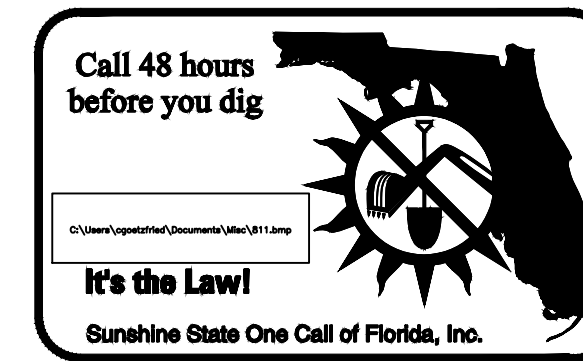


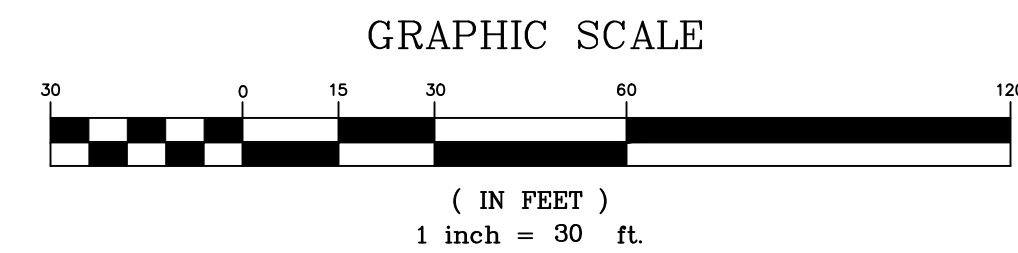
CONCEPTUAL



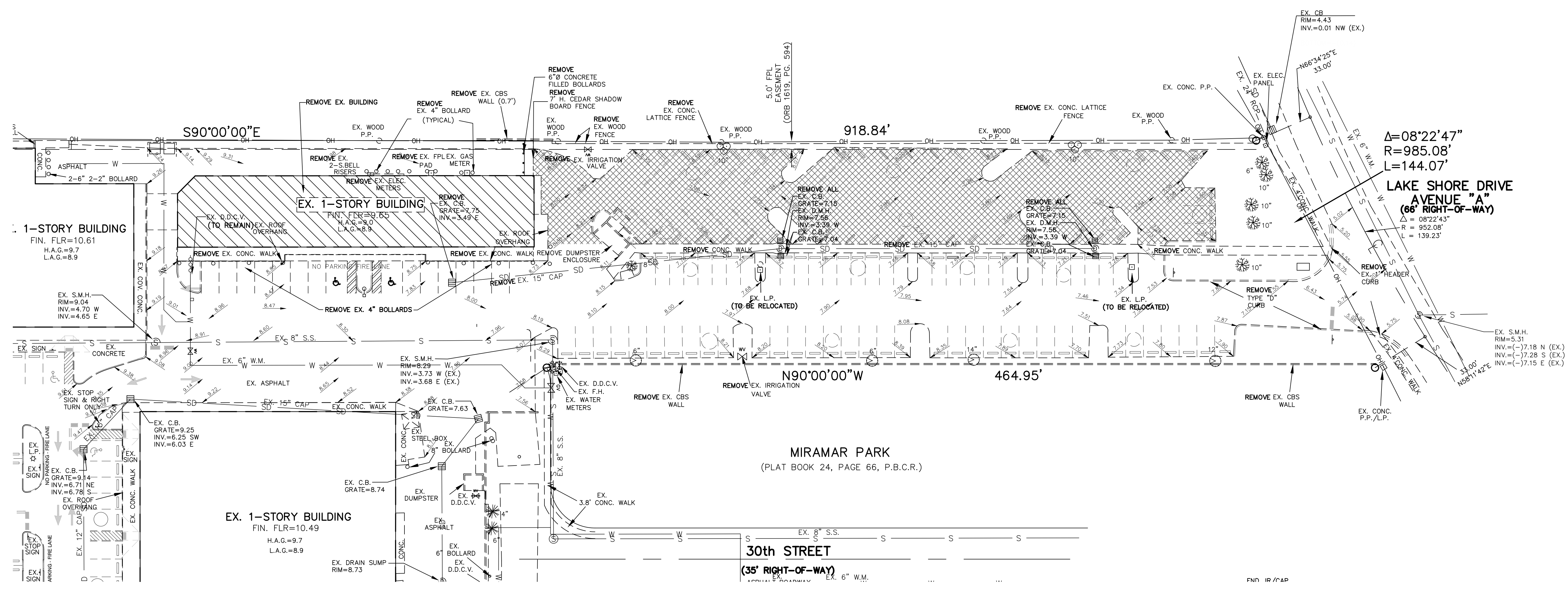
- NOTES:**
- 1.) CONTRACTOR SHALL BE REQUIRED TO ATTEND A MANDATORY PRE-CONSTRUCTION MEETING WITH THE CITY OF RIVIERA BEACH STAFF PRIOR TO ANY DISTURBANCE OF THE PROPERTY.
 - 2.) CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITIES BOTH ABOVE AND BELOW GROUND PRIOR TO START OF CONSTRUCTION. ANY BREAKS OR DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IN WRITING IMMEDIATELY.
 - 3.) CONTRACTOR SHALL HAVE EROSION CONTROL DEVICES IN PLACE PRIOR COMMENCEMENT OF CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO ASSURE ALL EROSION CONTROL DEVICES ARE MAINTAINED IN PROPER OPERATING CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
 - 4.) STORAGE FOR CONSTRUCTION MATERIALS AND EQUIPMENT AND PARKING FOR CONSTRUCTION CONTRACTORS SHALL BE PROVIDED ONCE A CONTRACTOR HAS BEEN SELECTED.
 - 5.) ALL LIMEROCK AND BASE MATERIALS SHALL BE REMOVED FROM THE PLANTER AREAS/ISLANDS AND REPLACED WITH APPROPRIATE PLANTING SOIL PRIOR TO THE LANDSCAPING OF THE SITE.

LEGEND

| | | | |
|-----|-----|-----|---|
| --- | W | --- | EXISTING WATER LINE |
| --- | W | --- | EXISTING GATE VALVE |
| --- | --- | --- | PROPOSED PIPE AND CATCH BASIN |
| --- | --- | --- | PROPOSED GRADE |
| --- | --- | --- | DIRECTION OF FLOW |
| --- | SD | --- | EXISTING PIPE AND INLET |
| --- | --- | --- | EXISTING GRADE |
| --- | S | --- | EXISTING SANITARY SEWER LINE |
| --- | --- | --- | EXISTING PAVEMENT SECTION (TO BE REMOVED) |
| --- | --- | --- | EXISTING ASPHALT (TO BE REMOVED) |
| --- | --- | --- | EXISTING BUILDING (TO BE REMOVED) |



NOTE: ELEVATION DATUM = NGVD 29
CONVERSION TO NAVD 88 = -1.52'

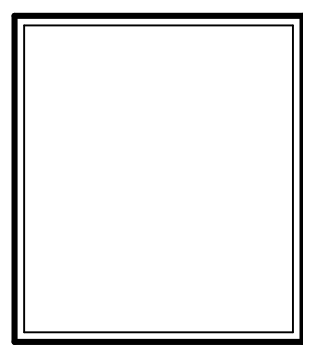


| | | |
|---------------------|------|----|
| REVISIONS | DATE | BY |
| FILE NAME: 3517ENG2 | | |

CAULFIELD & WHEELER, INC.
 CIVIL ENGINEERING, LANE PLANNING
 LANDSCAPE ARCHITECTURE, SURVEYING
 7900 CLAYTON ROAD, SUITE 100
 BOCA RATON, FLORIDA 33433
 PHONE: (561) 392-1991 / FAX: (561) 750-4452
 ENGINEERING #EB-0003591

**ISLAND COVE APARTMENTS
 DEMOLITION PLAN**
 RIVIERA BEACH, FLORIDA

DATE 2/8/18
 DRAWN BY CLG
 F.B./ PG. ----
 SCALE 1" = 30'

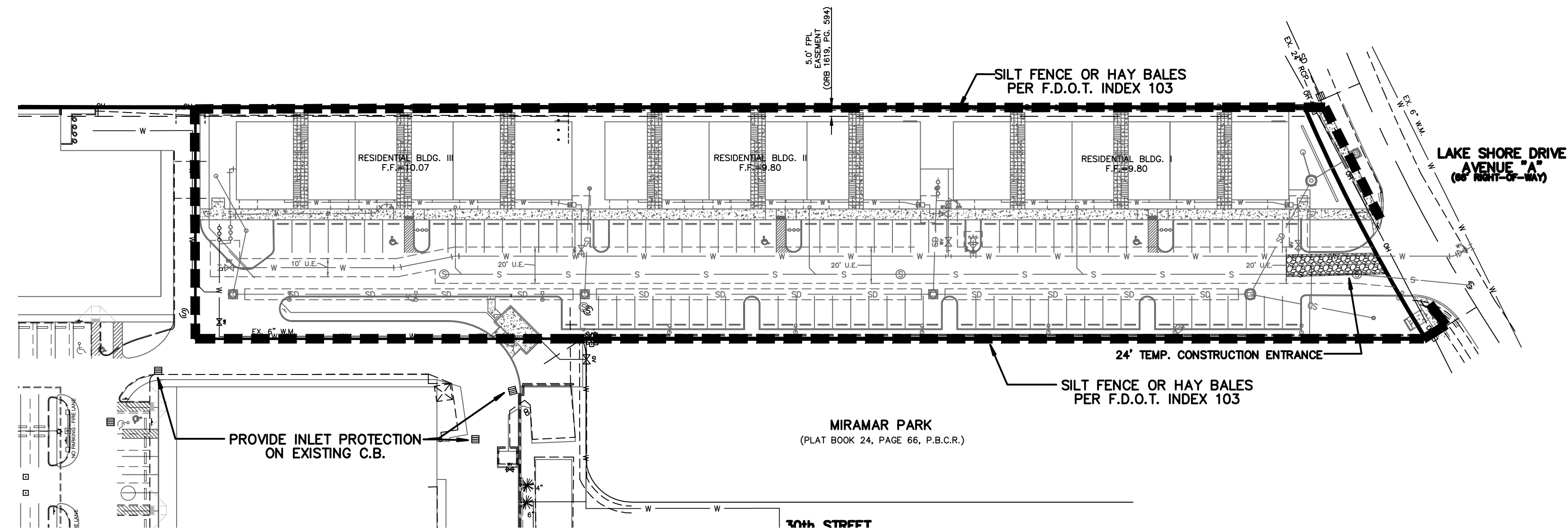


DEFINITIONS

1. CITY – RIVIERA BEACH
2. CONTRACTOR – UTILITY CONTRACTOR AND ALL UTILITY SUBCONTRACTORS
3. ENGINEER – ENGINEER RESPONSIBLE FOR INSPECTION AND CERTIFICATION

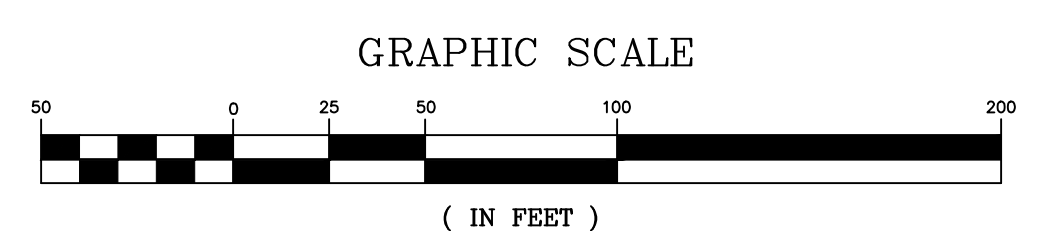
PROCEDURE

1. A PRE-CONSTRUCTION MEETING IS TO BE HELD PRIOR TO DELIVERY OF MATERIALS AND INITIATION OF ANY WATER AND SEWER CONSTRUCTION. THE MEETING SHALL BE ATTENDED BY THE CITY, CONTRACTOR, SUBCONTRACTORS, ENGINEER AND OTHER INTERESTED PARTIES.
2. ANY REVISIONS TO THE APPROVED PLANS MUST BE APPROVED BY THE CITY PRIOR TO THE PRE-CONSTRUCTION MEETING.
3. A MINIMUM OF THREE (3) COPIES OF THE CURRENT APPROVED PRODUCT LIST AND ALL NECESSARY SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING. ALL PIPE MANUFACTURERS SHALL SUBMIT THREE (3) COPIES OF AN AFFIDAVIT THAT THE PIPE AND COATINGS WERE MANUFACTURED IN ACCORDANCE WITH AWWA C151/A21.51-91.
4. ALL APPLICABLE PERMITS MUST BE OBTAINED WITH COPIES PROVIDED TO THE CITY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
6. ALL MATERIALS SUPPLIED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED BY THE COUNTY PRIOR TO CONSTRUCTION. ALL REQUESTS FOR MATERIAL SUBSTITUTION SHALL BE APPROVED PRIOR TO DELIVERY OF THESE MATERIALS TO THE JOB SITE.
7. THE LOCATION OF THE EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF OTHER UTILITIES (NOT SHOWN ON THE PLAN) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE UTILITY CONFLICTS, THE CONTRACTOR SHALL INFORM THE CITY AND NOTIFY THE RESPECTIVE UTILITY OWNER TO RESOLVE THE UTILITY CONFLICTS AND THE UTILITY ADJUSTMENTS AS REQUIRED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS OF ALL OTHER UTILITY FACILITIES.
10. THE CONTRACTOR SHALL SCHEDULE INSPECTIONS AND TESTS WITH THE CITY A MINIMUM OF 24 HOURS IN ADVANCE.
11. CONTRACTOR SHALL NOT DISTURB EXISTING CITY MAINS OR STRUCTURES WITHOUT THE PRESENCE OF A CITY INSPECTOR. CITY UTILITY SYSTEM VALVES AND APPURTENANCES MAY ONLY BE OPERATED BY CITY PERSONNEL.
12. FACILITIES PROPOSED HEREIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS. DEVIATIONS FROM THE APPROVED PLANS MUST BE APPROVED IN ADVANCE BY THE CITY.
13. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE OF THE WORK, A FINAL INSPECTION SHALL VERIFY PROPER ADHERENCE TO ALL FACETS OF THE PLANS AND SPECIFICATIONS.
14. PAVING, DRAINAGE AND TRAFFIC CONSTRUCTION SHALL CONFORM TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND DESIGN STANDARDS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND PALM BEACH COUNTY TYPICAL No. T-P-13-001 (LATEST REVISION) UNLESS SHOWN OTHERWISE.
15. AS-BUILT DRAWINGS SHALL BE PREPARED BY A REGISTERED LAND SURVEYOR, REGISTERED IN THE STATE OF FLORIDA, AND SUBMITTED BY THE CONTRACTOR TO THE CITY.
16. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553-851 FOR PROTECTION OF UNDERGROUND GAS PIPE LINES.
17. CONTRACTOR SHALL NOTIFY SUNSHINE STATE ONE (1-800-432-4770) 48 HOURS IN ADVANCE OF CONSTRUCTION.
18. GRADES SHOWN ON PLANS ARE FINISHED GRADES. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST EXISTING SANITARY SEWER MANHOLE TOPS AND VALVE BOX COVERS TO FINISHED GRADE.
19. CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES DURING CONSTRUCTION AND SHALL BE REQUIRED TO PROVIDE ALL BARRICADES, LIGHTING, SIGNAGE AND FLAGMEN AS NECESSARY TO PROVIDE FOR THE SAFETY OF THE PUBLIC IN THE WORK AREA. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC MAINTENANCE PLAN PRIOR TO CONSTRUCTION.
20. EXISTING BASE MATERIAL THAT IS REMOVED DURING CONSTRUCTION SHALL NOT BE USED IN THE CONSTRUCTION OF NEW LIMEROCK BASE.
21. ALL VEGETATION, DEBRIS, CONCRETE OR OTHER UNSUITABLE MATERIAL SHALL BE LEGALLY DISPOSED OF OFF-SITE IN AN AREA AT THE CONTRACTORS EXPENSE.
22. CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES, SUCH AS TURBIDITY SCREENS, CURTAINS AND FLOATING SILT BARRIERS WHERE NECESSARY IN ORDER TO COMPLY WITH ALL STATE AND LOCAL WATER QUALITY STANDARDS.
23. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED.
24. ALL PAVED SURFACES SHALL BE PROPERLY MARKED PRIOR TO HOURS OF DARKNESS. PERMANENT PAVEMENT MARKING STALLS SHALL BE LAID OUT USING MARKING CHALK. LAYOUT TO BE REVIEWED BY THE CITY PRIOR TO PLACEMENT OF FINAL MARKING.
25. EMBANKMENT (FILL) AND EXCESS MATERIAL REQUIRED FOR ROADWAY RECONSTRUCTION AND UTILITY INSTALLATIONS SHALL BE SUPPLIED AND/OR DISPOSED OF BY THE CONTRACTOR. ALL COSTS ASSOCIATED WITH EARTHWORK REQUIREMENTS TO COMPLETE THE ROADWAY RECONSTRUCTION AND UTILITY IMPROVEMENTS SHALL BE INCLUDED IN THE COSTS OF OTHER APPROPRIATE PAY ITEMS.
26. CONTINUITY OF WATER AND SEWER SERVICE TO CITY UTILITY CUSTOMERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THIS PROJECT. IF A BREAK IN SERVICE IS UNAVOIDABLE TO ACCOMMODATE CONNECTION OF NEW FACILITIES, IT SHALL BE SCHEDULED FOR OFF PEAK HOURS WITH THE CITY. DETERMINATION OF SERVICE BREAK REQUIREMENT WILL BE MADE BY THE CITY.
27. SITE INFORMATION BASED ON A SURVEY PREPARED BY: CAULFIELD & WHEELER, INC.
28. RELOCATION OF UTILITY POLES AND GAS PIPE LINES SHALL BE COORDINATED BY THE CONTRACTOR WITH FLORIDA POWER AND LIGHT, AND FLORIDA PUBLIC UTILITIES, RESPECTIVELY. EACH UTILITY HAS BEEN NOTIFIED THAT THEY WILL BE REQUIRED TO RELOCATE THEIR UTILITIES.



