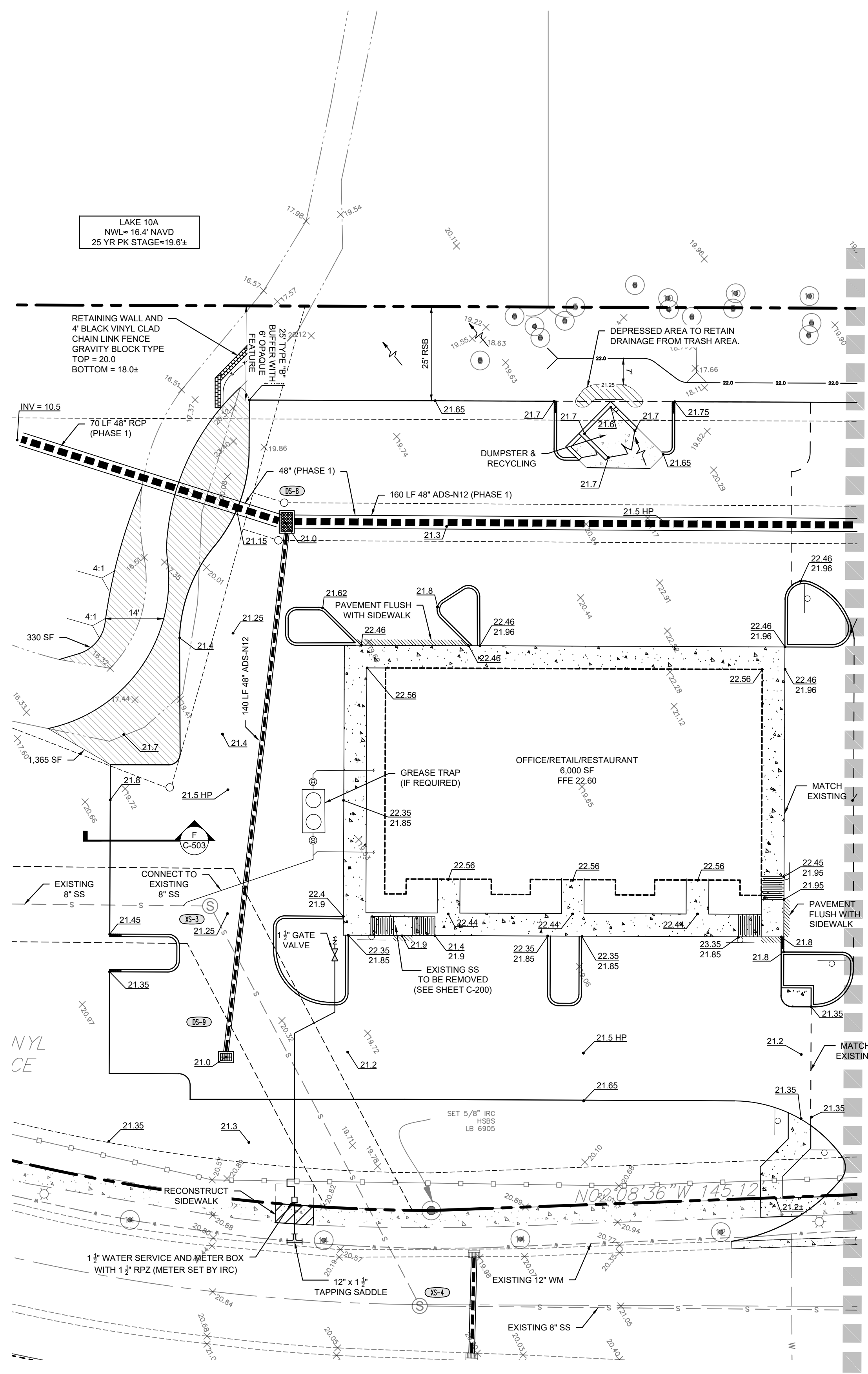
JOSEPH W. SCHULKE
 FL. REG. NO. 47048

ADAM B. BITTLE
 FL. REG. NO. 57396

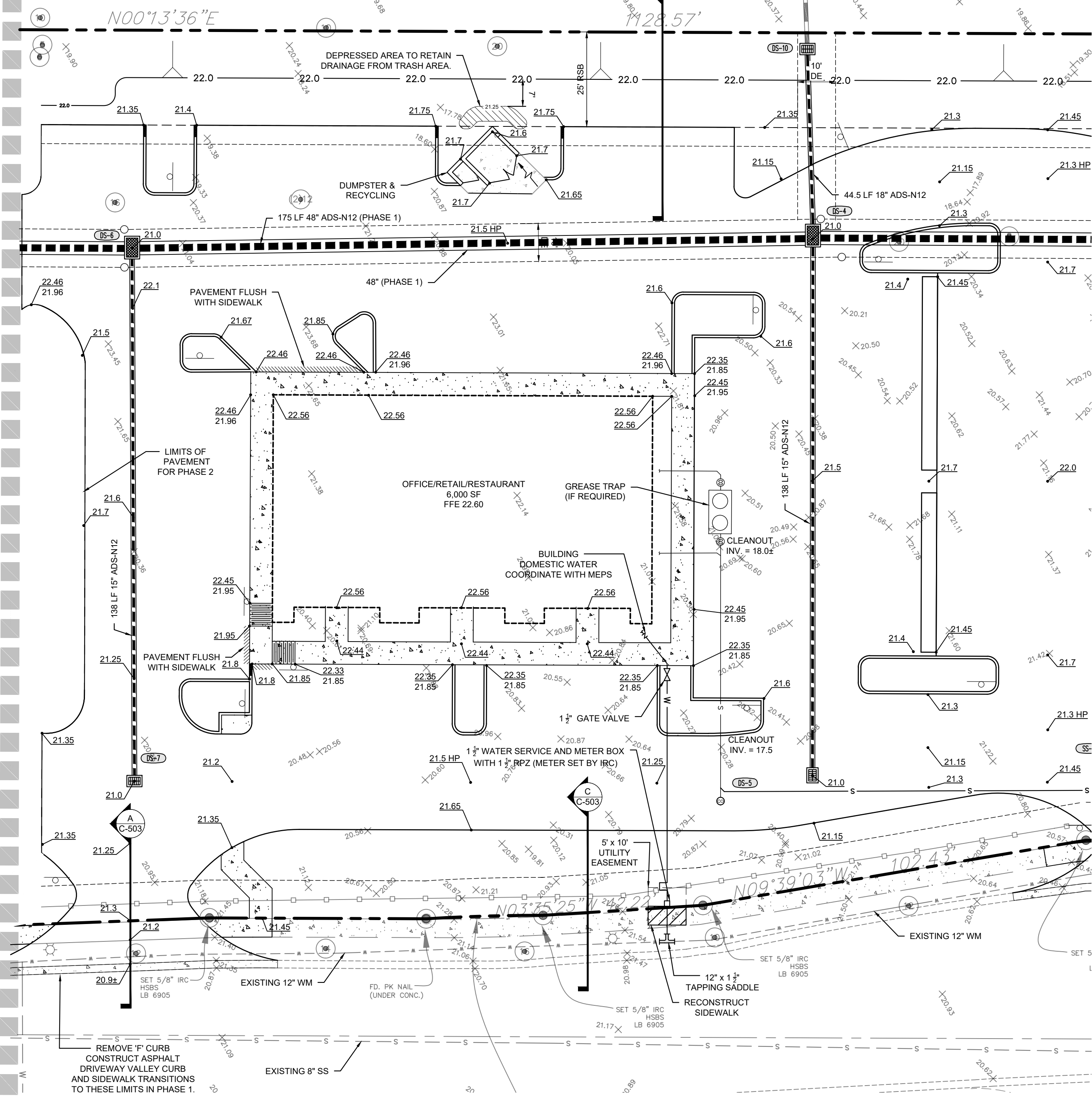
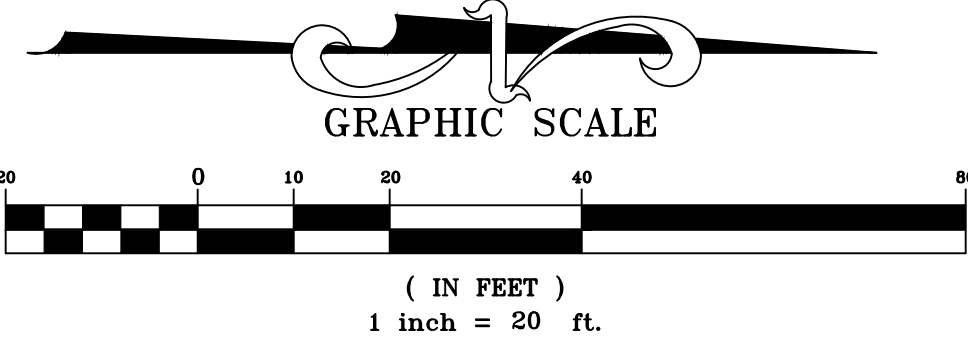
WILLIAM P. STODDARD
 FL. REG. NO. 57605

DATE: SHEET
C-501
 PROJECT NO. 21-034

LAKE 10A
NW/4 16.4' NAVD
25 YR PK STAGE=19.6'



PHASE 3 - DETAIL



PHASE 2 - DETAIL

- GENERAL NOTES:**
1. PRIOR TO CONSTRUCTION COMMENCEMENT THE CONTRACTOR IS TO NOTIFY THE INDIAN RIVER COUNTY ENGINEERING INSPECTOR SUPERVISOR.
 2. GOVERNING SPECIFICATIONS: STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS LATEST EDITION AND THE SUPPLEMENTS THERETO.
 3. CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH FOOT STANDARD PLANS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION).
 4. CONTRACTOR SHALL ADJUST ALL UTILITY LOSSES AND COVERS TO FINISHED GRADE AS REQUIRED. ADJUSTMENTS TO BE INCLUDED IN CONTRACTORS BID.
 5. ALL DISTURBED RIGHT OF WAY SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
 6. THE CONTRACTOR WILL RESTORE ALL AREAS DISTURBED BY THIS CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN THAT NOW EXISTING.
 7. ITEMS IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND BASE AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT THE CONTRACTORS EXPENSE UNLESS THE ITEMS ARE TO BE REUSED ON THE PROJECT.
 8. THE MAINTENANCE OF TRAFFIC FOR THE PROJECT SHALL BE IN ACCORDANCE WITH THE APPLICABLE FOOT STANDARD PLANS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) 102 - ## SERIES (GENERAL CONSTRUCTION) MAINTENANCE OF TRAFFIC AND THESE DOCUMENTS, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (USE DEPARTMENT OF TRANSPORTATION), MANUAL SHALL BE FOLLOWED IN THE DESIGN, APPLICATION, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKERS FROM HAZARDS WITHIN THE PROJECT LIMITS. PEDESTRIAN AND VEHICULAR TRAFFIC SHALL BE MAINTAINED AND PROTECTED AT ALL TIMES.
 9. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY; THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. RELOCATION OF UTILITIES SHALL BE COORDINATED WITH UTILITY COMPANIES AFTER IDENTIFICATION OF CONFLICT BY CONTRACTOR. CONTRACTOR SHALL NOTIFY ENGINEER IN ADVANCE BEFORE ANY RELOCATION.
 10. THE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR 48 HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR UTILITIES SO THAT COMPANY REPRESENTATIVES CAN BE PRESENT.
 11. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES, UNDERGROUND UTILITIES, OR NEAR CANAL OR RIVER BANKS.
 12. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL VERIFY THE FLORIDA STATUTE 353.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPES.
 13. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
 14. THE CONTRACTOR SHALL CALL SURVEY (1-800-447-7878) FOR FIELD LOCATIONS 48 HOURS BEFORE DIGGING NEAR UNDERGROUND UTILITIES.
 15. KNOWN UTILITIES:
TST (772) 450-4443
COMCAST CABLE (772) 567-3444
FLORIDA POWER & LIGHT (772) 208-1946
FPL (772) 287-5400
 16. NO EXISTING WASTE MATERIAL REMOVED IN EXCAVATION SHALL BE REUSED AS PROPOSED BASE MATERIAL.
 17. EROSION CONTROL MEASURES SHALL BE TAKEN BY CONTRACTOR DURING CONSTRUCTION AS PER FOOT STANDARD PLANS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) 370 - ## SERIES (EROSION CONTROL AND WATER QUALITY) AND SPECIFICATIONS AND DETAILS WITHIN THESE PLANS.
 18. AT LOCATIONS WHERE PIPE AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED OR REMOVED UNDER THE EXISTING PAVEMENT, THE REPLACEMENT OF EMBANKMENT, BASE, ASPHALT, ETC. NECESSARY FOR ENCASTRATION IS TO BE INCLUDED IN THE COST OF PIPE.
 19. THE CONTRACTOR MUST NOTIFY AN IRC UTILITY DEPARTMENT INSPECTOR PRIOR TO THE WATER MAIN TAP AND SEWER MAIN CONNECTION AND BE ON SITE DURING INSTALLATION.
 20. ALL SIDEWALKS SHOWN ARE TO MEET ADA REQUIREMENTS. SIDEWALKS SHALL BE CONSTRUCTED WITH:
- MAX 2% SIDE SLOPE
- MAX 2% SLOPE (ALL DIRECTIONS) AT LANDINGS ADJACENT TO RAMPS
- MAX 2% LONGITUDINAL SLOPE
- AT RAMPS, TYPICALLY 6' IN LENGTH AND 1:12 MAX LONGITUDINAL SLOPE

- SYMBOL LEGEND**
- EXISTING FIRE HYDRANT ASSEMBLY
 - ⊕ VALVE
 - ⊕ STORMWATER DRAINAGE MANHOLE
 - ⊕ EXISTING STORMWATER DRAINAGE STRUCTURE
 - ⊕ PROPOSED STORMWATER DRAINAGE STRUCTURE
 - ⊕ DS-## STRUCTURE TAG (SEE THIS SHEET FOR TABLES)
 - ⊕ SANITARY SEWER MANHOLE
 - ⊕ PROPOSED SANITARY SEWER
 - ⊕ PROPOSED WATER MAIN
 - ⊕ PROPOSED FORCE MAIN
 - ⊕ PROPOSED STORM DRAINAGE PIPE
 - DIRECTION OF FLOW
 - XXX EXISTING GRADE
 - XXX PROPOSED GRADE
 - ⊕ EXISTING FIRE HYDRANT
 - ⊕ PROPOSED FIRE HYDRANT
 - ⊕ GROUND MOUNT FIXTURE

- GENERAL GRADING NOTES:**
1. ALL SIDEWALKS, NEW AND RECONSTRUCTED SHALL MEET ADA REQUIREMENTS.
 - 1.1. MAX 2% CROSS SLOPE
 - 1.2. MAX 2% LONGITUDINAL SLOPE
 - 1.3. MIN 1/4" ± LANDINGS AT CHANGE IN DIRECTION AT 2% MAX SLOPE ALL WAYS
 - 1.4. MAX 1:1 SLOPE, MAX 6' IN LENGTH FOR RAMPS. LENGTH MAY BE INCREASE IF MANUSAL IS PROVIDED
 2. ALL SLOPES 6:1 OR STEEPER SHALL BE STABILIZED WITH SO2.
 3. PAVEMENT SHOWING 2% IT SHALL NOT BE LESS THAN 1.0%.
 4. SIDEWALK SHALL NOT BE MORE THAN 2.0% OR LESS THAN 1.0%.
- GENERAL CONSTRUCTION NOTES:**
1. SEE SITE PLAN SHEET C-500 AND SHEET C-401 FOR PAVEMENT MARKING AND SIGN PLACEMENT.
 2. ALL PIPE NOTED AS ADS SHALL BE ADS N-12 OR APPROVED EQUAL. ALL ADS PIPES SHALL BE PERFORATED (20LF) AT SUBMERGED OUTFALLS TO PONDS OR OTHER SURFACE WATERS TO PREVENT FLOATION.
 3. ALL ADS CULVERTS TERMINATING WITH A MITERED END SECTION SHALL BE CONSTRUCTED WITH A CMP PIPE END WITH MEPS.
 4. ANY IMPROPT FILL SOURCE MUST MEET THE FOLLOWING SPECIFICATIONS:
4.1. MATERIAL SHALL BE FROM A SOURCE WITH SO2 MEETING HSG "D", OR "B/D".
4.2. MINIMUM WATER TRANSMISSION RATE OF 20 FT/HR.
4.3. MEET ADDITIONAL REQUIREMENTS FOR TYPE 2 BACKFILL MATERIAL (SEE SHEET C-502).
4.4. ANY COLLIGEROUS MATERIALS DISCOVERED/ENCOUNTERED WITH STORMWATER AREAS DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH SUITABLE SANDY BACKFILL WITH MIN PERCOLATION RATE OF 27 FT/HR.

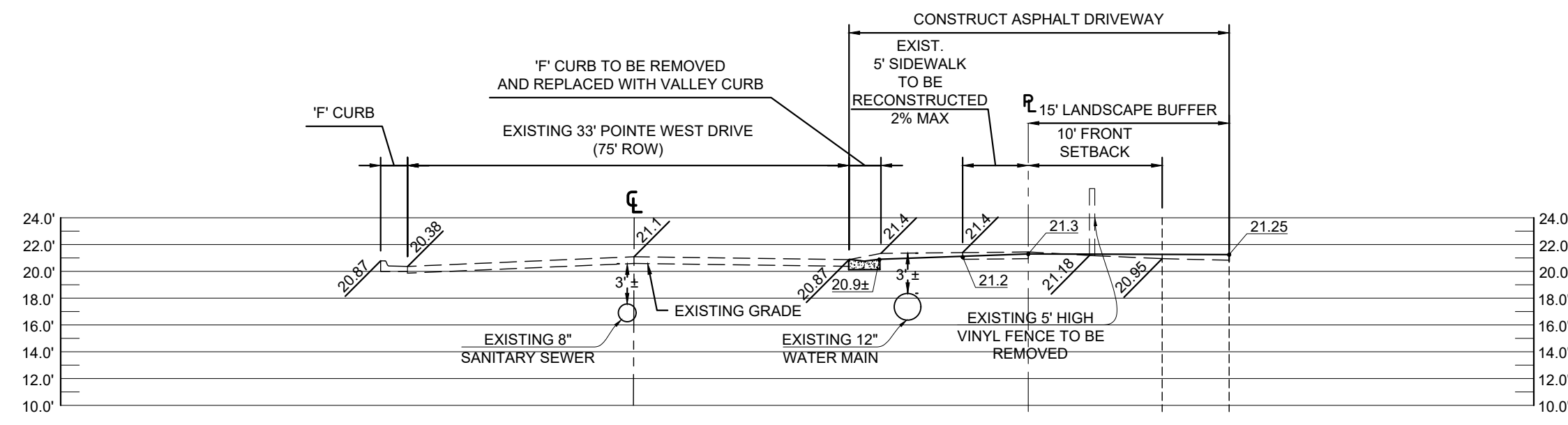
DATE	REVISION	MARK

SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
REGISTERED PROFESSIONAL ENGINEERS
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com

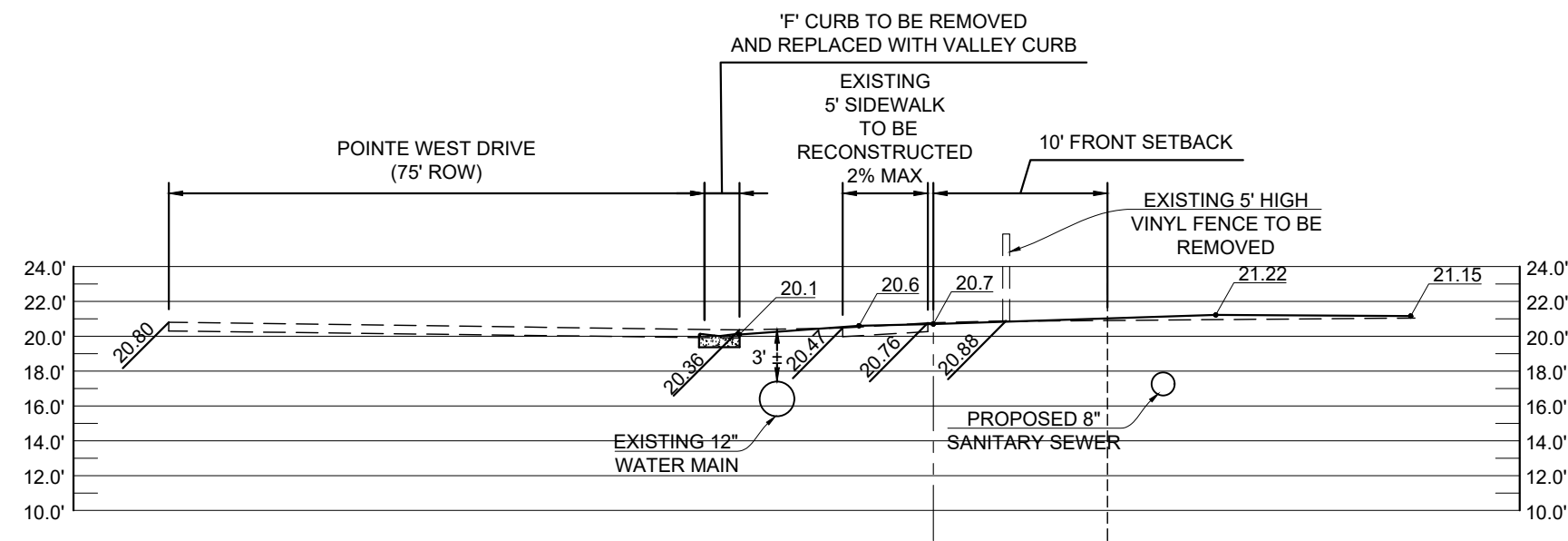
SPALLONE DENTAL OFFICE
1985 POINTE WEST DR.
VERO BEACH, FLORIDA
INDIAN RIVER COUNTY
PLAN - PH 2 & 3

ENGINEER CERTIFICATION
 JOSEPH W. SCHULKE
FL. REG. NO. 47048
 ADAM B. BITTLE
FL. REG. NO. 57396
 WILLIAM P. STODDARD
FL. REG. NO. 57605

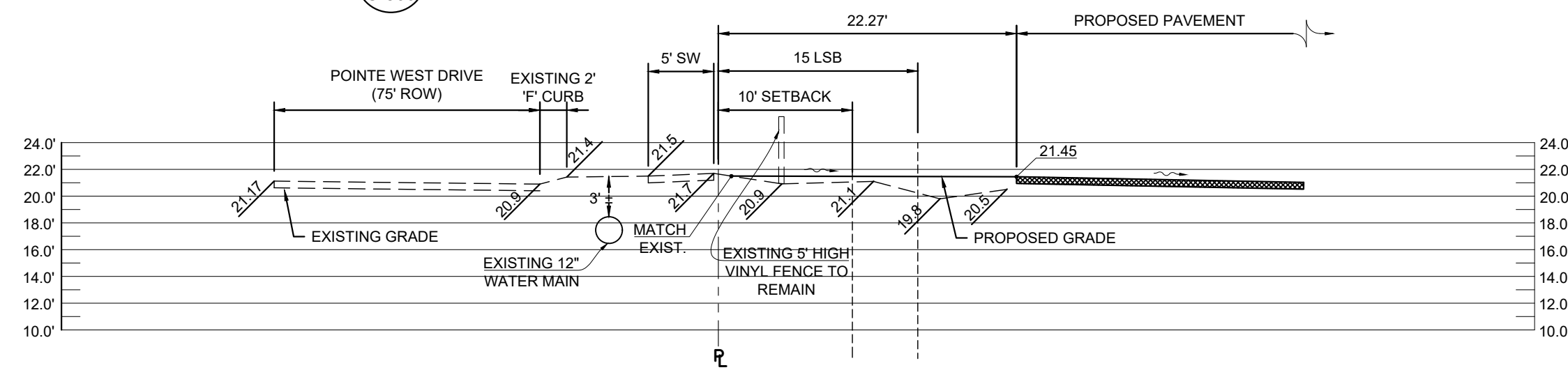
DATE: SHEET
C-502
PROJECT NO.
21-034



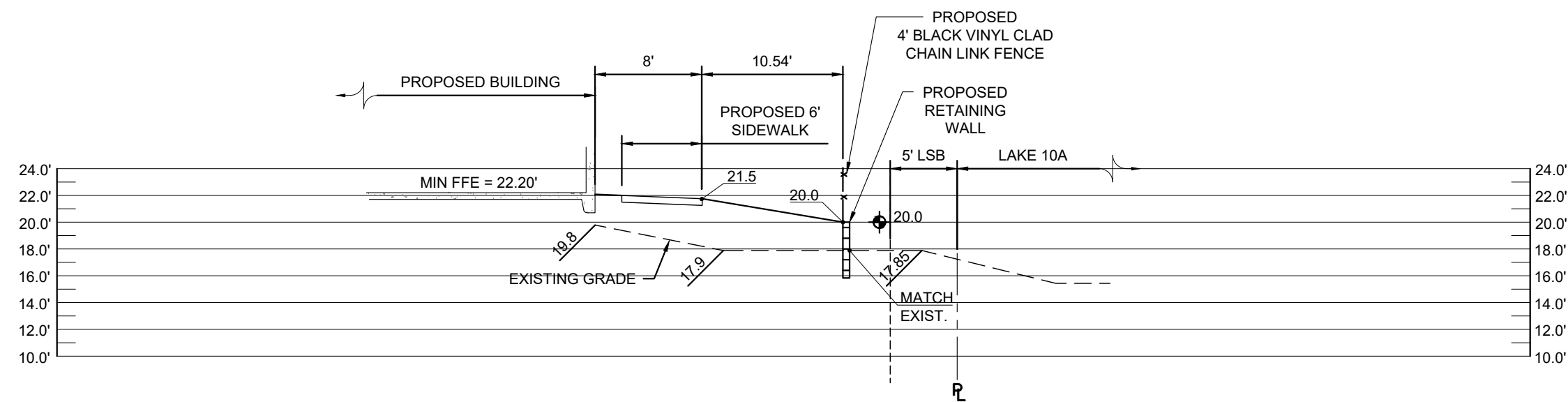
A SECTION THRU SOUTH EAST ENTRANCE
C-500 SCALE: 1"=10'



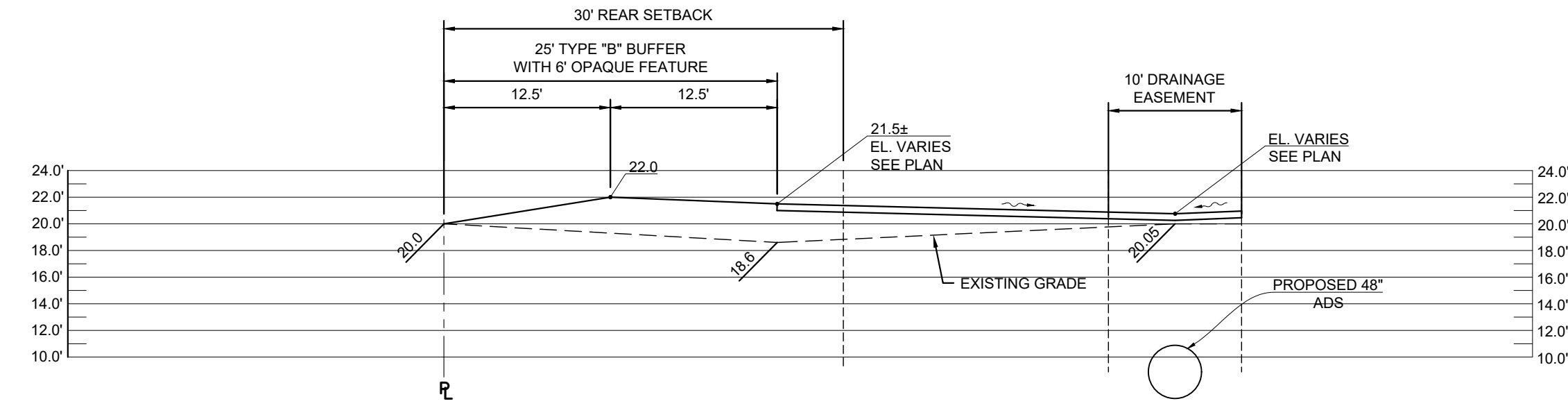
B SECTION THRU NORTH ENTRANCE
C-500 SCALE: 1"=10'



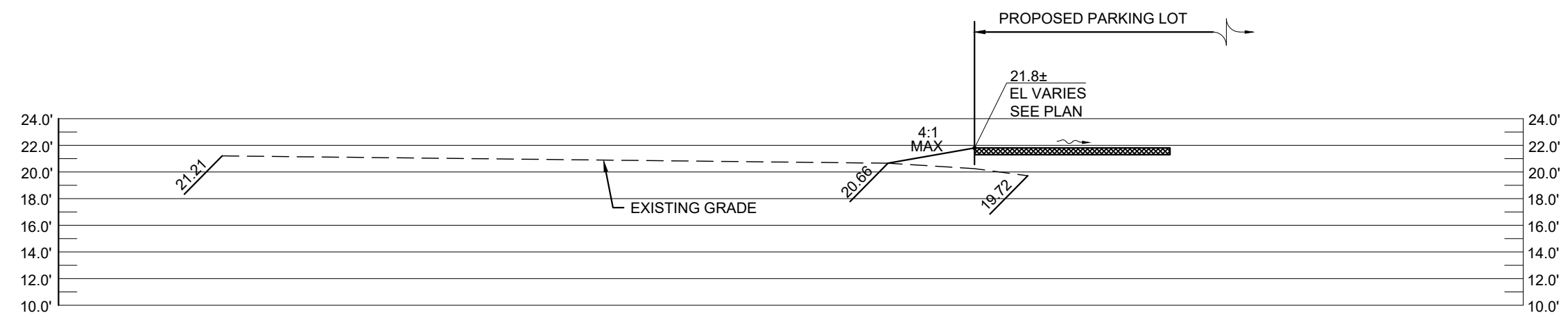
C SECTION THRU EAST PROPERTY LINE
C-500 SCALE: 1"=10'



D SECTION THRU NORTH
C-500 SCALE: 1"=10'



E SECTION THRU WEST PROPERTY LINE
C-500 SCALE: 1"=10'



F SECTION THRU SOUTH PARKING
C-500 SCALE: 1"=10'

GENERAL GRADING NOTES:

- ALL SIDEWALKS, NEW & RECONSTRUCTED SHALL MEET ADA REQUIREMENTS:
 - MAX 2% CROSS SLOPE
 - MAX 5% LONGITUDINAL SLOPE
 - MIN 5' x 5' LANDING AT CHANGE IN DIRECTION, AT 2% MAX SLOPE ALL WAYS
 - MAX 12:1 SLOPE, MAX 6' IN LENGTH FOR RAMP. LENGTH MAY BE INCREASE IF HANDRAIL IS PROVIDED
- ALL SLOPES 6:1 OR STEEPER SHALL BE STABILIZED WITH SOD.
- PAVEMENT SHOWING @ 2%. IT SHALL NOT BE LESS THAN 1.5%
- SIDEWALK SHALL NOT BE MORE THAN 2.0% OR LESS THAN 1.0%
- ALL SWALES SHALL BE CUT 0.15 FT BELOW FINISHED GRADE PRIOR TO SOD PLACEMENT.

GENERAL CONSTRUCTION NOTES:

- SEE SITE PLAN (SHEETS C-400 TO C-402) AND SHEET C-403 FOR PAVEMENT MARKING AND SIGN PLACEMENT
- ALL PIPE NOTED AS ADS SHALL BE ADS N-12 OR APPROVED EQUAL. ALL ADS PIPES SHALL BE PERFORATED (20LF) AT SUBMERGED OUTFALLS TO PONDS OR OTHER SURFACE WATERS TO PREVENT FLOATATION.
- ALL WATER SERVICES MUST BE CONTINUOUS FROM THE MAIN. NO SPLICING.
- SEWER CLEANOUTS IN DRIVEWAYS MUST BE TRAFFIC BEARING MINI-MANHOLE TYPES.
- ANY IMPORT FILL SOURCE MUST MEET THE FOLLOWING SPECIFICATIONS:
 - MATERIAL SHALL BE FROM A SOURCE WITH SOIL MEETING HSG 'A', 'B', OR 'B/D'.
 - MINIMUM WATER TRANSMISSION RATE OF 15FT/DAY
 - MEET ADDITIONAL REQUIREMENTS FOR TYPE 2 BACKFILL MATERIAL.

DATE	REVISION	MARK	DESIGNED	DRAWN	CHECKED	SCALE	DATE
			JWS	WJF/DJR	JWS	N/A	07-23-21

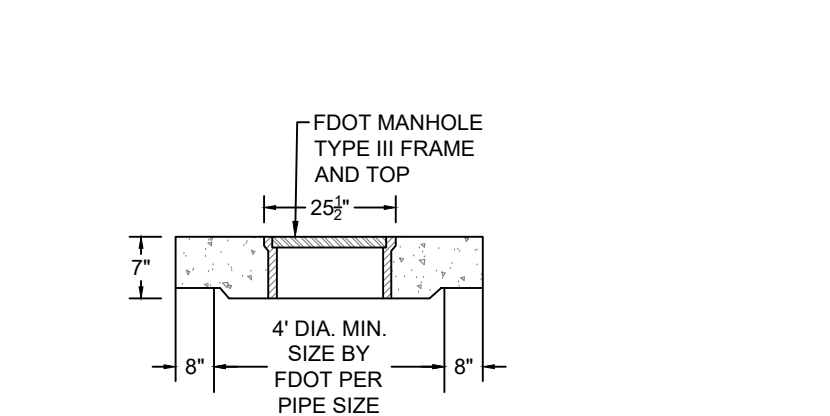
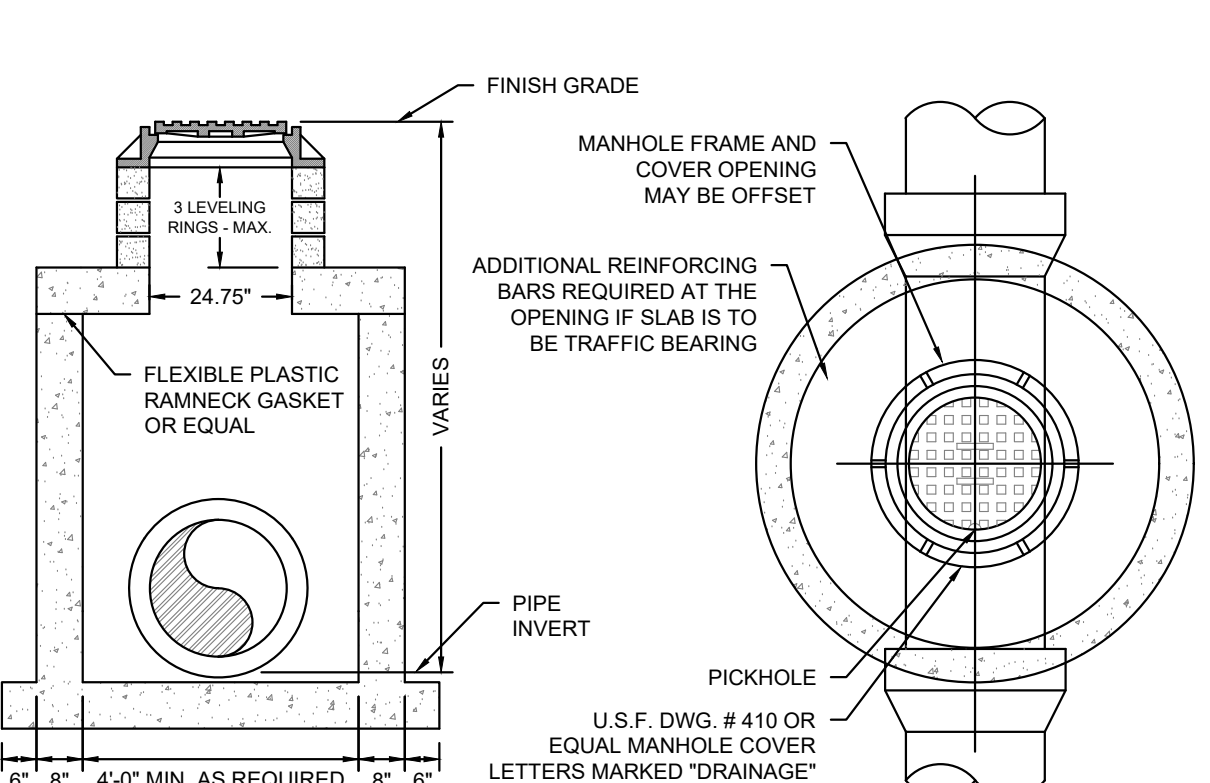
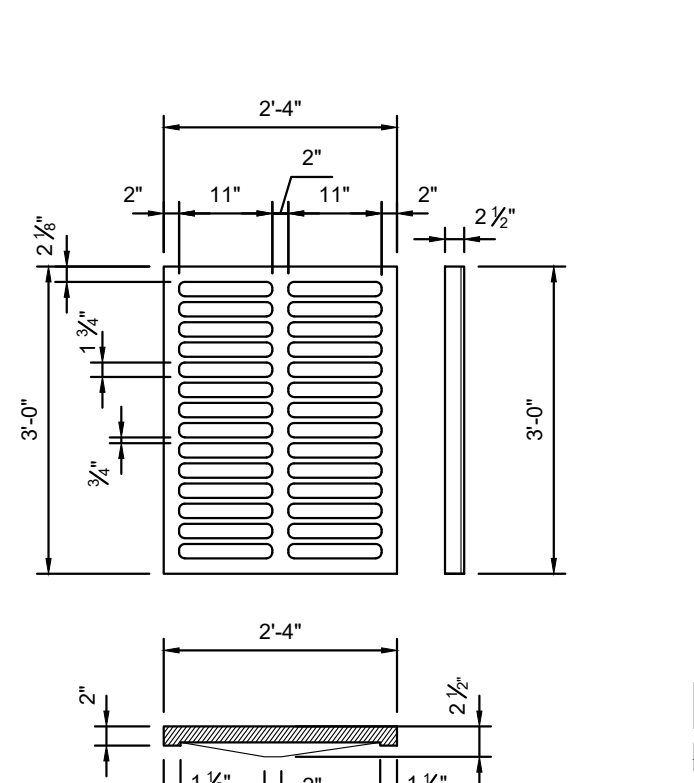
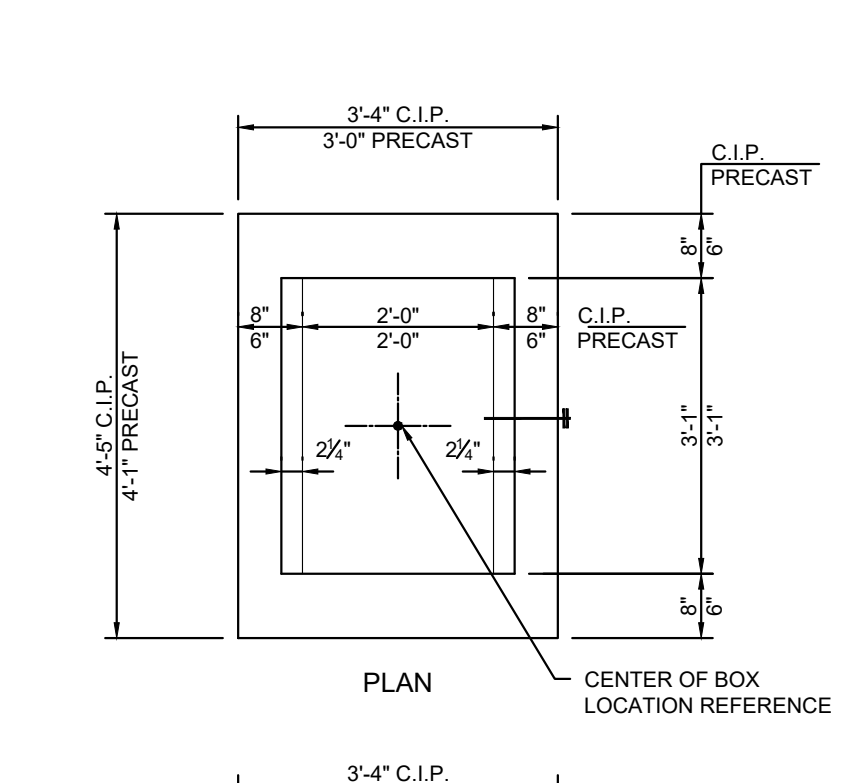
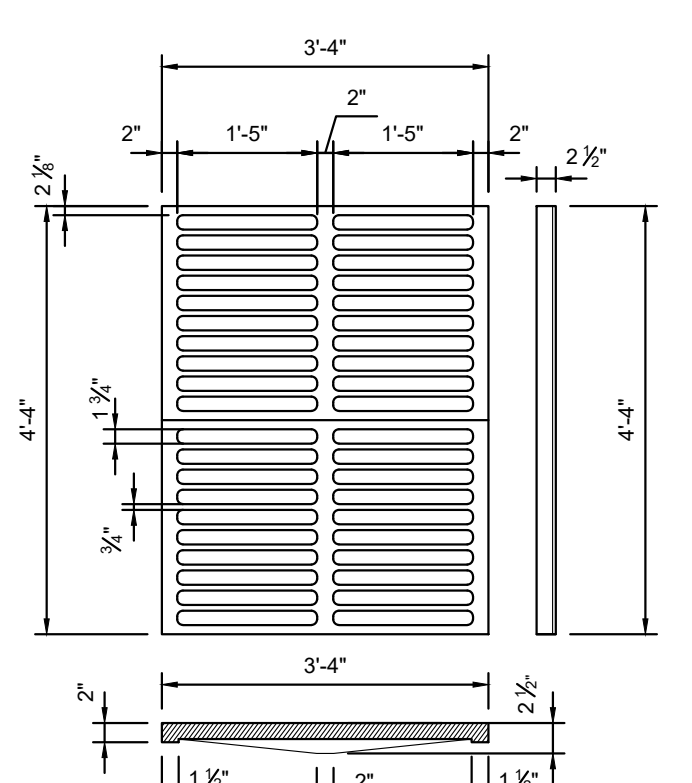
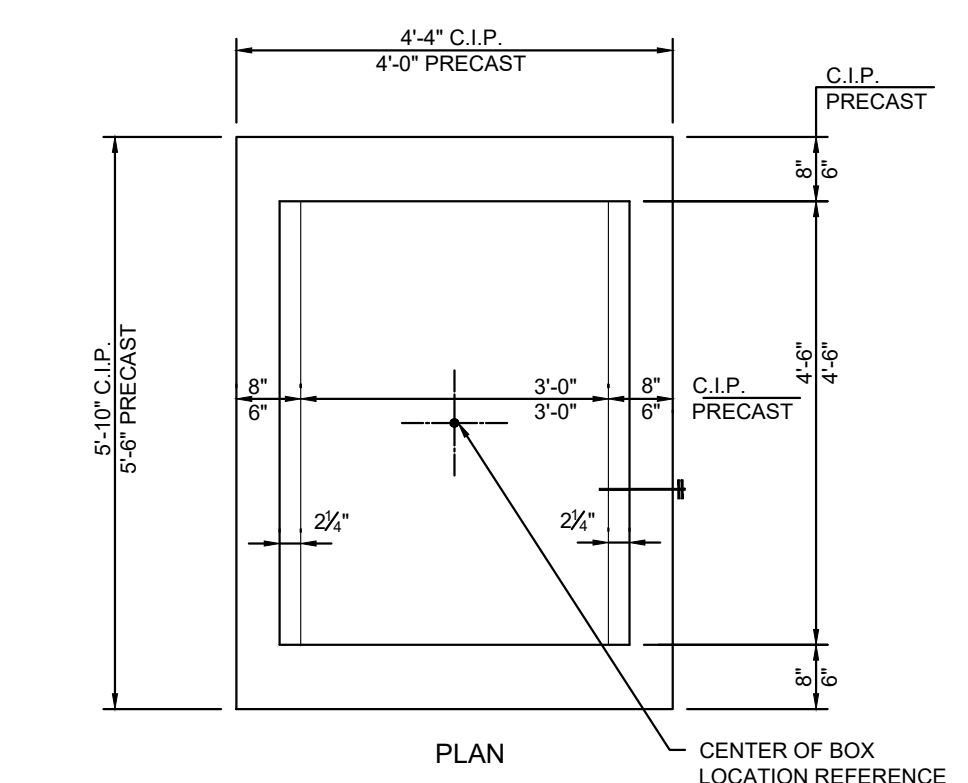
SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 REGISTRY #8668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
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SECTIONS