CONCEPTUAL

NORTH

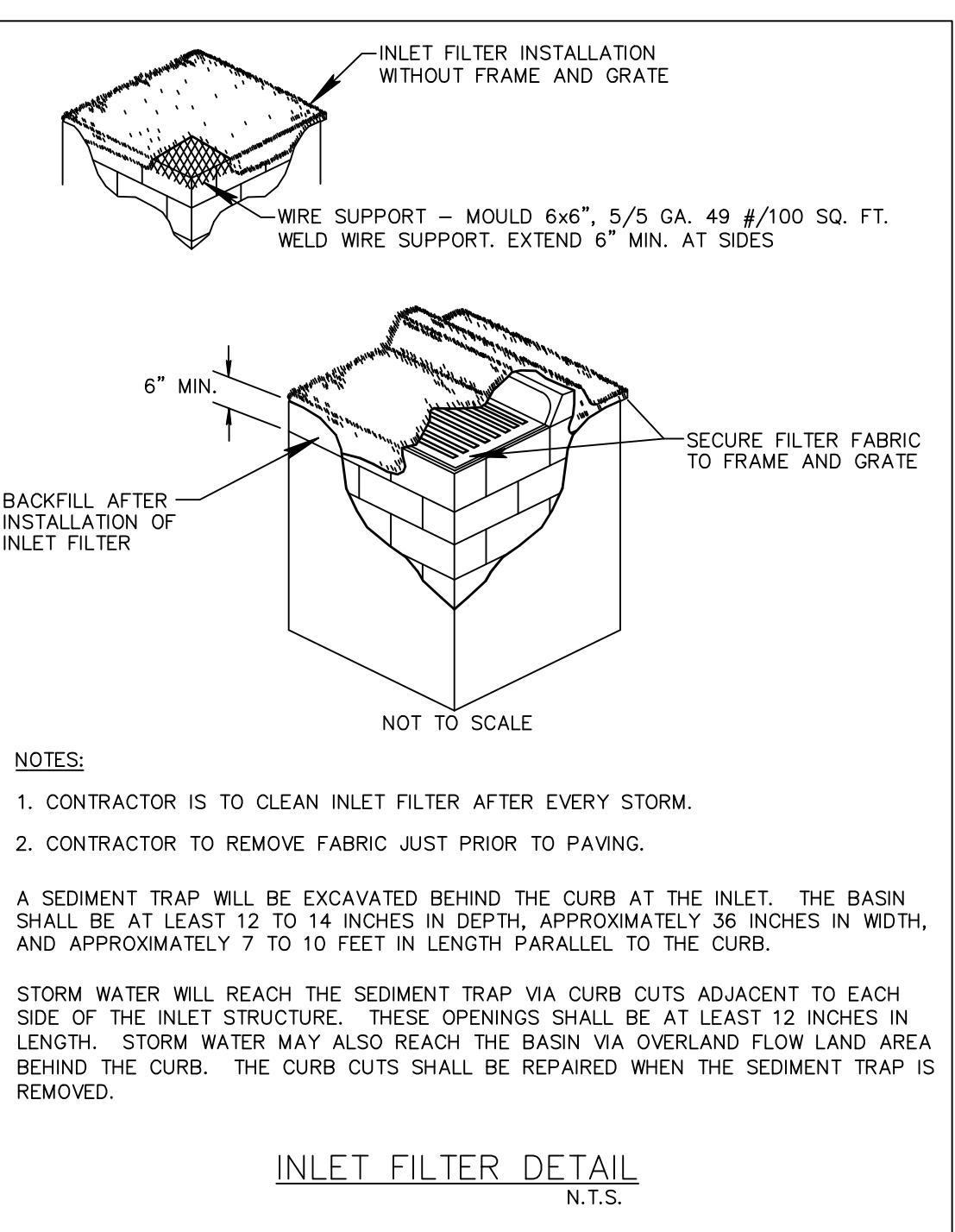
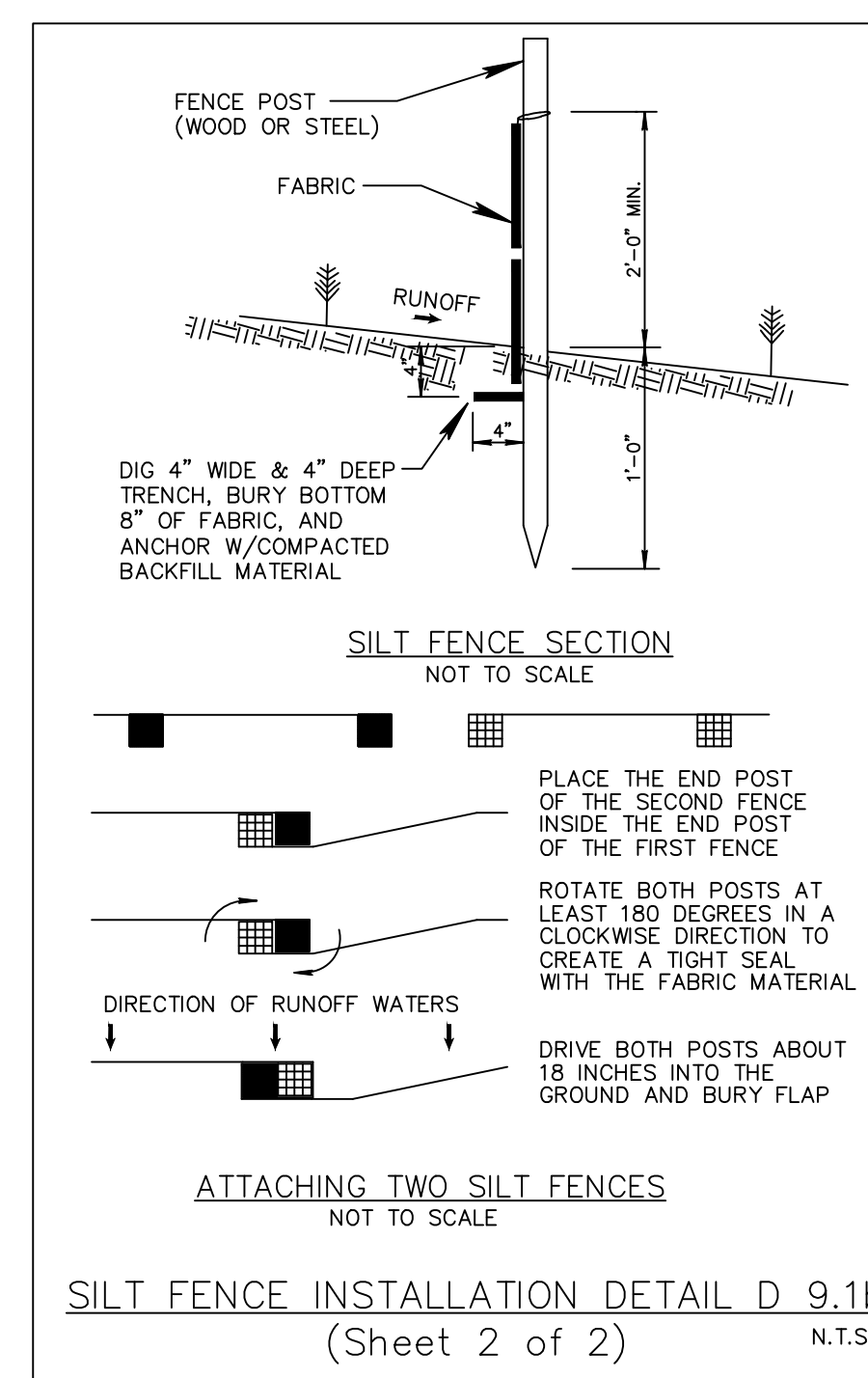
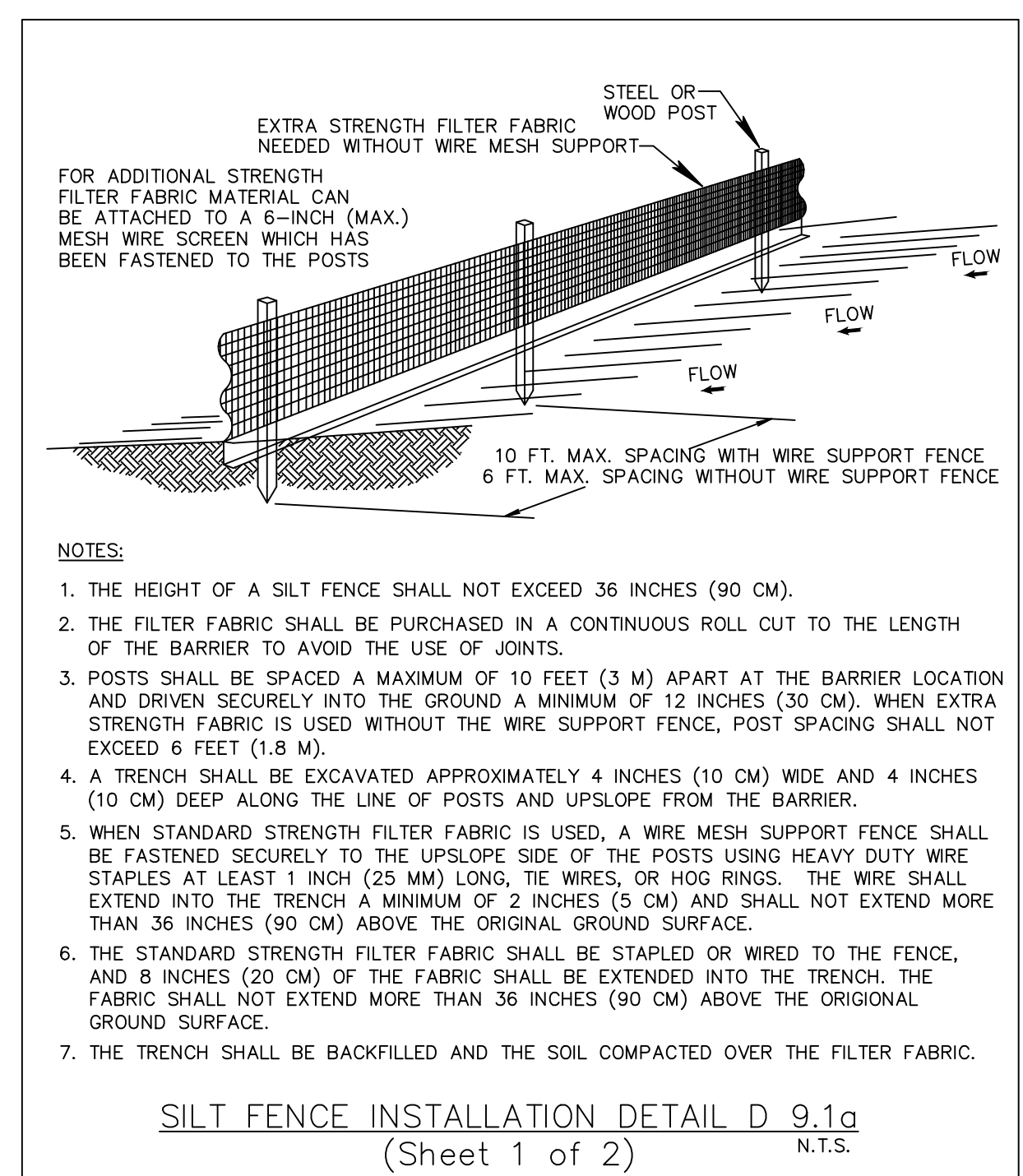
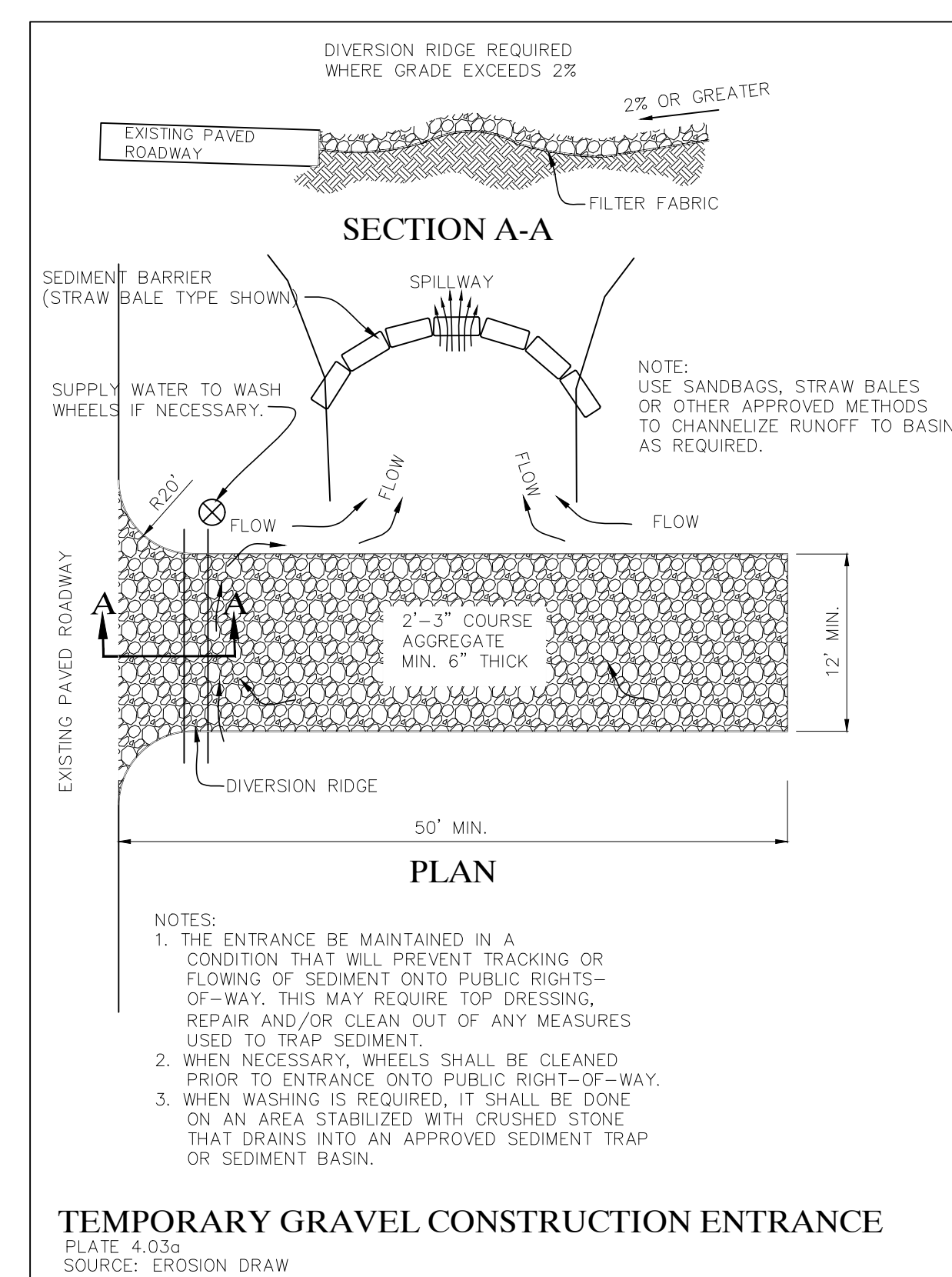


LEGEND

| | |
|--|---|
| | BOUNDARY OF POLLUTION PREVENTION (SILT FENCE OR HAY BALES PER F.D.O.T. INDEX 103) |
| | FLOATING TURBIDITY BARRIERS PER F.D.O.T. INDEX 103 |

NOTE:
TEMP. CONSTRUCTION ENTRANCE TO HAVE A 24' DOUBLE GATE OPENING. ONCE CONSTRUCTION IS COMPLETED, GATES, FENCING, & GRAVEL ENTRY WILL BE REMOVED

POLLUTION PREVENTION PLAN



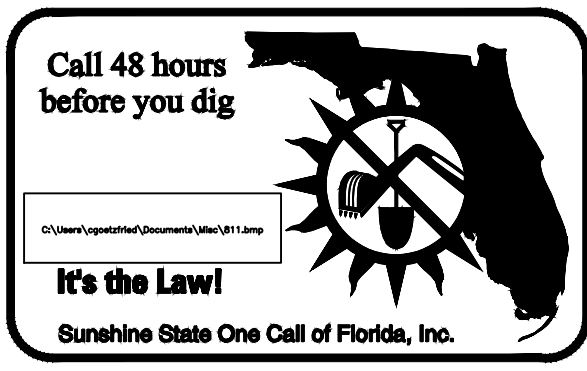
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| BY | |
| DATE | |
| REVISIONS | |
| FILE NAME | 3517ENG |

CAULFIELD & WHEELER, INC.
ENGINEERING, ARCHITECTURE, SURVEYING
1900 CLAYTON ROAD, SUITE 100
BOCA RATON, FLORIDA 33434-3434
PHONE (561) 392-1991 / FAX (561) 750-4452
ENGINEERING #EB-0003591

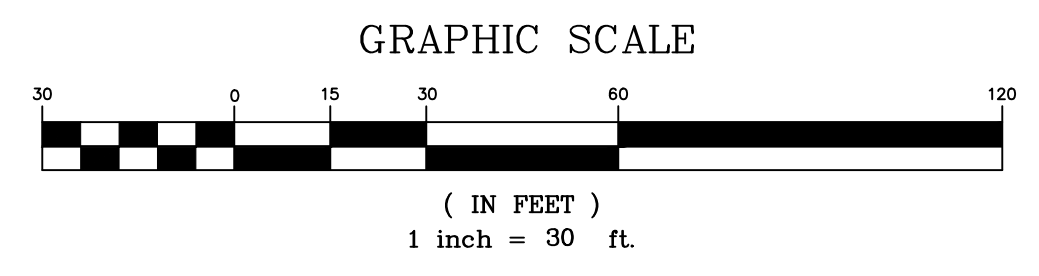
**ISLAND COVE APARTMENTS
POLLUTION PREVENTION
PLAN**
RIVIERA BEACH, FLORIDA

| | |
|-----------|--------|
| DATE | 2/8/18 |
| DRAWN BY | CLG |
| F.B./ PG. | ---- |
| SCALE | 1"=50' |

| | |
|--------------|--------|
| JOB # | 3517-2 |
| SHT. NO. | PP-1 |
| OF 12 SHEETS | |



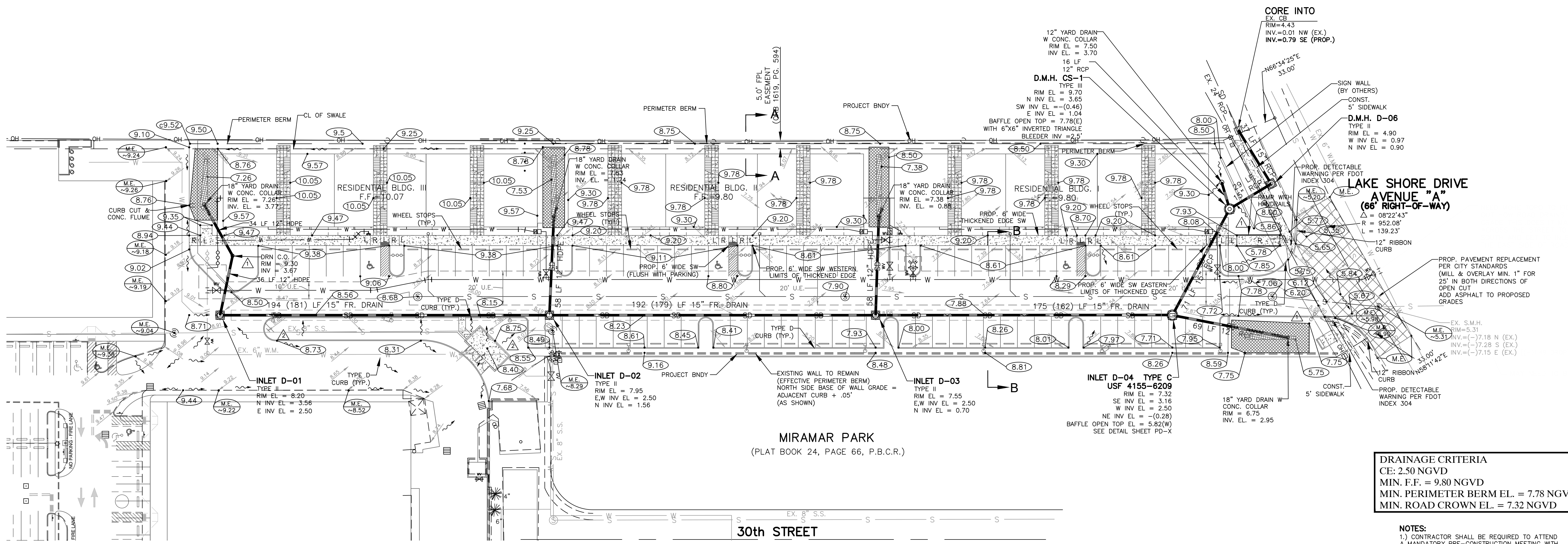
CONCEPTUAL



NOTE: ELEVATION DATUM = NGVD 29
CONVERSION TO NAVD 88 = -1.52'

LEGEND

| | | | |
|-----|-----|-----|---------------------------------------|
| --- | W | --- | EXISTING WATER LINE |
| --- | W | --- | EXISTING GATE VALVE |
| --- | --- | --- | PROPOSED PIPE AND CATCH BASIN |
| --- | --- | --- | PROPOSED GRADE |
| --- | --- | --- | DIRECTION OF FLOW |
| --- | SD | --- | EXISTING PIPE AND INLET |
| --- | S | --- | EXISTING GRADE |
| --- | S | --- | EXISTING SANITARY SEWER LINE |
| --- | --- | --- | PAVEMENT REPLACEMENT SECTION |
| --- | SD | --- | PROPOSED FRENCH DRAIN AND CATCH BASIN |
| --- | --- | --- | PROPOSED EASEMENT |



DRAINAGE CRITERIA
CE: 2.50 NGVD
MIN. F.F. = 9.80 NGVD
MIN. PERIMETER BERM EL. = 7.78 NGVD
MIN. ROAD CROWN EL. = 7.32 NGVD

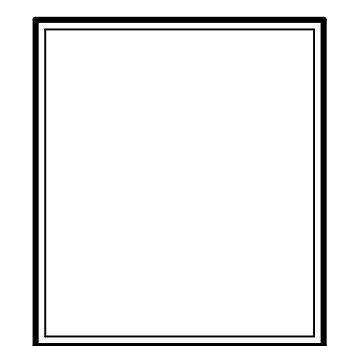
- NOTES:**
- 1.) CONTRACTOR SHALL BE REQUIRED TO ATTEND A MANDATORY PRE-CONSTRUCTION MEETING WITH THE CITY OF RIVIERA BEACH STAFF PRIOR TO ANY DISTURBANCE OF THE PROPERTY.
 - 2.) CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITIES BOTH ABOVE AND BELOW GROUND PRIOR TO START OF CONSTRUCTION. ANY BREAKS OR DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IN WRITING IMMEDIATELY.
 - 3.) CONTRACTOR SHALL HAVE EROSION CONTROL DEVICES IN PLACE PRIOR COMMENCEMENT OF CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO ASSURE ALL EROSION CONTROL DEVICES ARE MAINTAINED IN PROPER OPERATING CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
 - 4.) CONTRACTOR SHALL COVER INLET GRATES WITH FILTER FABRIC UNTIL SUCH TIME AS STORMWATER SYSTEM IS PLACED INTO SERVICE.
 - 5.) ANY DAMAGE TO EXISTING PAVEMENT, SHOULDER, CURB, SWALE, OR SIDEWALK SHALL BE REPAIRED BY THE CONTRACTOR.

| | | | |
|---------------------------|---------|----|------|
| REV PER UPDATED SITE PLAN | 6-8-21 | BR | BY |
| REV PER UPDATED SITE PLAN | 9-21-20 | BR | DATE |
| REVISIONS | | | |
| FILE NAME | 3517EN2 | | |

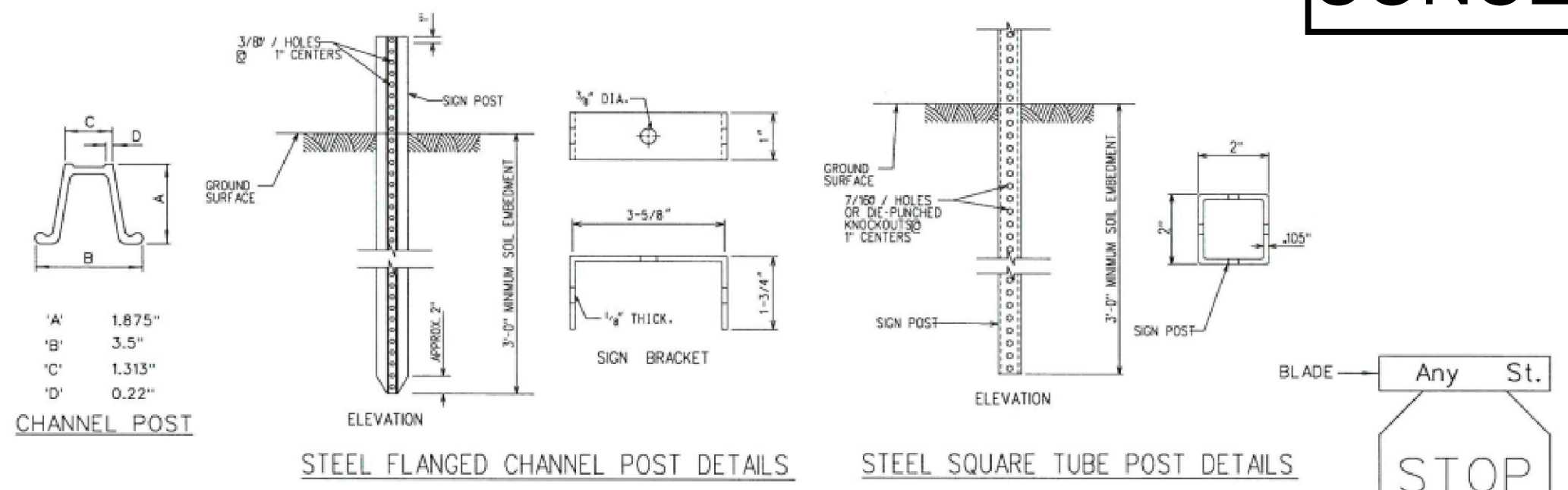
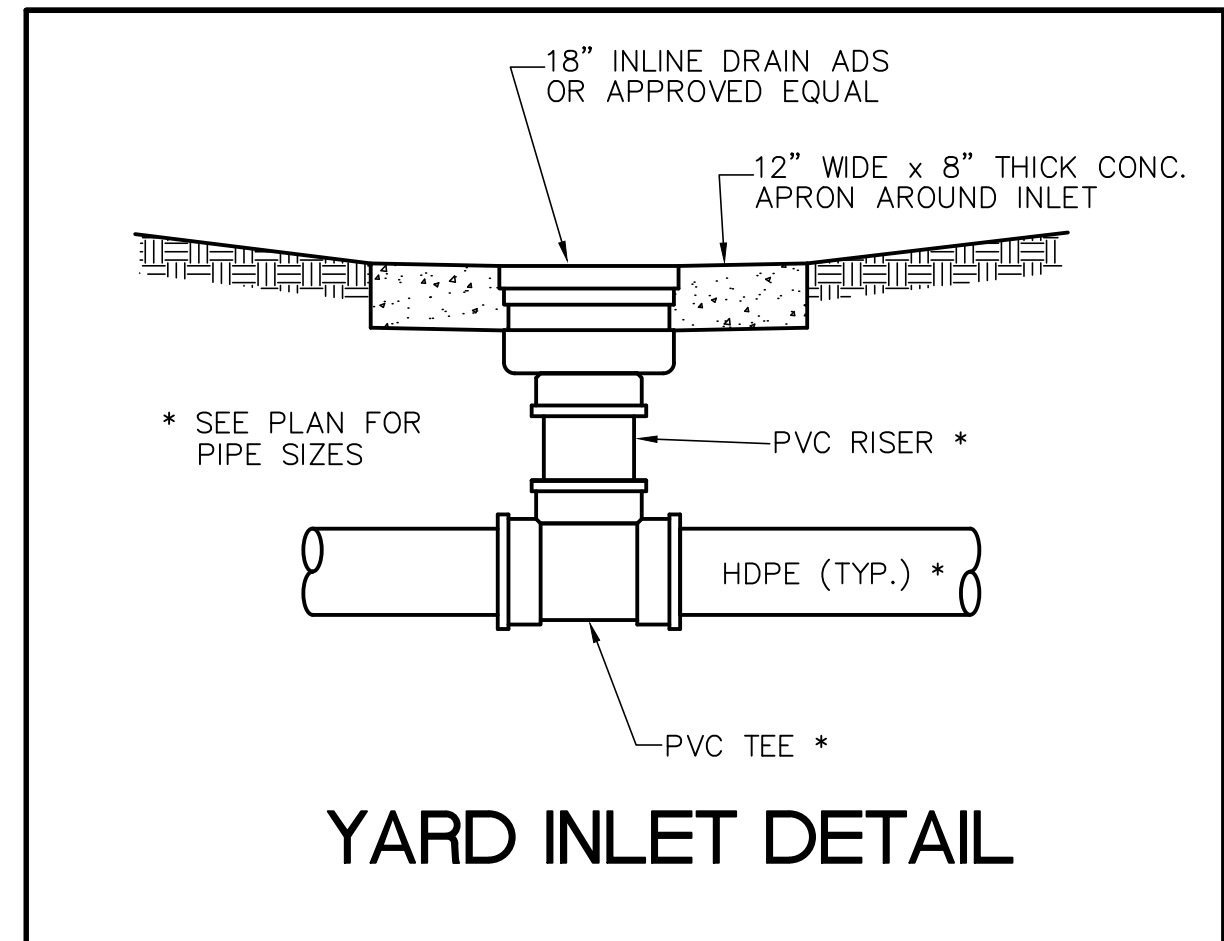
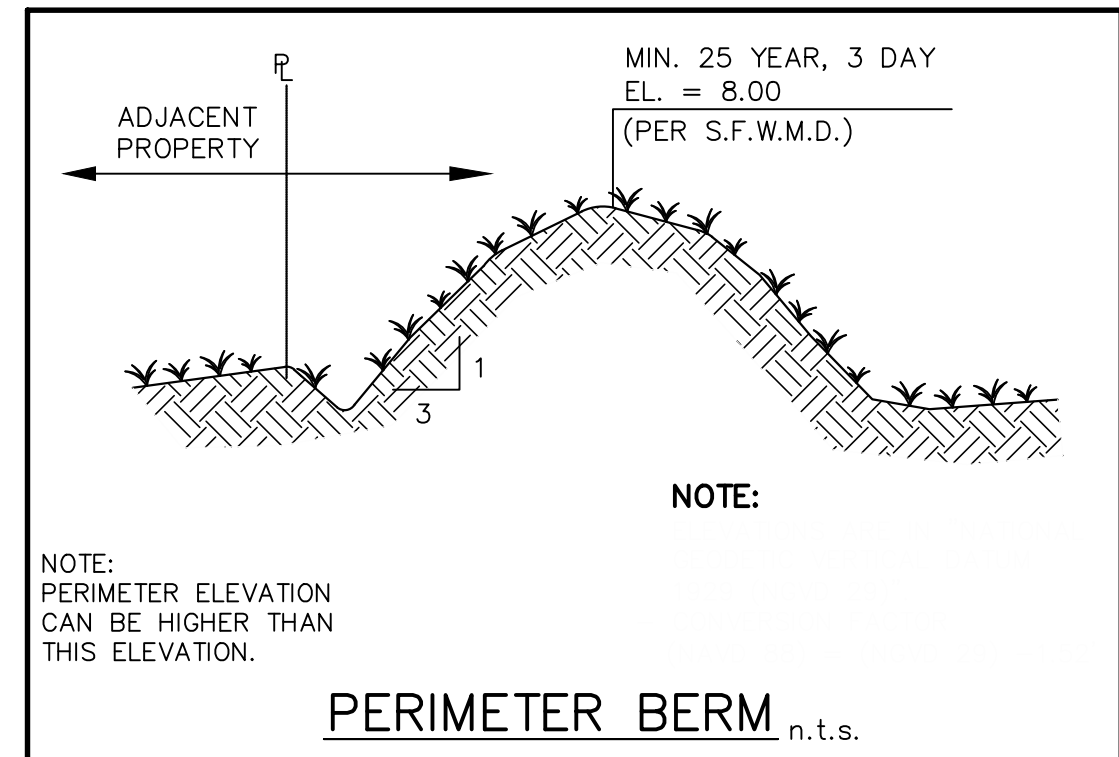
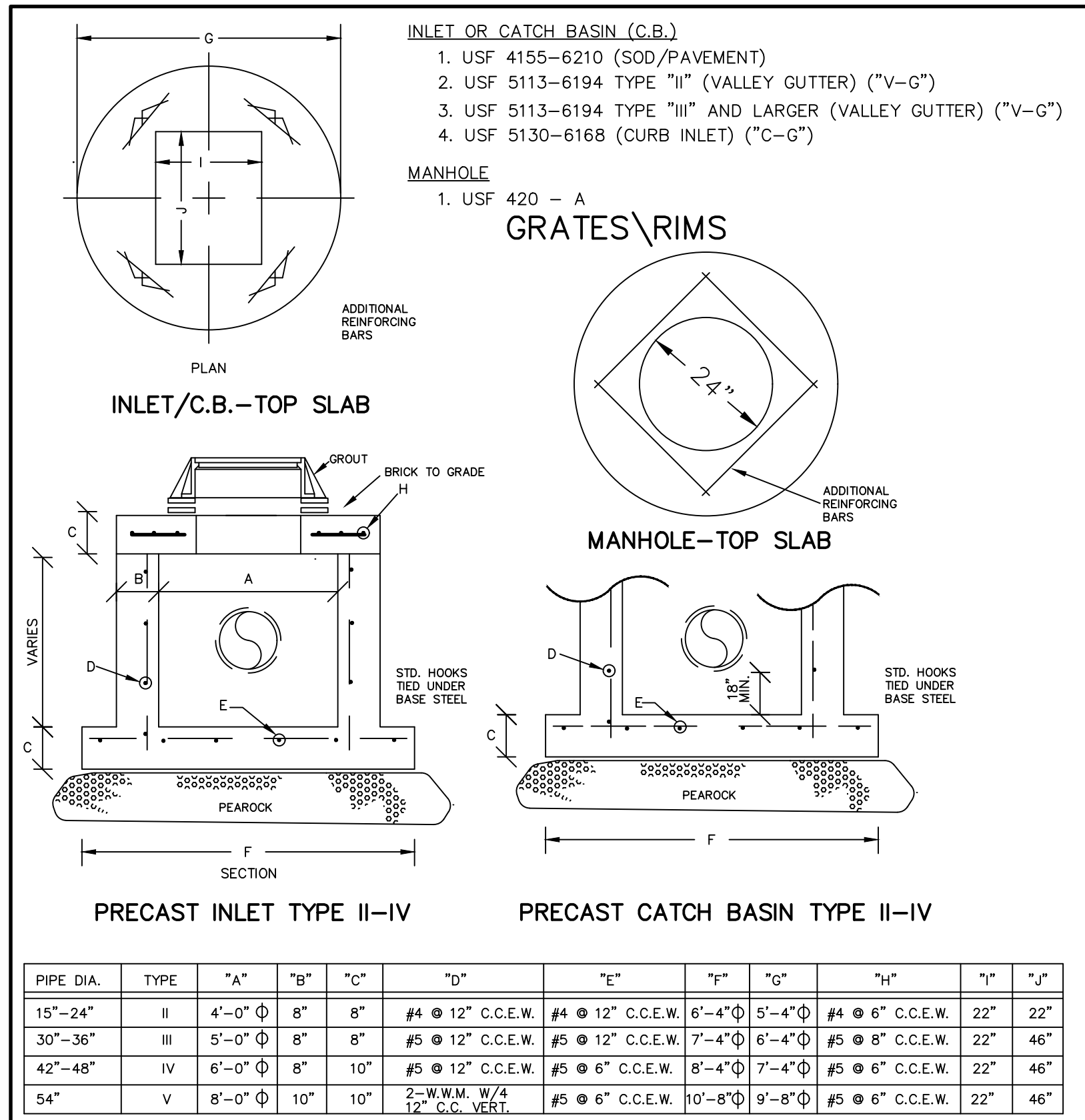
CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-1452
ENGINEERING #EB-0003591