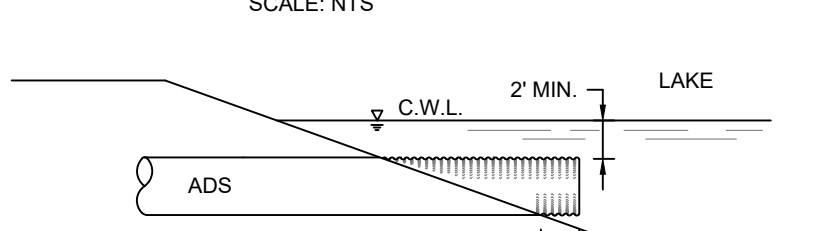
SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION
<input type="checkbox"/> JOSEPH W. SCHULKE FL. REG. NO. 47048
<input type="checkbox"/> ADAM B. BITTLE FL. REG. NO. 57386
<input type="checkbox"/> WILLIAM P. STODDARD FL. REG. NO. 57605

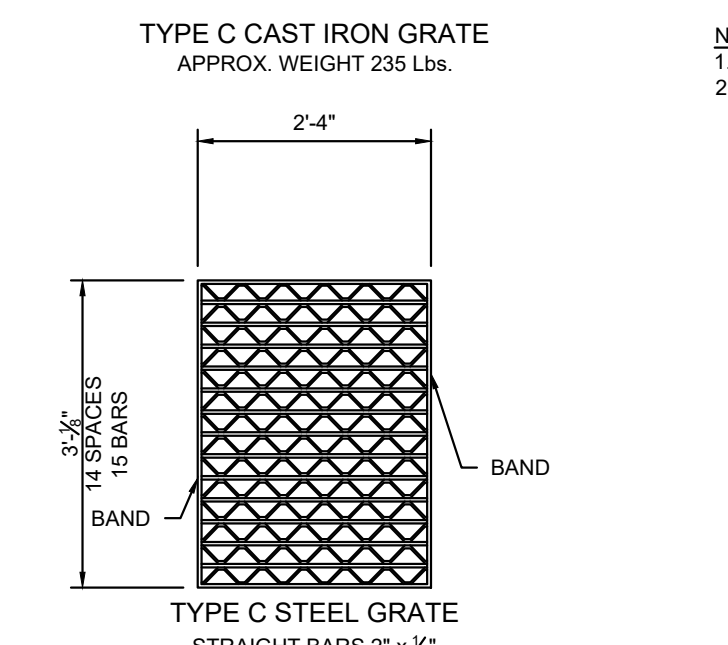
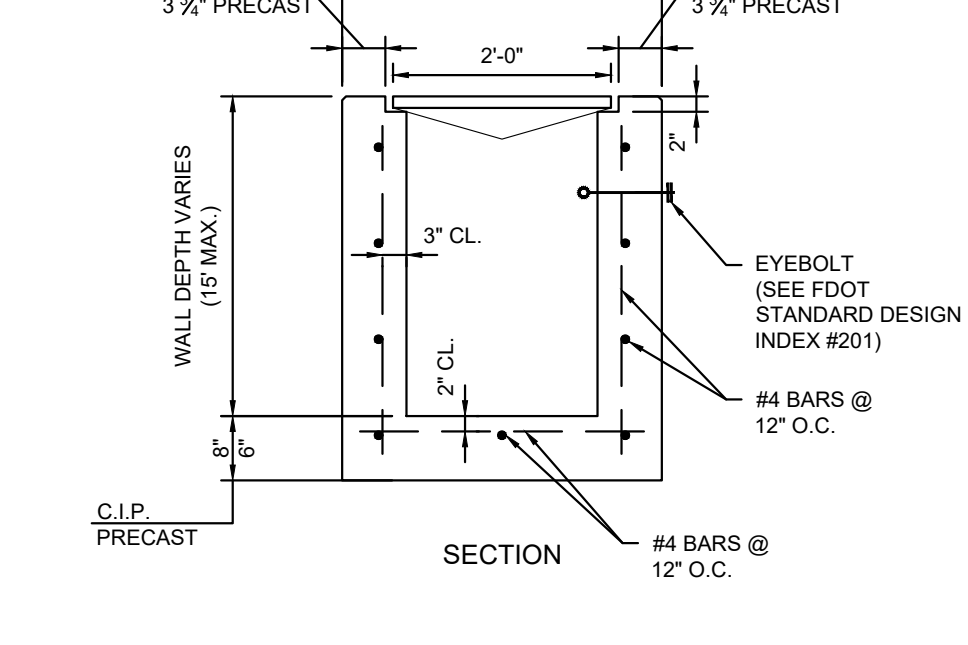
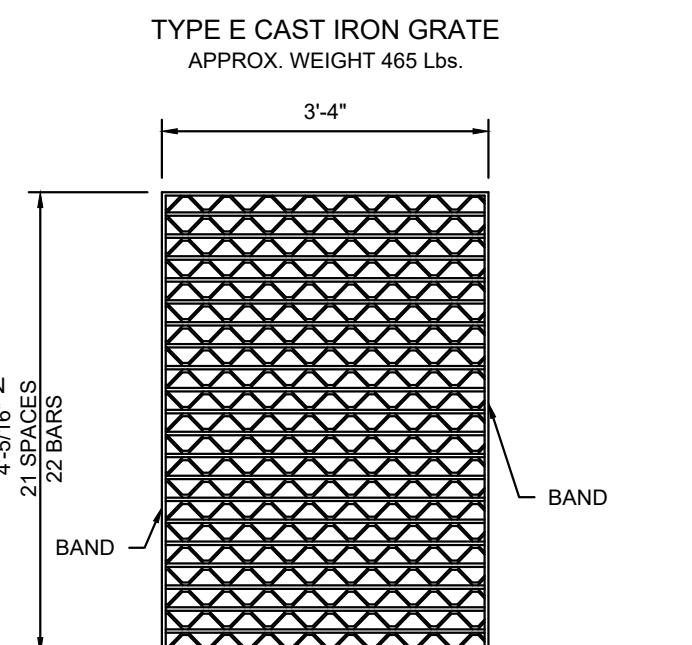
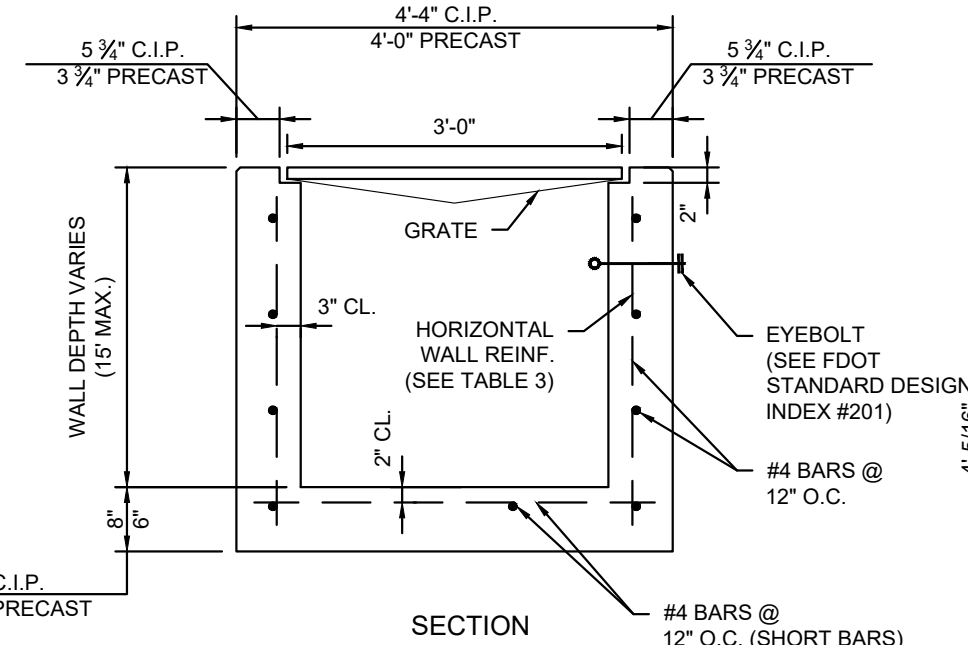
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 SHEET:
C-503
 PROJECT NO.:
 21-034



6' MANHOLE SLAB TOP DETAIL
SCALE: N.T.S.



STORM CULVERT AT LAKE OUTFALL DETAIL
N.T.S.



TYPICAL DRAINAGE JUNCTION MANHOLE
N.T.S.

HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 3)

WALL DEPTH	SCHEDULE	AREA (in. ² /ft.)	MAX. SPACING	
			BAR	WWF
0'-5"	A12	0.20	12"	8"
0'-7.5"	A6	0.20	6"	5"
7.5'-10'	B5.5	0.24	5.5"	5"
10'-15'	C6.5	0.37	6.5"	6"

TYPE E CAST IRON GRATE
APPROX. WEIGHT 465 Lbs.

TYPE E STEEL GRATE
STRAIGHT BARS 2" x 1/2"
RETICULATE BARS 1 1/2" x 3/4"
BANDS 2" x 1/2"
APPROX. WEIGHT 215 Lbs.

HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 1)

TYPE C
RECOMMENDED MAXIMUM PIPE SIZE:
2'-0" WALL - 18" PIPE
3'-1" WALL - 24" PIPE (18" WHERE AN 18" PIPE ENTERS A 2'-0" WALL)

TYPE C STEEL GRATE
STRAIGHT BARS 2" x 1/2"
RETICULATE BARS 1 1/2" x 3/4"
BANDS 2" x 1/2"
APPROX. WEIGHT 104 Lbs.

GENERAL NOTES
1. THESE INLETS ARE SUITABLE FOR BICYCLE TRAFFIC AND ARE TO BE USED IN DITCHES, MEDIANS AND OTHER AREAS SUBJECT TO INFREQUENT TRAFFIC LOADINGS BUT ARE NOT TO BE PLACED IN AREAS SUBJECT TO ANY HEAVY WHEEL LOADS...

NOTE: STEEL GRATES ARE REQUIRED ON INLETS WITH TRAVERSABLE SLOTS AND ON INLETS WHERE BICYCLE TRAFFIC IS ANTICIPATED

GENERAL NOTES
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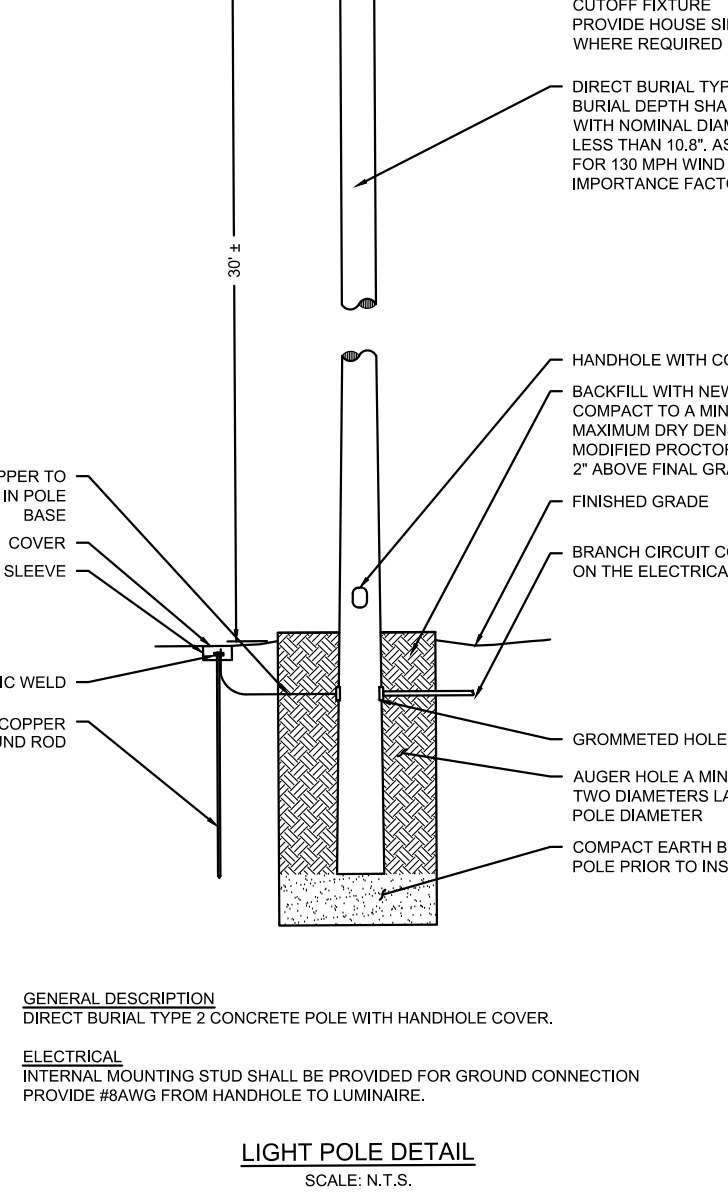
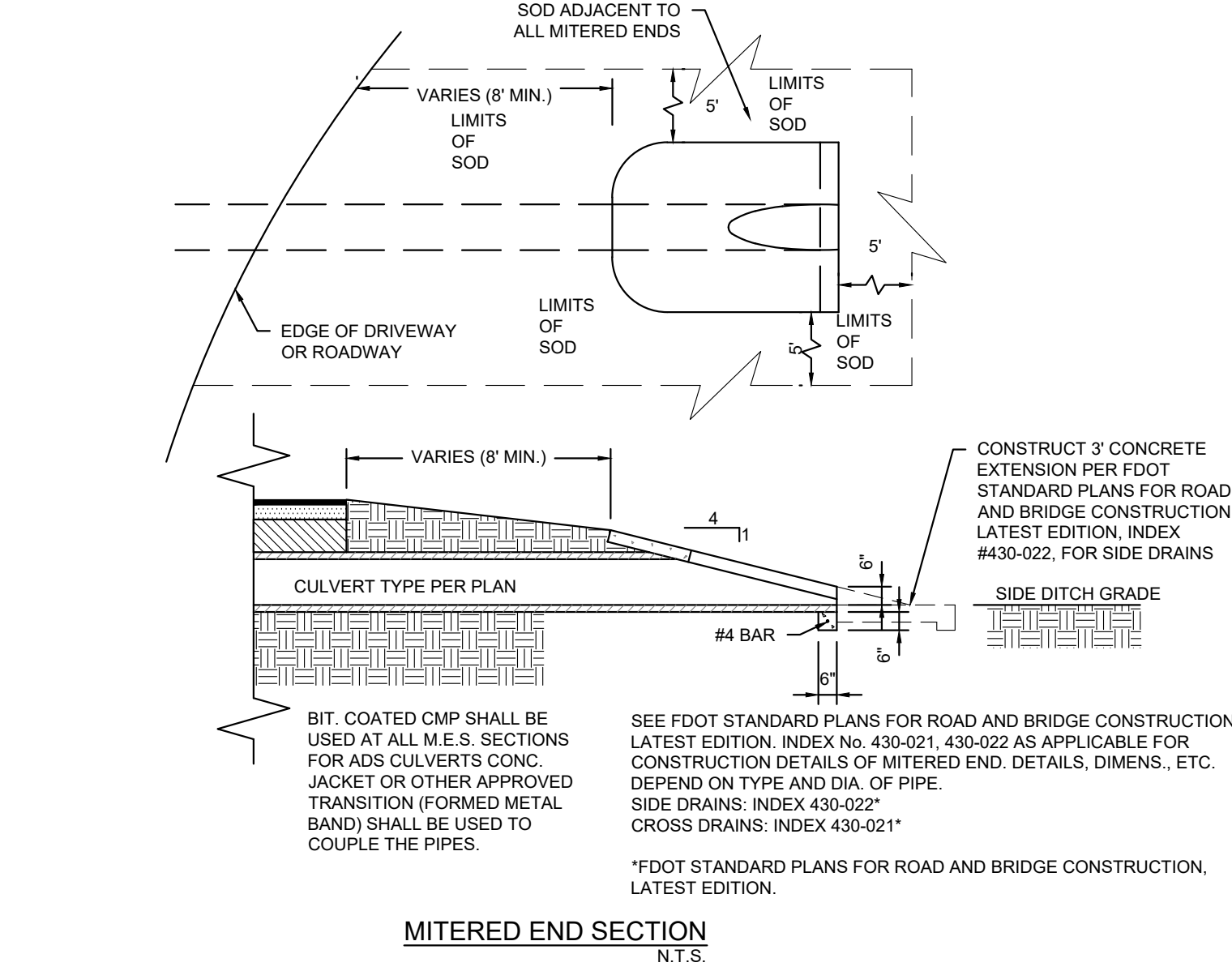
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FDOT TYPE 'E' INLET
SCALE: N.T.S.

FDOT TYPE 'C' INLET
SCALE: N.T.S.

RIIP RAP RETAINING WALL DETAIL
SCALE: N.T.S.



RIIP RAP RETAINING WALL DETAIL
SCALE: N.T.S.

MITERED END SECTION
N.T.S.

LIGHT POLE DETAIL
SCALE: N.T.S.

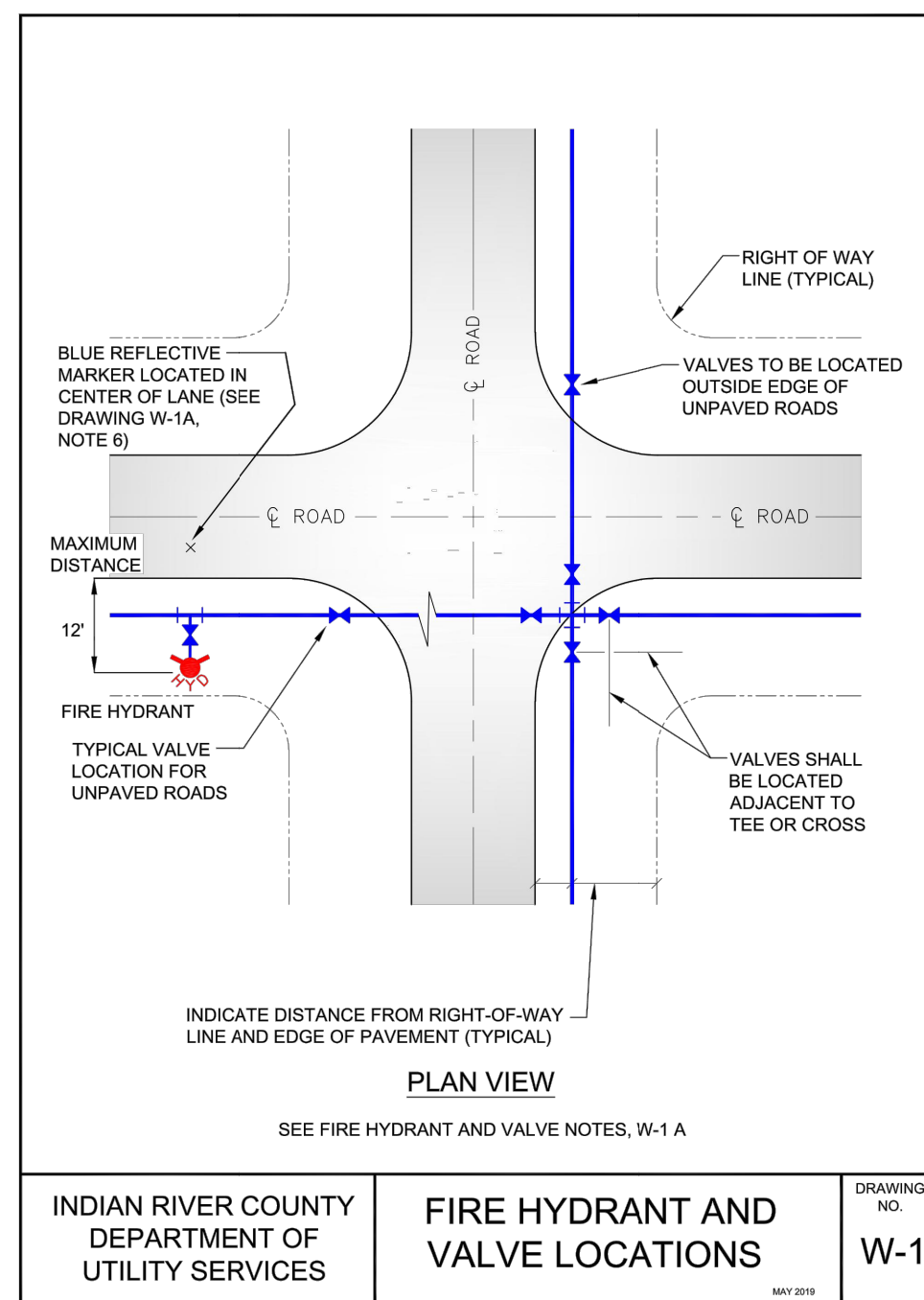
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LITHONIA LIGHTING
FEATURES & SPECIFICATIONS
KAD
ORDERING INFORMATION
KAD
Sheet # KAD-8-6 AL-370

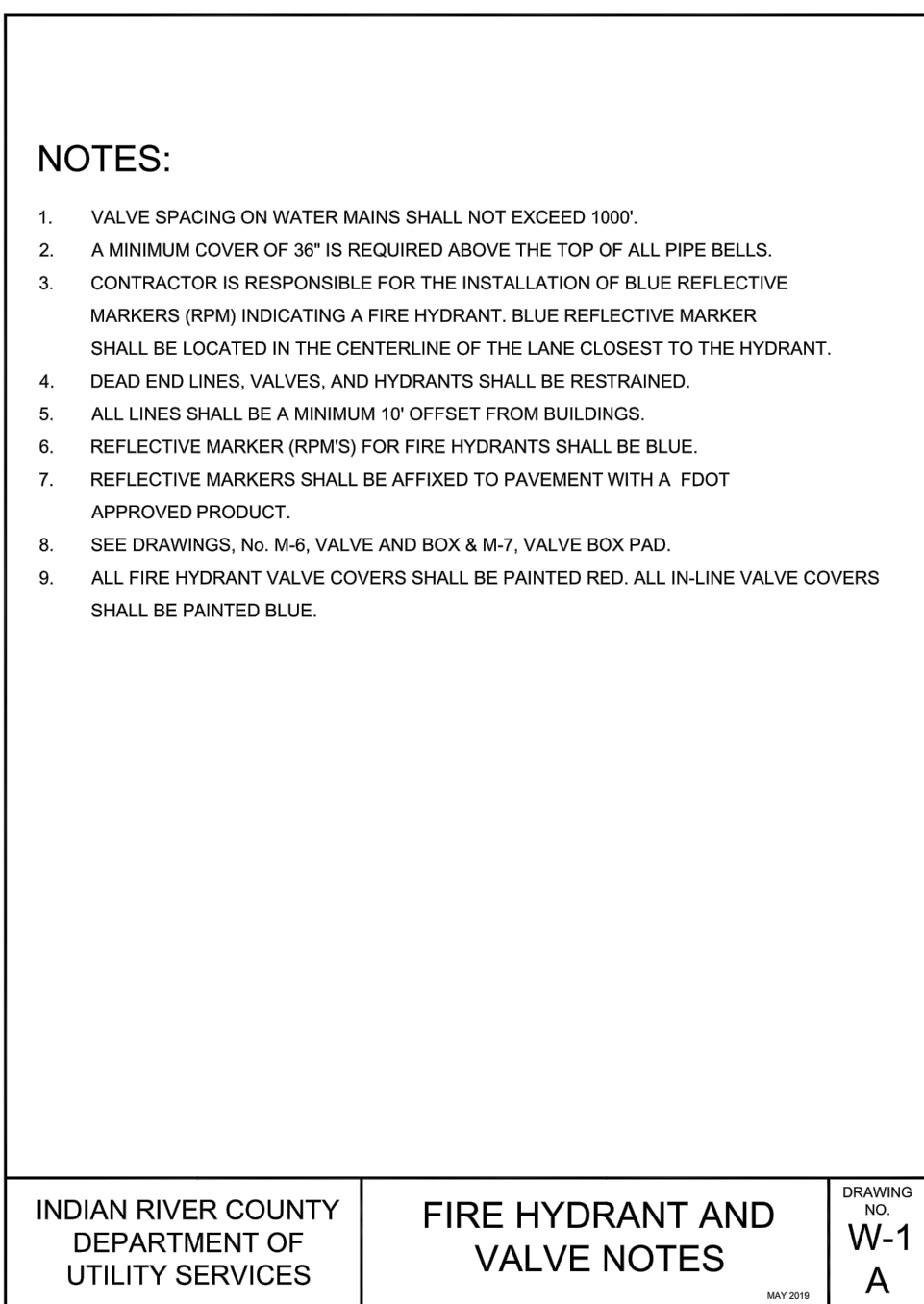
SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 EMAIL info@bsengr.com

DATE: _____
REVISION: _____
MARK: _____
DESIGNED: JWS
DRAWN: WJF/DJR
CHECKED: JMS
SCALE: N/A
DATE: 07-23-21

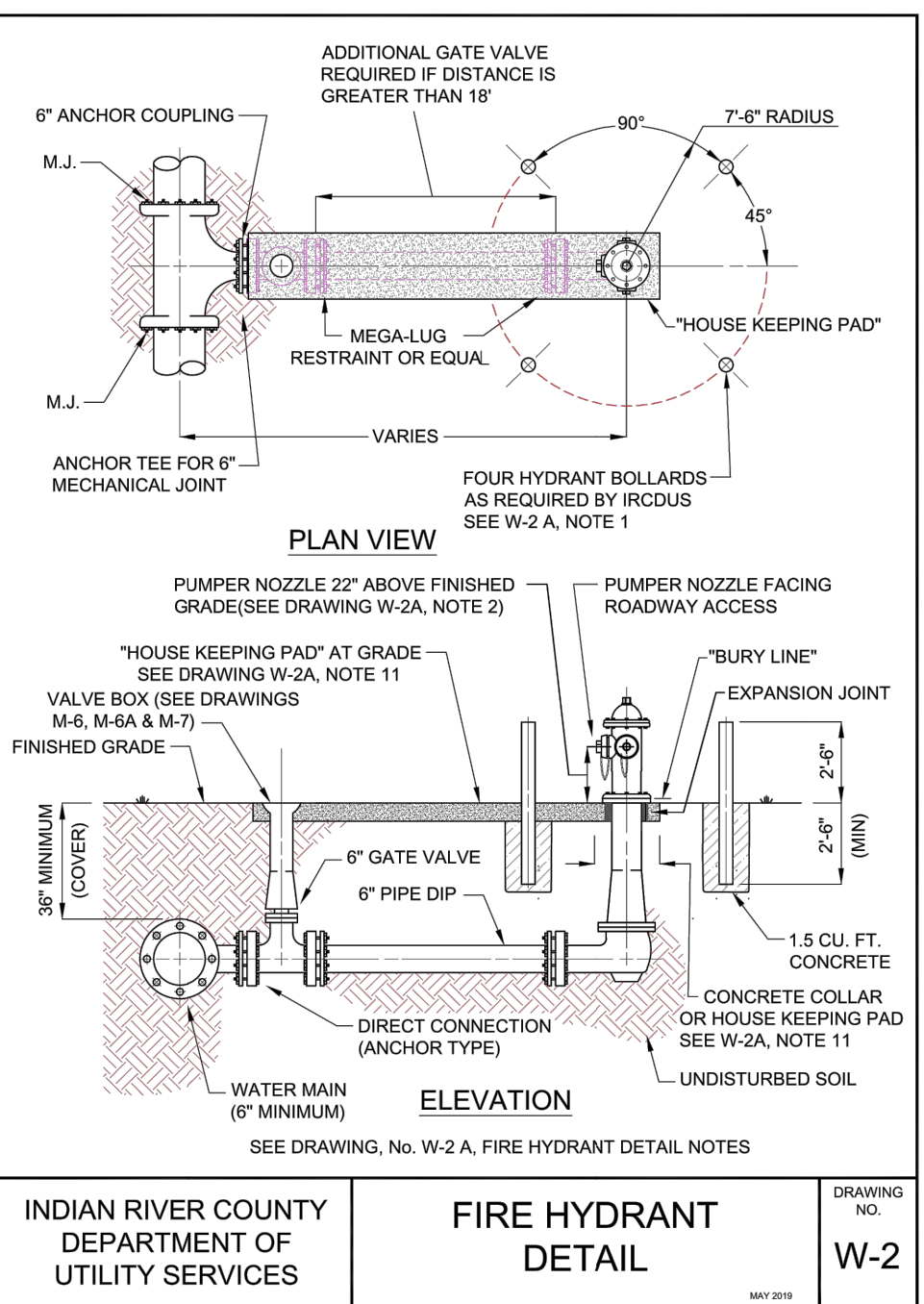
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PROJECT NO: 21-034



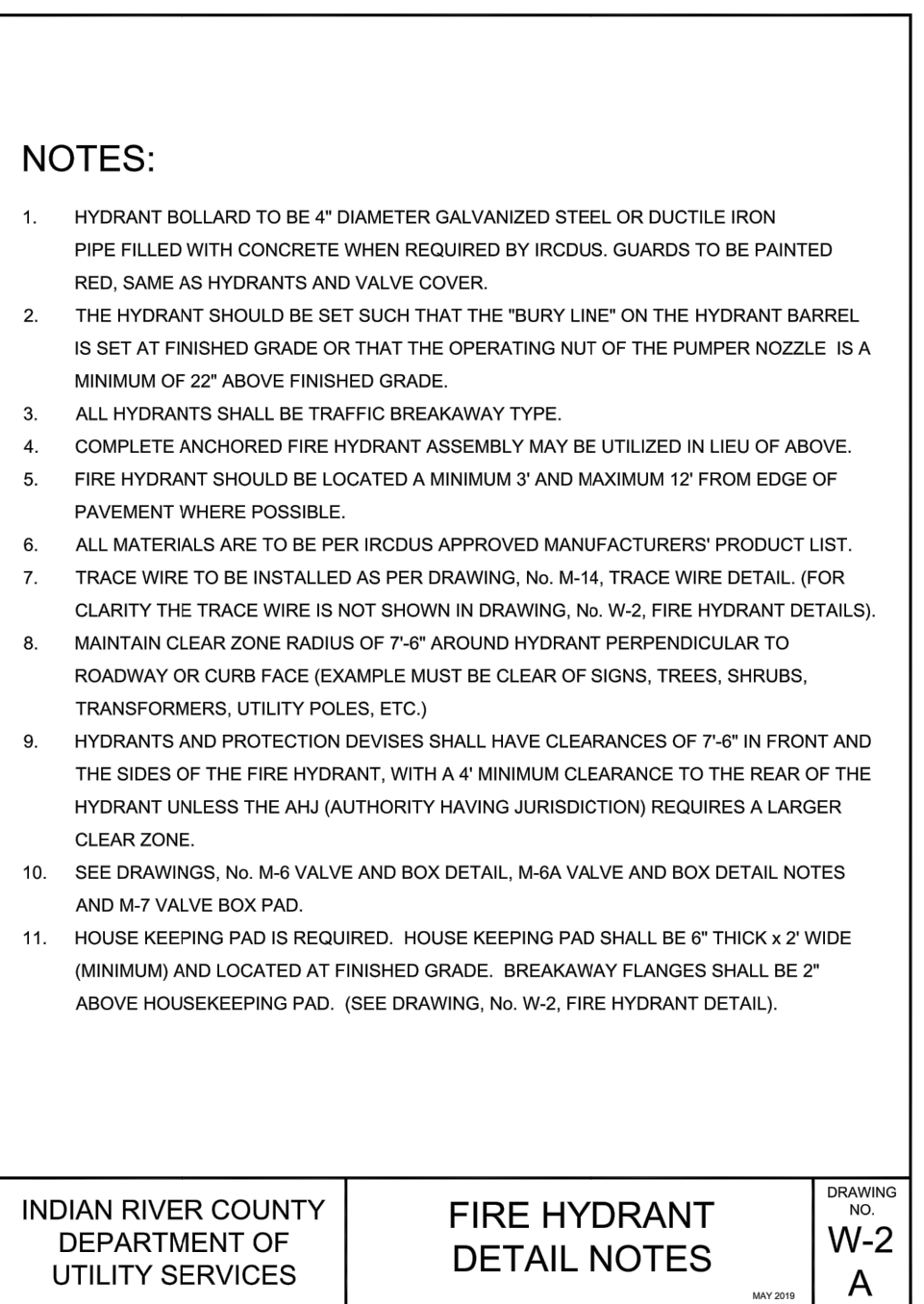
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE LOCATIONS
 DRAWING NO. W-1