**ISLAND COVE APARTMENTS
PAVING, GRADING
& DRAINAGE PLAN**
RIVIERA BEACH, FLORIDA

| | |
|-----------|----------|
| DATE | 2/8/18 |
| DRAWN BY | CLG |
| F.B./ PG. | --- |
| SCALE | 1" = 30' |



| | |
|--------------|--------|
| JOB # | 3517-2 |
| SHT. NO. | PD-1 |
| OF 12 SHEETS | |



GENERAL SPECIFICATIONS:

ELAT BLADE: ALCOA #6054.6063-T6 ALLOY, ETCHED, DECREASED WITH #1200 ALODINE FINISH WITH #3877 GREEN HIGH INTENSITY BACKGROUND AND EQUAL DIMENSIONS - 9" & 12" MIN. H, 24", 30", 36" AND 42" L.

LETTERS: NAME - 6" UPPERCASE WITH 4.5" LOWERCASE & 9" UPPERCASE WITH 6.75" LOWERCASE, SERIES "B" # 3870 HIGH INTENSITY (SILVER) OR EQUAL - SUFFIX - 4.5".

POST: STEEL FLANGED CHANNEL POST 3 LBS. WEIGHT PER FOOT WITH BAKED GREEN ALKYL OR GALVANIZED FINISH PER A.S.T.M. - A-123 WITHOUT ANCHOR PLATES. SQUARE POST PER FOOT INDEX 1180G.

BRACKETS: SHALL BE ATTACHED FIRMLY ON STANDARD SQUARE TUBE OR U-CHANNEL POSTS BY MEANS OF (2) 3/8" END VIEW DIAMETER HEX HEAD BOLTS.

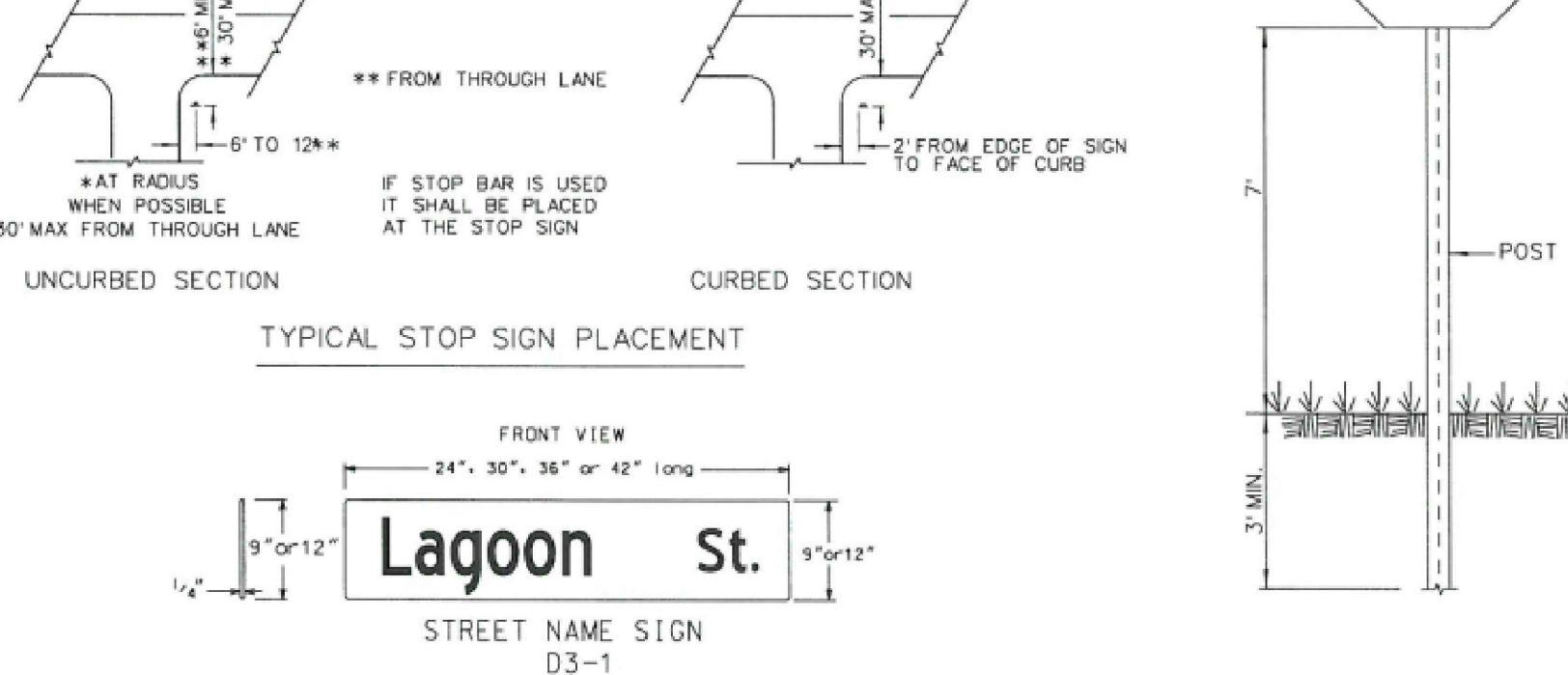
STOP SIGN: R-1 MUTCO

LOCATION: ONE PER INTERSECTION AS INDICATED ON THE PLANS.

POLICY: 9" BLADES WITH 6" UPPERCASE WITH 4.5" LOWERCASE LETTERS FOR TWO LANE ROADS WITH A SPEED LIMIT UNDER 45 MPH.

12" BLADES WITH 9" UPPERCASE WITH 6.75" LOWERCASE LETTERS FOR:

- THROUGHFARE ROADS FOUR LANES OR WIDER.
- TWO LANE ROADS WITH A POSTED SPEED LIMIT OF 45 MPH OR MORE.
- ONLY ONE BLADE WILL BE INSTALLED AT INTERSECTION WITH THROUGHFARE ROAD INDICATING THE SIDE STREET NAME.



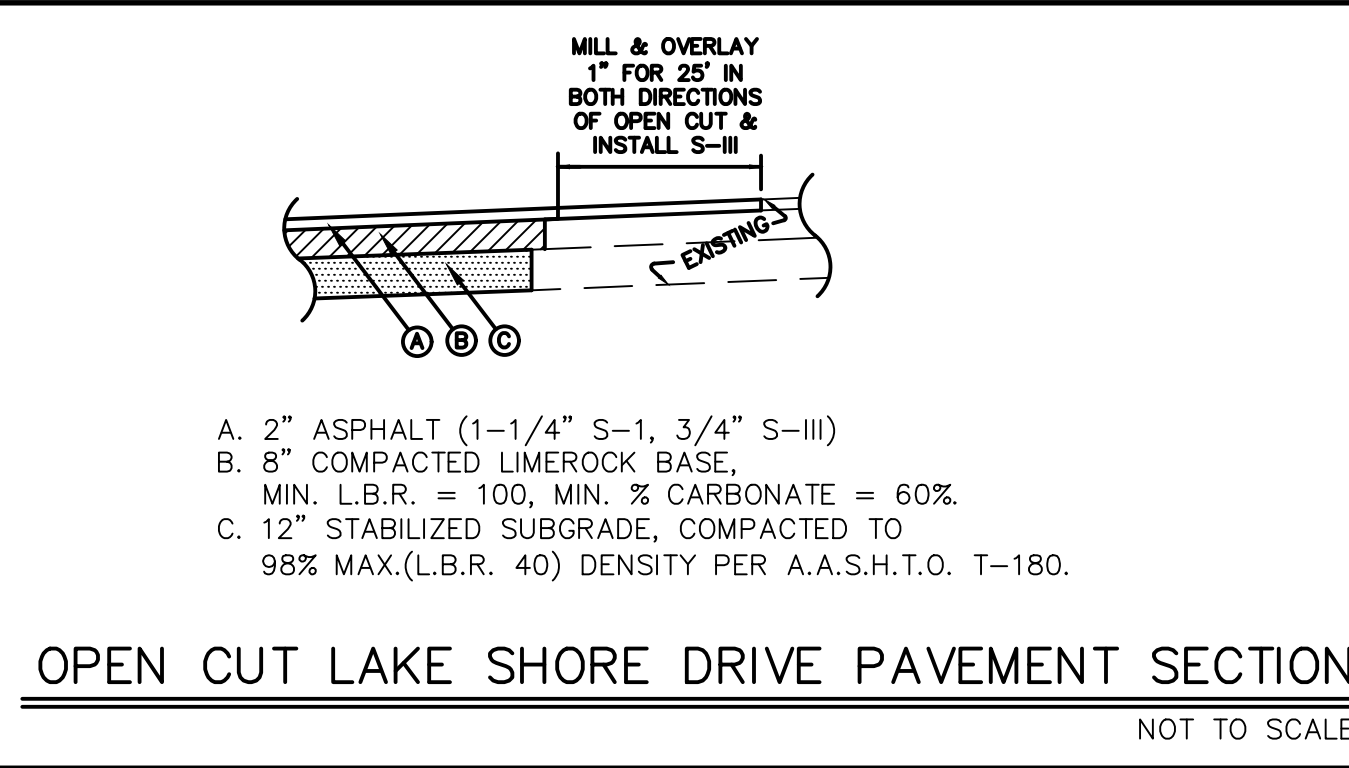
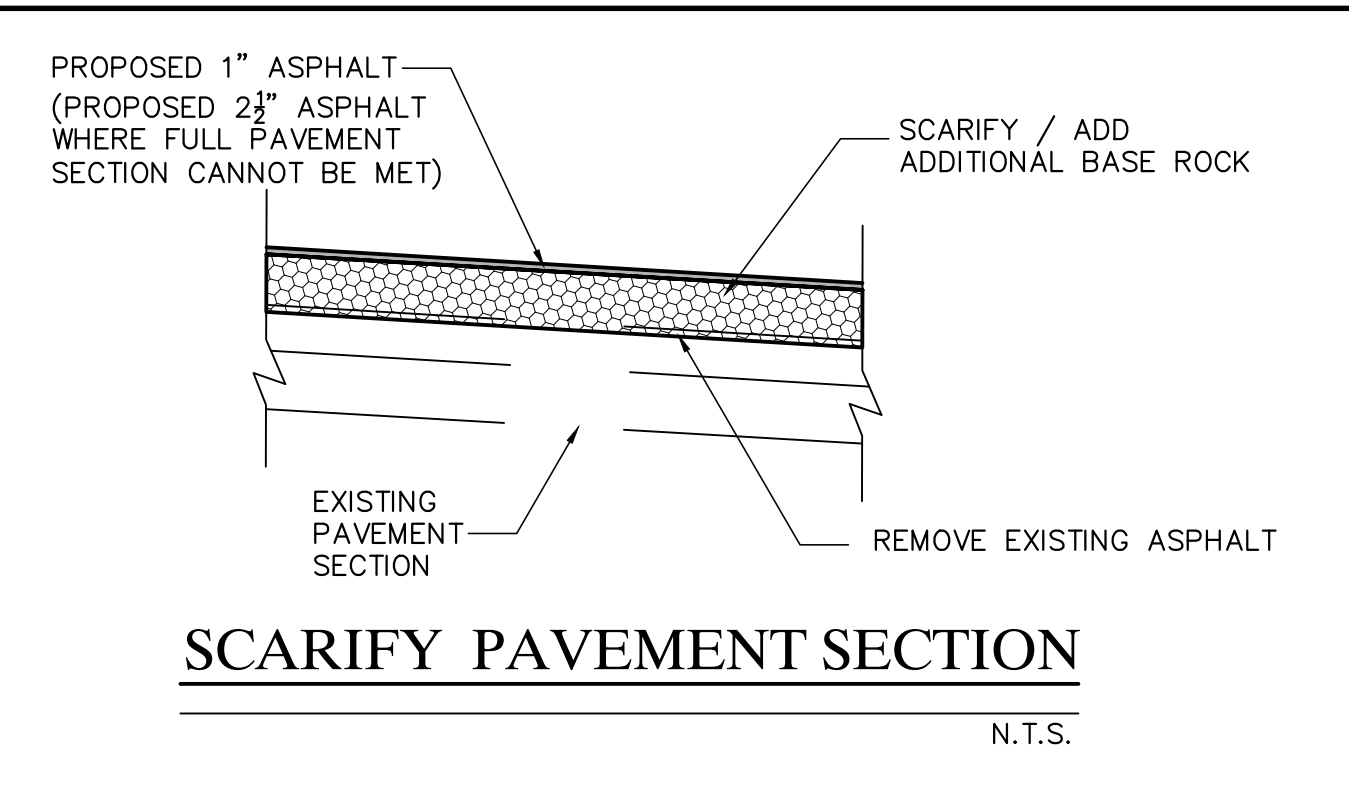
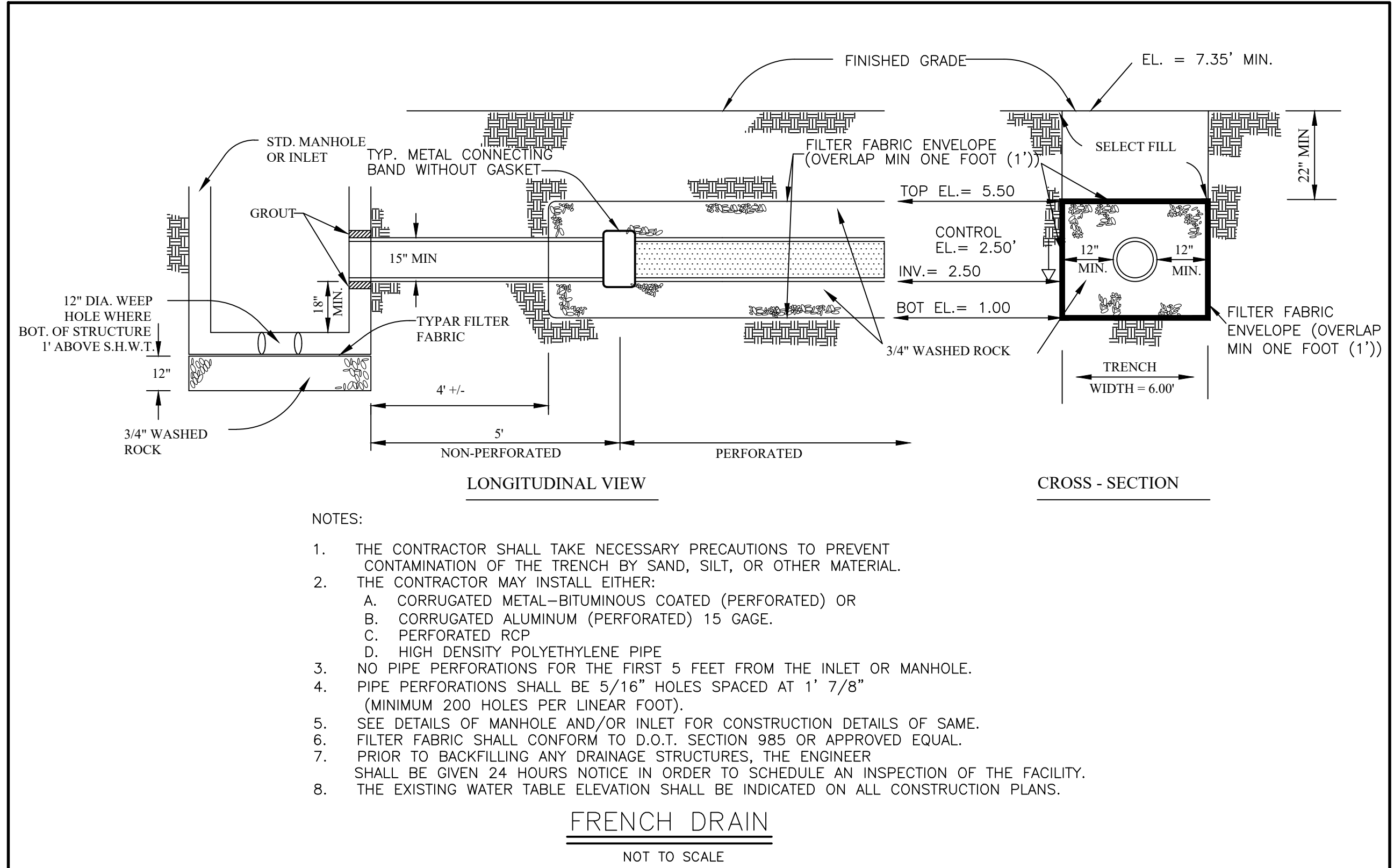
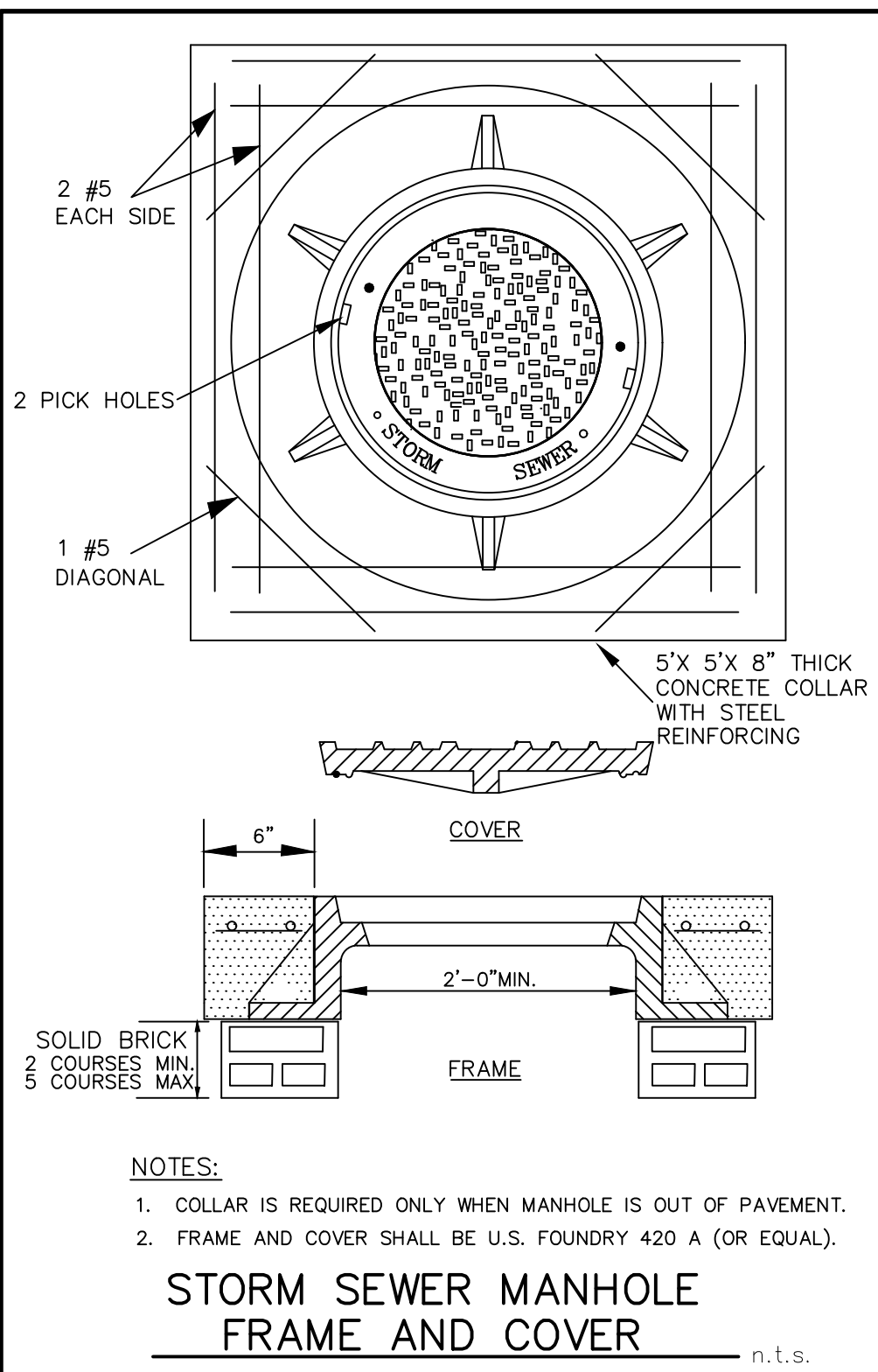
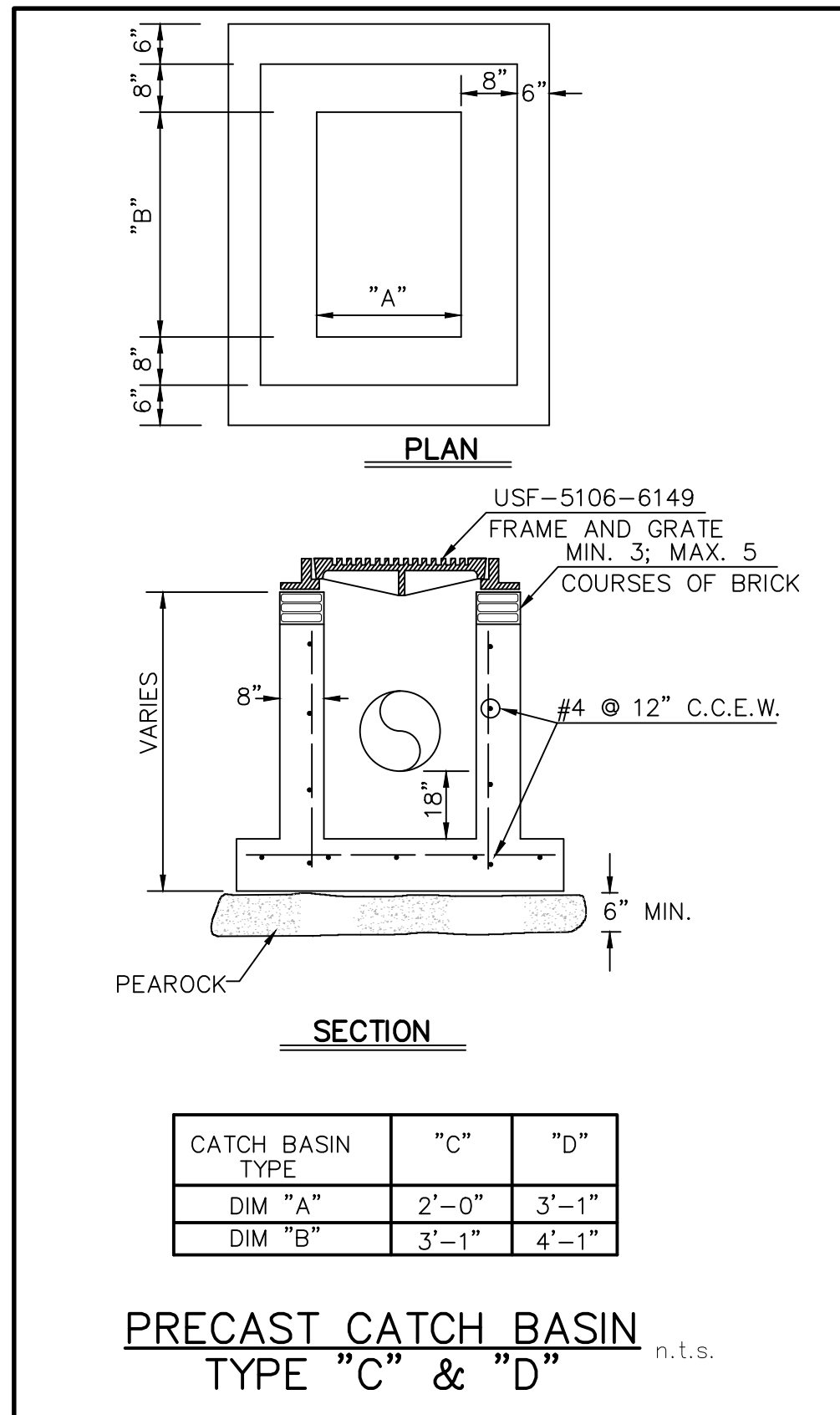
PALM BEACH COUNTY FLORIDA

TRAFFIC DIVISION

STREET NAME SIGN WITH STOP SIGN

DATE: 08/25/18

SCALE: 1" = 30"



| NO. | DATE | REVISIONS | BY |
|-----|------|-----------|----|
| | | | |

FILE NAME: 3517ENC2

CAULFIELD & WHEELER, INC.

CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-4452

ISLAND COVE APARTMENTS

PAVING, GRADING & DRAINAGE DETAILS

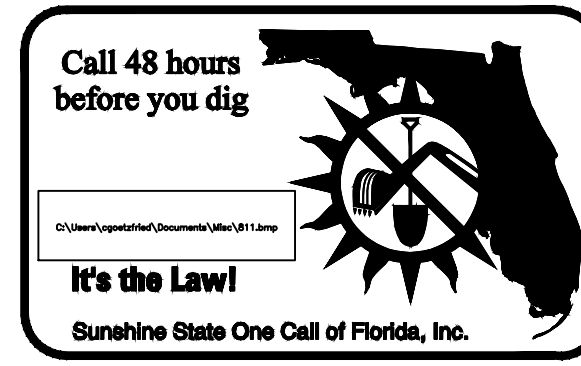
RIVIERA BEACH, FLORIDA

DATE: 2/8/18
DRAWN BY: CLG
F.B./PG: ----
SCALE: 1" = 30"

RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
FOR THE FIRM

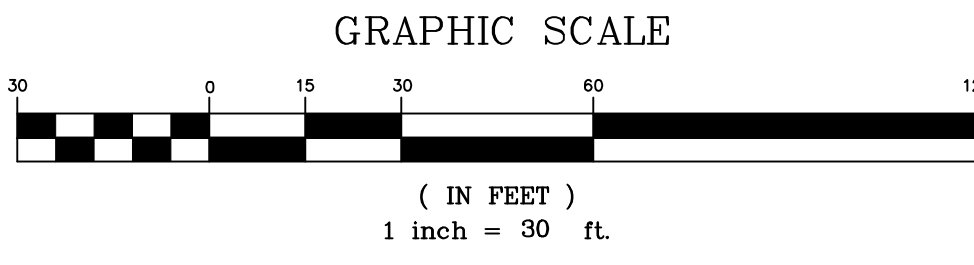
JOB # 3517-2
SHT. NO.
PD-4
OF 12 SHEETS

CONCEPTUAL



LEGEND

| | |
|--|---|
| | PROPOSED WATER LINE (SIZE NOTED) |
| | PROPOSED GATE VALVE AND BOX |
| | PROPOSED REDUCER |
| | FIRE HYDRANT |
| | PROPOSED SINGLE WATER SERVICE |
| | SAMPLE POINT |
| | EXISTING WATER LINE |
| | EXISTING GATE VALVE |
| | EXISTING PIPE AND INLET |
| | EXISTING GRADE |
| | PROPOSED SANITARY SEWER LINE W/ MANHOLE |
| | CLEANOUT (C.O.) |
| | EXISTING SANITARY SEWER LINE |



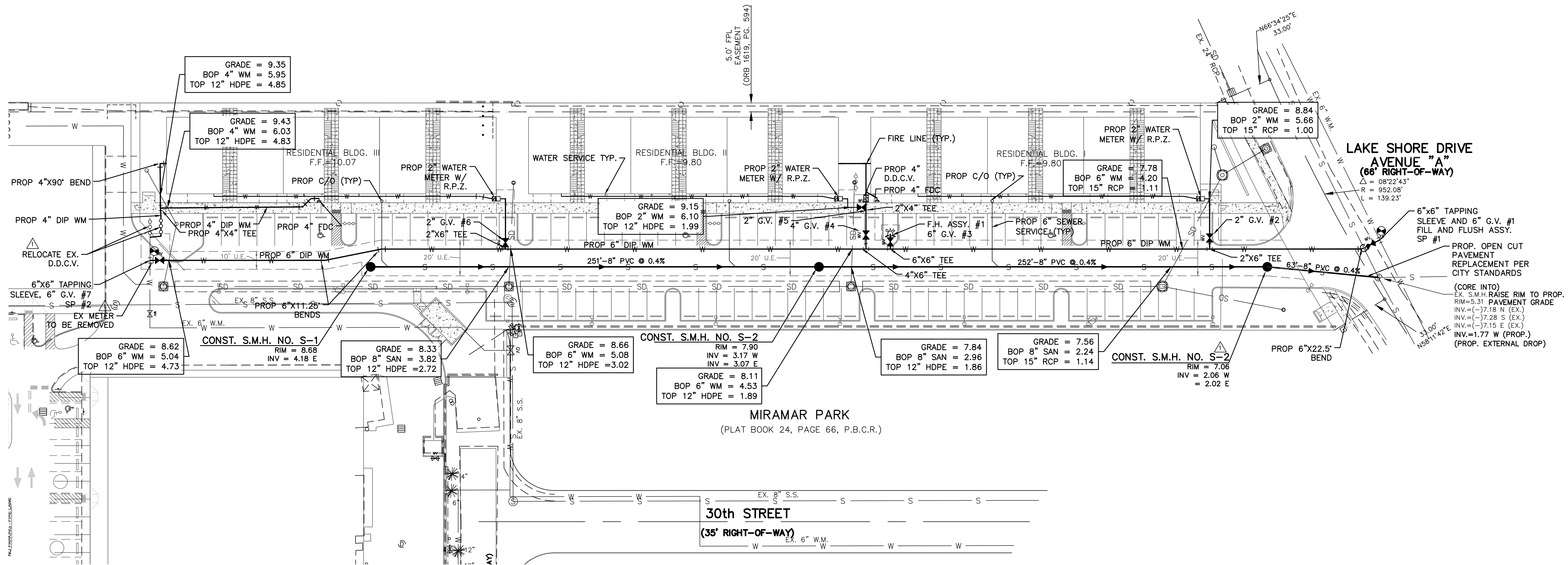
NOTE: ELEVATION DATUM = NGVD 29
CONVERSION TO NAVD 88 = -1.52'