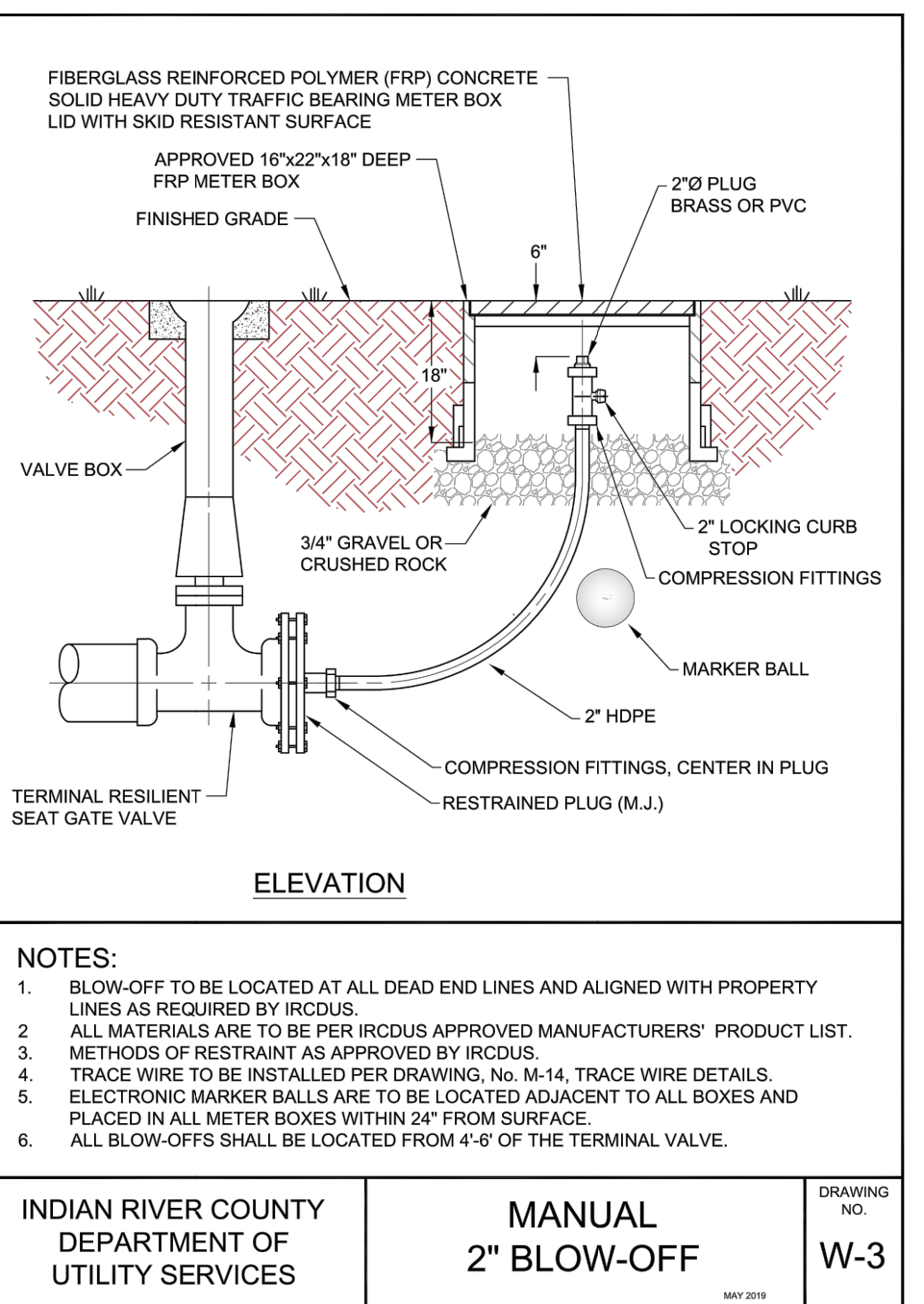
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FIRE HYDRANT AND VALVE NOTES
 DRAWING NO. W-1 A



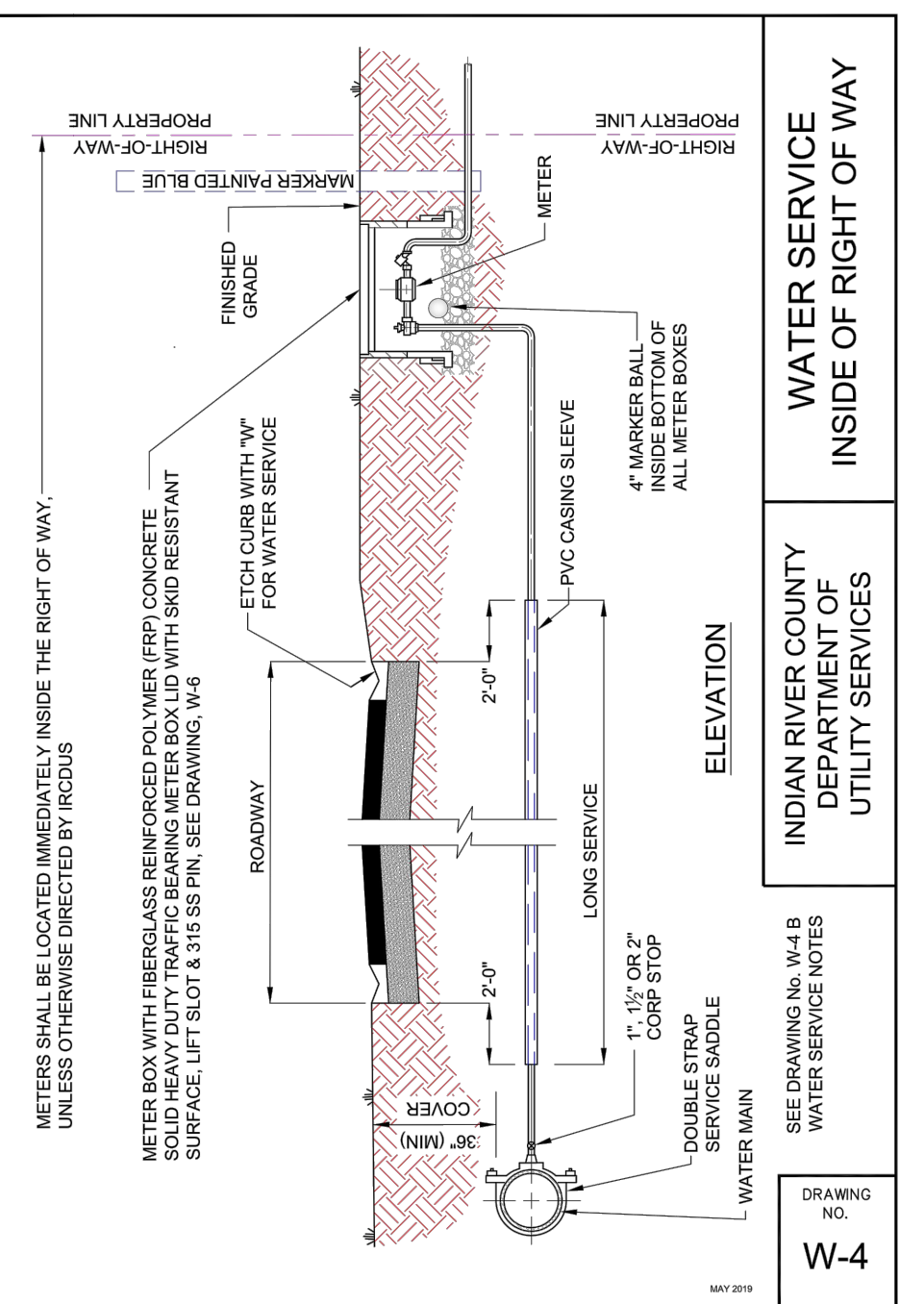
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FIRE HYDRANT DETAIL
 DRAWING NO. W-2



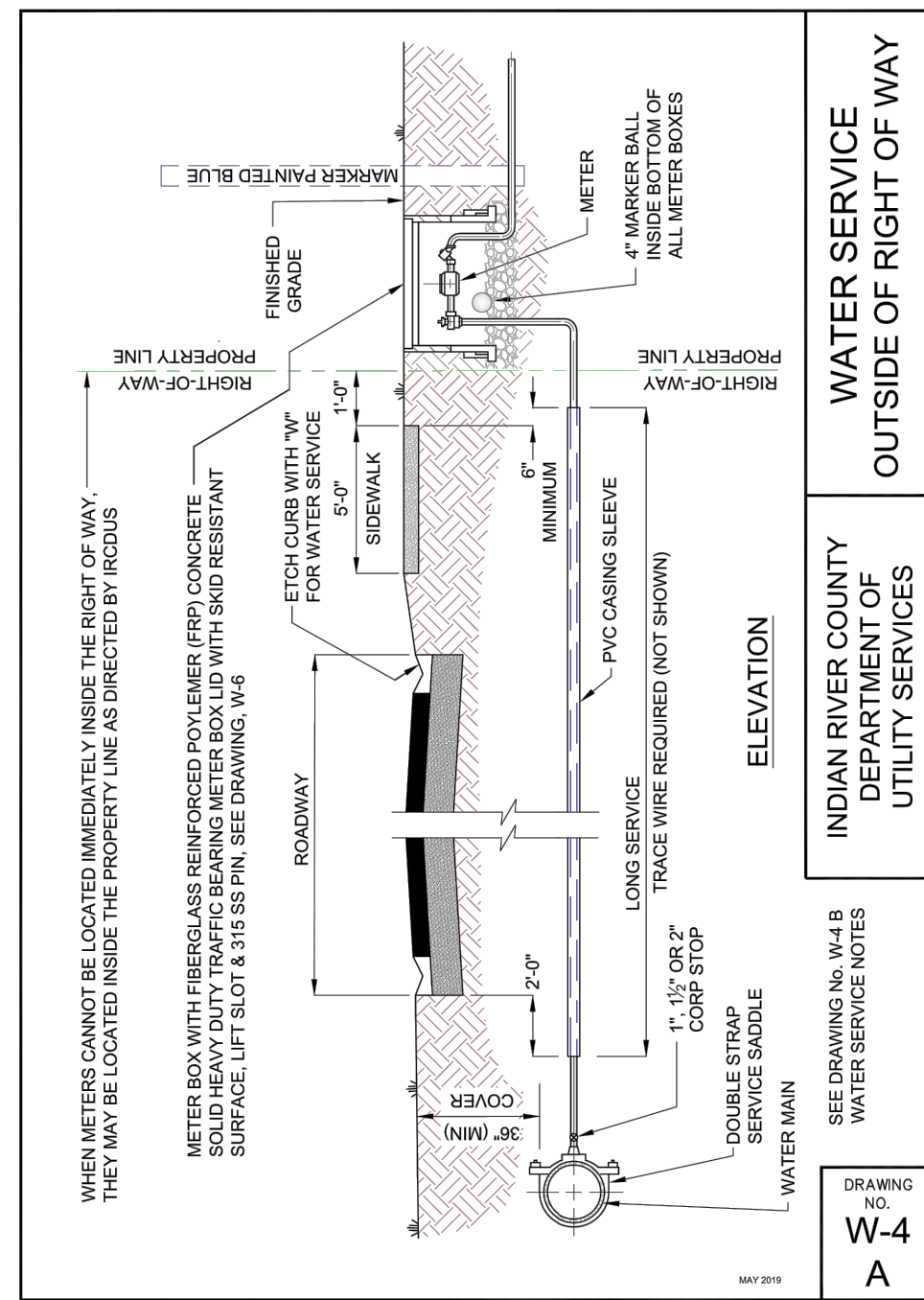
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FIRE HYDRANT DETAIL NOTES
 DRAWING NO. W-2 A



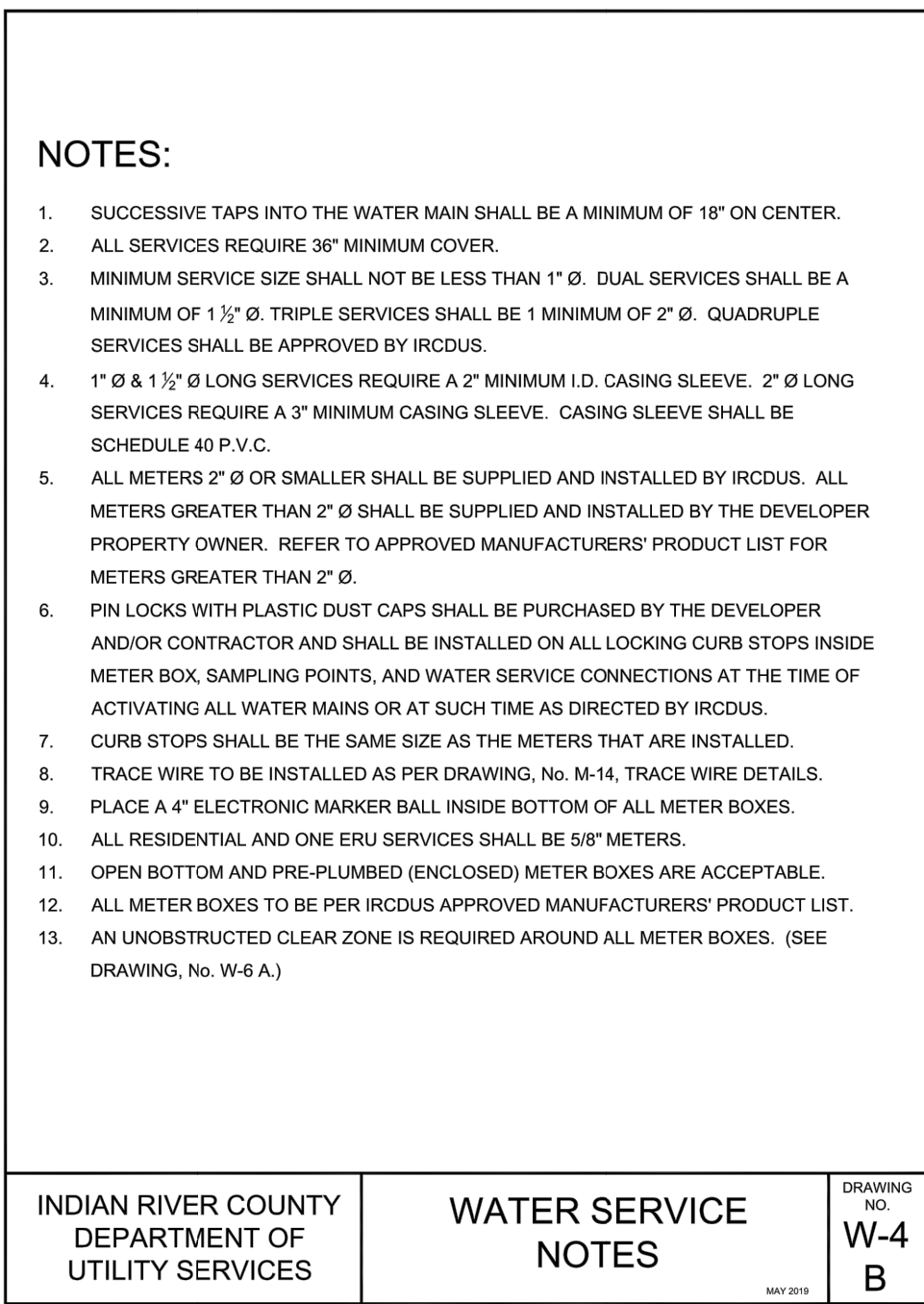
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MANUAL 2" BLOW-OFF
 DRAWING NO. W-3



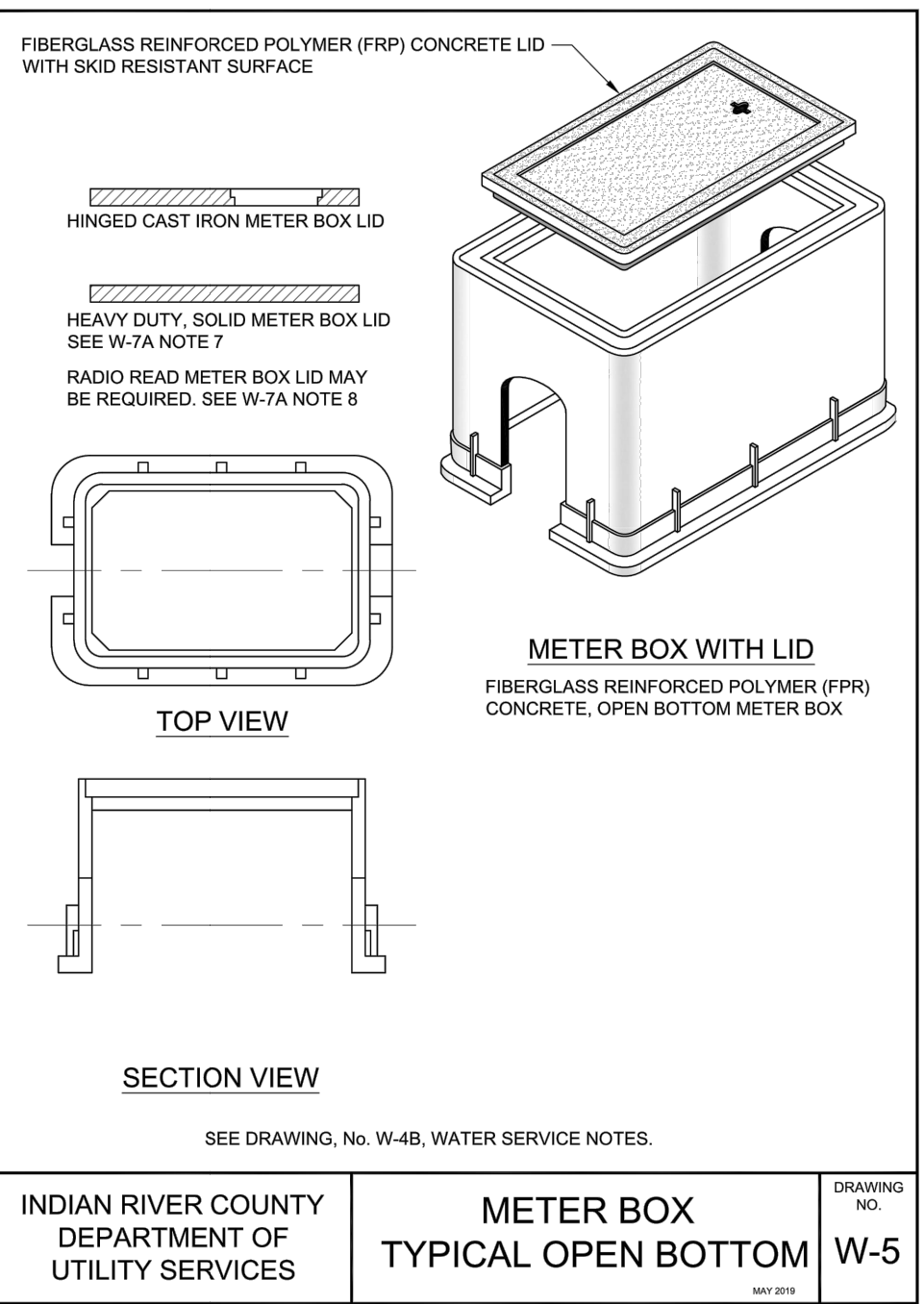
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WATER SERVICE INSIDE OF RIGHT OF WAY
 DRAWING NO. W-4 B



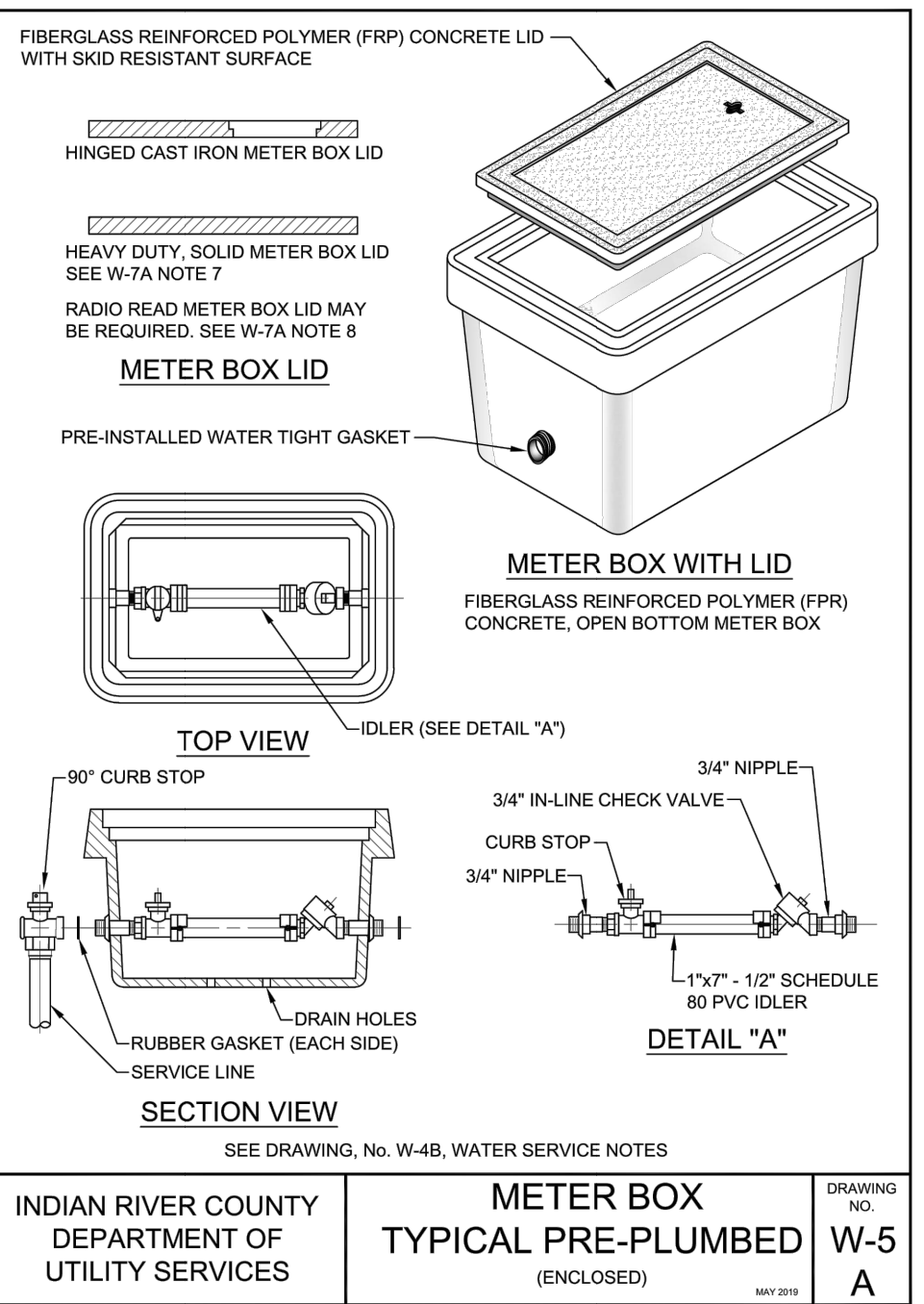
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WATER SERVICE OUTSIDE OF RIGHT OF WAY
 DRAWING NO. W-4 A



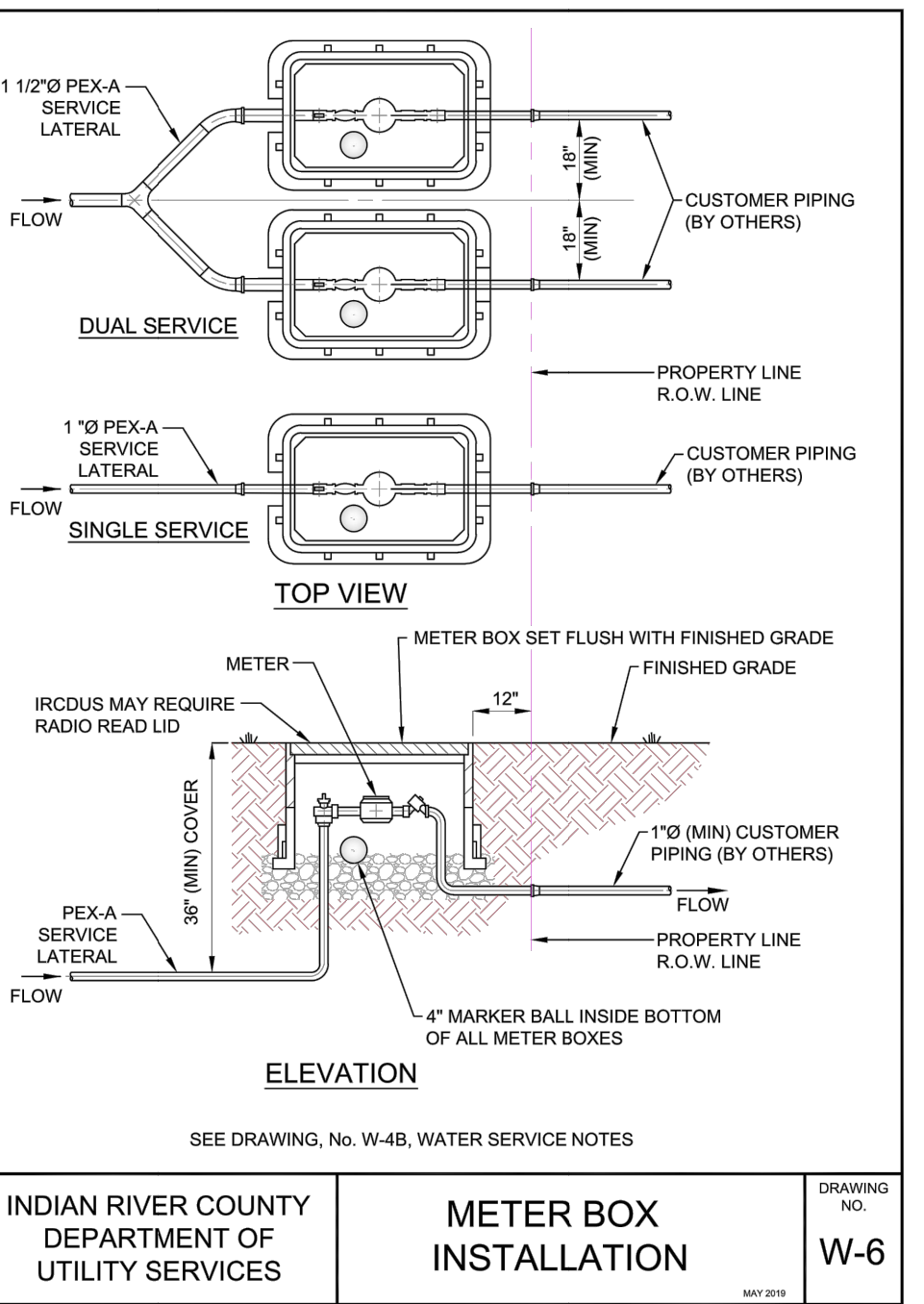
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WATER SERVICE NOTES
 DRAWING NO. W-4 B



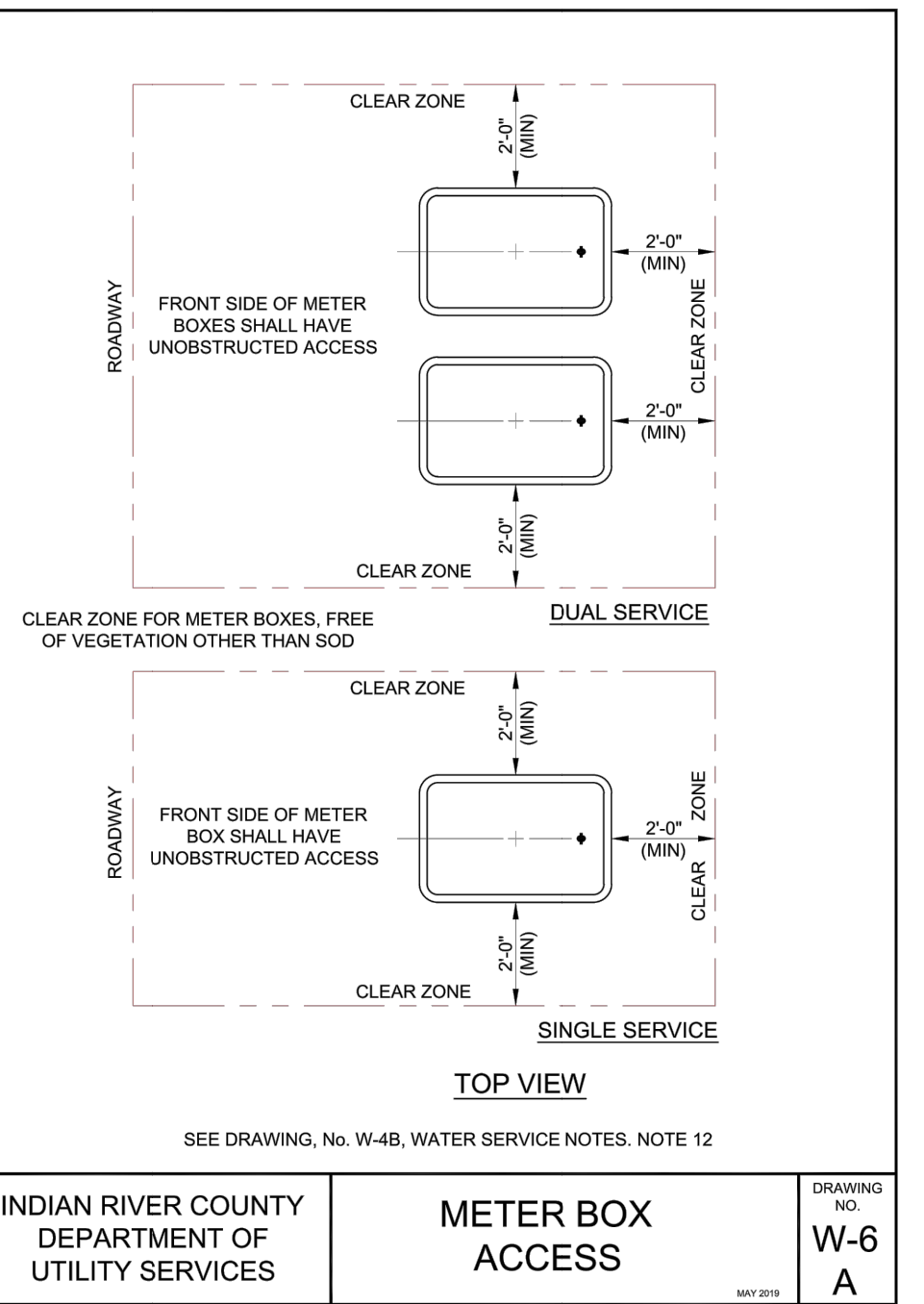
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METER BOX TYPICAL OPEN BOTTOM
 DRAWING NO. W-5



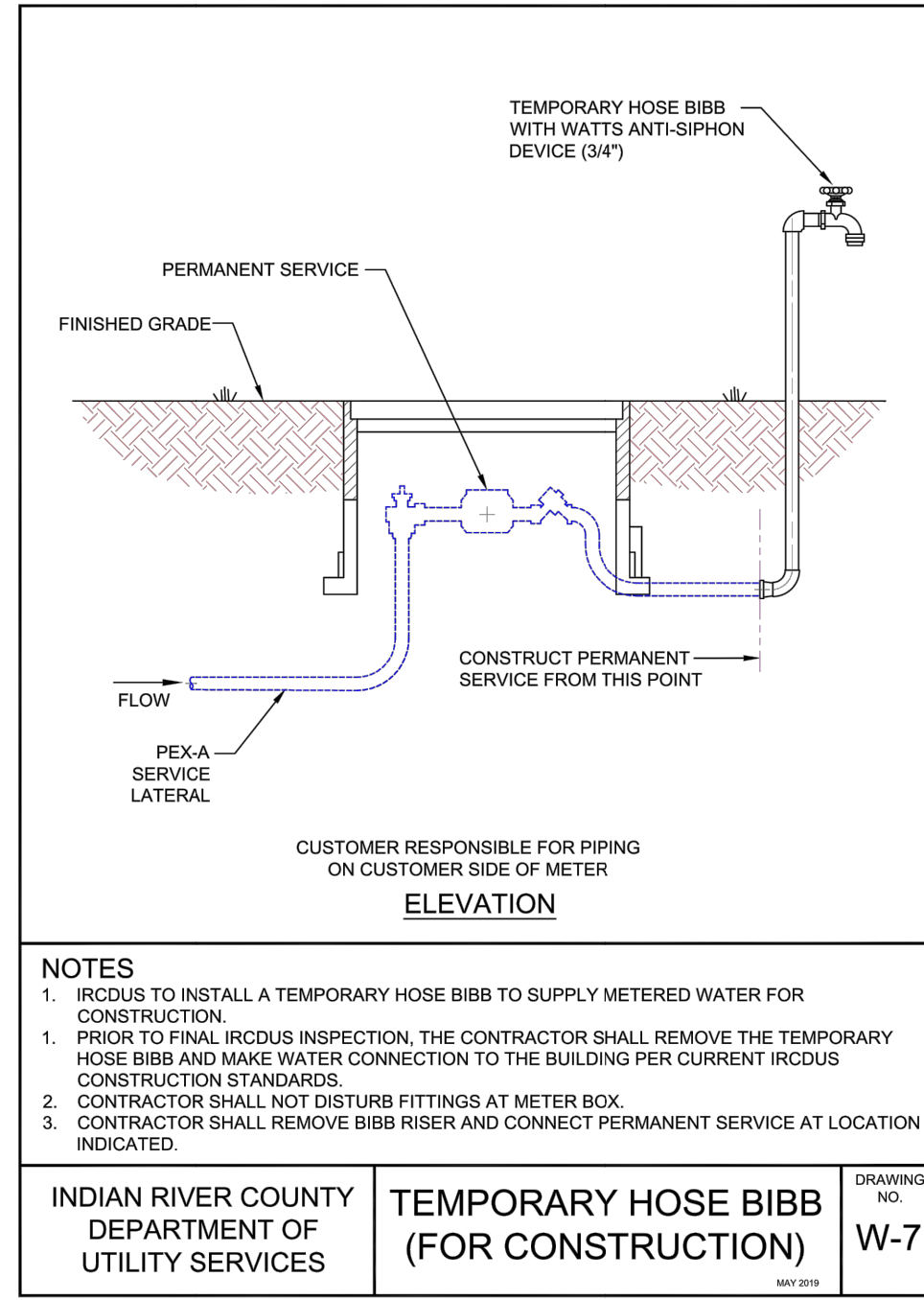
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METER BOX TYPICAL PRE-PLUMBED (ENCLOSED)
 DRAWING NO. W-5 A



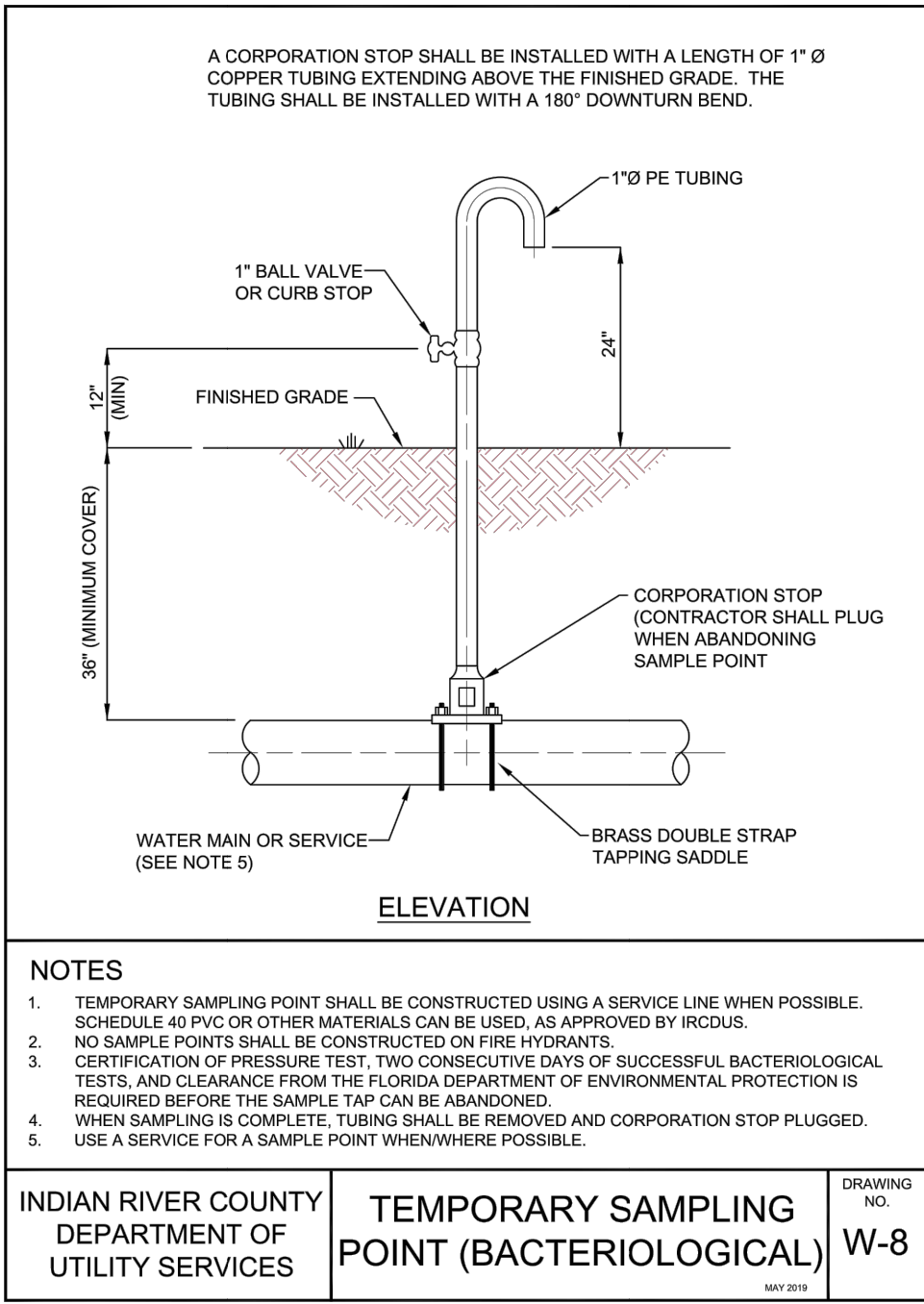
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METER BOX INSTALLATION
 DRAWING NO. W-6



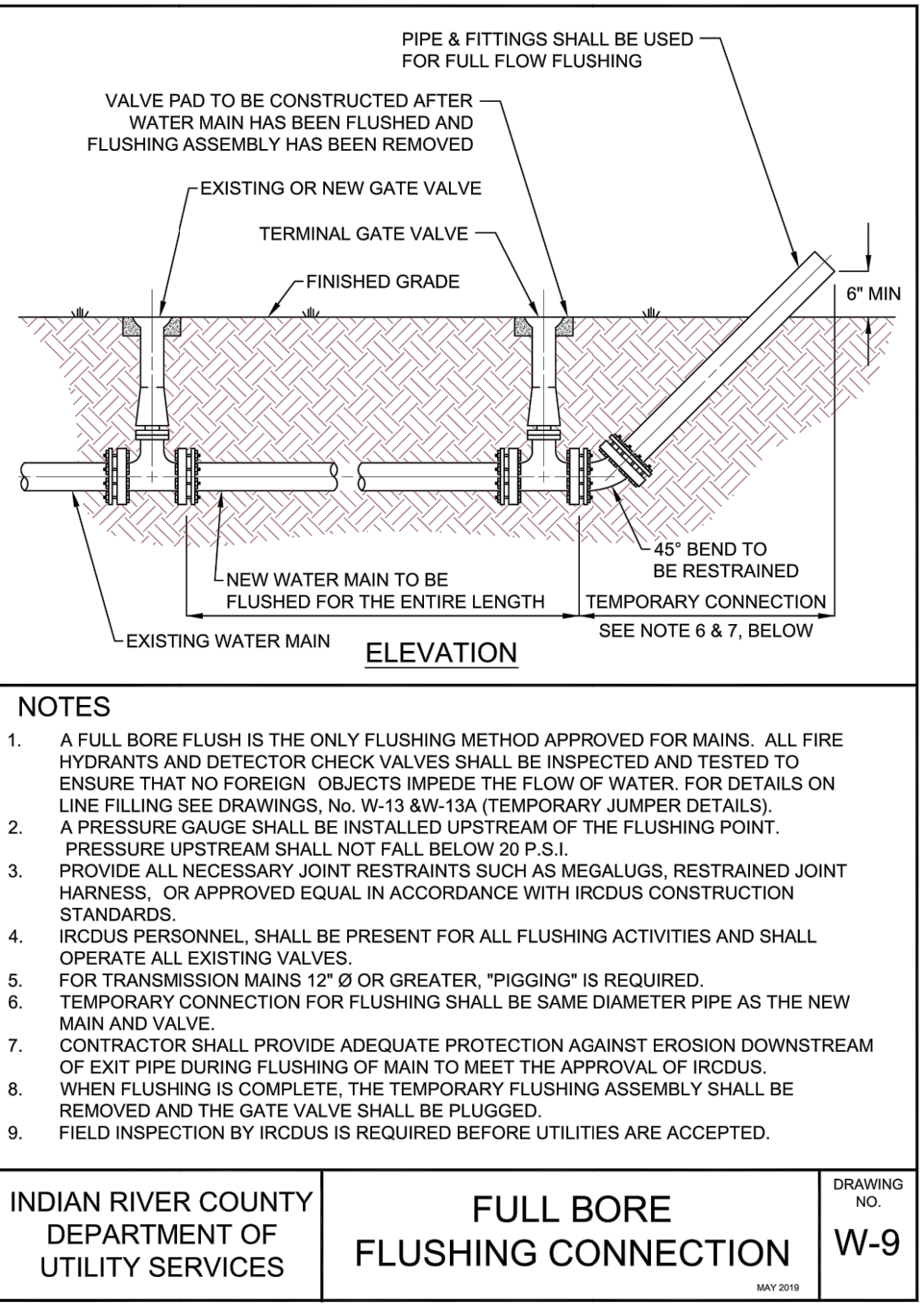
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METER BOX ACCESS
 DRAWING NO. W-6 A