CONTRACTOR NOTES:

- 1.) CONTRACTOR SHALL BE REQUIRED TO ATTEND A MANDATORY PRE-CONSTRUCTION MEETING WITH THE CITY OF RIVERA BEACH STAFF PRIOR TO ANY DISTURBANCE OF THE PROPERTY.
- 2.) CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITIES BOTH ABOVE AND BELOW GROUND PRIOR TO START OF CONSTRUCTION. ANY BREAKS OR DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IN WRITING IMMEDIATELY OF ANY DISCREPANCIES.
- 3.) CONTRACTOR SHALL HAVE EROSION CONTROL DEVICES IN PLACE PRIOR COMMENCEMENT OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE ALL EROSION CONTROL DEVICES ARE MAINTAINED IN PROPER OPERATING CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
- 4.) ANY DAMAGE TO EXISTING PAVEMENT, SHOULDER, CURB, SWALE, OR SIDEWALK SHALL BE REPAIRED BY THE CONTRACTOR.
- 5.) CONTRACTOR SHALL INSTALL ALL SANITARY SERVICES PER COUNTY AND CITY STANDARDS & SPECIFICATIONS.
- 6.) ALL NEW WATER & SEWER TAPS TO BE PERFORMED BY A LICENSED UTILITY CONTRACTOR. CONTRACTOR TO VERIFY THAT ALL NECESSARY PERMITS ARE IN PLACE PRIOR TO COMMENCEMENT OF WORK.
- 7.) CONTRACTOR SHALL MAINTAIN THREE FEET (3') MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND DRAINAGE STRUCTURES.
- 8.) CONTRACTOR TO VERIFY TIE-IN PRESSURE PRIOR TO SHOP DRAWING SUBMITTALS.

CITY OF RIVERA BEACH UTILITY NOTES:

- 1.) EXISTING FIRE HYDRANTS MAY HAVE BEEN INSTALLED VIA LEADED CONNECTIONS. ANY PROPOSED OR RELOCATED HYDRANTS WILL HAVE TO BE RESTRAINED WITH MECHANICAL JOINTS AT OWNER'S EXPENSE.
- 2.) THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITY LINES PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. THE CITY OF RIVERA UTILITY DISTRICT ASSUMES NO RESPONSIBILITY FOR ANY POTENTIAL CONFLICTS.
- 3.) A TWELVE INCH (12") SEPARATION IS REQUESTED FOR WATER MAINS CROSSING OVER SEWER MAINS. A MINIMUM SIX INCH (6") SEPARATION IS ALLOWED IF THE WATER MAIN MATERIAL IS UPGRADED TO DUCTILE IRON.
- 4.) A MINIMUM OF THIRTY SIX INCHES (36") OF COVER IS REQUESTED FOR ALL UTILITY LINES. UNDER SPECIAL CIRCUMSTANCES, A MINIMUM THIRTY INCHES (30") OF COVER MAY BE ALLOWED.
- 5.) PROPOSED SEWER AND WATER LINES SHOULD MAINTAIN A 10' HORIZONTAL SEPARATION.
- 6.) ANY WATER AND/OR SEWER CONNECTIONS MUST BE COORDINATED AND SUPERVISED BY UTILITY DISTRICT PERSONNEL. PLEASE GIVE SEVENTY TWO (72) HOURS NOTICE PRIOR TO CONNECTIONS.
- 7.) NO LIGHTING OR LANDSCAPING IS PERMITTED TO BE CONSTRUCTED ABOVE EXISTING WATER OR SEWER LINES.



GENERAL UTILITY NOTES

1. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE (1) COPY OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS AND COPIES OF ALL REQUIRED CONSTRUCTION PERMITS.
2. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
3. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHOD AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND THE VILLAGE PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND ITS COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE. BY SUBMITTAL OF A BID FOR THIS PROJECT, THE CONTRACTOR ACKNOWLEDGES HIS COMPLETE UNDERSTANDING AND RESPONSIBILITIES WITH RESPECT TO THE CONSTRUCTION ACTIVITIES REQUIRED UNDER THE SCOPE OF THIS PROJECT.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND RESTORATION (IF DAMAGED) OF ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO; WALLS, FENCES, POWER POLES, MAIL BOXES, DRAINAGE STRUCTURES, LANDSCAPING, ETC.

WATER UTILITY NOTES

6. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING 48 HOURS BEFORE DIGGING:
 1. FLORIDA POWER & LIGHT
 2. AT&T
 3. COMCAST CABLE TV
 4. SUNSHINE STATE ONE CALL OF FLORIDA INC.
7. CITY OF RIVERA BEACH (CORB) WRITTEN SPECIFICATIONS AND STANDARD DETAILS (LATEST EDITION) ARE TO BE CONSIDERED PART OF THIS PROJECT AND CONSTRUCTION SHALL BE ENFORCED TO AT LEAST THESE MINIMUM STANDARDS.
8. ALL MATERIAL MUST CONFORM TO APPROVED SHOP DRAWINGS. ANY CHANGES MUST BE APPROVED BY THE ENGINEER AND CORB PRIOR TO INSTALLATION. FAILURE OF THE INSPECTOR TO CALL TO THE ATTENTION OF THE CONTRACTOR ANY ITEM NOT IN CONFORMANCE WITH PLANS AND SPECS SHALL NOT CONSTITUTE ACCEPTANCE OF THE ITEM.
9. CORB REPRESENTATIVES SHALL BE PRESENT DURING ALL OPERATIONS INVOLVING EXISTING UTILITIES.
10. NO CONCRETE THRUST BLOCKS WILL BE ALLOWED. ALL JOINTS SHALL BE MECHANICALLY RESTRAINED AS REQUIRED BY THE CORB.
11. SERVICE INTERRUPTIONS REQUIRE MINIMUM OF TWO (2) WEEKS PRIOR NOTIFICATION.
12. ALL PIPING MUST BE INSTALLED DRY.
13. MINIMUM COVER UNDER DITCH/CANAL BOTTOMS SHALL BE 24 INCHES. MAXIMUM COVER SHALL BE 42 INCHES FROM FINISHED GRADE.

SEWER UTILITY NOTES

14. DIP SHALL BE REQUIRED IN THE FOLLOWING CIRCUMSTANCES (WATER MAIN):
 - A. WITHIN 6 FEET OF SANITARY AND STORM PIPES.
 - B. WITHIN 10 FEET OF STRUCTURES, CANALS OR LAKES.
 - C. CROSSINGS OVER AND UNDER SEWERS, CANAL CROSSINGS, GAS AND STORM PIPES WITH LESS THAN 12 INCHES SEPARATION.
15. TAPPING SLEEVES & VALVES SHALL BE A MINIMUM OF 3 FEET FROM A PIPE JOINT AND SERVICE TAPS SHALL BE A MINIMUM OF 18 INCHES APART AND 18 INCHES FROM A BELL OR FITTING.
17. APPROPRIATELY MARKED 6 INCH METALLIC BACKED INDICATOR TAPE IS REQUIRED OVER ALL PVC MAINS INSTALLED ONE (1) FOOT BELOW GRADE.
18. ALL FIRE HYDRANTS SHALL MAINTAIN PROPER CLEAR ZONE PER PBC FIRE MARSHAL STANDARDS.
19. PAVEMENT REPLACEMENT, INCLUDING CURB, GUTTERS AND STRIPING SHALL OCCUR WITHIN SEVEN (7) WORKING DAYS FOLLOWING COMPLETION OF OPEN CUT WORK.
20. ALL EXPOSED (ABOVE GRADE) DUCTILE IRON WATER MAIN SHALL BE COLOR CODED TNEMEC SAFETY BLUE. FOR EXPOSED FIRE LINE DUCTILE IRON PIPING COLOR SHALL BE TNEMEC SAFETY RED.
21. ALL BACKFLOW ASSEMBLIES MUST BE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS (RPZ).
22. FIRE LINE PIPING MUST BE D.I.P. SPECIAL CLASS 53, INSTALLED FROM MAIN TO AND THROUGH BACKFLOW ASSEMBLY.
23. USE OF REPAIR SLEEVES AND / OR REPAIR COUPLINGS IS PROHIBITED WITHOUT PRIOR APPROVAL FROM CITY ENGINEER.
24. ALL MATERIALS FOR CONNECTION TO EXISTING MAINS, I.E. VENT TO ATMOSPHERE INSTALLED, MUST BE PRESENT AT SCHEDULED CONNECTION TIME. IF NOT, CONNECTION WILL BE CANCELLED.

SEWER UTILITY NOTES

25. DIP SHALL BE REQUIRED IN THE FOLLOWING CIRCUMSTANCES (GRAVITY SEWER/ FORCE MAIN):
 - A. WHEN A SEWER LINE PASSES OVER OR UNDER ANY OTHER PIPE OR CABLE WITH LESS THAN 12 INCHES CLEARANCE (A MINIMUM OF 6 INCHES OF CLEARANCE MUST BE MAINTAINED).
 - B. WHEN THERE IS LESS THAN THREE (3) FEET OF COVER TO THE INVERT OF THE PIPE. FOUR (4) FEET OF COVER TO THE INVERT SHALL BE THE STANDARD MINIMUM COVER.
 - C. ANY TIME THE SEWER IS SEPARATED FROM A WATER MAIN BY LESS THAN 10 FEET.
 - D. THE LAST RUN OF PIPE INTO A WET WELL.
 - E. WITHIN TEN (10) FEET OF STRUCTURES, CANALS OR LAKES (HORIZONTAL).
26. MANHOLES SHALL BE COATED INSIDE AND OUTSIDE. OUTSIDE COATINGS SHALL INCLUDE SEAMS AND MASONRY WORK ON TOPS AND PIPING ENTERING / EXITING MANHOLE.
27. ALL GRAVITY SEWER LINES WILL BE INSPECTED AND TESTED IN ACCORDANCE WITH CORB STANDARDS.
28. PAVEMENT REPLACEMENT, INCLUDING CURB, GUTTERS AND STRIPING SHALL OCCUR WITHIN SEVEN (7) WORKING DAYS FOLLOWING COMPLETION OF OPEN CUT WORK.
29. TAPPING SLEEVES SHALL BE A MINIMUM OF THREE (3) FEET FROM A PIPE JOINT.
30. ALL EXPOSED (ABOVE GRADE) DUCTILE IRON FORCE MAIN SHALL BE COLOR CODED TNEMEC SAFETY GREEN.
31. ALL OPENINGS AND PIPING ENTERING / EXITING MANHOLE SHALL BE SEALED WITH WATERPROOF NONHONING GROUT OR APPROVED EQUAL.
32. RUBBER BOOT CONNECTIONS MUST BE SECURED USING TWO (2) STAINLESS STEEL STRAPS.
33. MAXIMUM DEPTH FROM FINISH GRADE TO INVERT OF SERVICE LATERAL WYE IS THREE (3) FEET UNLESS APPROVED BY CITY ENGINEER.
34. DROP MANHOLE INTERIOR RECEIVES THE SAME COATING REQUIREMENTS AS LIFT STATION INTERIORS.

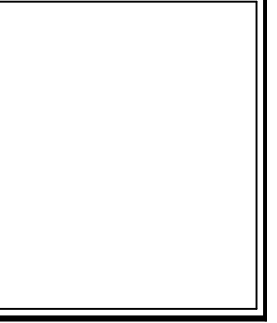
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| 9-21-20 | | BR |
| REV PER UPDATED SITE PLAN | | DATE |
| REVISIONS | | FILE NAME: 3517ENG2 |

CAULFIELD & WHEELER, INC.
 CIVIL ENGINEERING, LAND PLANNING
 LANDSCAPE ARCHITECTURE, SURVEYING
 7090 CLAYTON ROAD, SUITE 100
 BOCA RATON, FLORIDA 33433
 PHONE: (561) 392-1991 / FAX: (561) 750-4452
 ENGINEERING #EB-0003591

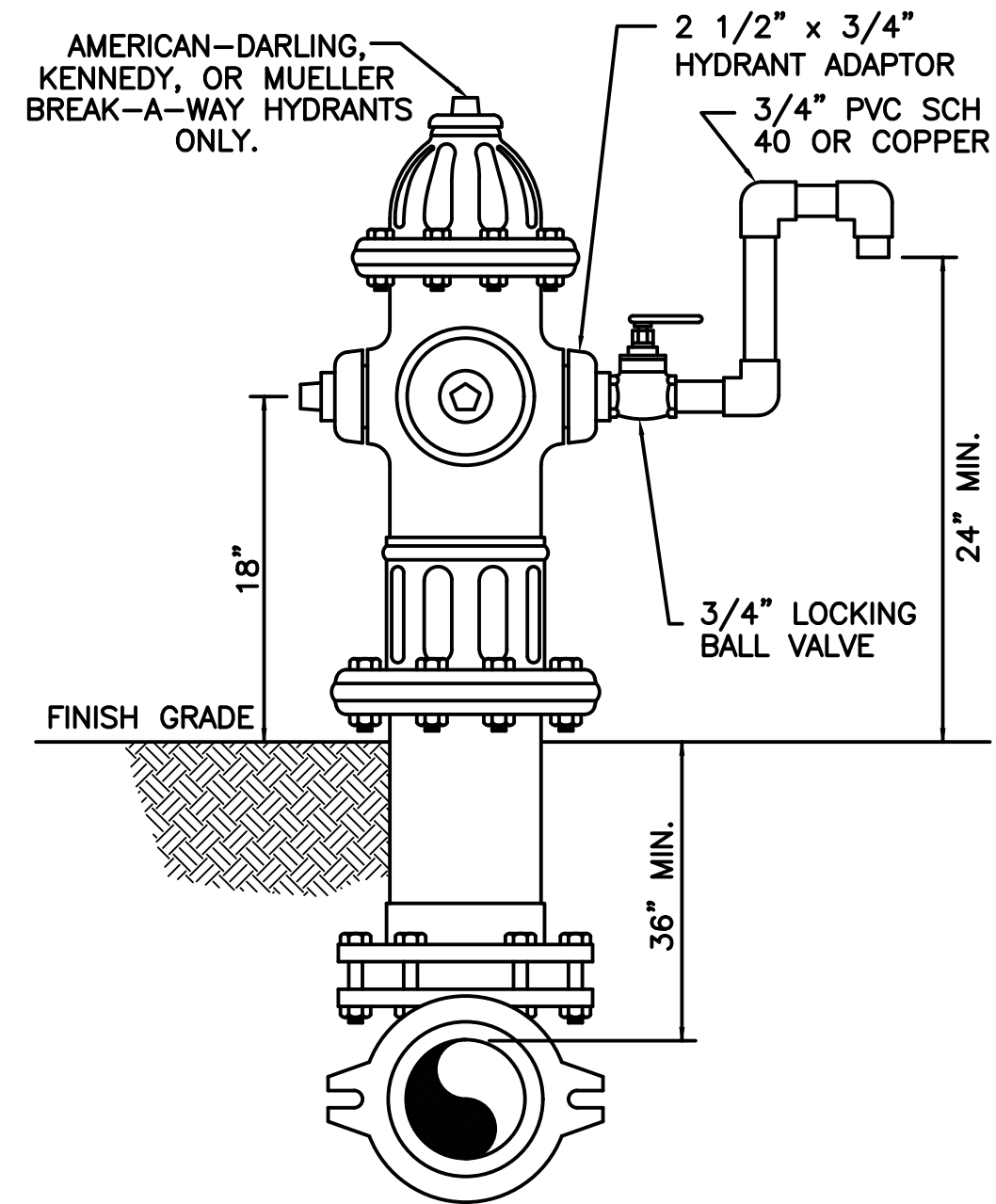
ISLAND COVE APARTMENTS WATER DISTRIBUTION & SANITARY SEWER PLAN

RIVERA BEACH, FLORIDA

| | |
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| DATE | 2/8/18 |
| DRAWN BY | CLG |
| F.B./ PG. | ---- |
| SCALE | 1" = 30' |