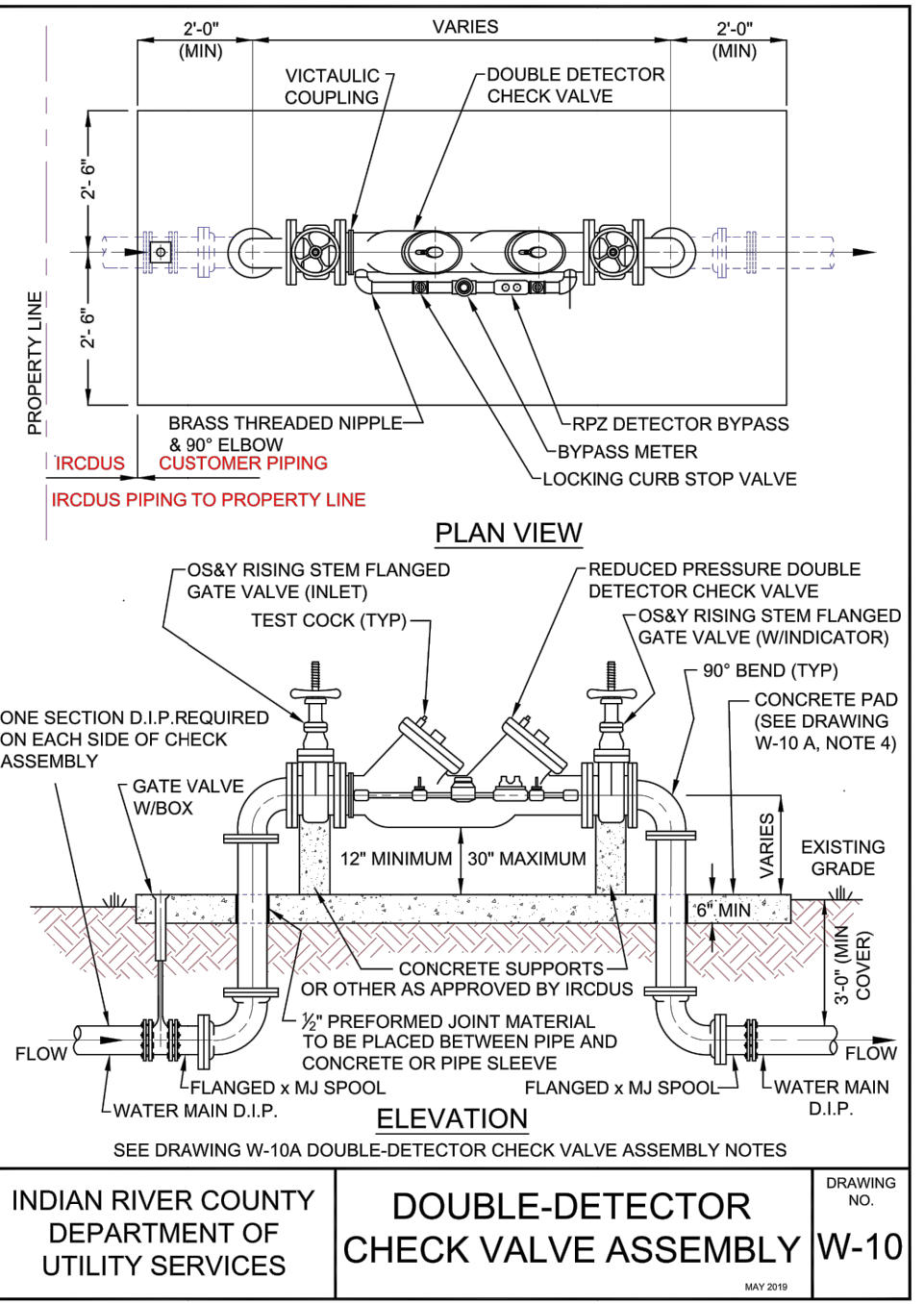
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TEMPORARY HOSE BIBB (FOR CONSTRUCTION)
 DRAWING NO. W-7



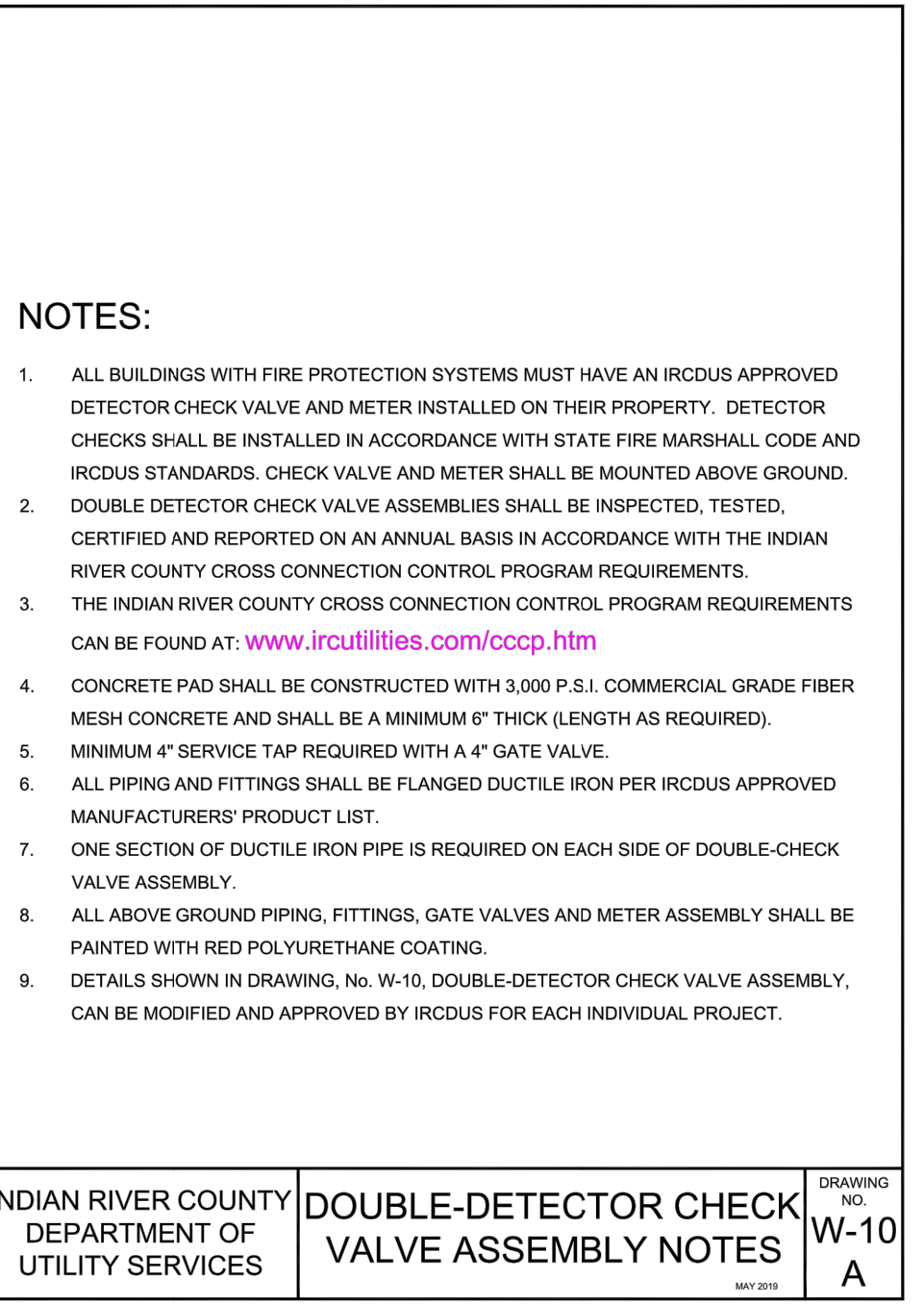
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TEMPORARY SAMPLING POINT (BACTERIOLOGICAL)
 DRAWING NO. W-8



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FULL BORE FLUSHING CONNECTION
 DRAWING NO. W-9



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DOUBLE-DETECTOR CHECK VALVE ASSEMBLY
 DRAWING NO. W-10



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DOUBLE-DETECTOR CHECK VALVE ASSEMBLY NOTES
 DRAWING NO. W-10 A

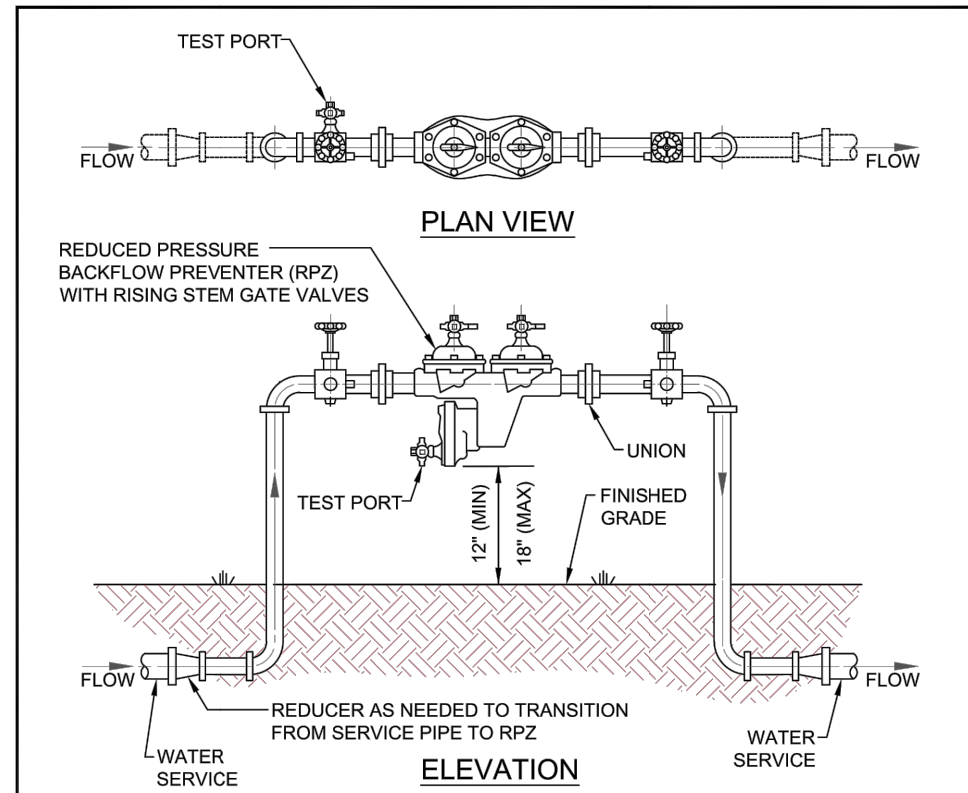
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MARK
DRAWING
DESIGNED: JMS
DRAWN: WJF/DR
CHECKED: JMS
SCALE: N/A
DATE: 07-23-21

SCHULKE, BITTLE & STODDARD, L.L.C.
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IRC STANDARD UTILITY DETAILS - WATER

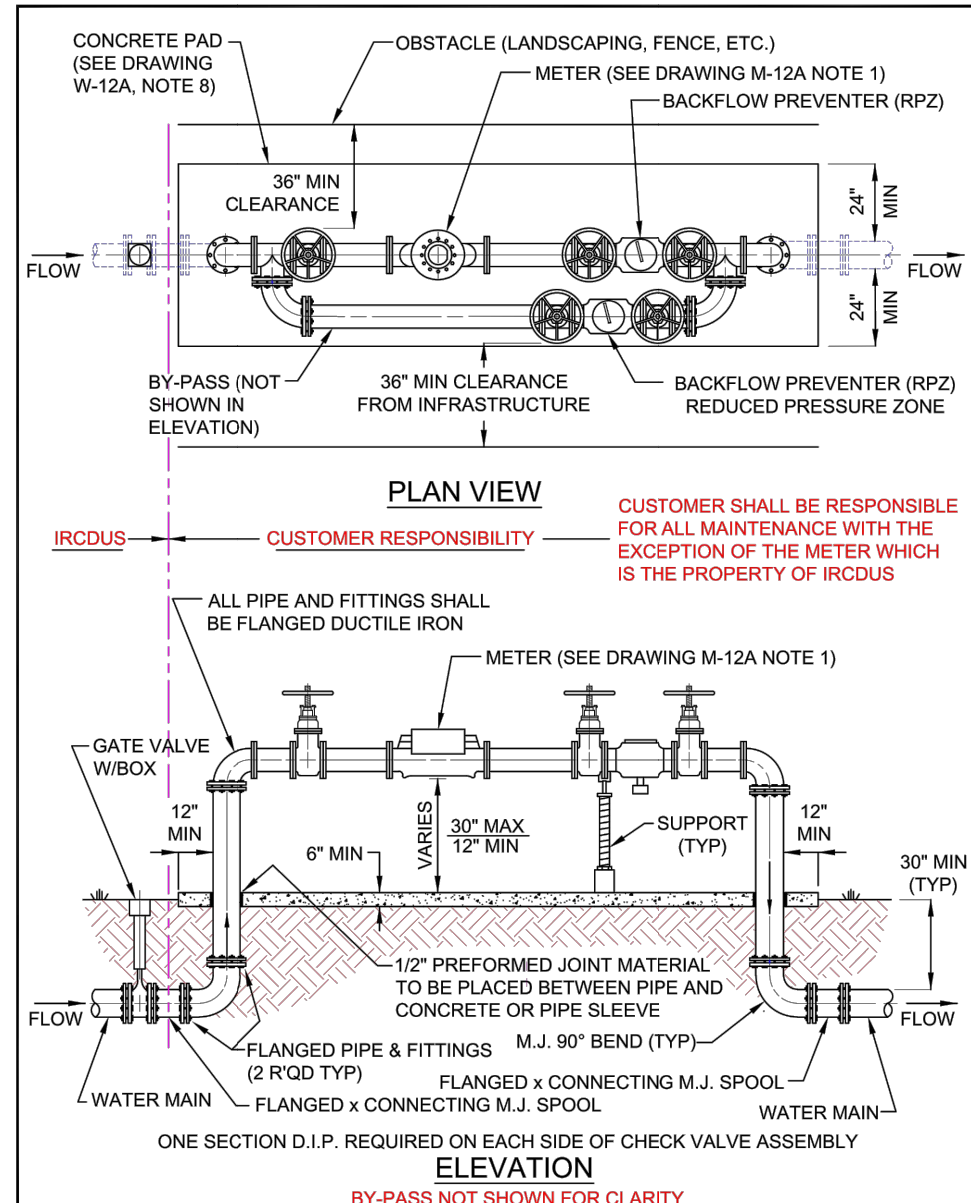
SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION
<input type="checkbox"/> JOSEPH W. SCHULKE P.L. REG. NO. 47048
<input type="checkbox"/> JOHN B. BITTLE P.L. REG. NO. 57396
<input type="checkbox"/> WILLIAM F. STODDARD P.L. REG. NO. 57605



- NOTES:**
- ALL BUILDINGS WITH FIRE SPRINKLER SYSTEMS INCLUDING COMMERCIAL, SINGLE FAMILY RESIDENTIAL, AND MULTI-FAMILY ARE REQUIRED TO INSTALL A DOUBLE CHECK BACKFLOW PREVENTER WITH A REDUCED PRESSURE ZONE (RPZ) FEATURE AS DETERMINED BY IRCDS.
 - ALL FASTENERS SHALL BE 3/8" STAINLESS STEEL (OR APPROVED EQUAL).
 - APPROVED EQUALS HAVING FULL UL LISTING AND AWMA CERTIFICATIONS MAY BE INSTALLED ONLY AFTER SPECIFIC APPROVAL BY IRCDS.
 - SUPPORT BACKFLOW PREVENTER FROM WALL, IF REQUIRED, WITH APPROVED PIPE SUPPORT SYSTEM. PIPE SUPPORT SYSTEM SHALL BE BRASS, COPPER OR C.I.P., AS APPROVED BY IRCDS.
 - PIPING 2 1/2" Ø OR GREATER SHALL BE FLANGED DUCTILE IRON PIPE.
 - ALL MATERIALS ARE TO BE PER IRCDS APPROVED MANUFACTURERS' PRODUCT LIST.
 - RPZ'S SHALL BE INSPECTED, CERTIFIED AND REPORTED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE INDIAN RIVER COUNTY CONNECTION CONTROL PROGRAM REQUIREMENTS.

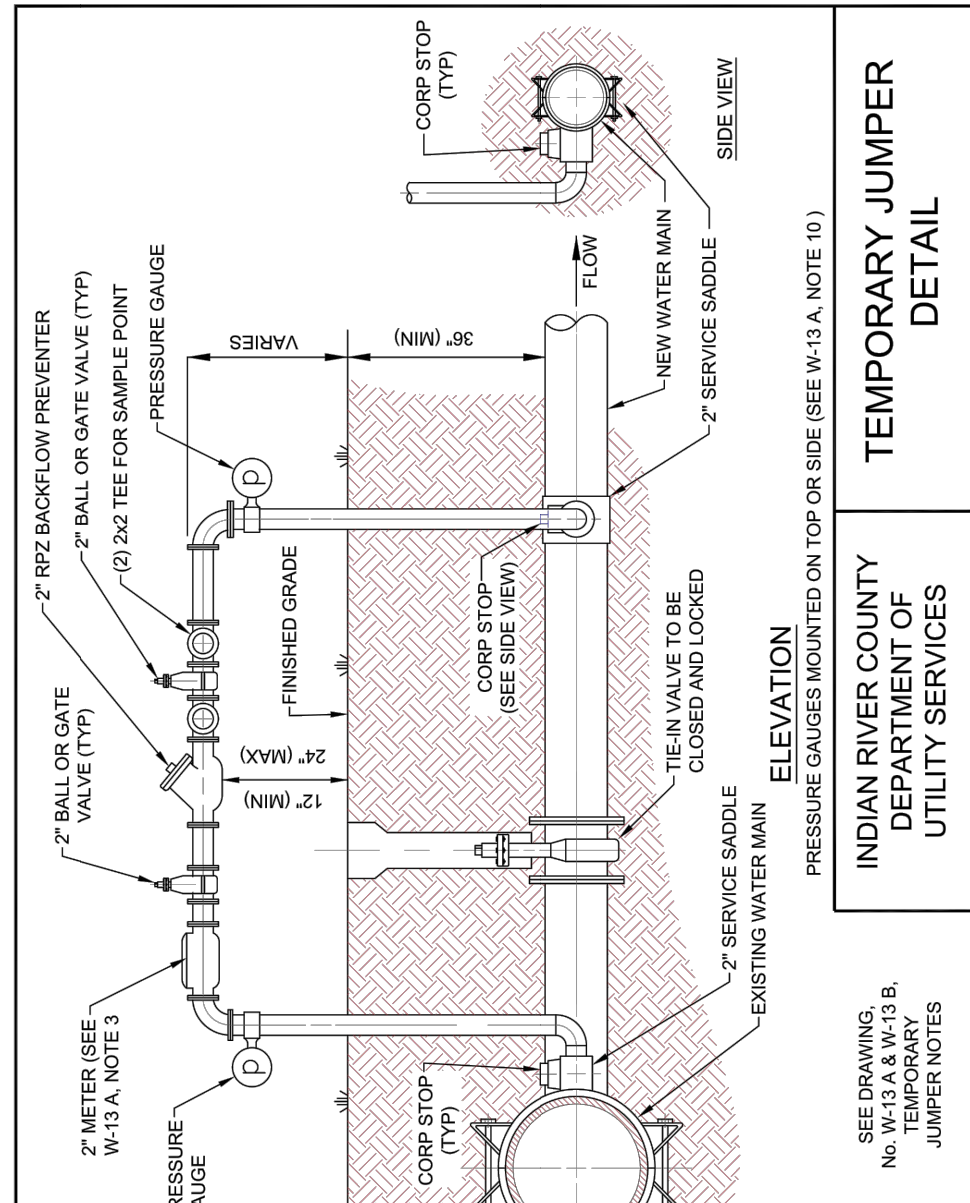
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 REDUCED PRESSURE BACKFLOW PREVENTER RPZ
 DRAWING NO. W-11



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 MASTER METER COMBINATION ASSEMBLY (3" OR LARGER)
 DRAWING NO. W-12

- NOTES:**
- ALL ABOVE GROUND PIPING SHALL BE FLANGED DUCTILE IRON. ONE SECTION OF DUCTILE IRON PIPE REQUIRED ON EACH SIDE OF CHECK VALVE ASSEMBLY.
 - BY-PASS PIPE DIAMETER SHALL BE DETERMINED PER ENGINEER OF RECORD.
 - FIELD FABRICATED FLANGES MUST BE APPROVED BY IRCDS INSPECTOR.
 - DEVICE TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.
 - ASSEMBLY TO BE PRIMED WITH RUST INHIBITIVE PRIMER AND FINISHED PAINTED BLUE AFTER INSTALLATION. (SEE APPROVED MANUFACTURERS' PRODUCT LIST).
 - TO SECURE VALVES: CUSTOMER TO SUPPLY GALVANIZED CHAIN. IRCDS TO SUPPLY LOCK.
 - RPZ'S SHALL BE INSPECTED, CERTIFIED AND REPORTED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE INDIAN RIVER COUNTY CROSS CONNECTION PROGRAM REQUIREMENTS.
 - CONCRETE PAD SHALL BE A MINIMUM OF 6" THICK, LENGTH AS REQUIRED.
 - TYPE OF METER SHALL BE APPROVED BY IRCDS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 MASTER METER COMBINATION ASSEMBLY NOTES
 DRAWING NO. W-12 A



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 TEMPORARY JUMPER DETAIL
 DRAWING NO. W-13

- TEMPORARY JUMPER DETAIL NOTES**
- A TEMPORARY JUMPER CONNECTION IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM THE EXISTING ACTIVE WATER MAINS AND FOR THE FLUSHING OF NEW MAINS UP TO 6" DIAMETER (2.5 FPS MINIMUM VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE.
 - TIE-IN VALVE SHALL BE OPERATED BY IRCDS PERSONNEL ONLY AND IN THE PRESENCE OF THE ENGINEER OF RECORD.
 - IRCDS SHALL PROVIDE METER FOR SERVICE AFTER APPLICATION, DEPOSIT AND ALL FEES HAVE BEEN PAID.
 - A 2" TEMPORARY JUMPER TO BE USED UNLESS OTHERWISE DIRECTED BY IRCDS.
 - ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE, FITTINGS, VALVES, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL MATERIALS TO BE PER IRCDS APPROVED MANUFACTURERS' PRODUCT LIST.
 - PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED WITH LIQUID CHLORINE (SODIUM HYPOCHLORITE) PRIOR TO INSTALLATION IN ACCORDANCE WITH AWMA C851, LATEST EDITION. THE TAPPING SLEEVE AND EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABING PER AWMA C851 SECTION TWO. THE USE OF CHLORINE TABLETS IS STRICTLY PROHIBITED.
 - THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 30 PSI IN THE NEW MAINS CONTINUOUSLY AFTER DISINFECTION AND UNTIL FDEP CLEARANCE LETTER IS OBTAINED.
 - PRESSURE GAUGES ARE REQUIRED ON EACH SIDE OF THE 2" GATE OR BALL VALVE.
 - THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE REDUCED PRESSURE ZONE BACKFLOW PREVENTER (RPZ) IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION, AND PROVIDE DOCUMENTATION THAT THE RPZ HAS BEEN TESTED BY A QUALIFIED BACKFLOW TECHNICIAN AS APPROVED BY IRCDS. THE CONTRACTOR SHALL HAVE EACH RPZ TESTED PRIOR TO USE ON EACH PROJECT.
 - EXCEPT AS REQUIRED TO FLUSH LINES GREATER THAN 6" DIAMETER, THE TIE-IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSED POSITION BY THE UTILITY COMPANY. THE TIE-IN VALVE SHALL REMAIN LOCKED CLOSED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY THE FDEP.
 - THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED.
 - UPON RECEIPT OF CLEARANCE FOR USE BY FDEP, THE CONTRACTOR SHALL REMOVE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS OR PVC PLUGS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
 TEMPORARY JUMPER DETAIL NOTES
 DRAWING NO. W-13 A

GENERAL UTILITY NOTES

- ALL UTILITY CONSTRUCTION TO BE IN ACCORDANCE WITH INDIAN RIVER COUNTY WATER AND WASTEWATER UTILITY STANDARDS, MARCH, 2014.
- UTILITY CONSTRUCTION IS SUBJECT TO INDIAN RIVER COUNTY UTILITY PERMIT AND F.D.E.P. PERMIT CONDITIONS.
- SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER AND I.R.C. UTILITY DEPT. PRIOR TO CONSTRUCTION.
- THE FOLLOWING SPECIFICATIONS ARE AN ABBREVIATED VERSION OF THE INDIAN RIVER COUNTY WATER AND WASTEWATER UTILITY STANDARDS, JULY 2009 WHERE MATERIAL OR INSTALLATION SPECIFICATIONS ARE NOT INCLUDED BELOW, OR ARE NOT CLEARLY UNDERSTOOD OR IN CONFLICT WITH THIS SPECIFICATION AND THE REFERENCED PUBLICATION, THEN THE AFOREMENTIONED PUBLICATION SHALL BE REFERENCED AND SHALL APPLY.
- THE CONTRACTOR SHALL NOTIFY ATKINS, C.T.V., FLORIDA POWER AND LIGHT, INDIAN RIVER COUNTY UTILITIES, U.N.C.L.E. AND ANY OTHER UTILITY PROVIDERS 48 HOURS PRIOR TO CONSTRUCTION AND SHALL HAVE ALL EXISTING UTILITIES LOCATED IN THE FIELD.
- ALL REQUIRED TESTING (PRESSURE TESTS, DISINFECTION/BACTERIOLOGICAL, EXFILTRATION/INFILTRATION, LAMPING, T.V. INSPECTION, AND OTHER TESTS OR INSPECTIONS REQUIRED IN THE ADOPTED SPECIFICATIONS) SHALL BE PROVIDED AND PAID FOR BY THE CONTRACTOR. THE ENGINEER SHALL BE PRESENT FOR ALL TESTING/INSPECTIONS, AND GIVEN 24 HOUR PRIOR NOTICE. THE ENGINEER SHALL BE GIVEN COPIES OF ALL TEST/INSPECTION RESULTS PRIOR TO ANY REQUEST FOR PAYMENT.
- A PERFORMANCE BOND SHALL BE PROVIDED BY THE CONTRACTOR (25% OF VALUE OF MATERIALS/LABOR) TO INDIAN RIVER COUNTY AT THE CLOSE-OUT OF THE CONTRACT, TO GUARANTEE THE UTILITY SYSTEM FOR ONE (1) YEAR.
- THE CONTRACTOR WILL PROVIDE SIX (6) SETS OF RECORD DRAWINGS (HARD COPY AND ELECTRONIC FORMAT), CONSISTING OF ONE SET OF REPRODUCIBLE MYLAR'S AND FIVE SETS OF BLUE/BLACK LINE PRINTS SIGNED AND SEALED BY THE ENGINEER OF RECORD OR LICENSED SURVEYOR, ALL IN ACCORDANCE WITH INDIAN RIVER COUNTY UTILITY SPECIFICATIONS, PUBLICATION REFERENCED ABOVE.

WATER MAINS

- PIPE MATERIALS**
- DUCTILE IRON PIPE SHALL BE BELL AND SPIGOT CAST IN ACCORDANCE WITH A.W.W.A. SPECIFICATION C150/A21.51-91, BASED ON MINIMUM TENSILE STRESS OF 60 KSI, YIELD STRESS OF 42 KSI, AND USING A MINIMUM WORKING PRESSURE OF 200 PSI, AND A LAYING CONDITION "TYPE 2".
 - LINING AND COATING (DUCTILE IRON PIPE)
 - LINING: CEMENT MORTAR LINING AND SEAL COATED PER A.W.W.A. C106 (ANSI A21.46).
 - COATING: BITUMINOUS COATING ON OUTSIDE, DRY FILM THICKNESS OF MINIMUM OF (1) MIL.
 - SEPAR. WHERE CONTACT HAS BEEN DAMAGED, IT MUST BE CLEANED AND RECOATED TO A MINIMUM OF 1 MIL DRY THICKNESS.
 - POLYVINYL CHLORIDE PRESSURE PIPE SHALL CONFORM TO THE LATEST AWMA STANDARDS C300 AND ASTM D1781 AND D2241, LATEST REVISION. P.V.C. PRESSURE PIPE SHALL BE MADE FROM CLASS 1454-A OR CLASS 1454-B MATERIAL AND CONFORM WITH THE OUTSIDE DIAMETER OF CAST IRON PIPE WITH A MINIMUM WALL THICKNESS OF .018.
 - PVC PIPE SHALL BE BLUE IN COLOR.
 - ALL P.V.C. LESS THAN 4" DIAMETER SHALL COMPLY WITH ASTM D2241, D1781, D1869, AND F477. PIPE SHALL HAVE A WORKING PRESSURE OF 200 PSI AND SHALL BE DESIGNED WITH A 2:1 SAFETY FACTOR OVER RATED PRESSURE. PIPE SHALL BE DR11 AND SHALL HAVE 21 PIPE PIPE OUTSIDE DIMENSIONS. PIPE SHALL BEAR THE NSF LABEL FOR WATER POTABLE USE, ACCEPTABLE MANUFACTURERS, JM RING TIE OR APPROVED EQUAL.
 - POLYETHYLENE TUBING SHALL BE COPPER TUBE SIZE FOR USE WITH STAINLESS STEEL LINERS (INSERTS) AND COMPRESSION FITTINGS. THE BURNDI AND SHALL MEET THE REQUIREMENTS OF ASTM D2239. AWMA AND THE TUBING SHALL BE MARKED WITH SIZE, MANUFACTURERS NAME OR SYMBOL, WORKING PRESSURE, NSF APPROVAL, ASTM SPECIFICATION AND PRODUCTION CODE.
 - POLYETHYLENE WATER MAIN 3" OR LARGER - SEE SPECIFICATIONS BELOW.
- JOINTS**
- GATE VALVE PRESSURE PIPE SHALL BE BELL AND SPIGOT PUSH ON RUBBER GASKET TYPE ONLY, IN ACCORDANCE WITH A.W.W.A. C-111 (ANSI 21.11-85). NO SOLVENT WELD OR THREADED JOINTS WILL BE PERMITTED.
- FITTINGS**
- ALL FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT AND SHALL CONFORM TO AWMA SPECIFICATIONS C110 (ANSI 21.08-7) OR LATEST REVISION. FITTINGS SHALL BE CEMENT MORTAR LINED AND SEAL-COATED IN ACCORDANCE WITH AWMA STANDARD C106 (ANSI A21.46-85) OR LATEST REVISION. ALL ABOVE GROUND FITTINGS SHALL BE FLANGED JOINT. IN ACCORDANCE WITH ANSI SPECIFICATION B16.1 FOR CLASS 125 FLANGES. BOLTS SHALL COMPLY WITH ANSI SPECIFICATION B18.2.
 - JOINT RESTRAINT SHALL COMPLY WITH MIPRO-C1300, EBBA IRON 1300 AND 1500 RESTRAINER, OR APPROVED EQUAL, IN ACCORDANCE WITH RESTRAINING SCHEDULE ON THIS SHEET. OR A MINIMUM OF 10 LBS OF RESTRAINER OR APPROVED EQUAL. NO SET SCREW JOINT MECHANICAL RESTRAINING MECHANISMS WILL BE ACCEPTED. THE COST FOR INSTALLATION OF MECHANICAL RESTRAINING MECHANISMS SHALL BE INCLUDED IN THE BID ITEM FOR INSTALLATION OF THE WATER MAIN.
- VALVES**
- ALL BURIED VALVES SHALL BE RESILIENT SEATED GATE VALVES WITH CAST IRON BODY, BRONZE-MOUNTED, RESILIENT SEATED, NON-RISING STEM TYPE FITTED WITH "O-RING" SEALS. VALVES SHALL BE MECHANICAL JOINT, ANSI STANDARD 21.11.
- FIRE HYDRANTS**
- SHALL BE TRAFFIC TYPE, 5 1/2" W/FLY OPENING AND MANUFACTURED BY MUELLER COMPANY, #423, CLOW MEDALLION, OR AMERICAN DARLING 83-54, COMPLYING WITH AWMA STANDARD C302.
 - SHALL HAVE 6" MECHANICAL JOINT ENDS WITH HARNESUNG LUGS, 2 - 2 1/2" HOSE NOZZLES AND 1 - 4 1/2" PUMPER NOZZLE (NATIONAL STANDARD HOSE THREADED, WITH CAPS ATTACHED WITH CHAINS).
 - SHALL BE PAINTED FEDERAL SAFETY RED.
- MARKING**
- CONTINUOUS TRACE WIRE IS REQUIRED TO BE INSTALLED WITH ALL PIPE. SEE DETAIL 16.1.
- INSTALLATION**
- TAKEN FROM D.E.P. SECTION 62-553.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.

WATER MAINS CONTINUED

- FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.
- HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.**
 - 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, STORM WATER FORCE MAIN, OR WATER MAIN.
 - 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.
 - 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 UNDER PART II OF CHAPTER 62-410, F.A.C. 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 SEWER.
 - 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 62-109.010, F.S., AND RULE 64E-6.002, F.A.C.
 - VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.**
 - 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.
 - NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE.
 - 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 PRESS SHALL BE AT LEAST THREE FEET FROM ALL JOINTS IN GRAVITY-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART II OF CHAPTER 62-410, F.A.C. 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 II OF CHAPTER 62-410, F.A.C.
 - SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.**
 - NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.
 - EFFECTIVE AUGUST 28, 2005, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INFILTRATION.
 - SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER 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, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART II OF CHAPTER 62-410, F.A.C. 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 II OF CHAPTER 62-410, F.A.C., AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 62-109.010, F.S., AND RULE 64E-6.002, F.A.C.
 - PIPE MUST BE LAID IN A TRENCH FREE OF STONES, ROCKS OR OTHER DELETERIOUS MATERIAL TO A DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE. PIPE SHALL BE LAID ON A CONTINUOUS UNIFORM BEDDING. BACKFILL SHALL BE TAMPED IN 6" LIFTS TO ADEQUATELY PROTECT AND SUPPORT THE PIPE, REFERENCE THE TRENCH DETAILS WITHIN THE CONSTRUCTION PLANS.
 - WATER MAINS MUST BE INSTALLED WITH A MINIMUM OF 36" OF GROUND COVER AND 4" BELOW ROADS, DRIVEWAY OR PARKING LOTS IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS IN THESE PLANS.
- METER BOXES**
- METER BOXES SHALL BE "C" OR "Y" TRAFFIC BEARING BOXES.
- TESTING**
- HYDROSTATIC PRESSURE AND LEAKAGE TESTS SHALL BE PERFORMED IN ACCORDANCE WITH A.W.W.A. STANDARD C300 AND A.W.W.A. MANUAL M23. CONTRACTOR SHALL FURNISH ALL GAUGES, METERS, PRESSURE PUMPS AND OTHER EQUIPMENT NECESSARY TO TEST THE LINE. THE ENGINEER SHALL BE PRESENT FOR ALL REQUIRED TESTING AND FINAL INSPECTIONS.
 - ALL POTABLE WATER LINES SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 10 OF THE INDIAN RIVER COUNTY WATER AND WASTEWATER UTILITY STANDARDS, SEPTEMBER 2004, AND A.W.W.A. STANDARD C301 AND RULE 62E-6.305, 346.

WATER MAINS POLYETHYLENE

- MATERIALS TESTS PIPE 3" AND LARGER**
- MATERIALS USED FOR THE MANUFACTURE OF POLYETHYLENE PIPE AND FITTINGS SHALL BE MADE FROM A PE 3408 POLYETHYLENE RESIN COMPOUND MEETING CELL CLASSIFICATION 345434C PER ASTM D3350; AND MEETING TYPE III, CLASS C, CATEGORY 5, GRADE P34 PER ASTM D1248.
 - POLYETHYLENE (PE) PIPE SHALL COMPLY WITH AWMA SPECIFICATIONS C306-90.
 - DIMENSIONS AND WORKMANSHIP SHALL BE AS SPECIFIED BY ASTM F774. PE FITTINGS AND TRANSITIONS SHALL MEET ASTM D3261. PE PIPE SHALL HAVE A MINIMUM DENSITY OF 0.955 GRAMS PER CUBIC CENTIMETER. ALL PE PIPE AND FITTINGS SHALL HAVE A HYDROSTATIC DESIGN BASIS (HDB) OF 1,600 PSI.
 - PE PIPE AND ACCESSORIES 3" AND GREATER IN DIAMETER, SHALL BE 160 PSI AT 73.4°F MEETING THE REQUIREMENTS OF STANDARD DIMENSION RATION (SDR) 11 AS MINIMUM STRENGTH.
- FITTINGS**
- ALL MOLDED FITTINGS AND FABRICATED FITTINGS SHALL BE FULLY PRESSURE RATED TO MATCH THE PIPE SDR PRESSURE RATINGS TO WHICH THEY ARE MADE. ALL FITTINGS SHALL BE MOLDED OR FABRICATED BY THE MANUFACTURER.
 - ALL TRANSITIONS FROM PE PIPE TO PVC OR DUCTILE IRON SHALL BE MADE WITH A MOLDED FLANGE CONNECTOR ADAPTER WITHIN A CARBON STEEL BACK-UP RING ASSEMBLY SHALL BE USED FOR PIPE TYPE TRANSITIONS. DUCTILE IRON BACK-UP RINGS SHALL MATE WITH CAST IRON FLANGES PER ANSI B16.1. A 316 STAINLESS STEEL BACK-UP RING SHALL MATE WITH A 316 STAINLESS FLANGE PER ANSI B16.1. THE FLANGE ADAPTER ASSEMBLY SHALL BE CONNECTED WITH CORROSION RESISTING BOLTS AND NUTS OF TYPE 316 STAINLESS STEEL AS SPECIFIED IN ASTM A728 AND ASTM A307.
- JOINING METHOD**
- THE PIPE SHALL BE JOINED WITH BUTT HEAT FUSION JOINTS. LENGTHS OF PIPE SHALL BE ASSEMBLED INTO SUITABLE INSTALLATION LENGTHS BY THE BUTT-FUSION PROCESS. ALL PIPE SO JOINED SHALL BE MADE FROM THE SAME CLASS AND TYPE OF RAW MATERIAL, MADE BY THE SAME RAW MATERIAL SUPPLIER. PIPE SHALL BE FURNISHED IN STANDARD LAYING LENGTHS NOT TO EXCEED 50 FEET.
- PIPE IDENTIFICATION**
- THE FOLLOWING SHALL BE CONTINUOUSLY INDENT PRINTED ON THE PIPE OR SPACED AT INTERVALS NOT EXCEEDING 5-F.T. MARKS AND/OR TRADEMARK OF THE PIPE MANUFACTURER. NOMINAL PIPE SIZE, DIMENSION RATIO, THE LETTERS "PE" FOLLOWED BY THE POLYETHYLENE GRADE IN ACCORDANCE WITH ASTM D1248, FOLLOWED BY THE HYDROSTATIC DESIGN BASIS IN 100'S OF PSI. E.G. PE 3408, MANUFACTURING STANDARD REFERENCE. E.G. ASTM F774 OR D-3035, AS REQUIRED. A PRODUCTION CODE FROM WHICH THE DATE AND PLACE OF MANUFACTURE CAN BE DETERMINED.
 - NUMBER TO SINGLE CONDUCTOR COPPER TRACE WIRE SHALL BE SPIRAL WRAPPED OR AFFIXED TO THE TOP OF ALL PIPE AND FITTINGS. SEE TRACE WIRE DETAIL M-16.
- TESTING**
- ALL PE WATER MAINS SHALL BE FIELD-TESTED. SUPPLY ALL LABOR, EQUIPMENT, MATERIAL, GATES, PUMPS, METERS AND INCIDENTALS REQUIRED FOR TESTING.
 - ALL WATER MAINS SHALL BE TESTED AT 150 PERCENT OF THE OPERATING DESIGN PRESSURE OF THE PIPE (100 PSI.) ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER.
 - TESTING PROCEDURE SHALL BE AS FOLLOWS: FILL LINE SLOWLY WITH WATER. EXPEL AIR COMPLETELY FROM THE LINE DURING FILLING AND AGAIN BEFORE APPLYING TEST PRESSURE. APPLY INITIAL TEST PRESSURE AND ALLOW TO STAND WITHOUT MAKEUP PRESSURE FOR TWO TO THREE HOURS, TO ALLOW FOR DIMETRIC EXPANSION OR PIPE STRETCHING TO STABILIZE. AFTER THIS EQUILIBRIUM PERIOD, APPLY THE SPECIFIED TEST PRESSURE. PRESSURE SHALL BE HELD FOR ONE TO THREE HOURS.
 - ALLOWABLE AMOUNT OF MAKEUP WATER FOR EXPANSION DURING THE PRESSURE TEST SHALL CONFORM TO PLASTIC INSTITUTE HANDBOOK OF POLYETHYLENE PIPE - INSPECTION, TESTS, AND PRESSURE OF THE PIPE, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE OPERATION SAFETY CONSIDERATIONS, POST INSTALLATION, HYDROSTATIC TESTING, MONITORED MAKE-UP WATER TEST, TABLE II, ON PAGES 24 AND 25 AS PUBLISHED BY THE PLASTIC PIPE INSTITUTE (PPI). IF THERE ARE NO VISUAL LEAKS OR SIGNIFICANT PRESSURE DROPS DURING THE FINAL TEST PERIOD, THE INSTALLED PIPE PASSES THE TEST.
 - IF ANY TEST OF PIPE LAID DISCLOSES LEAKAGE AND SIGNIFICANT PRESSURE DROP GREATER THAN THAT ALLOWED, THE CONTRACTOR SHALL, AT HIS/HER OWN EXPENSE, LOCATE AND REPAIR THE CAUSE OF LEAKAGE AND RETEST THE LINE. THE AMOUNT OF LEAKAGE WHICH WILL BE PERMITTED SHALL BE IN ACCORDANCE WITH AWMA C300 STANDARDS.
- OTHER**
- ALL OTHER APPLICABLE SPECIFICATIONS FOR WATER MAINS WRITTEN/PROVIDED FOR IN THESE PLANS (IE. VALVES, FIRE HYDRANTS, MARKINGS, INSTALLATION, TESTING, DISINFECTION, METERBOXES, ETC.) SHALL BE COMPLIED WITH.

DATE	
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MARK	
DRAWING	DESIGNED: JMS DRAWN: WJF/DJR CHECKED: JMS SCALE: N/A DATE: 07-23-21

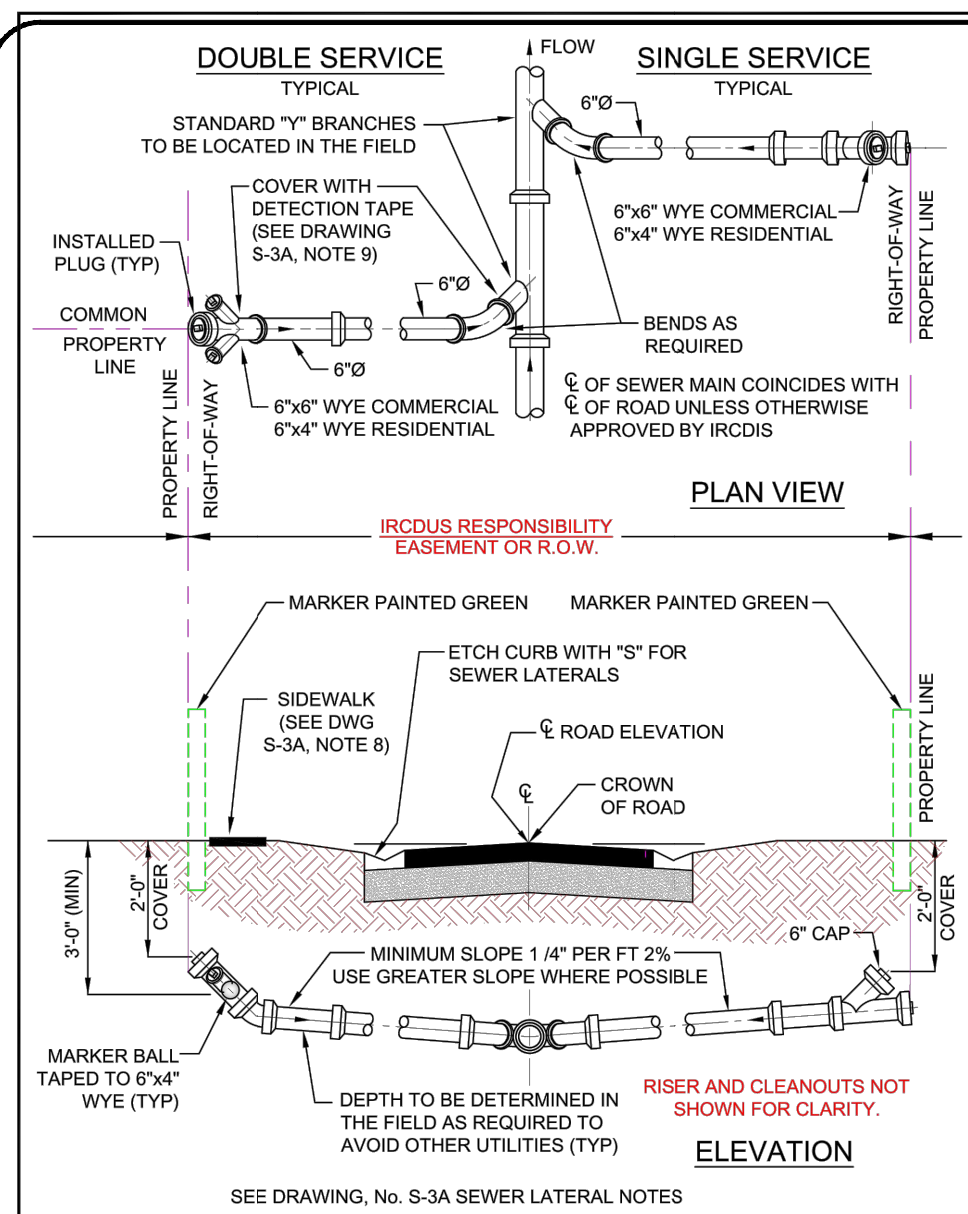
SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 REGISTRY #8668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL: 772 / 770-9622 FAX: 772 / 770-9496 EMAIL: info@sbsengineers.com

IRC STANDARD UTILITY
 DETAILS - WATER - II

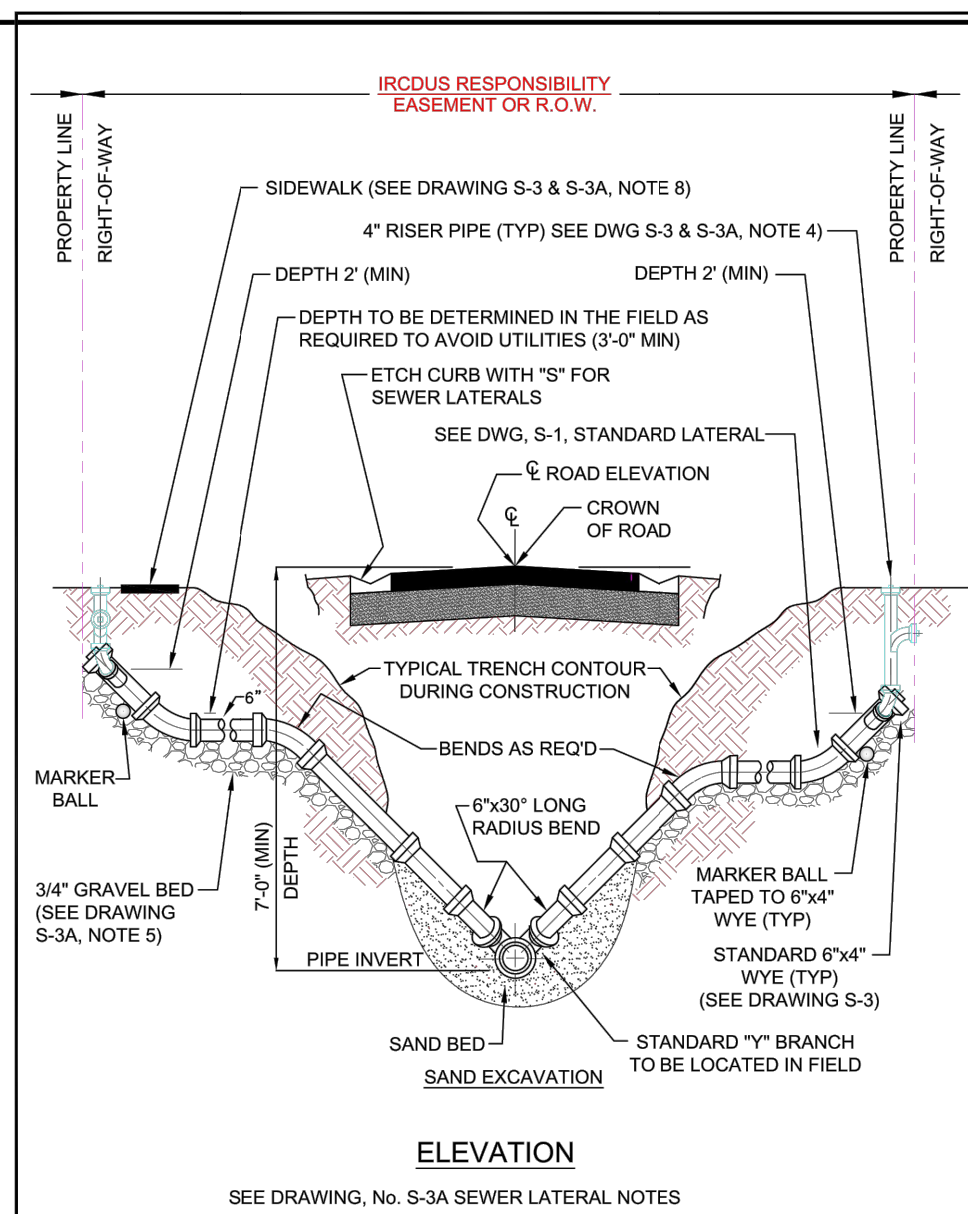
SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION	
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<input type="checkbox"/>	ANDREW B. BITTLE FL. REG. NO. 57396
<input type="checkbox"/>	WILLIAM P. STODDARD FL. REG. NO. 57605

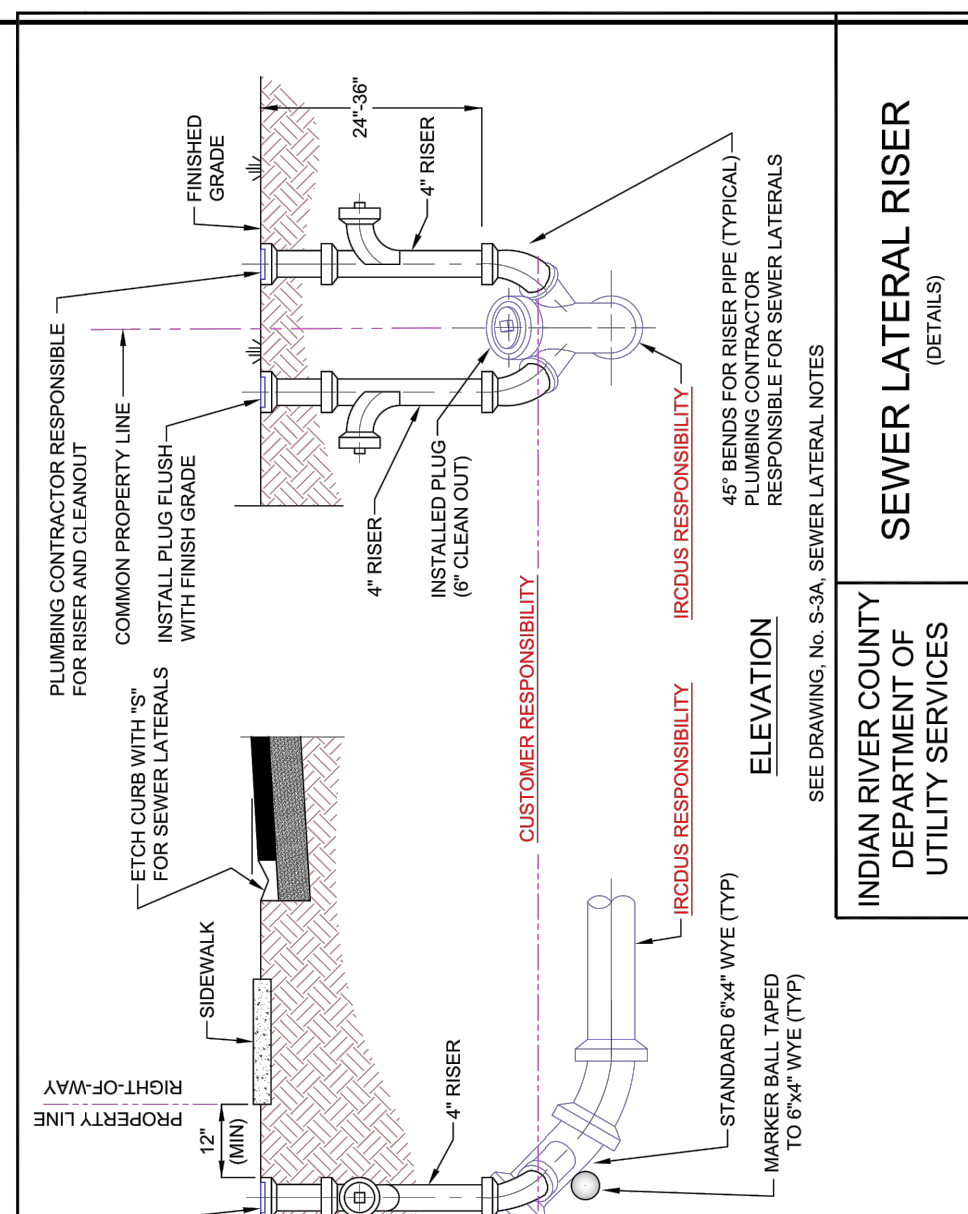
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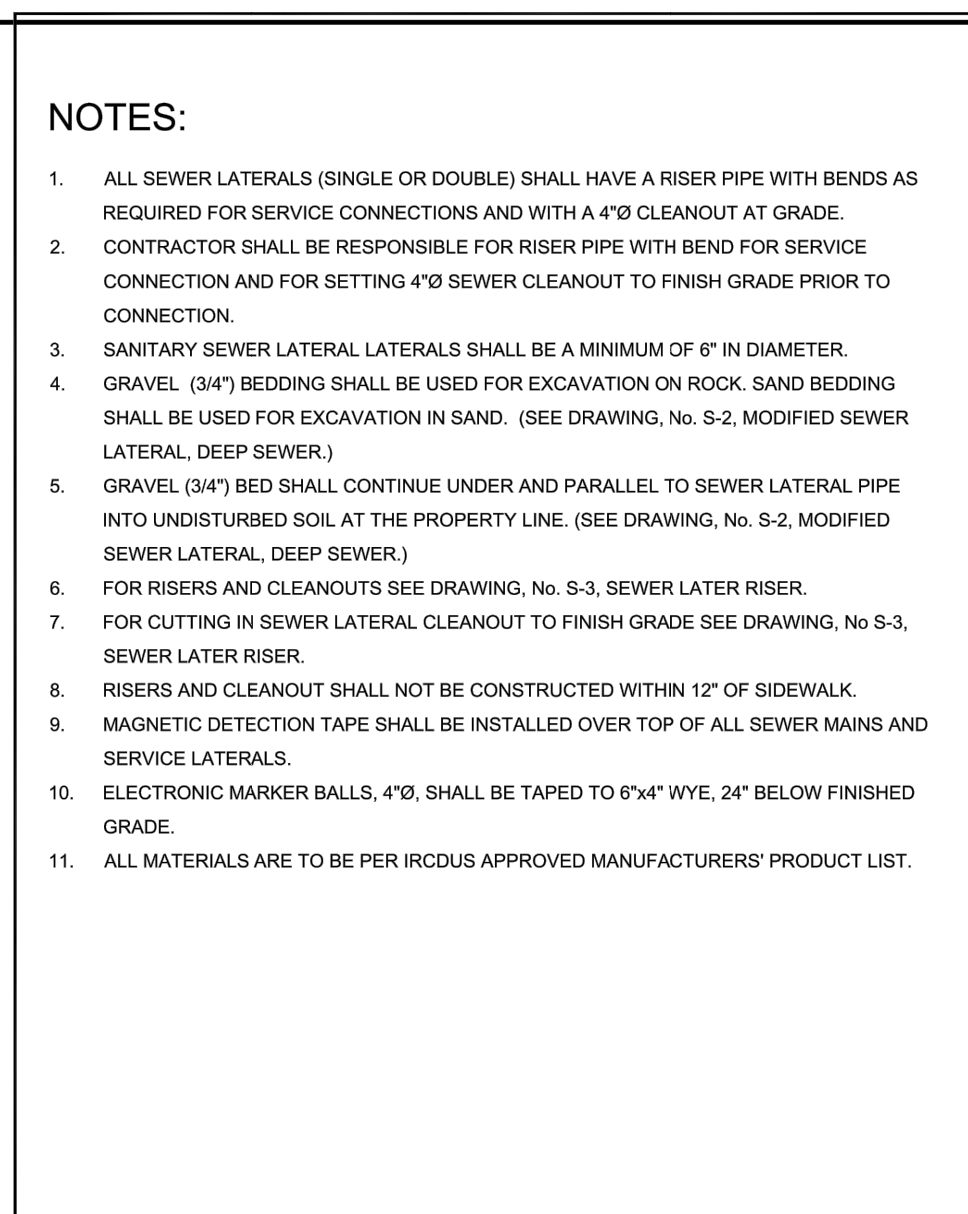
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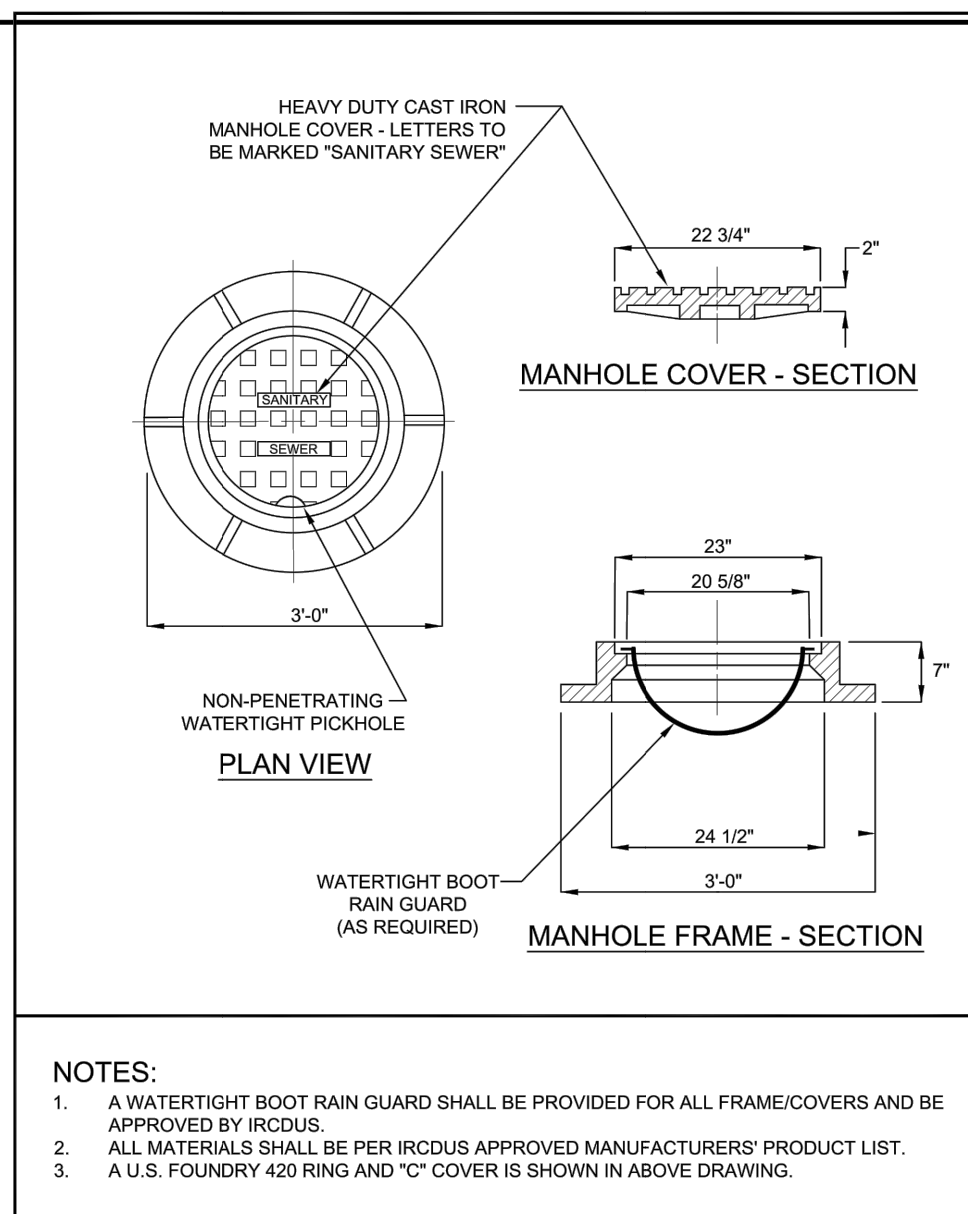
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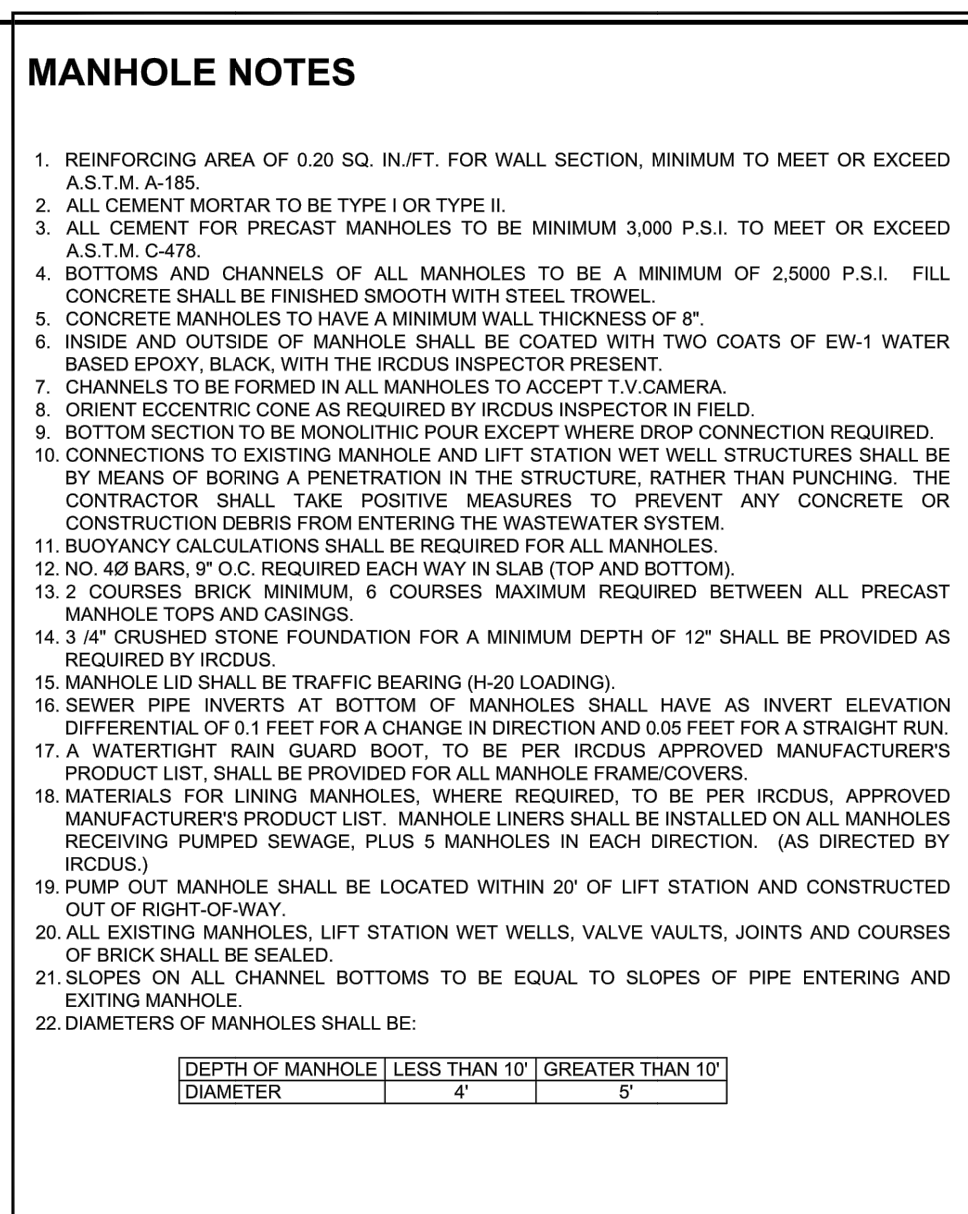
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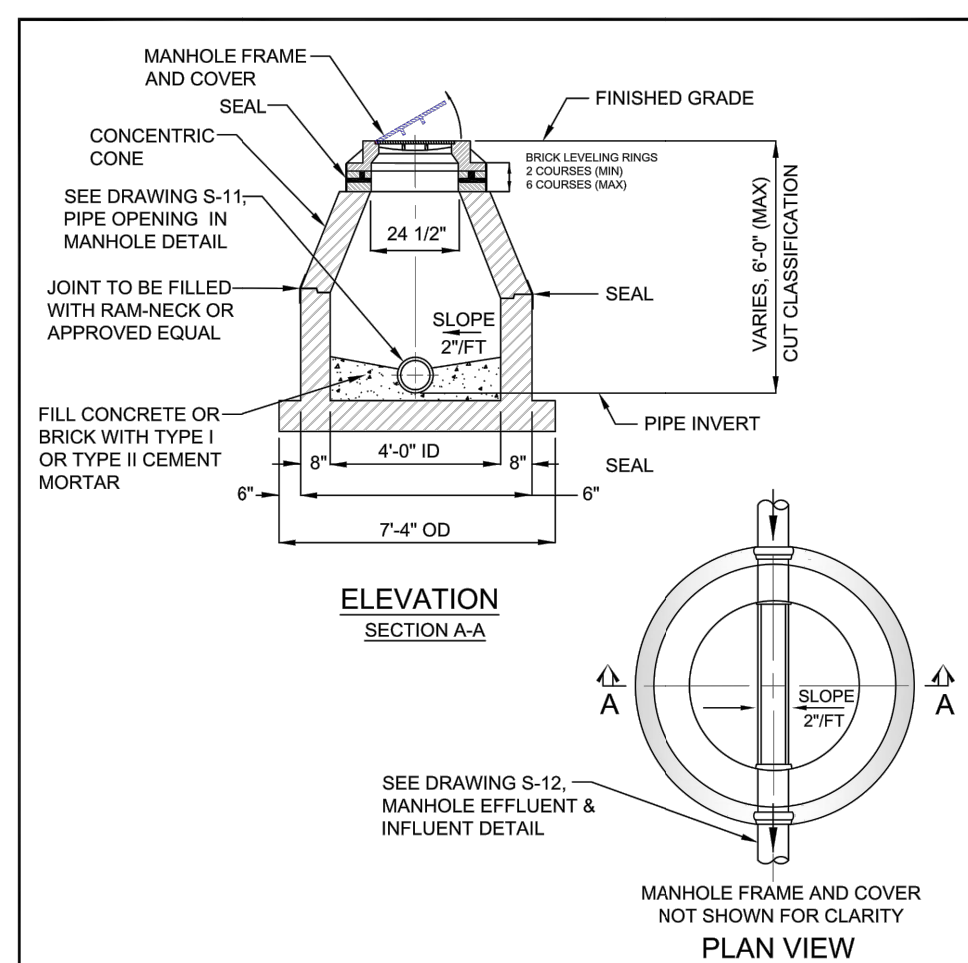
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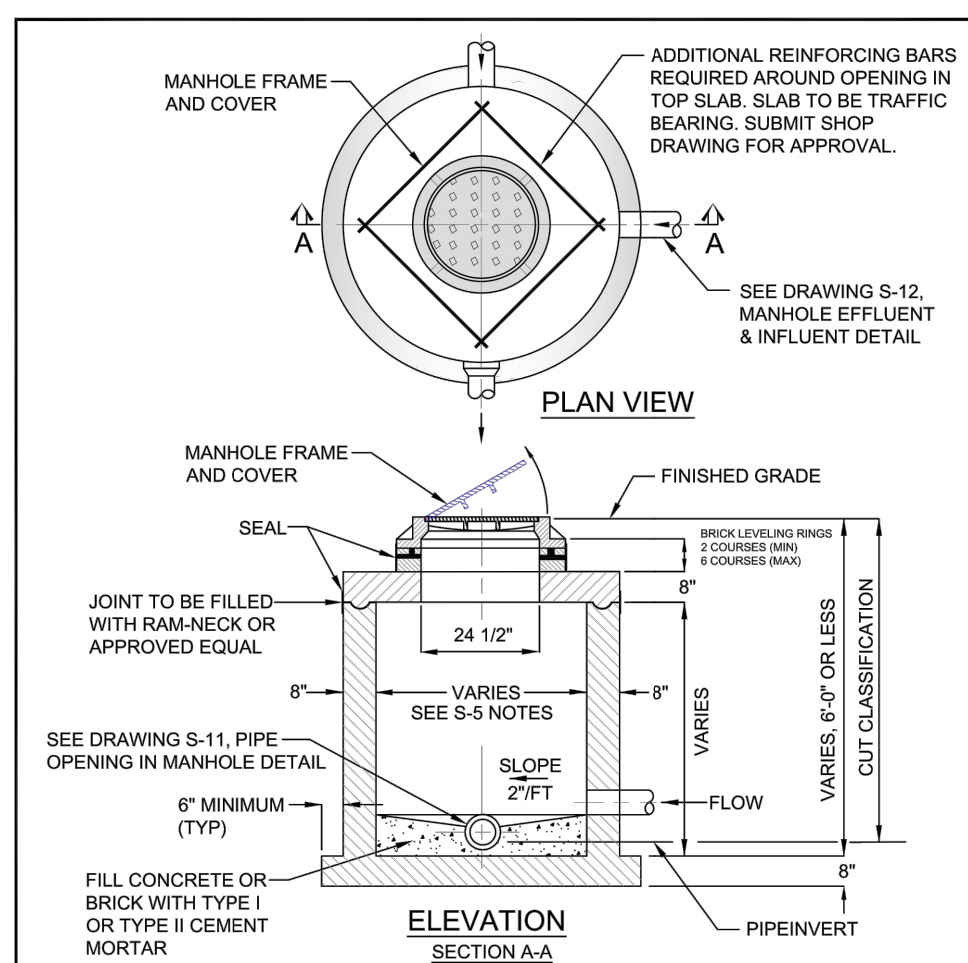
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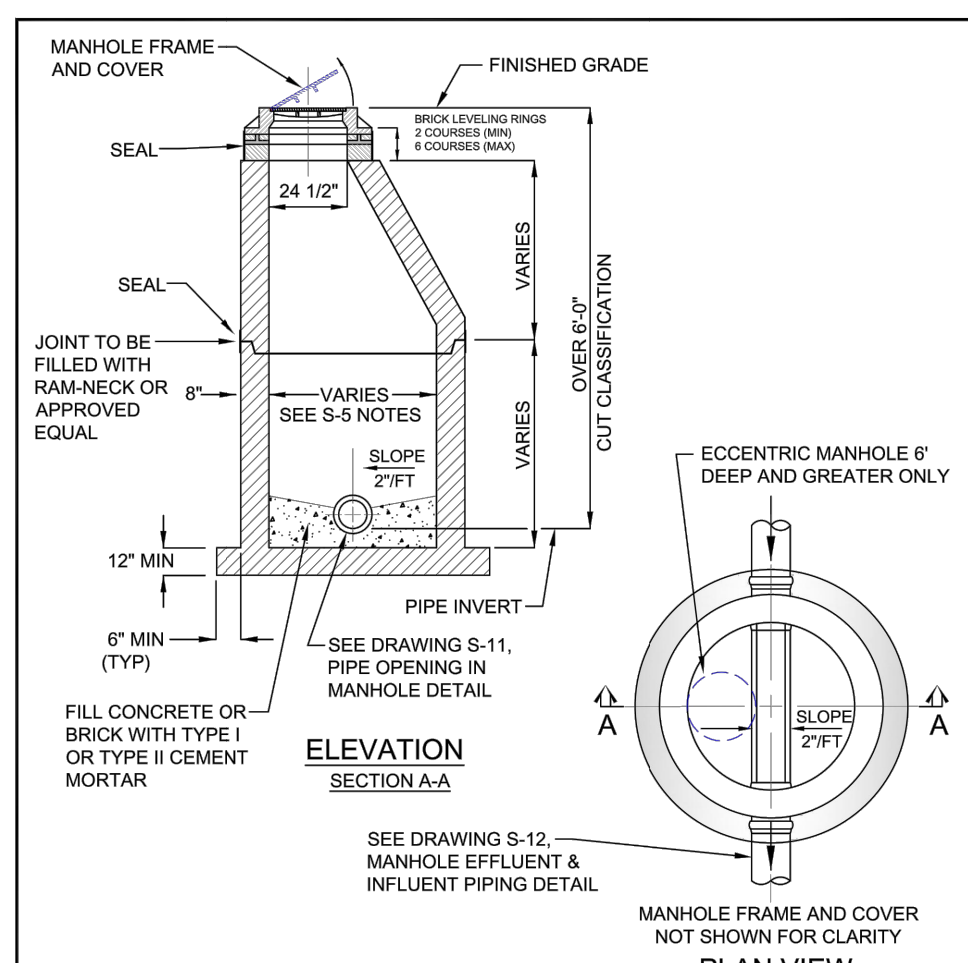
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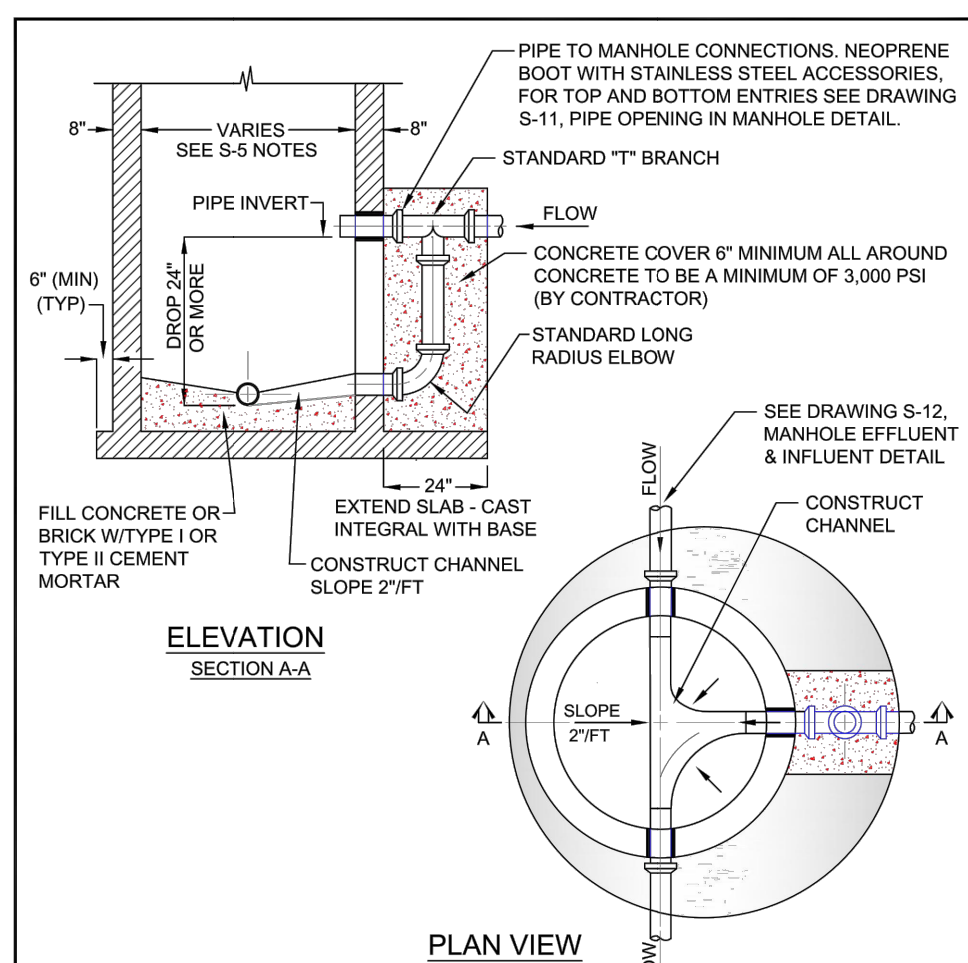
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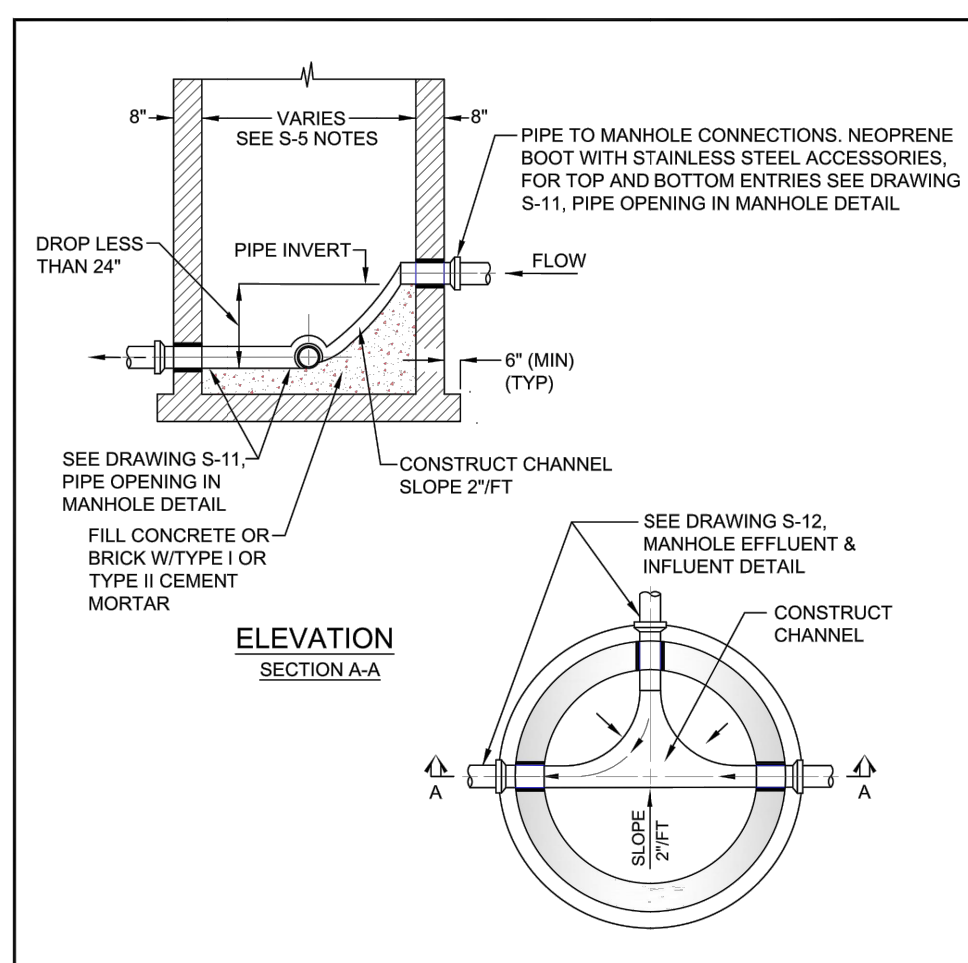
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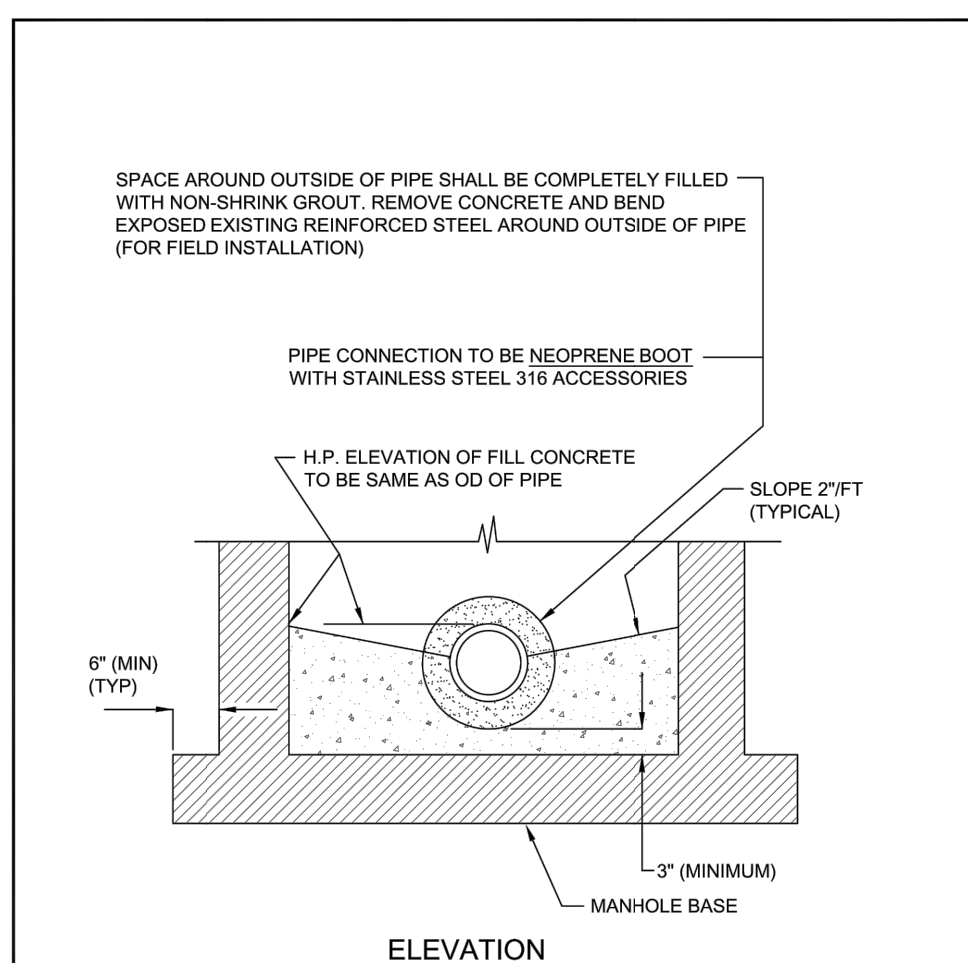
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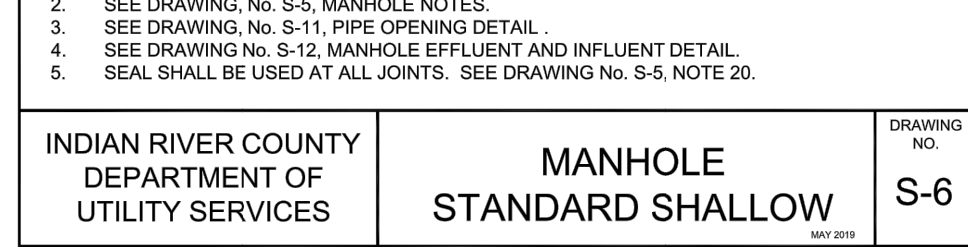
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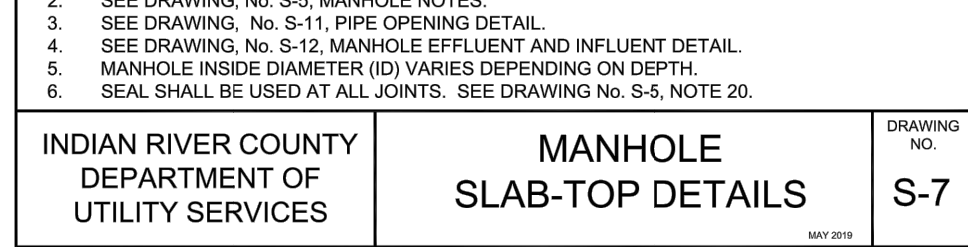
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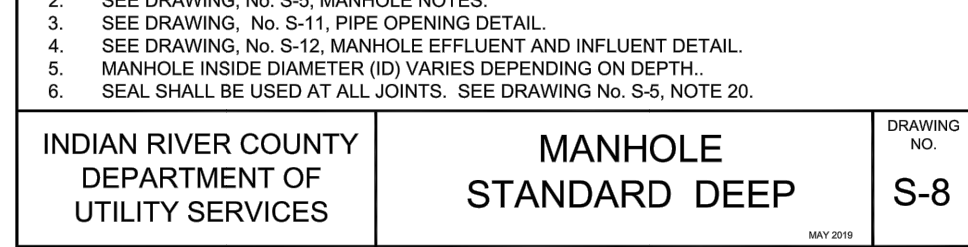
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PIPE OPENING IN MANHOLE DETAIL
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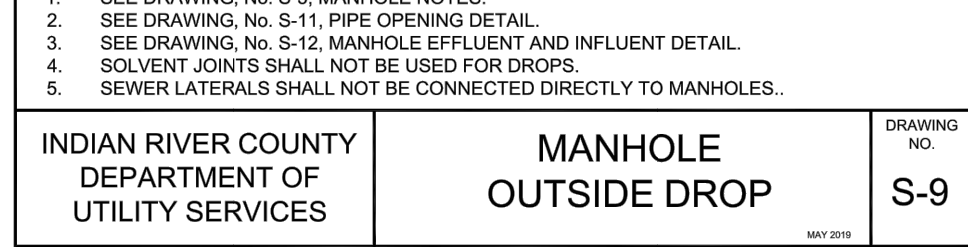
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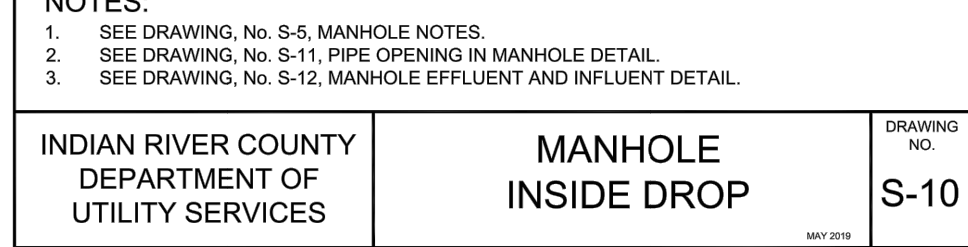
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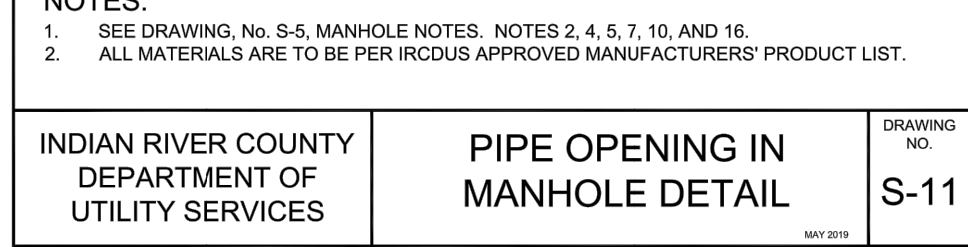
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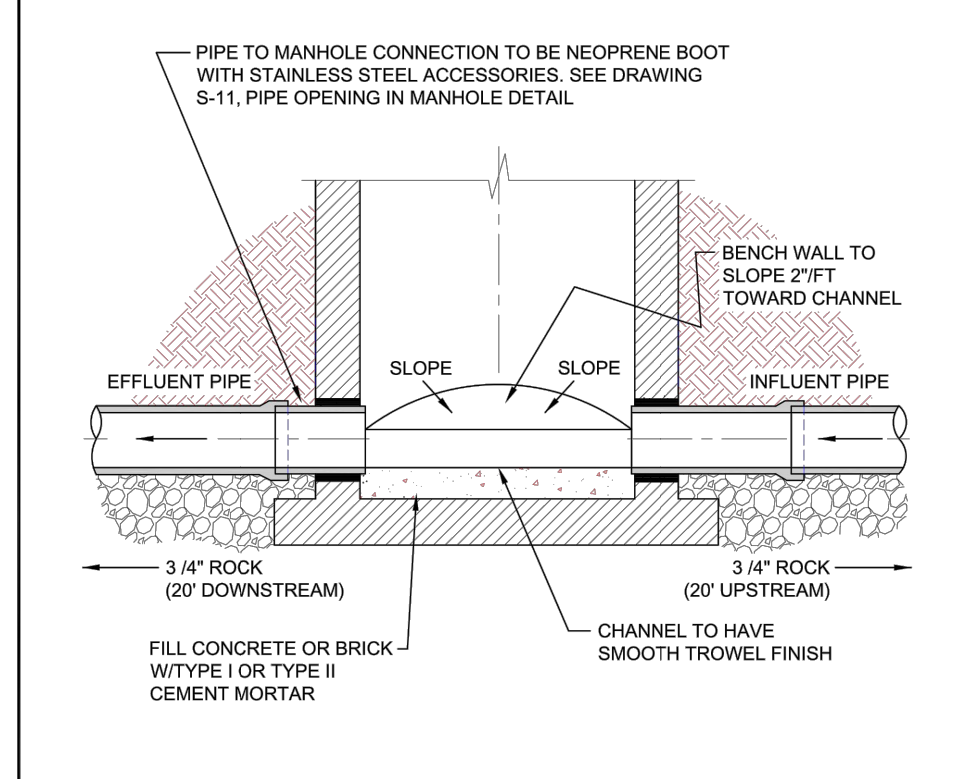
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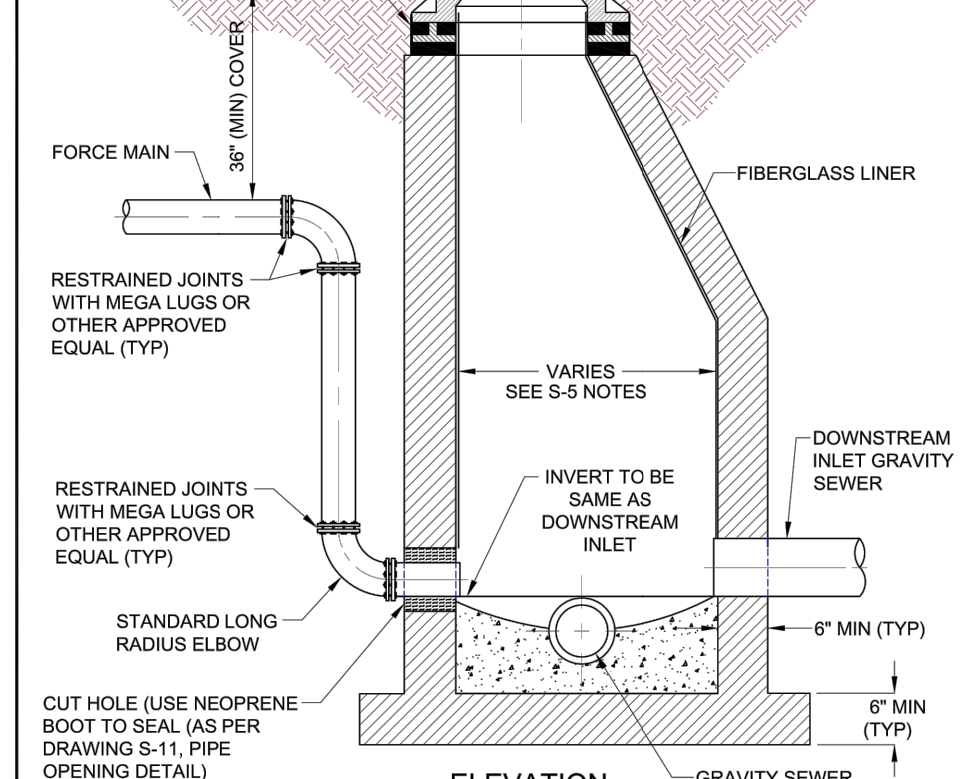
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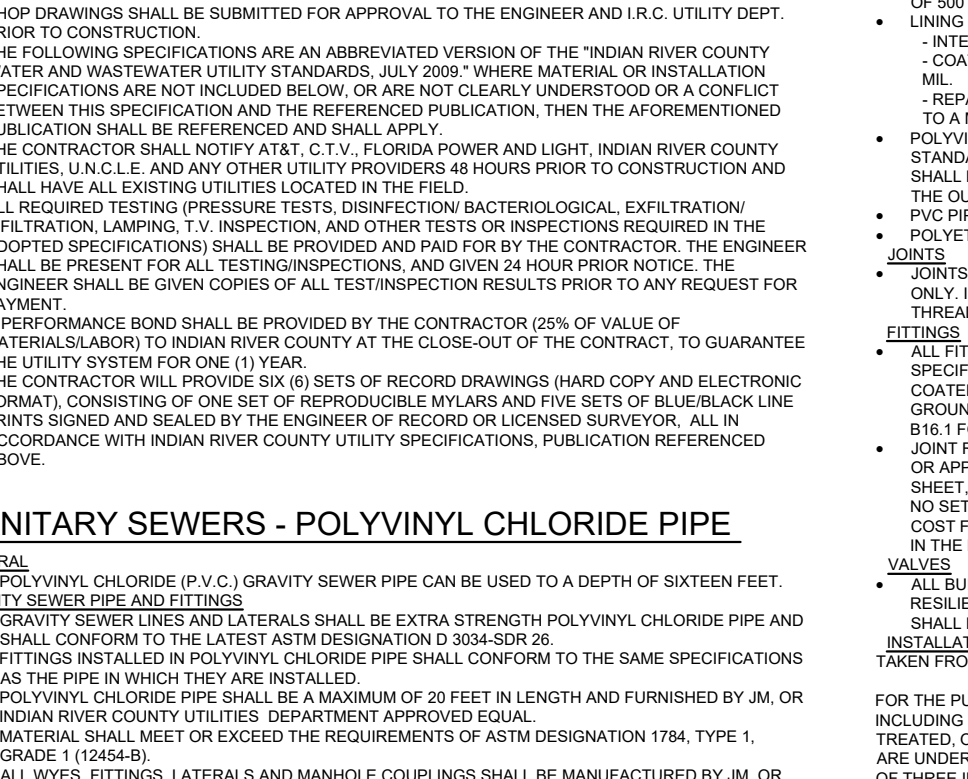
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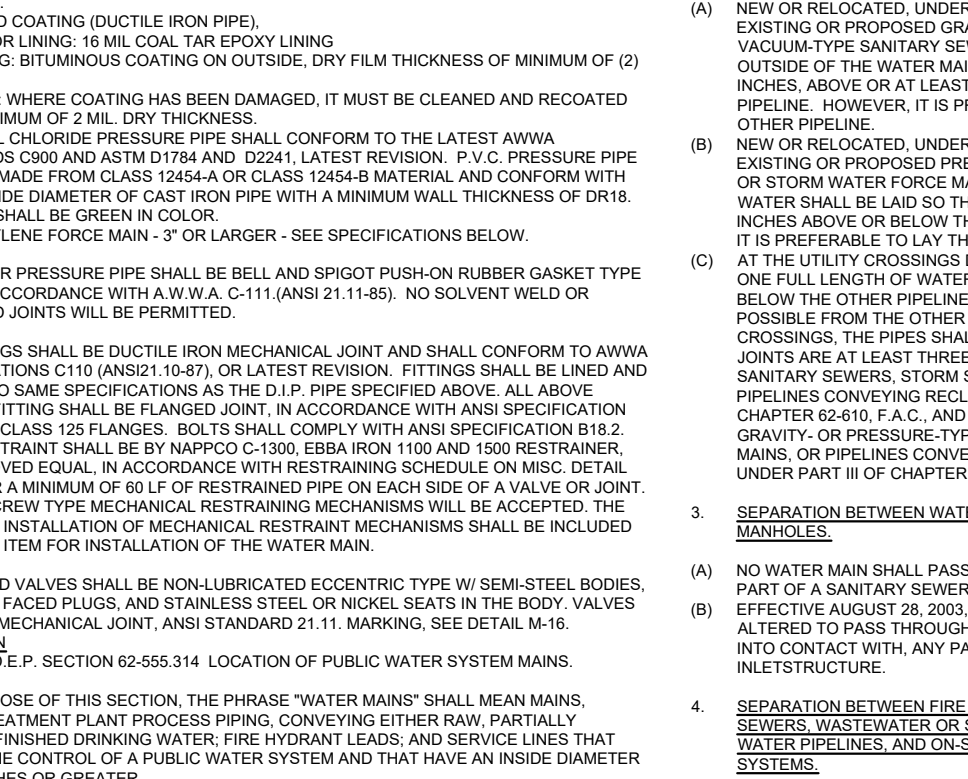
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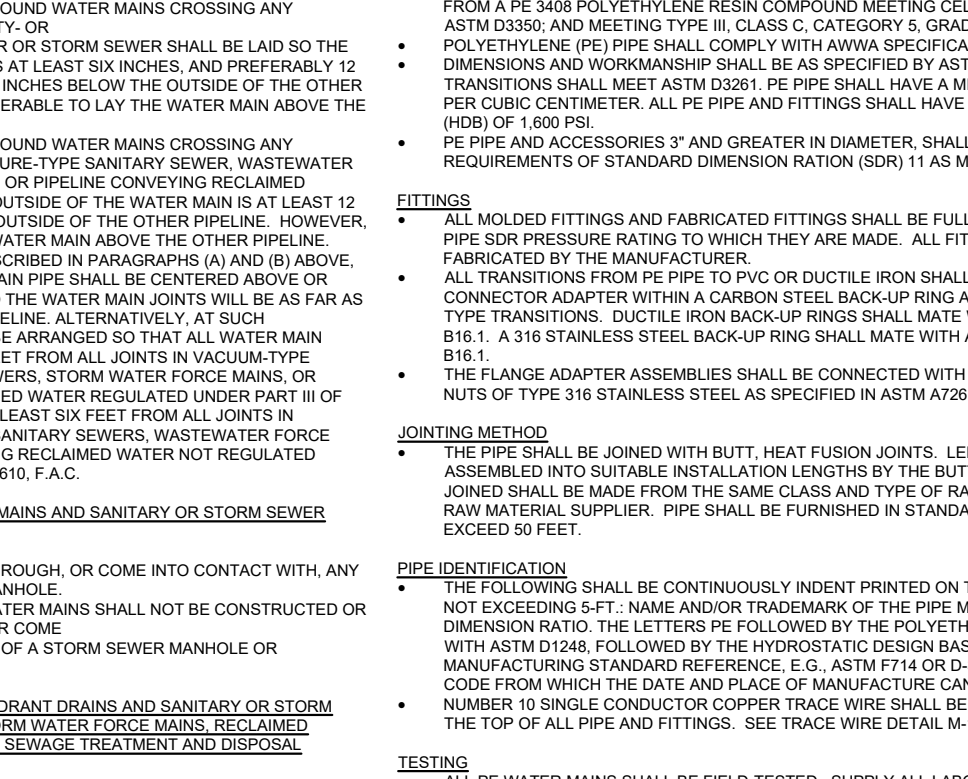
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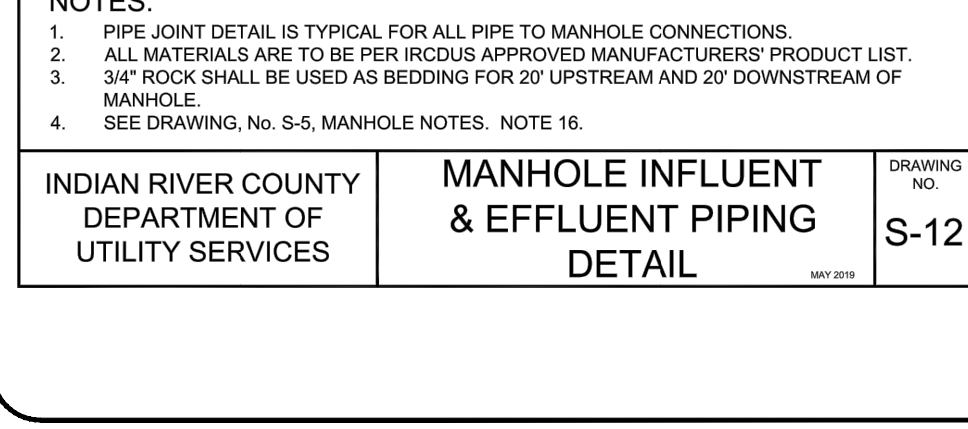
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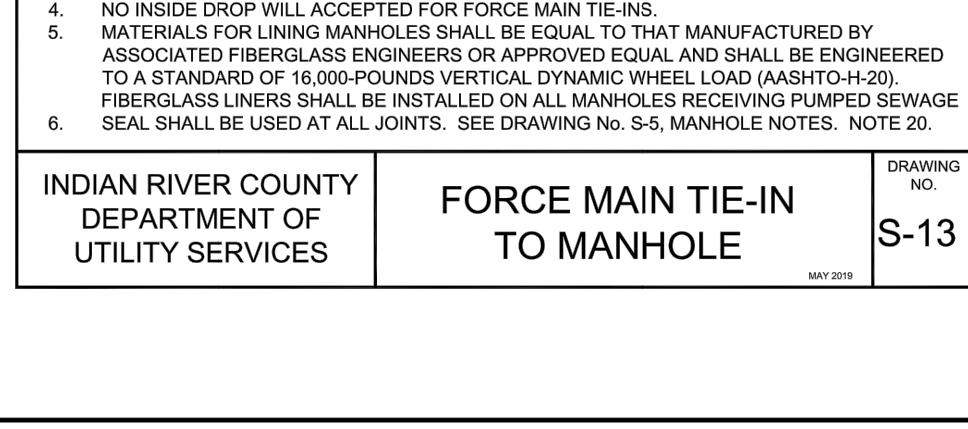
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 DRAWING NO. S-22