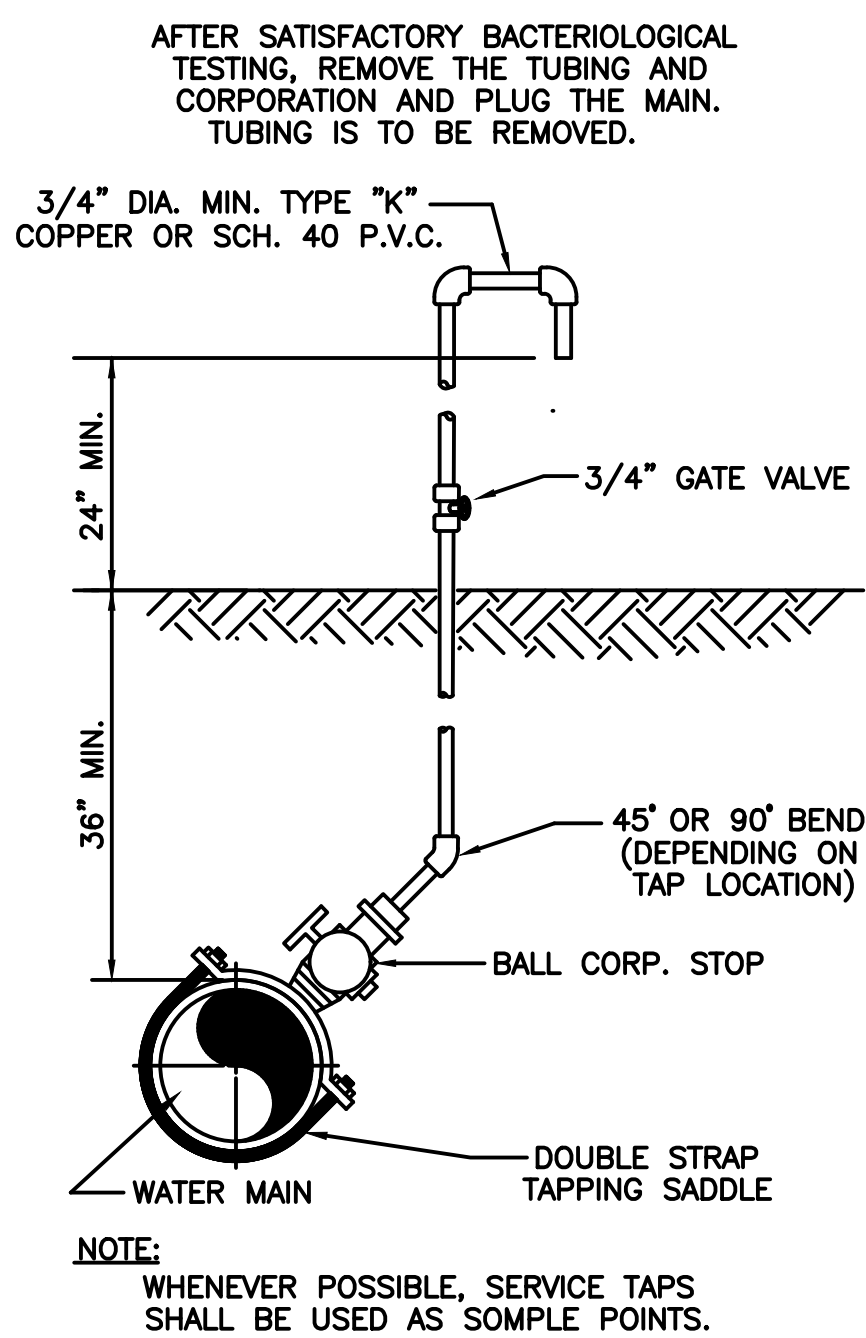
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| JOB # | 3517-2 |
| SHT. NO. | WS-1 |
| OF 12 SHEETS | |



SAMPLE POINT (HYDRANT)
N.T.S.

05/27/05

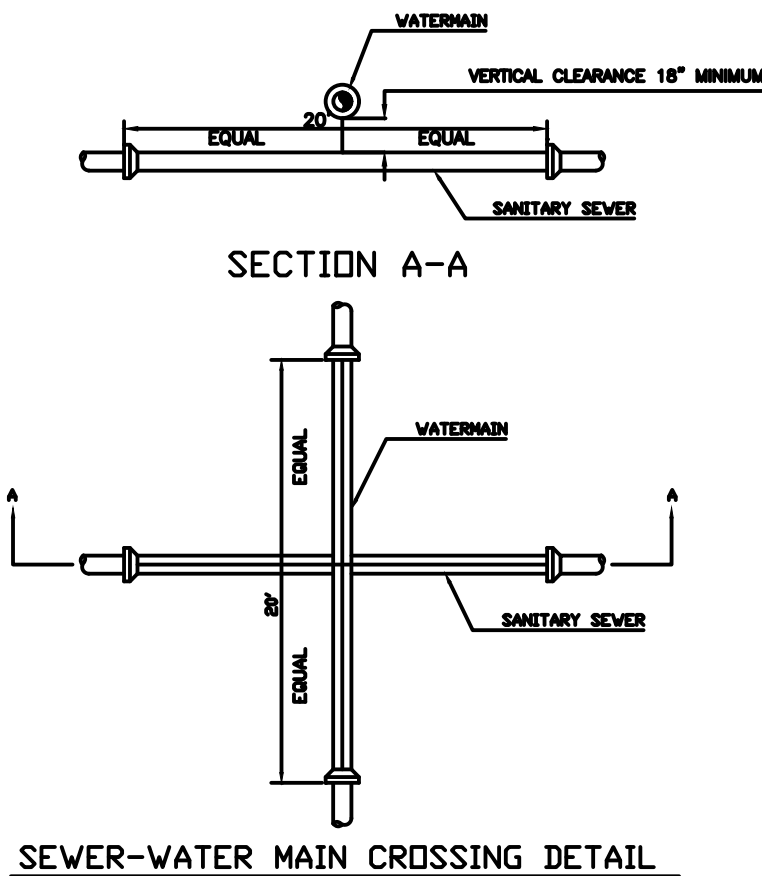
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City of Riviera Beach
Utility District



SAMPLE POINT (ON MAIN)
N.T.S.

05/31/05

Water & Sewer Details
City of Riviera Beach
Utility District



SEWER-WATER MAIN CROSSING DETAIL

STANDARD WATER AND SEWER SEPARATION STATEMENT

- STORM AND SANITARY SEWER CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS AND BOTH PIPES SHALL BE D.I.P. WHERE THERE IS NOT ALTERNATIVE TO SEWER PIPES CROSSING OVER A WATER MAIN, THE CRITERIA FOR MINIMUM SEPARATION BETWEEN LINES AND JOINTS IN THE ABOVE, SHALL BE REQUIRED AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION.
- MAINTAIN TEN (10) FEET HORIZONTAL DISTANCE BETWEEN WATER MAIN AND STORM OR SANITARY SEWER MAIN, AS A MINIMUM.
- FORCE MAIN CROSSING WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE WATER MAIN WITH WATER MAIN CROSSING OVER THE FORCE MAIN.

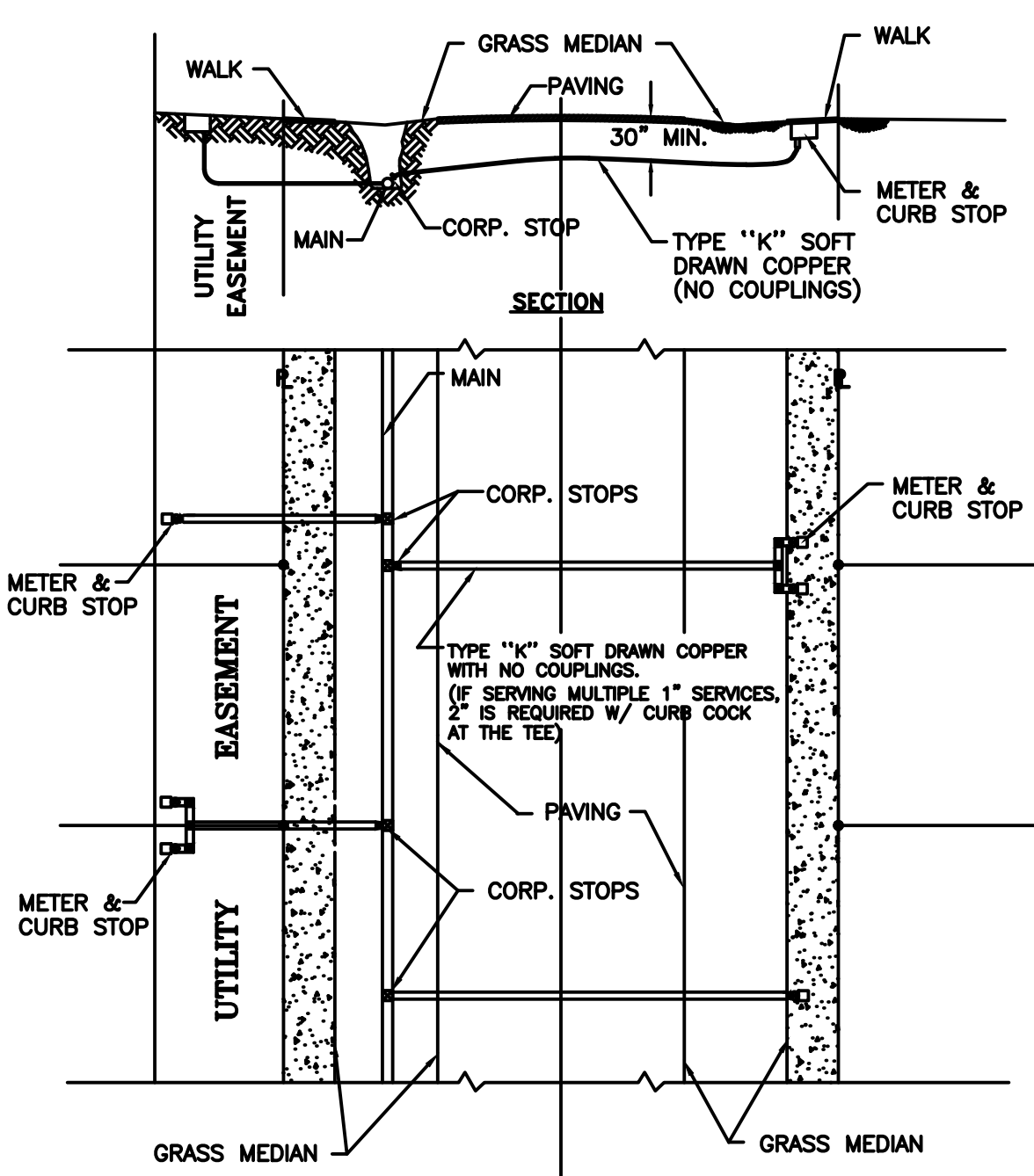
05/27/05

Water & Sewer Details
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MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED
(SOURCES: EBAA IRON RESTRAIN LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIFRA THRUST RESTRAIN FOR DUCTILE IRON PIPE.)

| FITTING TYPE | PIPE SIZE | | | | | | | | | | | |
|---------------------------------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 4" | 6" | 8" | 10" | 12" | 16" | 20" | 24" | 30" | 36" | 42" | 48" |
| 90° HORIZ BEND | 14 | 20 | 25 | 30 | 35 | 45 | 54 | 62 | 68 | 112 | 124 | 135 |
| 45° HORIZ BEND | 6 | 8 | 11 | 13 | 15 | 19 | 22 | 26 | 41 | 46 | 51 | 56 |
| 22.5° HORIZ BEND | 3 | 4 | 5 | 6 | 7 | 9 | 11 | 12 | 19 | 22 | 25 | 27 |
| 11.25° HORIZ BEND | 1 | 2 | 3 | 3 | 4 | 4 | 5 | 6 | 10 | 11 | 12 | 13 |
| 90° VERT. UPPER BEND | 29 | 41 | 53 | 64 | 74 | 95 | 115 | 134 | 214 | 246 | 276 | 304 |
| OFFSET LOWER BEND | 7 | 10 | 13 | 16 | 19 | 25 | 30 | 35 | 57 | 66 | 74 | 83 |
| 45° VERT. UPPER BEND | 12 | 19 | 24 | 29 | 34 | 39 | 48 | 56 | 89 | 102 | 114 | 126 |
| OFFSET LOWER BEND | 3 | 4 | 6 | 7 | 8 | 10 | 12 | 15 | 23 | 27 | 31 | 34 |
| 22.5° VERT. UPPER BEND | 6 | 9 | 12 | 14 | 17 | 19 | 23 | 27 | 43 | 49 | 55 | 60 |
| OFFSET LOWER BEND | 1 | 2 | 4 | 4 | 4 | 5 | 6 | 7 | 11 | 13 | 15 | 16 |
| 11.25° VERT. UPPER BEND | 3 | 4 | 6 | 7 | 8 | 9 | 11 | 13 | 21 | 24 | 27 | 30 |
| OFFSET LOWER BEND | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 6 | 6 | 7 | 8 |
| PLUG (DEAD END) | 32 | 45 | 59 | 70 | 83 | 107 | 129 | 151 | 214 | 246 | 276 | 304 |
| IN-LINE VALVE | 32 | 45 | 45 | 45 | 45 | 55 | 65 | 80 | 110 | 125 | 140 | 155 |
| TEE (BRANCH RESTRAINT) | 4" x ø | 23 | - | - | - | - | - | - | - | - | - | - |
| | 6" x ø | 21 | 35 | - | - | - | - | - | - | - | - | - |
| | 8" x ø | 18 | 34 | 47 | - | - | - | - | - | - | - | - |
| | 10" x ø | 16 | 32 | 46 | 58 | - | - | - | - | - | - | - |
| | 12" x ø | 13 | 30 | 44 | 57 | 69 | - | - | - | - | - | - |
| | 16" x ø | 7 | 26 | 41 | 55 | 67 | 90 | - | - | - | - | - |
| | 20" x ø | 1 | 21 | 38 | 52 | 65 | 88 | 109 | - | - | - | - |
| | 24" x ø | 1 | 16 | 34 | 49 | 62 | 86 | 108 | 129 | - | - | - |
| REDUCER (LARGER PIPE RESTRAINT) | 30" x ø | 1 | 8 | 28 | 44 | 58 | 83 | 106 | 127 | 208 | - | - |
| | 36" x ø | 1 | 1 | 22 | 39 | 54 | 80 | 103 | 124 | 206 | 240 | - |
| | 42" x ø | 1 | 1 | 15 | 33 | 49 | 77 | 100 | 122 | 205 | 239 | 270 |
| | 48" x ø | 1 | 1 | 7 | 27 | 44 | 73 | 97 | 120 | 203 | 238 | 298 |
| | 6" x ø | 23 | - | - | - | - | - | - | - | - | - | - |
| | 8" x ø | 38 | 25 | - | - | - | - | - | - | - | - | - |
| | 10" x ø | 57 | 43 | 24 | - | - | - | - | - | - | - | - |
| | 12" x ø | 72 | 60 | 44 | 41 | - | - | - | - | - | - | - |
| 200psi | 16" x ø | 99 | 90 | 78 | 75 | 45 | - | - | - | - | - | - |
| | 20" x ø | 123 | 116 | 107 | 105 | 81 | 45 | - | - | - | - | - |
| | 24" x ø | 146 | 140 | 132 | 131 | 111 | 82 | 45 | - | - | - | - |
| | 30" x ø | 209 | 204 | 197 | 188 | 177 | 153 | 116 | 75 | - | - | - |
| 36" x ø | 243 | 236 | 233 | 226 | 217 | 196 | 168 | 135 | 74 | - | - | |
| 42" x ø | 273 | 270 | 265 | 259 | 252 | 234 | 211 | 183 | 133 | 72 | - | |
| 48" x ø | 301 | 298 | 294 | 289 | 283 | 268 | 249 | 226 | 183 | 131 | 71 | |