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SANITARY SEWERS - POLYVINYL CHLORIDE PIPE
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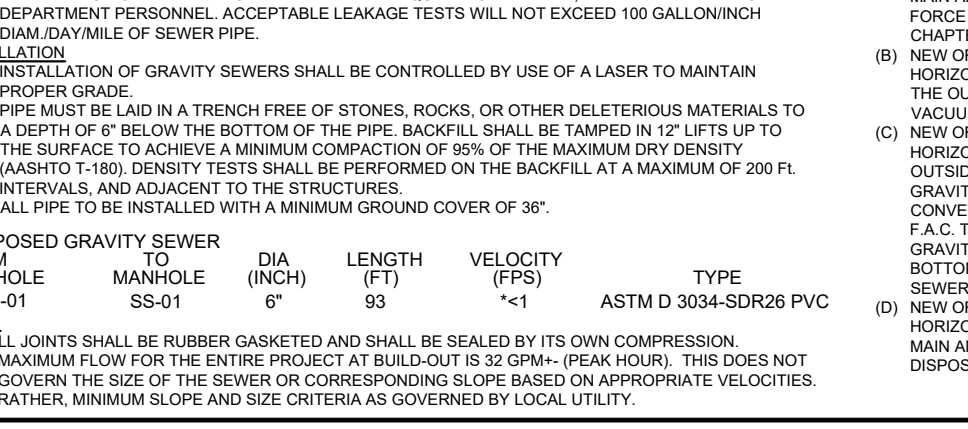
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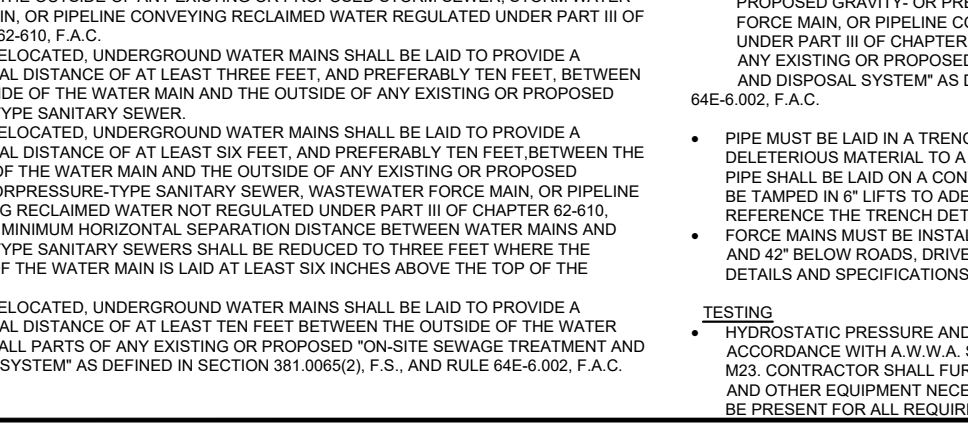
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SANITARY SEWERS - POLYVINYL CHLORIDE PIPE
 DRAWING NO. S-25



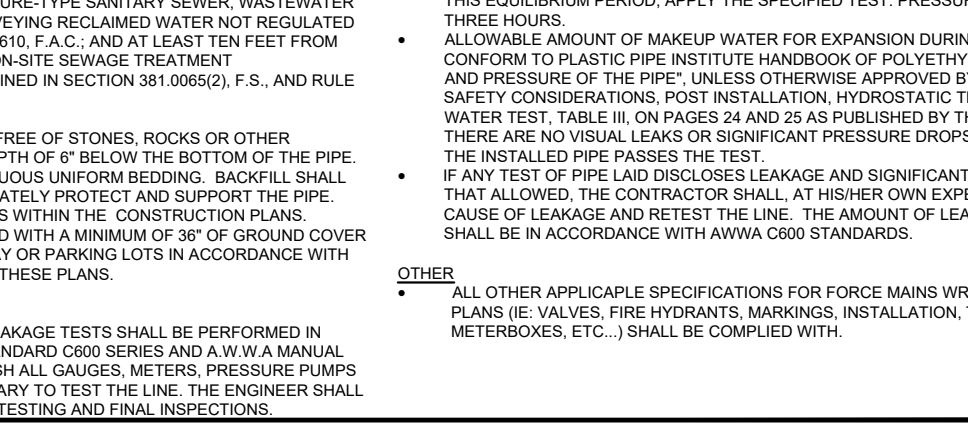
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
SANITARY SEWERS - POLYVINYL CHLORIDE PIPE
 DRAWING NO. S-26



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
SANITARY SEWERS - POLYVINYL CHLORIDE PIPE
 DRAWING NO. S-27



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
SANITARY SEWERS - POLYVINYL CHLORIDE PIPE
 DRAWING NO. S-28



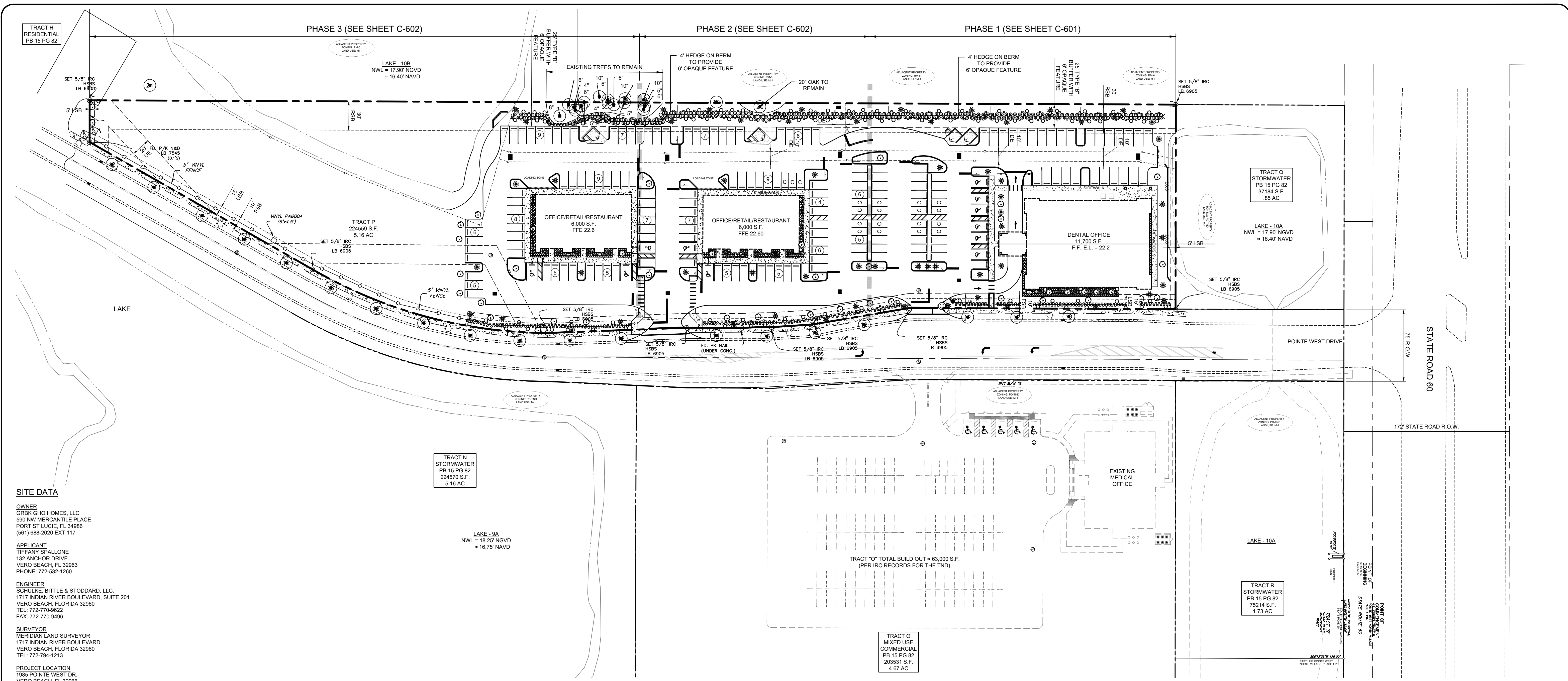
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
SANITARY SEWERS - POLYVINYL CHLORIDE PIPE
 DRAWING NO. S-29

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengmeers.com

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
STANDARD UTILITY DETAILS - SEWER

ENGINEER CERTIFICATION
 JOSEPH W. SCHULKE
 JOHN H. BITTLE
 WILLIAM W. STODDARD

DATE: SHEET **C-508**
 PROJECT NO. 21-034



SITE DATA

OWNER
GRBK GHO HOMES, LLC
590 NW MERCANTILE PLACE
PORT ST LUCIE, FL 34986
(561) 688-2020 EXT 117

APPLICANT
TIFFANY SPALLONE
132 ANCHOR DRIVE
VERO BEACH, FL 32963
PHONE: 772-532-1260

ENGINEER
SCHULKE, BITTLE & STODDARD, L.L.C.
1717 INDIAN RIVER BOULEVARD, SUITE 201
VERO BEACH, FLORIDA 32960
TEL: 772-770-9622
FAX: 772-770-9496

SURVEYOR
MERIDIAN LAND SURVEYOR
1717 INDIAN RIVER BOULEVARD
VERO BEACH, FLORIDA 32960
TEL: 772-794-1213

PROJECT LOCATION
1985 POINTE WEST DR.
VERO BEACH, FL 32966

PROPERTY TAX ID NUMBERS
3338010001900000000.1

LANDSCAPE CALCULATIONS

PERIMETER LANDSCAPE BUFFER (926.09(2))

REQUIRED:
1. NORTH PROPERTY LINE = 212.59 FT
- 1 TREE PER 40 LF x 212.59 LF = 6 TREES
2. SOUTH PROPERTY LINE = 190 FT
- 1 TREE PER 40 LF x 190 LF = 5 TREES

PROPOSED:
- 11 TREES

PERIMETER LANDSCAPE BUFFER (926.08(3)) (WEST PROPERTY LINE)

REQUIRED:
- 2.5 LARGE CANOPY TREES PER 100 LF x 690 LF = 18 LARGE CANOPY TREES
- 2.5 SMALL CANOPY TREES PER 100 LF x 690 LF = 18 SMALL CANOPY TREES
- 8 UNDERSTORY TREES PER 100 LF x 690 LF = 56 UNDERSTORY TREES
- 55 SHRUBS PER 100 LF x 690 LF = 380 SHRUBS

PROPOSED:
* 32 TREE CREDITS PROVIDED
- 10 3" TO 6" OAK
- 1 7" TO 12" OAK
- 1 20" OAK
- 4 SMALL CANOPY TREES
- 56 UNDERSTORY TREES
- 380 SHRUBS

PERIMETER LANDSCAPE ADJACENT TO PUBLIC R.O.W. (926.09(1))

EAST PROPERTY LINE = 740 LF - 30.65 LF - 31.41 LF = 677.94 LF

REQUIRED:
- 4.5 CANOPY TREES PER 100 LF x 677.94 LF = 31 CANOPY TREES
- 5.5 UNDERSTORY TREES PER 100 LF x 677.94 LF = 38 UNDERSTORY TREES
- 50 SHRUBS PER 100 LF x 677.94 LF = 339 SHRUBS

PROPOSED:
- 31 CANOPY TREES
- 38 UNDERSTORY TREES
- 339 SHRUBS

FOUNDATION PLANTING AREA (911.19(6)(1))

BUILDING HEIGHT: 12' - 25'
FOUNDATION PLANTING STRIP DEPTH: 10' AVERAGE, 6" MINIMUM
40% OF THE FOUNDATION PERIMETER EXCLUDING ENTRANCEWAYS AND OVERHANGS
ALONG ALL BUILDING FACES F=SHALL BE LANDSCAPED.

DENTAL OFFICE PERIMETER - 420' - 15.67' = 404.33' x 4 = 1617.3' x 10' = 1,617.3 SF
OFFICE/RETAIL/RESTAURANT - 320' - 18' = 302' x 4 = 1208' x 10' = 1,208 SF

LANDSCAPE CALCULATIONS (CONT.)

REQUIRED:

DENTAL OFFICE - PHASE 1:
- 1 CANOPY TREE PER 150 SF - 1,617.3 SF / 150 SF = 11 CANOPY TREES
- 1 UNDERSTORY TREE PER 300 SF - 1,617.3 SF / 300 SF = 6 UNDERSTORY TREES

- 1.5 SHRUBS PER 10 SF - 1,617.3 SF / 10 SF x 1.5 SHRUBS = 243 SHRUBS

OFFICE/RETAIL/RESTAURANT - PHASE 2:
- 1 CANOPY TREE PER 150 SF - 1,208 SF / 150 SF = 8 CANOPY TREES
- 1 UNDERSTORY TREE PER 300 SF - 1,208 SF / 300 SF = 4 UNDERSTORY TREES

- 1.5 SHRUBS PER 10 SF - 1,208 SF / 10 SF x 1.5 SHRUBS = 183 SHRUBS

OFFICE/RETAIL/RESTAURANT - PHASE 3:
- 1 CANOPY TREE PER 150 SF - 1,208 SF / 150 SF = 8 CANOPY TREES
- 1 UNDERSTORY TREE PER 300 SF - 1,208 SF / 300 SF = 4 UNDERSTORY TREES

- 1.5 SHRUBS PER 10 SF - 1,208 SF / 10 SF x 1.5 SHRUBS = 183 SHRUBS

PROVIDED:

- 27 CANOPY TREES
- 14 UNDERSTORY TREES
- 609 SHRUB

INTERIOR PARKING LANDSCAPING (926.09(3))

PAVEMENT = 84,877 SF x 12% = 10,185.24 SF

10,185.24 SF x 1/300 = 34 TREES

REQUIRED:

- 34 TREES

PROVIDED:

- 34 TREES

NON-VEHICULAR AREA LANDSCAPING (926.10(2)(a))

OPEN SPACE - LAKE 1 - LAKE 2 - FOUNDATION PLANTING AREA - INTERIOR LANDSCAPE - LANDSCAPE BUFFERS = NON-VEHICULAR AREA

110,806 SF - 20,278 SF - 1,768 SF - 4,033 SF - 10,143 SF - 10,185 - 29,613 SF = 34,786 SF

REQUIRED:

- 27,836 SF / 1 TREE PER 2000 SF = 14 TREES

PROVIDED:

- 14 TREES

LANDSCAPE MATERIAL SUMMARY

TYPE	REQD	PROVIDED
N. & S. PL BUFFER		
LARGE CANOPY	11	11 (NEW)
W. PL BUFFER		
LARGE CANOPY	18	*16 TREE CREDITS
SMALL CANOPY	18	*16 TREE CREDITS & 4 (NEW)
UNDERSTORY	56	56 (NEW)
SHRUBS	380	380 (NEW)
E. PL BUFFER		
CANOPY	31	31 (NEW)
UNDERSTORY	38	38 (NEW)
SHRUBS	339	339 (NEW)
ALL OTHER AREAS		
CANOPY	75	75 (NEW)
UNDERSTORY	14	14 (NEW)
SHRUBS	605	605 (NEW)

TOTAL LANDSCAPE MATERIAL SCHEDULE

TREES									
SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HGT	OTHER	NATIVE	DROUGHT TOLERANCE	
OV	28	Quercus virginiana	Live Oak	2" DBH	12'-0"	6' SPREAD	YES	HIGH	
QL	28	Quercus laurifolia	Laurel Oak	2" DBH	12'-0"	6' SPREAD	YES	HIGH	
TD	28	Taxodium distichum	Bald Cypress	2" DBH	12'-0"	6' SPREAD	YES	HIGH	
SP	29	Sabal palmetto	Cabbage Palm	-	12'-16"	10' CLR/HURRICANE CUT	YES	HIGH	
TOTAL = 113 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.									
UNDERSTORY TREES									
CE	42	Coccoloba erecta	Silver Buttonwood	1 1/2" DBH	6'-0"	3' CLR / 5' SPREAD	YES	HIGH	
CU	42	Coccoloba uvifera	Sea Grape	1 1/2" DBH	6'-0"	3' CLR / 5' SPREAD	YES	HIGH	
LI	41	Lagerstroemia indica	Crape Myrtle	1 1/2" DBH	6'-0"	3' CLR / 5' SPREAD	NO	HIGH	
LL	42	Ligustrum lucidum	Wax Leaf Privet	1 1/2" DBH	6'-0"	3' CLR / 5' SPREAD	YES	HIGH	
TOTAL = 167 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.									
SHRUBS									
FOR	223	Forestiera segregata	Florida Privet	-	18"	24" O.C.	YES	HIGH	
HAM	223	Hamelia patens	Firebush	-	18"	30" O.C.	YES	HIGH	
CHR	223	Chrysobalanus icaco	Red Tip Coccoloba	-	18"	30" O.C.	YES	HIGH	
IV	223	Ilex vomitoria	Yaupon Holly	-	18"	30" O.C.	YES	HIGH	
CAL	223	Calliandra americana	Beautyberry	-	1' 6"	30" O.C.	YES	HIGH	
VIB	223	Viburnum suspensum	Viburnum	-	18"	30" O.C.	YES	HIGH	
OV	223	Viburnum obovatum	Walters Viburnum	-	18"	30" O.C.	YES	HIGH	
DR	223	Duranta repens	Gold Mound Duranta	-	18"	30" O.C.	YES	HIGH	
TOTAL = 1784 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.									

TREE SYMBOL LEGEND

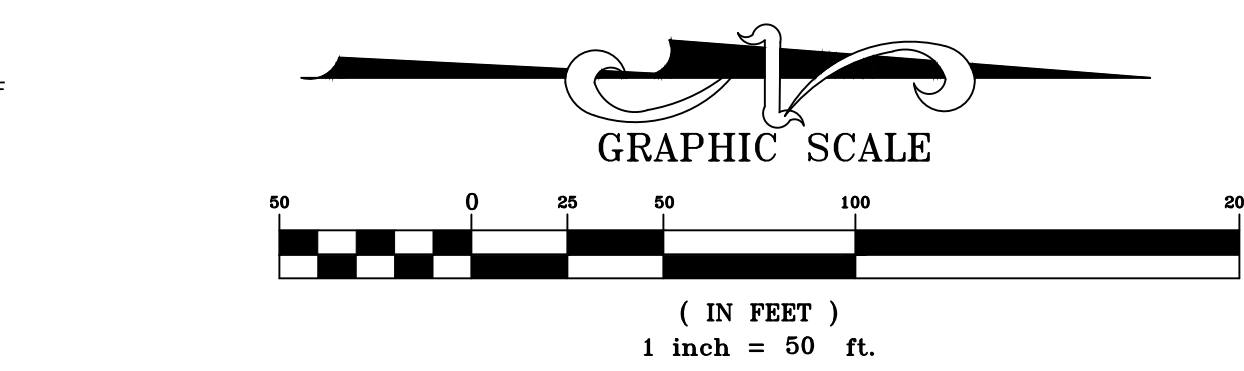
- EXISTING OAK TREE
- EXISTING PALM TREE
- NEW OAK TREE
- RELOCATED PALM TREE
- NEW PALM TREE
- NEW HOLLY TREE
- NEW SHRUB
- '4' SHRUB

SYMBOL LEGEND

- EXISTING FIRE HYDRANT ASSEMBLY
- VALVE
- STORMWATER DRAINAGE MANHOLE
- PROPOSED STORMWATER DRAINAGE STRUCTURE
- SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN
- PROPOSED FORCE MAIN
- PROPOSED STORM DRAINAGE PIPE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- GROUND MOUNT FIXTURE

TREE CREDITS

- (10) 3" - 6" OAK X 2 CREDIT = 20 CREDITS
- (1) 7" - 12" OAK X 4 CREDIT = 4 CREDITS
- (1) 20" OAK X 8 CREDIT = 8 CREDITS
- TOTAL CREDITS = 32 CREDITS



LANDSCAPE CERTIFICATION:

GEOFFREY K. BARKETT
FCLD DC171

DATE _____

DATE _____

REVISION

MARK	DESCRIPTION	DATE

DRAWING
DESIGNED: JMS
DRAWN: WJF/DR
CHECKED: JMS
SCALE: 1" = 50'
DATE: 07-23-21

PREPARED BY: THE ENGINEER HAS REVIEWED THIS PLAN FOR CONFORMANCE WITH THE FLORIDA LAND USE CODE AND THE FLORIDA LAND USE REGULATIONS. THE ENGINEER'S REVIEW IS LIMITED TO THE TECHNICAL ASPECTS OF THE PLAN AND DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING THE SERVICES OF A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT AS REQUIRED BY LAW.

SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
REGENCY #8668
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL: 772-770-9622 FAX: 772-770-9496 EMAIL: info@sbsengineers.com

LANDSCAPE PLAN

SPALLONE DENTAL OFFICE
1985 POINTE WEST DR.
VERO BEACH, FLORIDA
INDIAN RIVER COUNTY

ENGINEER CERTIFICATION

JOSEPH W. SCHULKE
FL. REG. NO. 47048

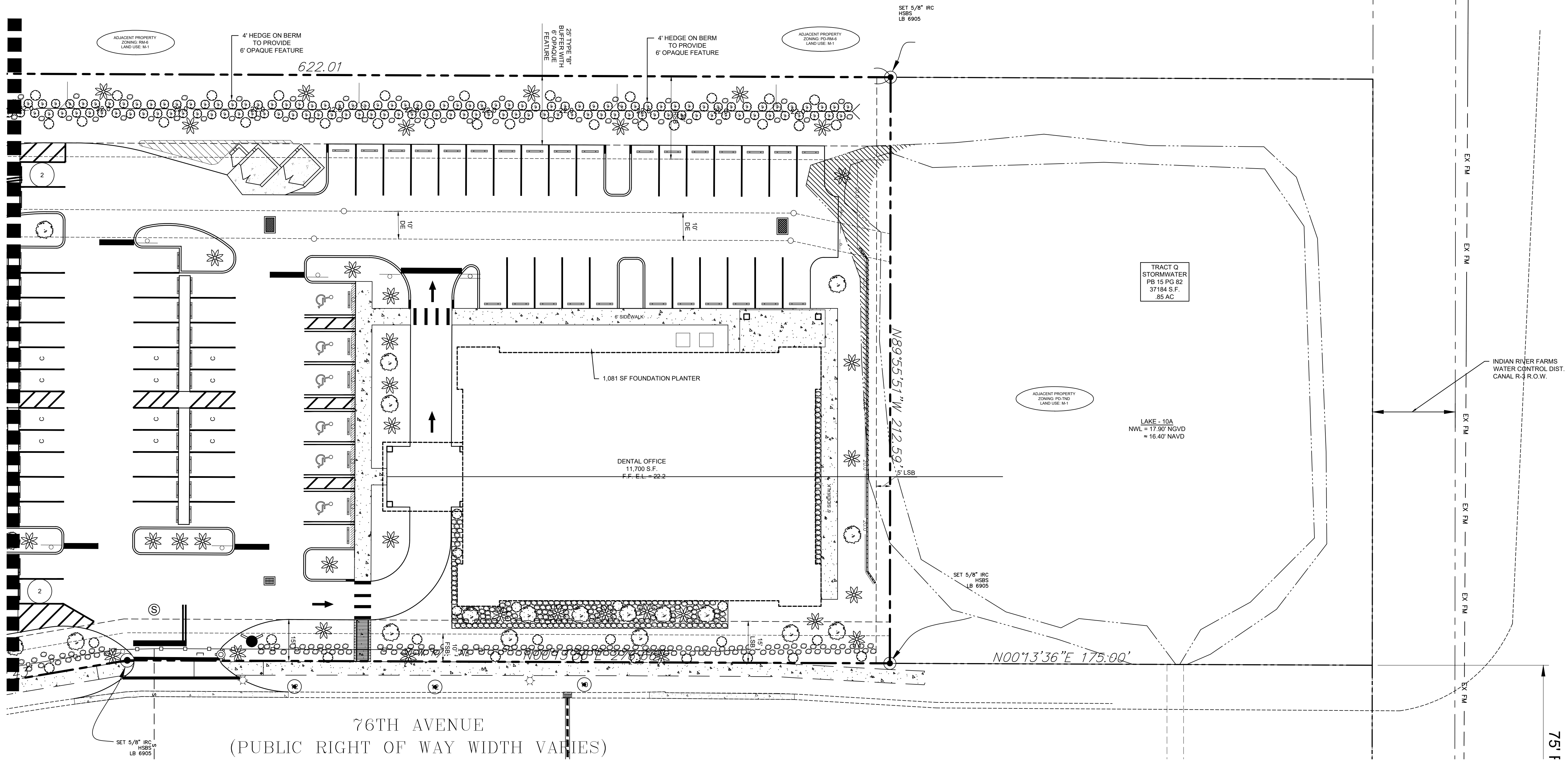
JOHN B. BITTLE
FL. REG. NO. 57396

WILLIAM P. STODDARD
FL. REG. NO. 57605

DATE: _____

SHEET
C-600

PROJECT NO.
21-034



76TH AVENUE
(PUBLIC RIGHT OF WAY WIDTH VARIES)

SITE DATA

OWNER
GRBK GHO HOMES, LLC
590 NW MERCANTILE PLACE
PORT ST LUCIE, FL 34986
(561) 688-2020 EXT 117

APPLICANT
TIFFANY SPALLONE
132 ANCHOR DRIVE
VERO BEACH, FL 32963
PHONE: 772-532-1260

ENGINEER
SCHULKE, BITTLE & STODDARD, L.L.C.
1717 INDIAN RIVER BOULEVARD, SUITE 201
VERO BEACH, FLORIDA 32960
TEL: 772-770-9622
FAX: 772-770-9496

SURVEYOR
MERIDIAN LAND SURVEYOR
1717 INDIAN RIVER BOULEVARD
VERO BEACH, FLORIDA 32960
TEL: 772-794-1213

PROJECT LOCATION
1985 POINTE WEST DR.
VERO BEACH, FL 32966

PROPERTY TAX ID NUMBERS
3338010001900000000.1

GROSS AREA
5.16 AC.

ZONING
PD1ND

LAND USE
M-1

EXISTING SITE CONDITIONS
PRESENT CONDITIONS: EXISTING BUILDINGS AND PARKING LOT
(TO BE DEMOLISHED)

FLOOD ZONE
FLOOD ZONE F.I.R.M. NO. 12061C_STUDY1, 8/30/2017 FLOOD ZONE 'X'

CONSTRUCTION SCHEDULE
CONSTRUCTION START: OCT 2021
CONSTRUCTION FINISH: OCT 2022

TOTAL LANDSCAPE MATERIAL SCHEDULE- PHASE 1							
TREES							
SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HGT	OTHER	DROUGHT TOLERANCE
QV	14	Quercus virginiana	Live Oak	2" DBH	12'-0"	6' SPREAD	YES HIGH
QL	14	Quercus laurifolia	Laurel Oak	2" DBH	12'-0"	6' SPREAD	YES HIGH
TD	15	Taxodium distichum	Bald Cypress	2" DBH	12'-0"	6' SPREAD	YES HIGH
SP	15	Sabal palmetto	Cabbage Palm	-	12'-16"	10' CLR/HURRICANE CUT	YES HIGH
TOTAL = 58 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.							
UNDERSTORY TREES							
CE	12	Conocarpus erectus	Silver Buttonwood	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
CU	12	Coccoloba uvifera	Sea Grape	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
LI	12	Lagerstroemia indica	Crape Myrtle	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	NO HIGH
LL	12	Ligustrum lucidum	Wax Leaf Privet	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
TOTAL = 48 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.							
SHRUBS							
FOR	68	Forestiera segregata	Florida Privet	-	18"	24" O.C.	YES HIGH
HAM	68	Hamelia patens	Firebush	-	18"	30" O.C.	YES HIGH
CHR	69	Chrysobalanus icaco	Red Tip Cocoplum	-	18"	30" O.C.	YES HIGH
IV	69	Ilex vomitoria	Yaupon Holly	-	18"	30" O.C.	YES HIGH
CAL	69	Callicarpa americana	Beautyberry	-	1'-6"	30" O.C.	YES HIGH
VIB	69	Viburnum suspensum	Viburnum	-	18"	30" O.C.	YES HIGH
OVB	69	Viburnum obovatum	Walters Viburnum	-	18"	30" O.C.	YES HIGH
DR	69	Duranta repens	Gold Mound Duranta	-	18"	30" O.C.	YES HIGH
TOTAL = 550 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.							

TREE SYMBOL LEGEND

- EXISTING OAK TREE
 - EXISTING PALM TREE
 - NEW OAK TREE
 - RELOCATED PALM TREE
 - NEW PALM TREE
 - NEW HOLLY TREE
 - NEW SHRUB
 - '4' SHRUB
- TREE CREDITS**
- (10) 3" - 6" OAK X 2 CREDIT = 20 CREDITS
 (1) 7" - 12" OAK X 4 CREDIT = 4 CREDITS
 (1) 20" OAK X 8 CREDIT = 8 CREDITS
TOTAL CREDITS = 32 CREDITS

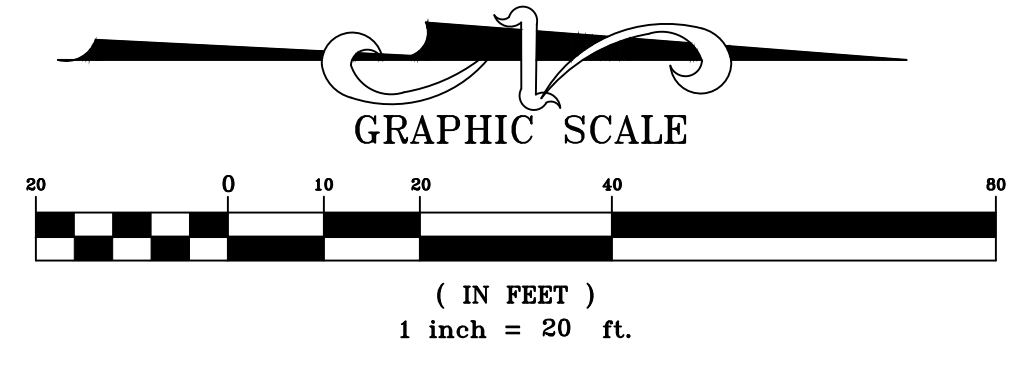
LANDSCAPING POINT CALCULATIONS

POINTS ALLOWED	POINTS PROVIDED
A. IRRIGATION SYSTEM: MOISTURE SENSING CONTROLLER	5
PLAN SUBMITTED WITH LOW, MODERATE & HIGH WATER USAGE ZONES INDICATED	5
B. SHRUBS: 50% TO 75% OF TOTAL QUANTITY OF PLANTS RATED "VERY DROUGHT TOLERANT"	5
75% TO 90% OF TOTAL QUANTITY OF PLANTS RATED "VERY DROUGHT TOLERANT"	10
C. TREES: 50% TO 75% OF TOTAL QUANTITY OF TREES RATED "VERY DROUGHT TOLERANT"	5
75% TO 90% OF TOTAL QUANTITY OF TREES RATED "VERY DROUGHT TOLERANT"	10
D. EXTRA CANOPY TREES IN VEHICULAR USE AREAS: 20% TO 40% MORE THAN REQUIRED	5
MORE THAN 40% REQUIRED	10
E. SOLOGRASS AREAS: 31% TO 50% OF LANDSCAPE AREA	5
LESS THAN 30% OF LANDSCAPE AREA	10
F. FLORIDA NATIVE LANDSCAPE: 100% OF LANDSCAPE AREA IS PRESERVED OR REESTABLISHED FLORIDA NATIVE VEGETATION OR NEW NATIVE PLANTINGS OF SPECIES LISTED IN APPENDIX A & C. PLAN MUST INCLUDE TREES, UNDERSTORY, & GROUND COVER WITH A MAX. OF 50% OF SITE SOLOED/GRASSSED	30
75% TO 90% OF LANDSCAPE AREA IS PRESERVED OR REESTABLISHED FLORIDA NATIVE VEGETATION OR NEW NATIVE PLANTINGS OF SPECIES LISTED IN APPENDIX A & C. PLAN MUST INCLUDE TREES, UNDERSTORY, & GROUND COVER WITH A MAX. OF 50% OF SITE SOLOED/GRASSSED	15
TOTAL POINTS:	30

LANDSCAPE CERTIFICATION:

GEOFFREY K. BARKETT
FCLD #DC171

DATE



DATE	REVISION	MARK	DRAWING
			DESIGNED: JWS DRAWN: WJF/DR CHECKED: JWS SCALE: 1" = 50' DATE: 07-23-21

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SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL: 772 / 770-9622 FAX: 772 / 770-9496 EMAIL: info@sbsengineers.com

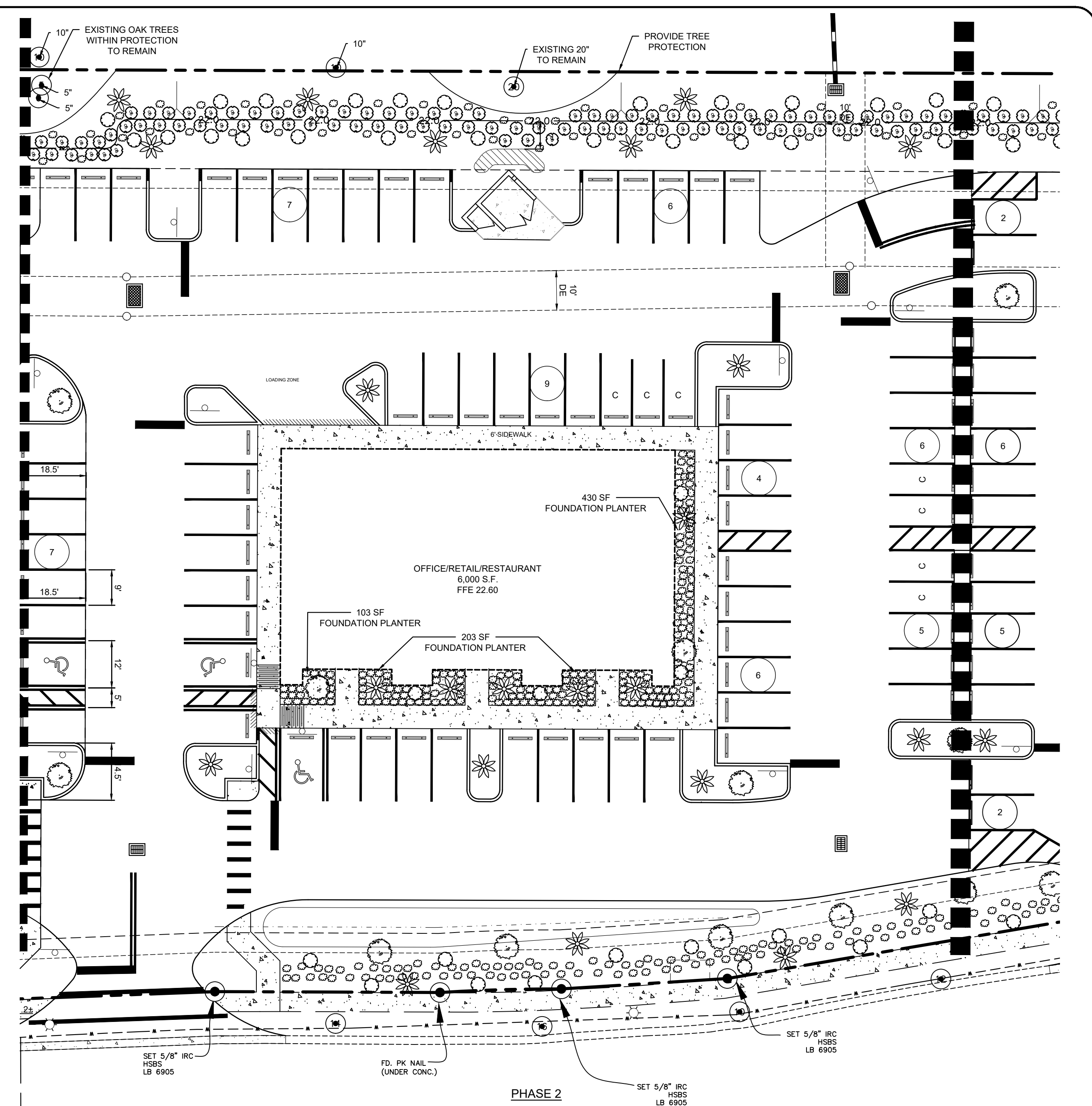
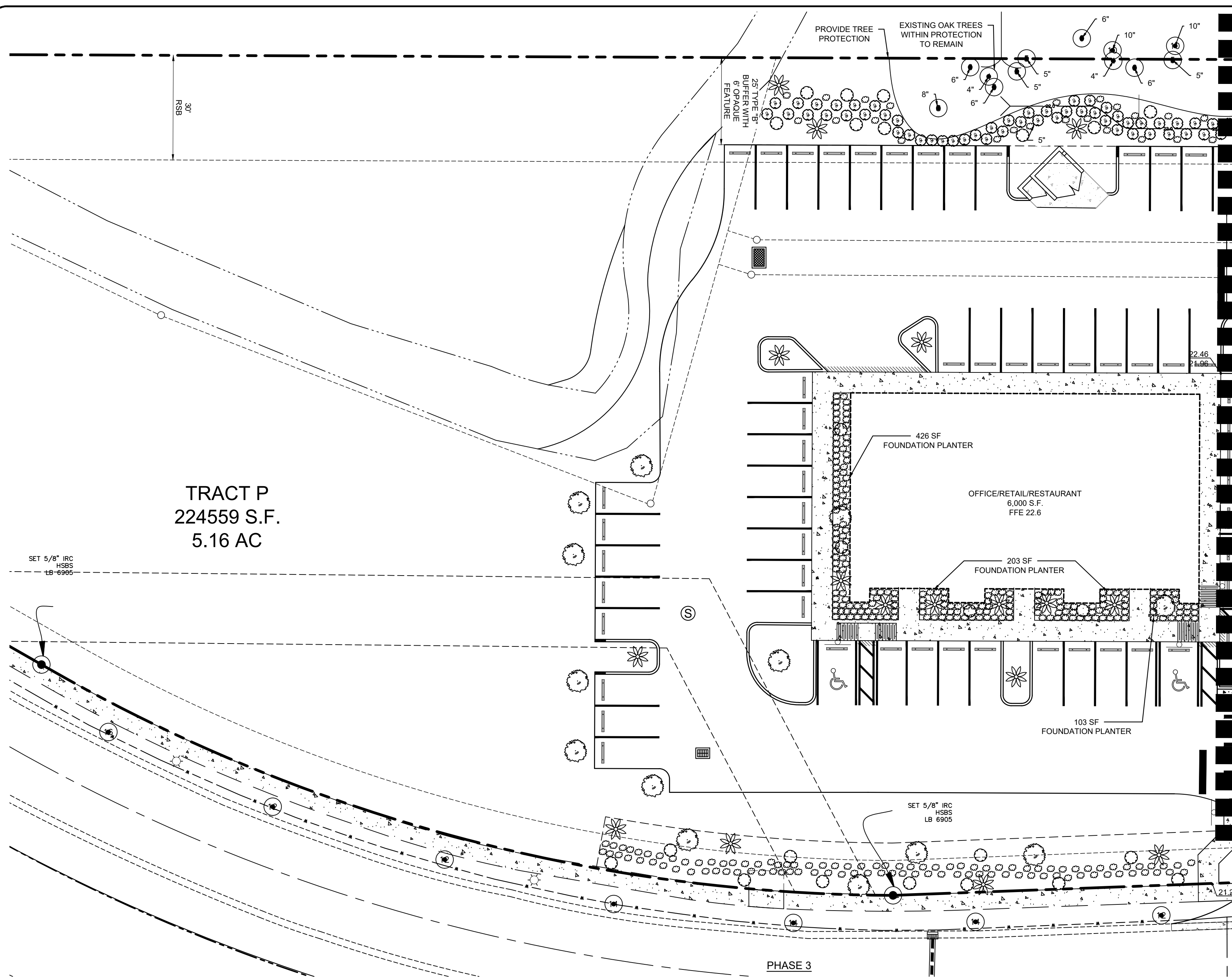
LANDSCAPE PLAN (PHASE 1)

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION

JOSEPH W. SCHULKE
 FL. REG. NO. 47048
 JOHN B. BITTLE
 FL. REG. NO. 57396
 WILLIAM P. STODDARD
 FL. REG. NO. 57605

DATE: SHEET
C-601
 PROJECT NO. 21-034



TRACT P
224559 S.F.
5.16 AC

SITE DATA
OWNER
GRBK GHO HOMES, LLC
590 NW MERCANTILE PLACE
PORT ST LUCIE, FL 34986
(561) 688-2020 EXT 117
APPLICANT
TIFFANY SPALLONE
132 ANCHOR DRIVE
VERO BEACH, FL 32963
PHONE: 772-532-1260
ENGINEER
SCHULKE, BITTLE & STODDARD, LLC
1717 INDIAN RIVER BOULEVARD, SUITE 201
VERO BEACH, FLORIDA 32960
TEL: 772-770-9622
FAX: 772-770-9496
SURVEYOR
MERIDIAN LAND SURVEYOR
1717 INDIAN RIVER BOULEVARD
VERO BEACH, FLORIDA 32960
TEL: 772-794-1213
PROJECT LOCATION
1985 POINTE WEST DR.
VERO BEACH, FL 32966
PROPERTY TAX ID NUMBERS
3338010001900000000.1
GROSS AREA
5.16 AC.
ZONING
PD1ND
LAND USE
M-1
EXISTING SITE CONDITIONS
PRESENT CONDITIONS: EXISTING BUILDINGS AND PARKING LOT
(TO BE DEMOLISHED)
FLOOD ZONE
FLOOD ZONE F.I.R.M. NO. 12061C_STUDY1, 8/30/2017 FLOOD ZONE 'X'
CONSTRUCTION SCHEDULE
CONSTRUCTION START: OCT 2021
CONSTRUCTION FINISH: OCT 2022

TOTAL LANDSCAPE MATERIAL SCHEDULE - PHASE 3

TREES							
SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HGT	OTHER	NATIVE DROUGHT TOLERANCE
QV	8	Quercus virginiana	Live Oak	2" DBH	12'-0"	6" SPREAD	YES HIGH
QL	7	Quercus laurifolia	Laurel Oak	2" DBH	12'-0"	6" SPREAD	YES HIGH
TD	7	Taxodium distichum	Bald Cypress	2" DBH	12'-0"	6" SPREAD	YES HIGH
SP	8	Sabal palmetto	Cabbage Palm	-	12'-16"	10' CLR/HURRICANE CUT	YES HIGH
UNDERSTORY TREES							
CE	7	Conocarpus erectus	Silver Buttonwood	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
CU	6	Coccoloba uvifera	Sea Grape	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
LI	6	Lagerstroemia indica	Crape Myrtle	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	NO HIGH
LL	6	Ligustrum lucidum	Wax Leaf Privet	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
SHRUBS							
FOR	46	Forestiera segregata	Florida Privet	-	18"	24" O.C.	YES HIGH
HAM	46	Hamelia patens	Firebush	-	18"	30" O.C.	YES HIGH
CHR	46	Chrysobalanus icaco	Red Tip Cocoplum	-	18"	30" O.C.	YES HIGH
IV	46	Ilex vomitoria	Yaupon Holly	-	18"	30" O.C.	YES HIGH
CAL	46	Calliandra americana	Beautyberry	-	1'-6"	30" O.C.	YES HIGH
VIB	46	Viburnum suspensum	Viburnum	-	18"	30" O.C.	YES HIGH
OVB	47	Viburnum obovatum	Walters Viburnum	-	18"	30" O.C.	YES HIGH
DR	47	Duranta repens	Gold Mond Duranta	-	18"	30" O.C.	YES HIGH

TOTAL = 30 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.

TOTAL = 25 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.

TREE SYMBOL LEGEND

- EXISTING OAK TREE
- EXISTING PALM TREE
- NEW OAK TREE
- RELOCATED PALM TREE
- NEW PALM TREE
- NEW HOLLY TREE
- NEW SHRUB
- '4' SHRUB

SYMBOL LEGEND

- EXISTING FIRE HYDRANT ASSEMBLY
- VALVE
- STORMWATER DRAINAGE MANHOLE
- PROPOSED STORMWATER DRAINAGE STRUCTURE
- SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN
- PROPOSED FORCE MAIN
- PROPOSED STORM DRAINAGE PIPE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- GROUND MOUNT FIXTURE

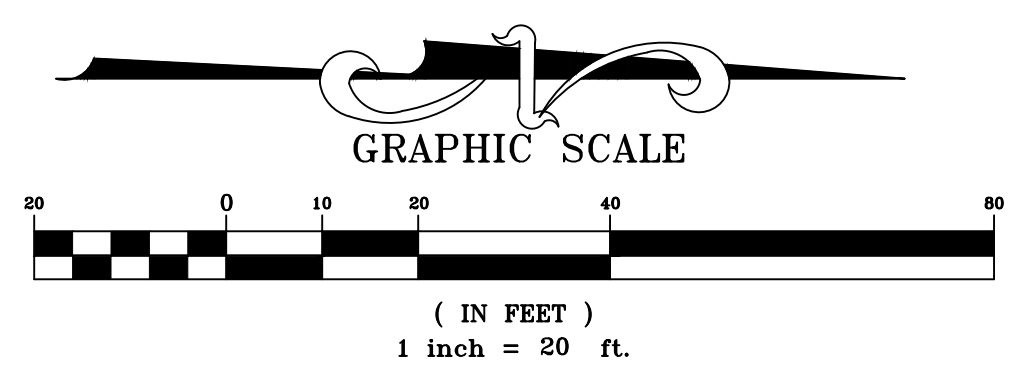
TREE CREDITS

(10) 3" - 6" OAK X 2 CREDIT = 20 CREDITS
(1) 7" - 12" OAK X 4 CREDIT = 4 CREDITS
(1) 20" OAK X 8 CREDIT = 8 CREDITS
TOTAL CREDITS = 32 CREDITS

LANDSCAPE CERTIFICATION:

GEOFFREY K. BARKETT
FCLD #DC1 71

DATE _____



TOTAL LANDSCAPE MATERIAL SCHEDULE - PHASE 2

TREES							
SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HGT	OTHER	NATIVE DROUGHT TOLERANCE
QV	10	Quercus virginiana	Live Oak	2" DBH	12'-0"	6" SPREAD	YES HIGH
QL	10	Quercus laurifolia	Laurel Oak	2" DBH	12'-0"	6" SPREAD	YES HIGH
TD	9	Taxodium distichum	Bald Cypress	2" DBH	12'-0"	6" SPREAD	YES HIGH
SP	10	Sabal palmetto	Cabbage Palm	-	12'-16"	10' CLR/HURRICANE CUT	YES HIGH
UNDERSTORY TREES							
CE	9	Conocarpus erectus	Silver Buttonwood	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
CU	9	Coccoloba uvifera	Sea Grape	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
LI	10	Lagerstroemia indica	Crape Myrtle	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	NO HIGH
LL	10	Ligustrum lucidum	Wax Leaf Privet	1.5" DBH	6'-0"	3' CLR / 5' SPREAD	YES HIGH
SHRUBS							
FOR	50	Forestiera segregata	Florida Privet	-	18"	24" O.C.	YES HIGH
HAM	50	Hamelia patens	Firebush	-	18"	30" O.C.	YES HIGH
CHR	50	Chrysobalanus icaco	Red Tip Cocoplum	-	18"	30" O.C.	YES HIGH
IV	50	Ilex vomitoria	Yaupon Holly	-	18"	30" O.C.	YES HIGH
CAL	51	Calliandra americana	Beautyberry	-	1'-6"	30" O.C.	YES HIGH
VIB	51	Viburnum suspensum	Viburnum	-	18"	30" O.C.	YES HIGH
OVB	51	Viburnum obovatum	Walters Viburnum	-	18"	30" O.C.	YES HIGH
DR	51	Duranta repens	Gold Mond Duranta	-	18"	30" O.C.	YES HIGH

TOTAL = 38 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.

TOTAL = 404 *CONTRACTOR MAY SUBSTITUTE NUMBER OF EACH SPECIES AT HIS DISCRETION, PLACING "RIGHT TREE/RIGHT LOCATION" USING BEST HORTICULTURAL PRACTICES. CONTRACTOR SHALL SUBMIT PLAN TO ENGINEER INDICATING SPECIES PLACEMENT.

DATE _____
REVISION _____
MARK _____
DRAWING DESIGNED: JWS
DRAWN: WJF/DR
CHECKED: JWS
SCALE: 1" = 50'
DATE: 07-23-21

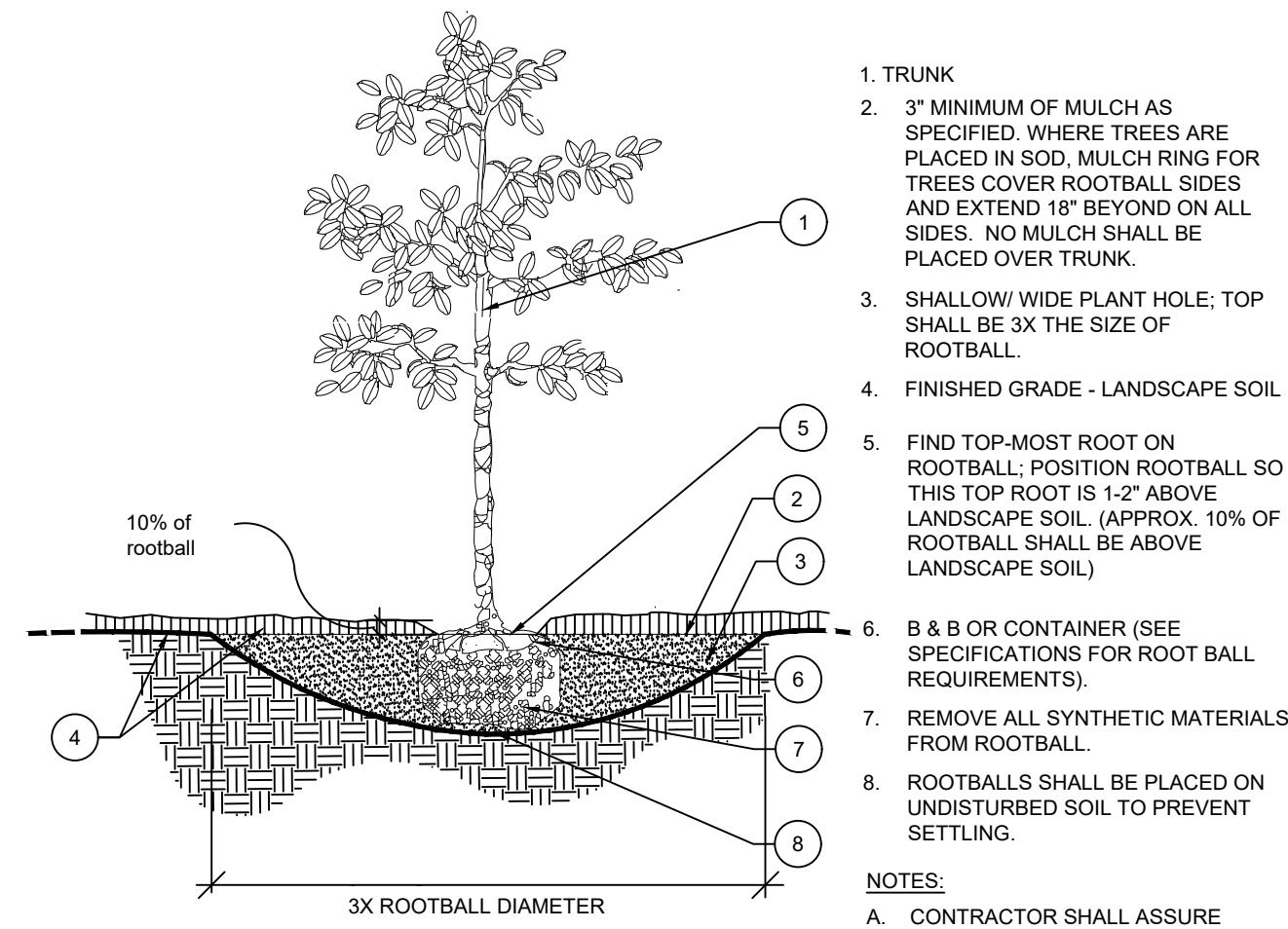
SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
REGISTRY #8668
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL: 772 / 770-9622 FAX: 772 / 770-9496 EMAIL: info@sbsengineers.com

LANDSCAPE PLAN (PHASE 2 & 3)

SPALLONE DENTAL OFFICE
1985 POINTE WEST DR.
VERO BEACH, FLORIDA
INDIAN RIVER COUNTY

ENGINEER CERTIFICATION
 JOSEPH W. SCHULKE
FL. REG. NO. 47048
 JOHN B. BITTLE
FL. REG. NO. 57396
 WILLIAM P. STODDARD
FL. REG. NO. 57605

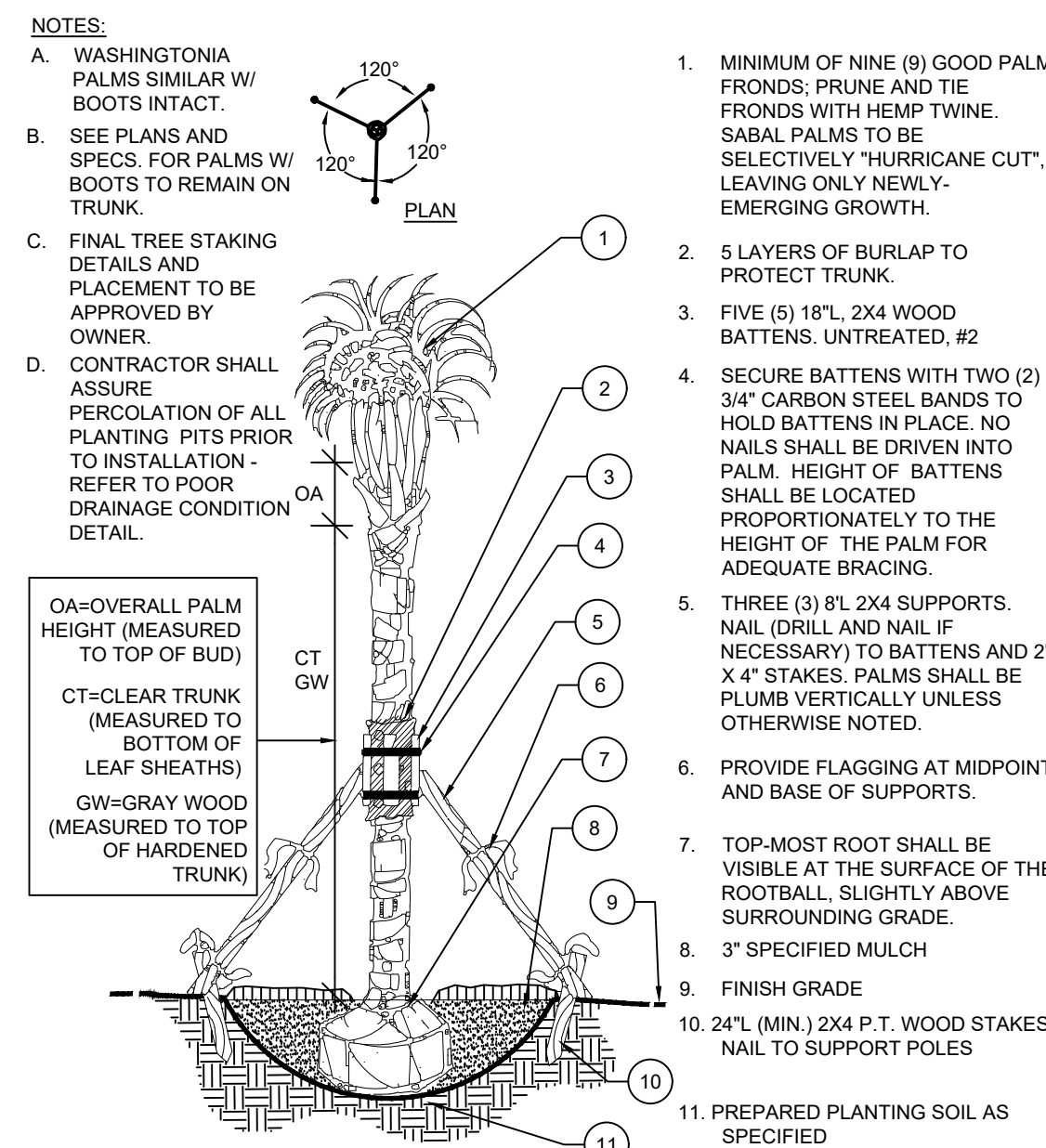
DATE: _____
SHEET
C-602
PROJECT NO.
21-034



- NOTES:
 A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
 B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
 C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

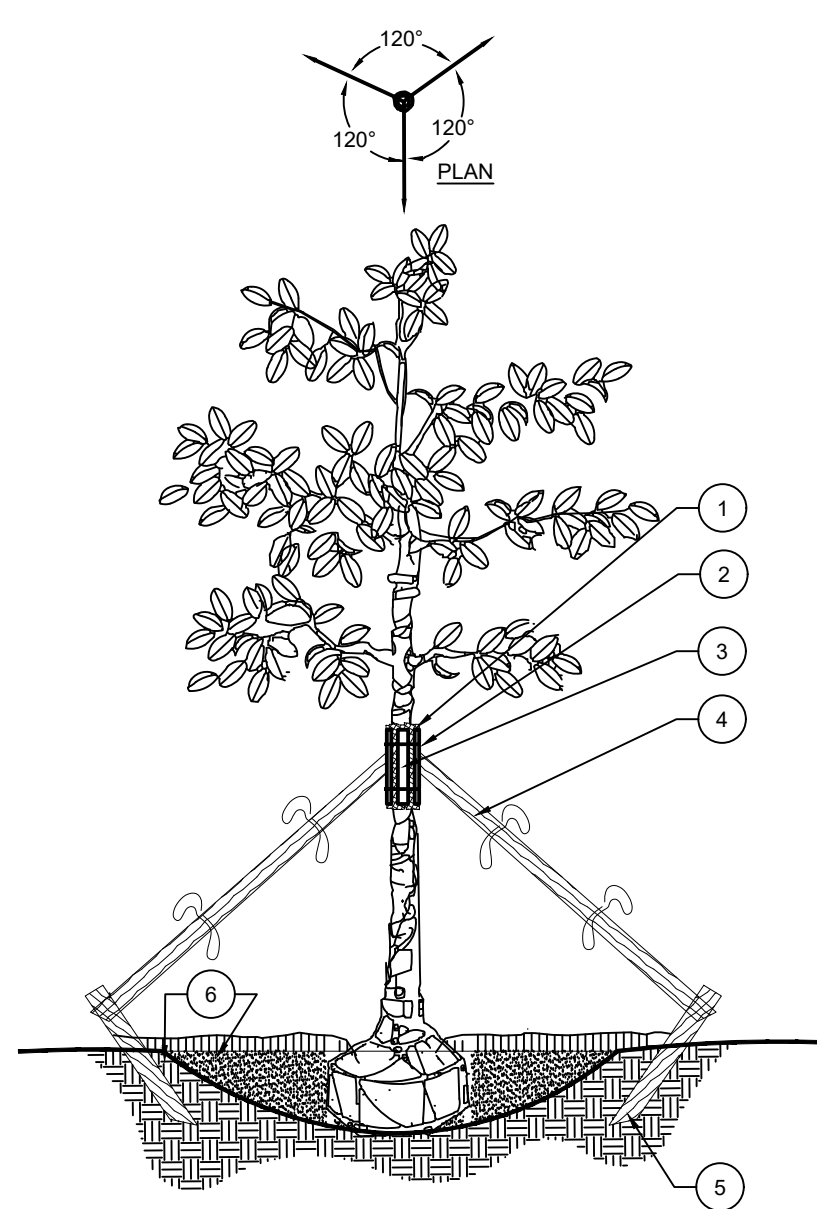
TREE PLANTING

SECTION NTS



PALM PLANTING AND STAKING

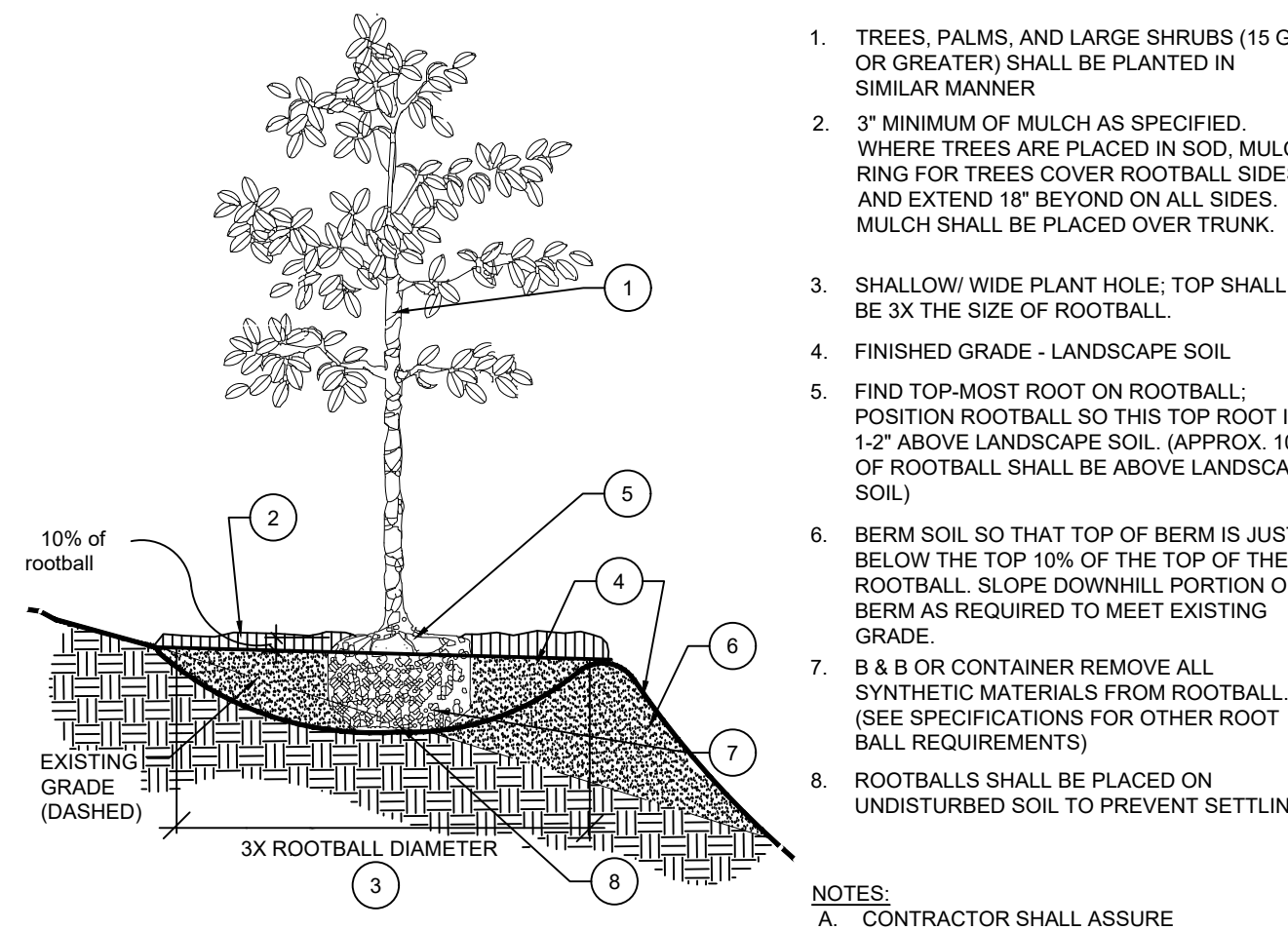
SECTION NTS



- NOTES:
 A. ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.
 B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
 C. ALTERNATE TREE ANCHORING SYSTEMS MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.
 D. RUBBER HOSE/WIRE SYSTEMS ARE NOT ALLOWED.

LARGE TREE STAKING - 100 GAL + OR B&B 4" +

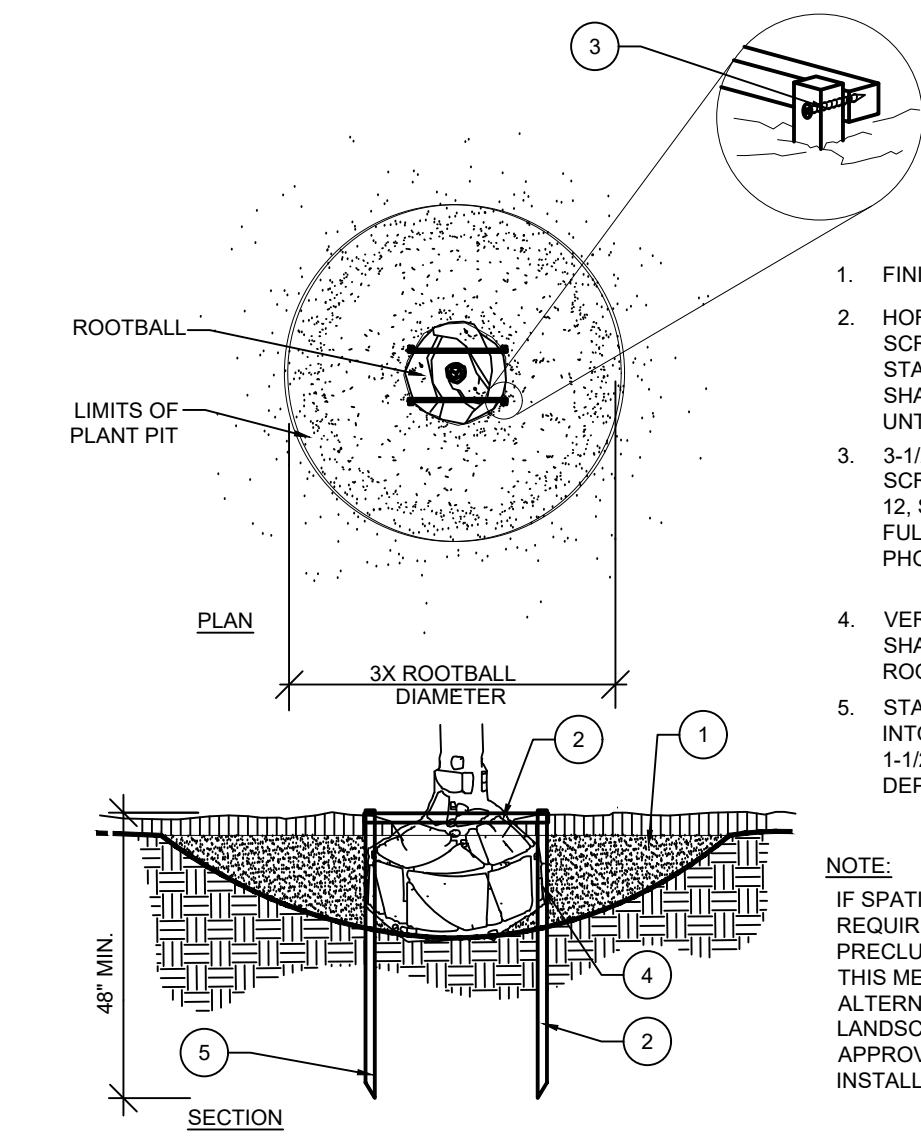
SECTION NTS



- NOTES:
 A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
 B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
 C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

PLANTING ON A SLOPE

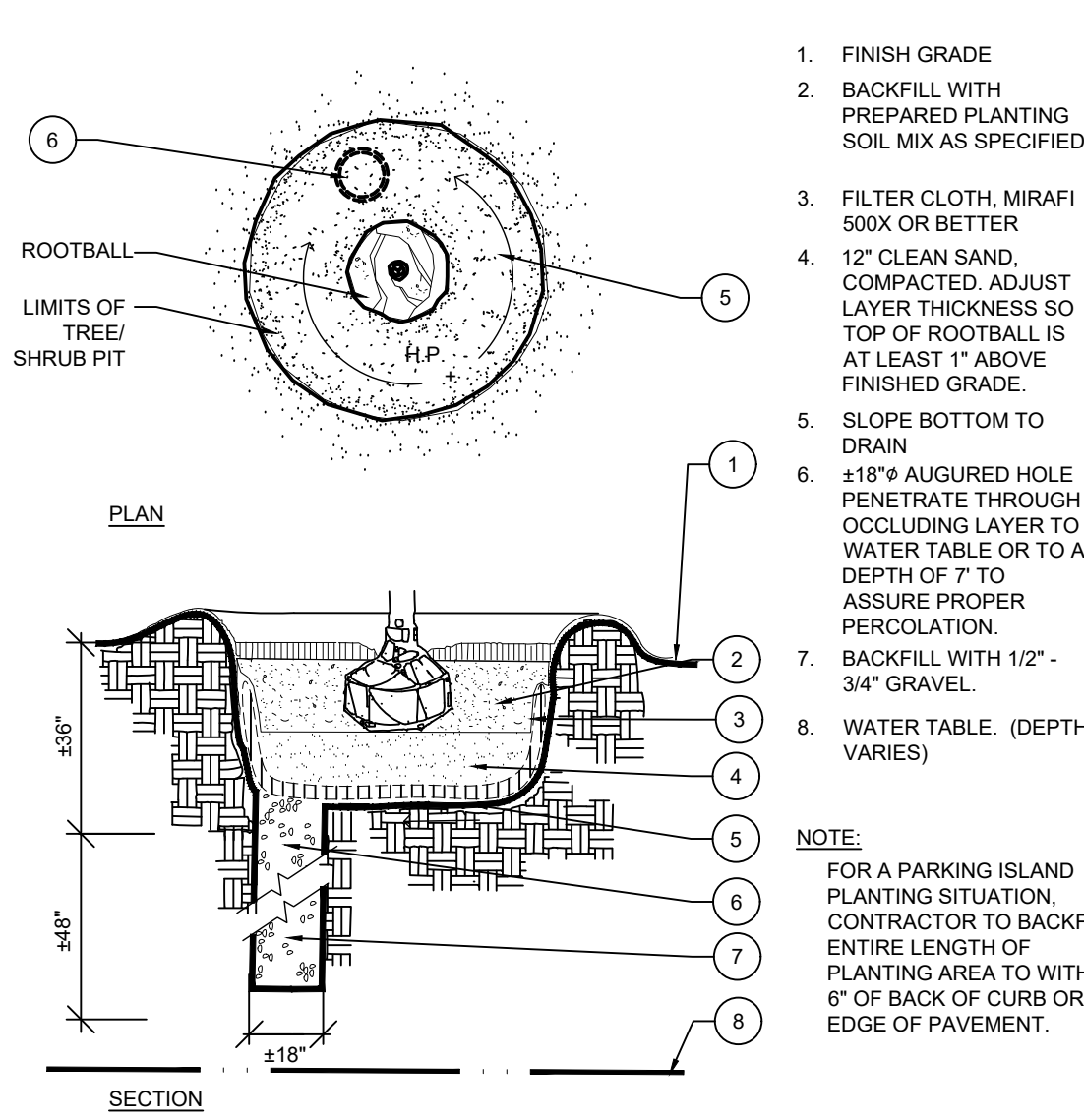
SECTION NTS



- NOTE:
 IF SPATIAL REQUIREMENTS PRECLUDE STAKING WITH THIS METHOD, SUBMIT ALTERNATE FOR LANDSCAPE ARCHITECTS APPROVAL PRIOR TO INSTALLING PLANT.

STAKING - UP TO 65 GAL. OR B&B TO 3-1/2" CAL.

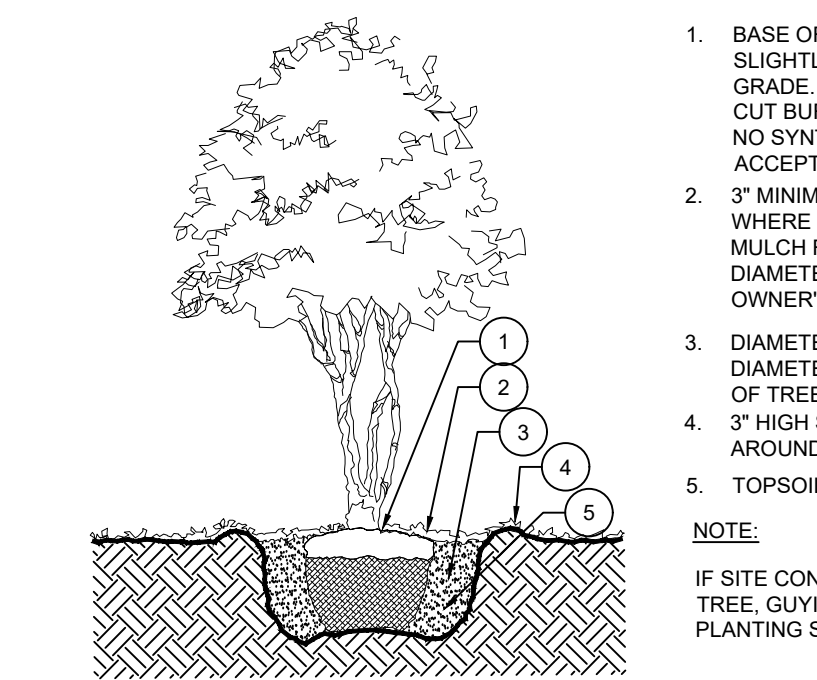
PLAN/SECTION NTS



- NOTE:
 FOR A PARKING ISLAND PLANTING SITUATION, CONTRACTOR TO BACKFILL ENTIRE LENGTH OF PLANTING AREA TO WITHIN 6" OF BACK OF CURB OR EDGE OF PAVEMENT.

POOR DRAINAGE CONDITION

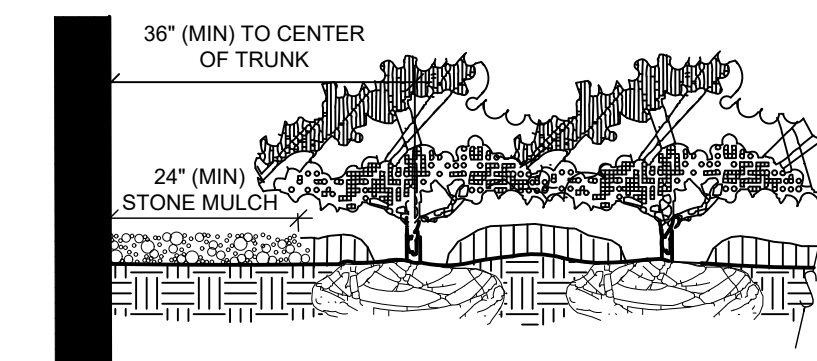
SECTION NTS



- NOTE:
 IF SITE CONDITIONS REQUIRE GUYING OF THE TREE, GUYING DETAILS FROM SMALL TREE PLANTING SHALL BE USED.

MULTI-TRUNK TREE PLANTING DETAIL

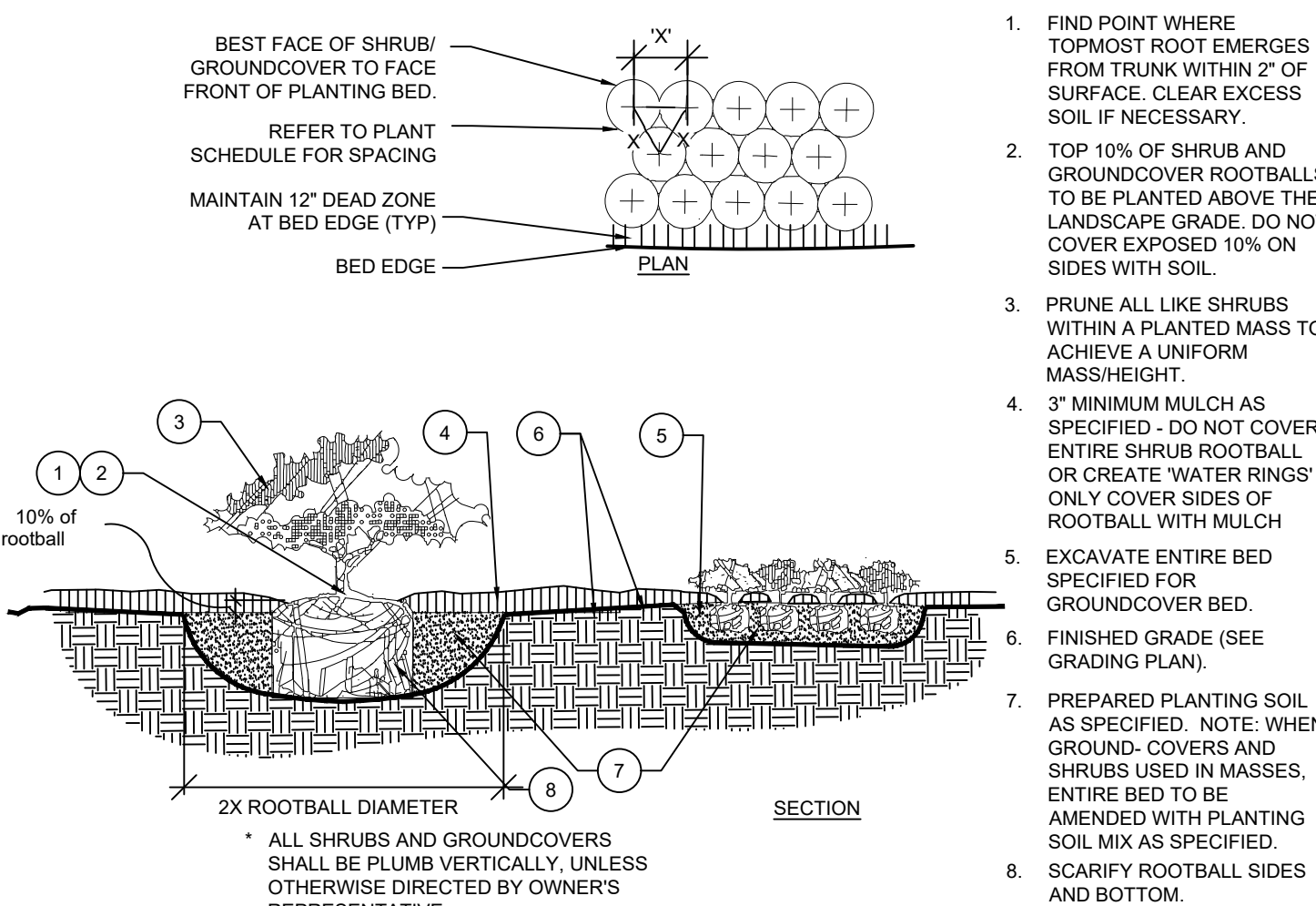
SECTION NTS



- NOTES:
 * CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.
 * STONE MULCH: 24" MIN. FROM BUILDING. INSTALL STONE MULCH. MULCH TYPE TO BE RUSTIC RIVER ROCK OR OWNER'S REPRESENTATIVE APPROVED EQUAL. STONE MULCH TO BE INSTALLED TO A DEPTH OF 4-6" (MIN.)

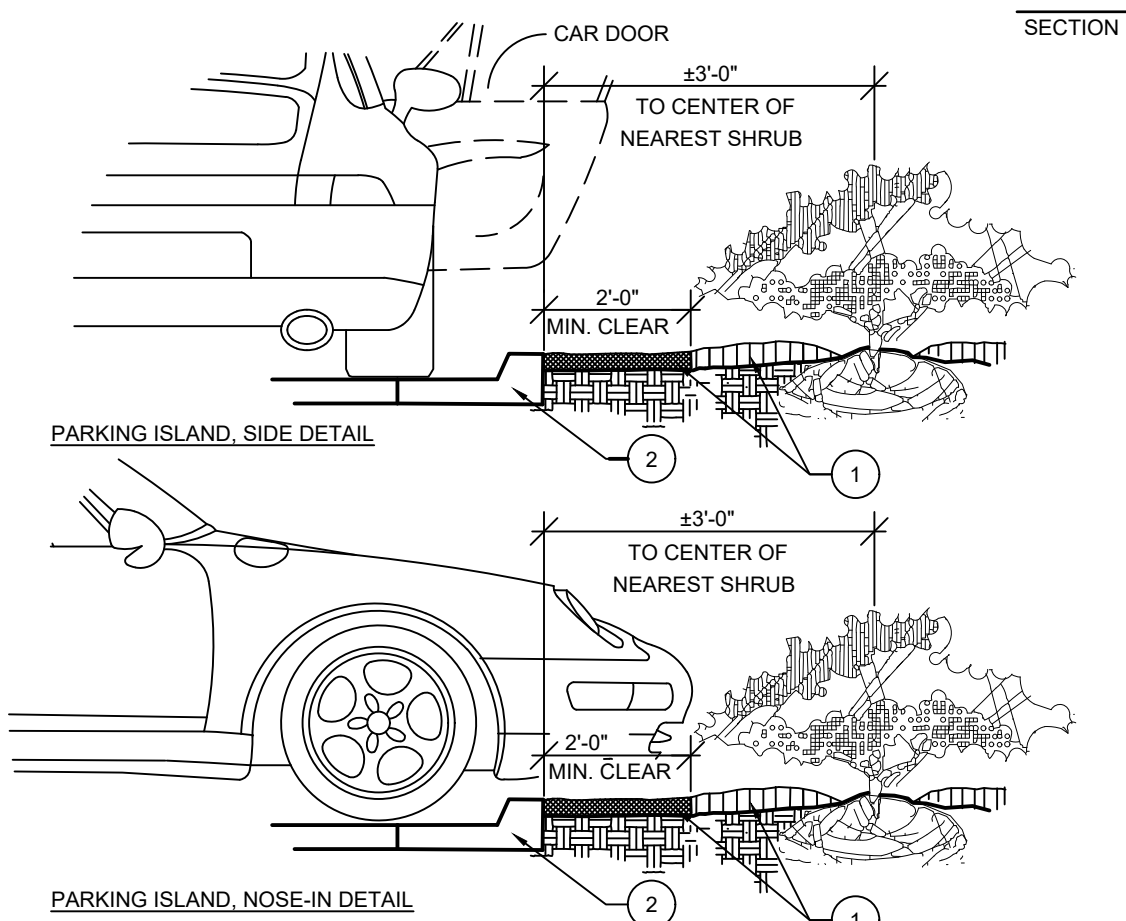
PLANTINGS ADJACENT TO BUILDINGS

SECTION NTS



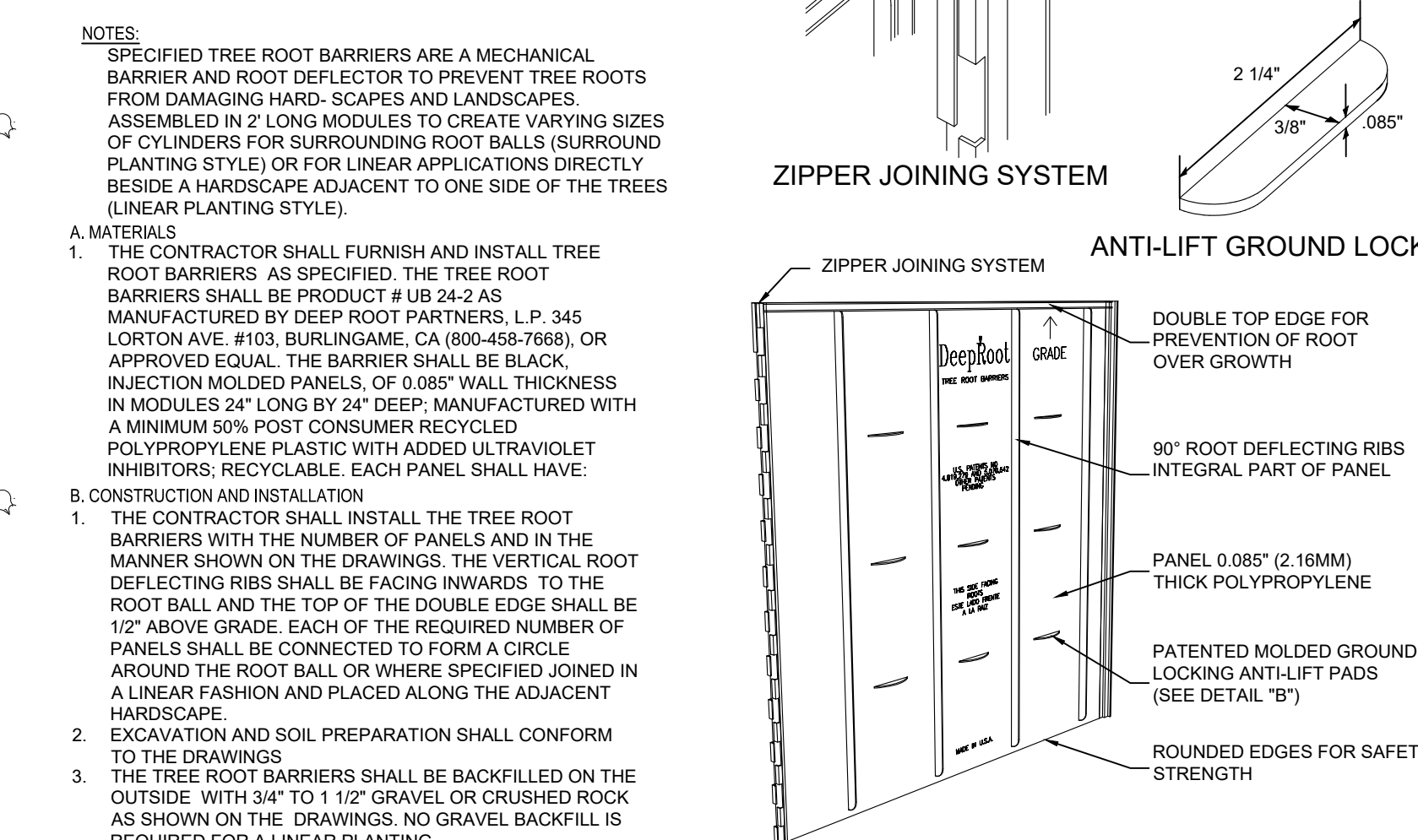
SHRUB / GROUNDCOVER PLANTING

PLAN/SECTION NTS



PARKING SPACE/CURB PLANTING

SECTION NTS



24" DEEPROOT TREE ROOT BARRIERS

SECTION NTS

LANDSCAPE CERTIFICATION:
 GEOFFREY K. BARKETT DATE
 FCLD #DC1 71

DATE	REVISION	MARK

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
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LANDSCAPE PLAN DETAILS

SPALLONE DENTAL OFFICE
 1985 POINTE WEST DR.
 VERO BEACH, FLORIDA
 INDIAN RIVER COUNTY

ENGINEER CERTIFICATION
 JOSEPH W. SCHULKE
 FL. REG. NO. 47048
 JOHN H. BITTLE
 FL. REG. NO. 57396
 WILLIAM P. STODDARD
 FL. REG. NO. 57605

DATE: SHEET
C-603
 PROJECT NO. 21-034

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

- 1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.
- 2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE HEAT WILL DAMAGE ANY PLANT. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS (\$100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

- 1. GENERAL
MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER. UPON SAMPLES' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SAMPLE SIZE
MULCH	ONE (1) CUBIC FOOT
TOPSOIL MIX	ONE (1) CUBIC FOOT
PLANTS	ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)

2. PLANT MATERIALS

- A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARD PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHEN ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE.
- B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.
- C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

- 1. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW.
- 2. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 7.0. SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
- 3. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY THE OWNER.
- 4. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT ENGINEER TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.
- 5. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

*FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF 3 INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE). SEE PLANT LIST FOR TYPE OF MATERIAL (FLOORMULCH, EUCALYPTUS MULCH, OR PINE STRAW) AND GRADE.

I. DIGGING AND HANDLING

- 1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING. AS NECESSARY UNTIL PLANTING, PLANT MATERIALS SHALL BE PROPERLY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILT-PRUF" OR EQUAL) TO MINIMIZE TRANSPORTATION WATER LOSS.
- 2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.
- 3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.

J. CONTAINER GROWN STOCK

- 1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.
- 2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
- 3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
- 4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITIES ESTIMATED HAVE BEEN MADE CAREFULLY, BUT THE ENGINEER OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

N. FINE GRADING

- 1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
- 2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
- 3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

- 1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE-CALL - 811 - TO LOCATE UTILITIES.
- 3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUBGRADE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 30". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 30" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.
- 4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
- 5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS, AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
- 6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
- 7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 260.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
- 8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
- 9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
- 10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
- 11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
- 12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRE, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
- 13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
- 14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" OF PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E, THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
- 15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DESIRE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE ENGINEER IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE ENGINEER IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
- 16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
- 17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "GROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY).

P. LAWN SODDING

- 1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
- 2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
- 3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.
- 4. SODDING
 - A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
 - B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETY TYPE, AND FREE FROM WEEDS, FUNGI, INSECTS AND DISEASES OF ANY KIND.
 - C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS, ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED - REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.
- 5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
- 6. LAWN MAINTENANCE:
 - A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"x12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRAIDING IF NECESSARY).
 - B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM-CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

S. MAINTENANCE (ALTERNATE BID ITEM)

CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST-PER-MONTH BASIS.

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE ENGINEER OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

U. WARRANTY

- 1. THE LIFE AND SATISFACTORY CONDITION OF ALL 7 GALLON AND LARGER PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
- 2. THE LIFE AND SATISFACTORY CONDITION OF ALL OTHER PLANT MATERIAL (INCLUDING SOD) INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
- 3. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING", AT NO ADDITIONAL COST TO THE OWNER.
- 4. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

V. SUBMITTALS

- 1. FOR ALL LANDSCAPE INSTALLATIONS, THE CONTRACTOR SHALL SUBMIT PRODUCT DATA IN THE FORM OF MANUFACTURERS' CUT SHEETS AND CATALOG DATA FOR ALL PRODUCTS, MATERIAL AND EQUIPMENT CLEARLY INDICATING THE SPECIFIC PART OR PRODUCT CATALOG NUMBER(S) FOR APPROVAL AND SUBMIT MATERIALS LIST INDICATING ALL PLANT SPECIES, QUALITY AND SIZE.
- 2. SUBMIT 5 COPIES OF REQUESTED INFORMATION, NEATLY BOUND AND INDEXED PER CATEGORY.
- 3. THE CONTRACTOR SHALL SUBMIT A LANDSCAPE COORDINATION DRAWING, INDICATING CONTRACTOR'S PROPOSED LOCATION OF TREES, SHRUBS, GROUNDCOVERS AND MULCH THIS DRAWING SHOULD BE PREPARED ON A COPY OF THE LANDSCAPE PLAN PROVIDED IN THESE DRAWINGS AND SHALL CLEARLY DEPICT ADJUSTMENTS OR CHANGES THE CONTRACTOR PROPOSES TO THE PLANT SPECIES, SIZE OR LOCATION. THE DRAWINGS SHALL INDICATE ALL PROPOSED SUBSTITUTIONS OF SIZE, AND/OR MATERIAL.
- 4. ALLOW TWO WEEKS FOR THE ENGINEER TO COMPLETE REVIEW AND APPROVAL OF PRODUCT DATA, AND COORDINATION DRAWINGS. ENGINEER WILL NOT BE RESPONSIBLE FOR PROJECT DELAYS RELATED TO DELIVERY AND TRANSMISSION OF THE INFORMATION AND DOCUMENTATION ONCE INFORMATION HAS LEFT ENGINEER'S OFFICE. ITEMS REQUIRING A LONG LEAD TIME SHOULD BE SUBMITTED AS SOON AS POSSIBLE.
- 5. WARRANTY: CONTRACTOR SHALL SUBMIT A WARRANTY LETTER TO OWNER, INDICATING THE WARRANTY PERIOD, WARRANTY REQUIREMENTS (AS SPECIFIED IN THESE DRAWING AND SPECIFICATIONS), AND DATES OF WARRANTY PERIOD, WHICH SHALL BEGIN AT THE DATE OF ISSUANCE OF PROJECT CERTIFICATE OF OCCUPANCY, AND END TWELVE (12) MONTHS AFTER.
- 6. CERTIFICATION: CONTRACTOR SHALL SUBMIT CERTIFICATION STATING THAT: PLANT SPECIES AND SIZE CONFORM TO THOSE INDICATED ON THE DRAWINGS; ALL NURSERY STOCK IS IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES; ALL PLANTS ARE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY; ALL PLANTS ARE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND HAVE ADEQUATE ROOT SYSTEMS; TREES FOR PLANTING IN ROWS ARE UNIFORM IN SIZE AND SHAPE. THIS CERTIFICATION IS NECESSARY PRIOR TO ACCEPTANCE OF WORK BY THE OWNER.

LANDSCAPE CERTIFICATION:

GEOFFREY K. BARKETT
FCLD #DC171

DATE: _____

C-604

DATE	REVISION	MARK

DRAWING NO.	DESIGNED BY	DRAWN BY	W/IF/D/R	CHECKED BY	J/N/S	SCALE	N/A	DATE
								07-23-21

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LANDSCAPING SPECIFICATIONS

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ENGINEER CERTIFICATION

- JOSEPH W. SCHULKE
FL. REG. NO. 47648
- JOHN R. BITTLE
FL. REG. NO. 57386
- WILLIAM P. STODDARD
FL. REG. NO. 57605

DATE: _____

SHEET

C-604

PROJECT NO. 21-034