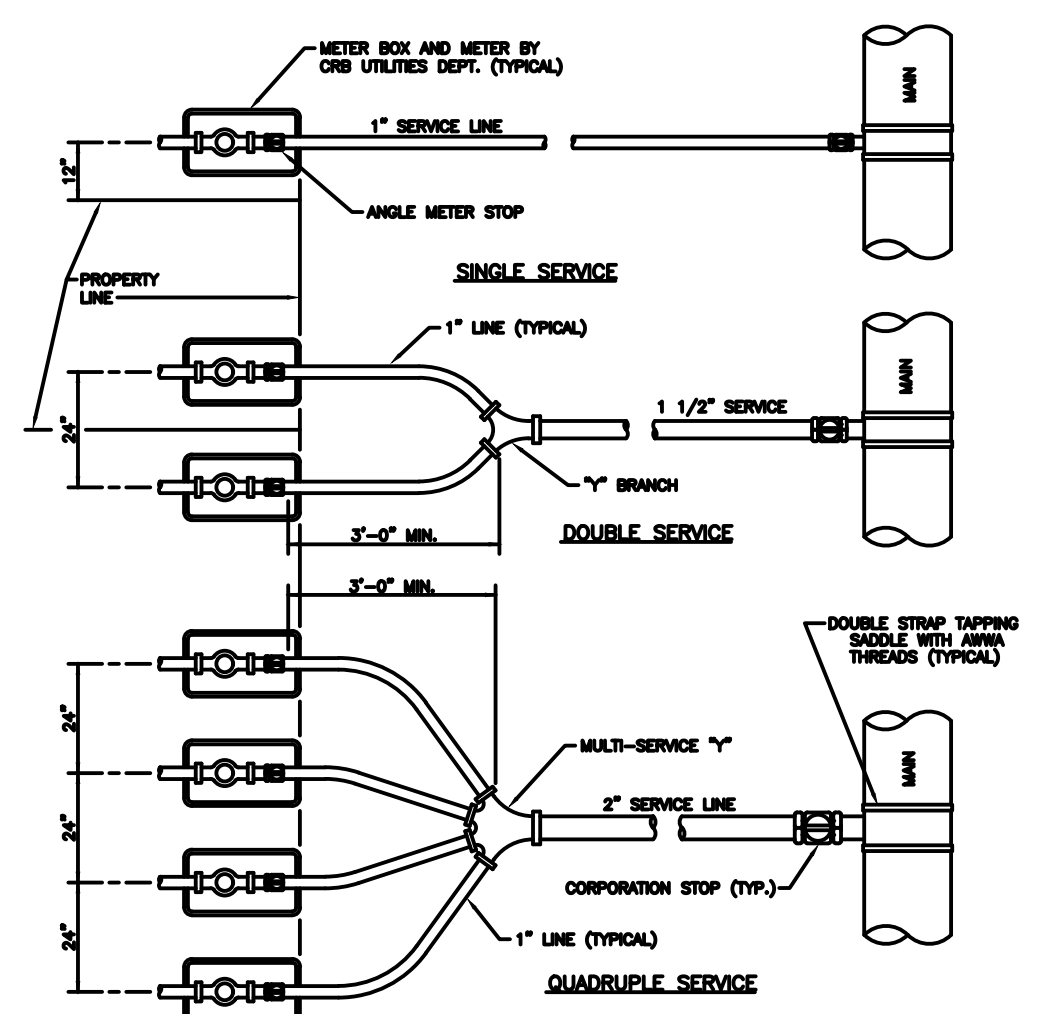
NOTES:
1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
SOIL TYPE - SAND TEST PRESSURE - 150 PSI 200 PSI DEPTH OF BURY - 3'
TRENCH TYPE - 3 SAFETY FACTOR - 1.5 VERTICAL OFFSET - 3'
MINIMUM PIPE LENGTH ALONG TEE RUN - 5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO THE DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.
5. MULTIPLY PIPE LENGTH BY 1.4 FOR POLY ETHYLENE ENCASED PIPE.



TYPICAL DOMESTIC SERVICE INSTALLATIONS
N.T.S.

05/31/05

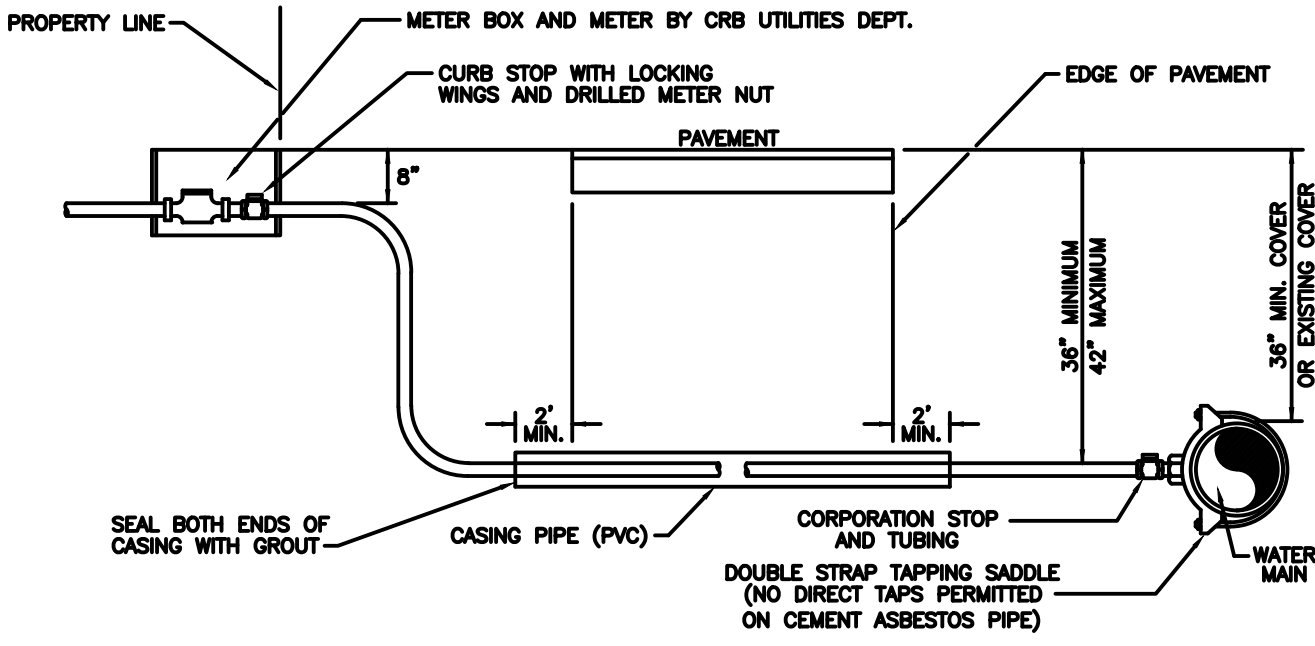
Water & Sewer Details
City of Riviera Beach
Utility District



TYPICAL WATER SERVICES
N.T.S.

05/27/05

Water & Sewer Details
City of Riviera Beach
Utility District



- NOTES:
- CASINGS SHALL BE REQUIRED FOR ALL LONG SIDE SERVICES.
 - SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET.
 - WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISH GRADE.
 - COPPER TUBING SHALL BE TYPE 'K' WITH COMPRESSION FITTINGS.
 - USE EMS MARKER #1252 COLOR BLUE DIRECTLY OVER THE CORPORATION STOP.
 - ALL SERVICE LINES SHALL BE EQUIPPED WITH A CORPORATION STOP AT THE MAIN AND A CURB STOP (LOCKING CONNECTION TYPE) AT THE METER.
 - THE COPPER SERVICE LINE SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP WITH NO FITTINGS IN BETWEEN.
 - TAPPING SADDLES AND CORPORATION STOPS SHALL HAVE AWMA INLET THREADS.
 - ALL EXPOSED FITTINGS TO BE COATED WITH COLA TAR EPOXY.
 - GALVANIZED CASING REQUIRED FOR ANY INSTALLATION REQUIRING A JACK AND BORE. SCH. 40 PVC MAY BE USED FOR AN OPEN CUT INSTALLATION WITH THE APPROVAL OF THE CRB UTILITIES DEPT. CASING SHOULD EXTEND TWO (2) FEET BEYOND EDGE OF PAVEMENT AND SIZED AS FOLLOWS:
A.) 1" SERVICE USE 2" CASING
B.) 1 1/2" SERVICE USE 3" CASING
C.) 2" SERVICE USE 4" CASING

3/4" - 2" TYPICAL WATER SERVICE INSTALLATION
N.T.S.

05/27/05

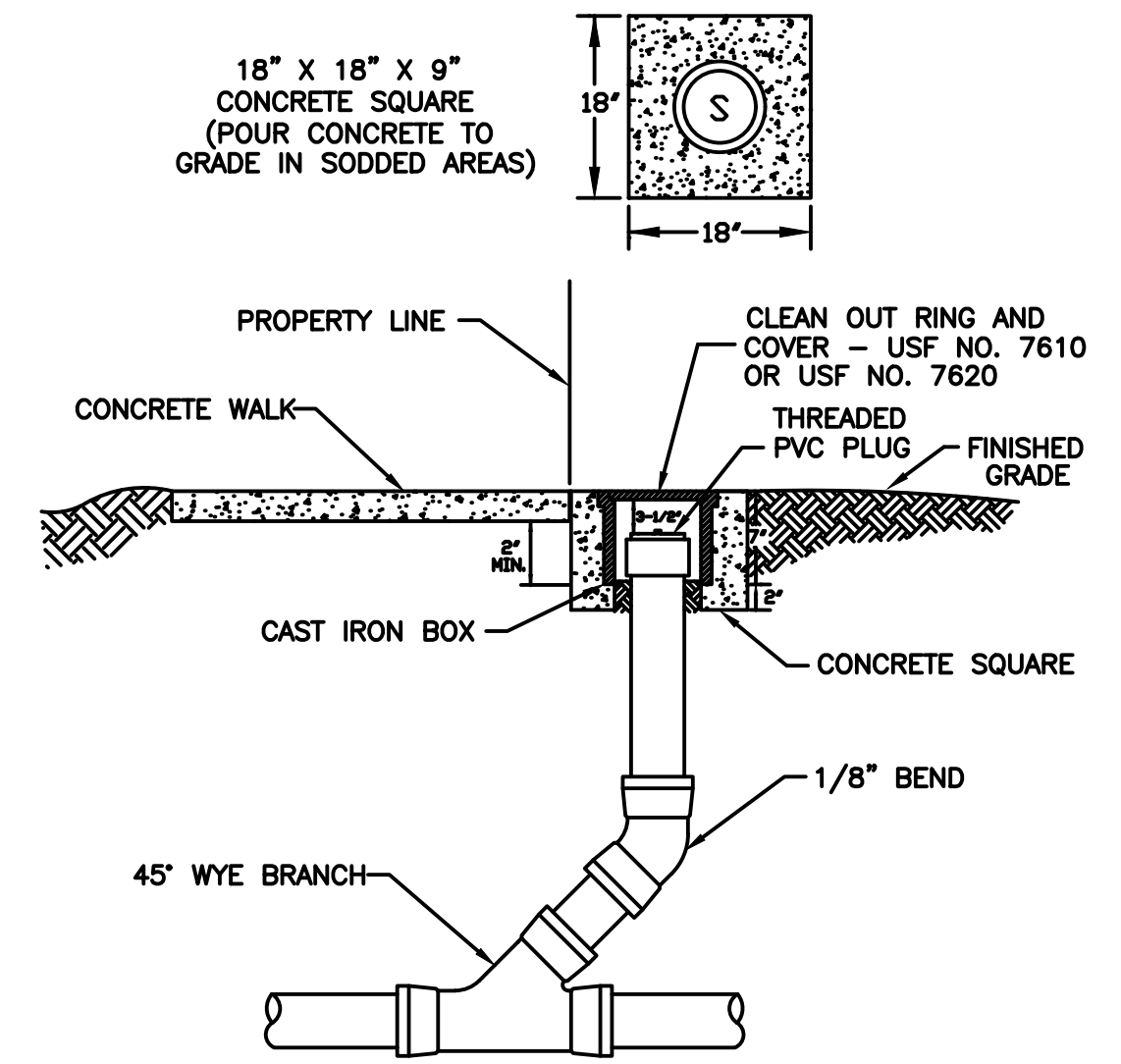
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CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33534
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ISLAND COVE APARTMENTS
WATER & SEWER
DETAILS
RIVIERA BEACH, FLORIDA

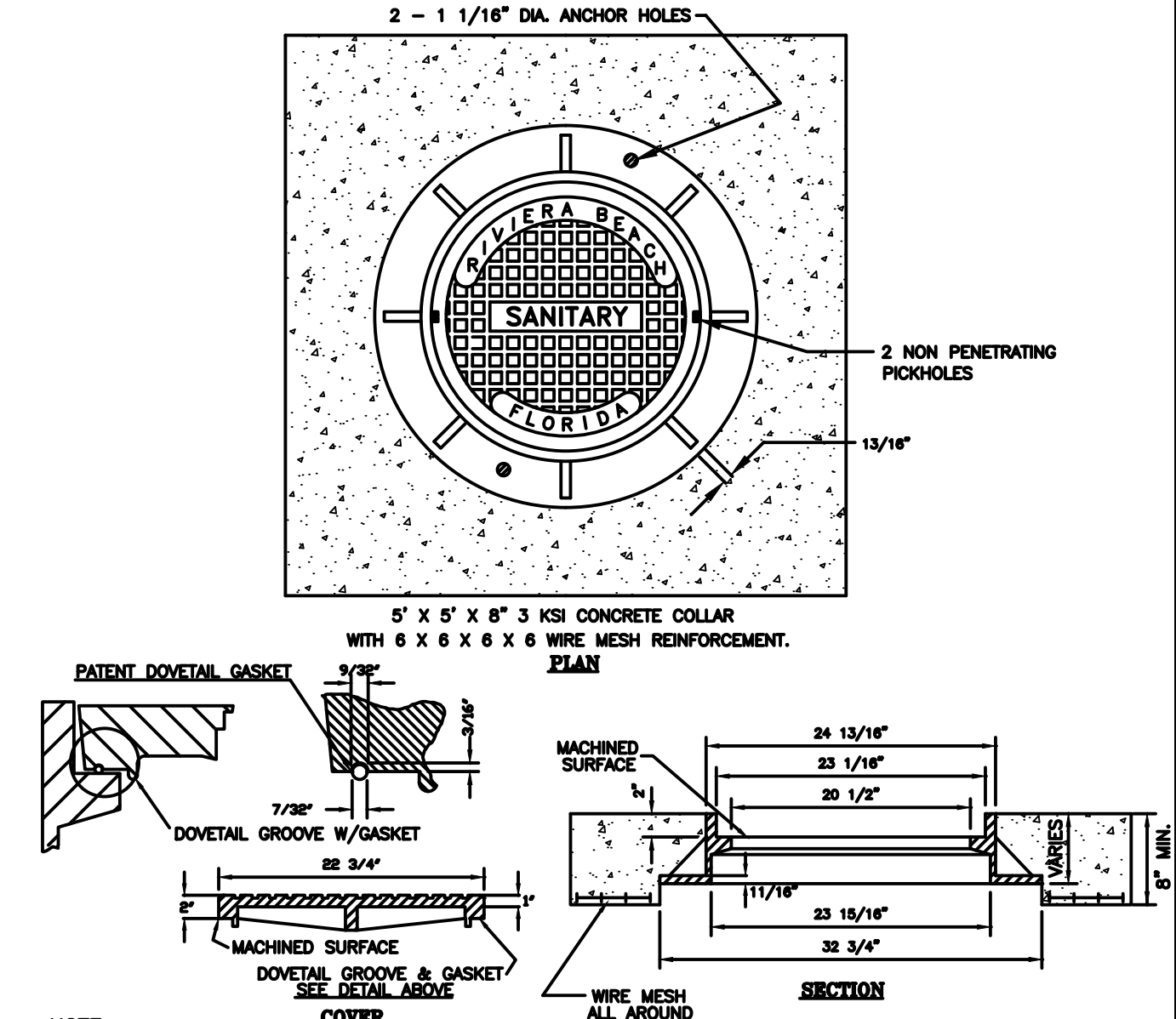
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| DATE | 2/8/18 |
| DRAWN BY | CLG |
| F.B./ PG. | ---- |
| SCALE | 1" = 30' |



- NOTES:**
- CLEAN OUTS TO BE LOCATED IN GRASS WHENEVER POSSIBLE.
 - CLEANOUTS SHALL NOT BE INSTALLED IN TRAFFIC LANES OR AREAS UNDER HEAVY TRAFFIC LOADS.
 - THE COVER TO BE MARKED "S".
 - CLEANOUTS TO BE INSTALLED PRIOR TO WATER METER RELEASE.
 - NO 90 BENDS SHALL BE USED FOR CLEANOUT INSTALLATION.

CLEAN OUT AT PROPERTY LINE
N.T.S. 05/27/05

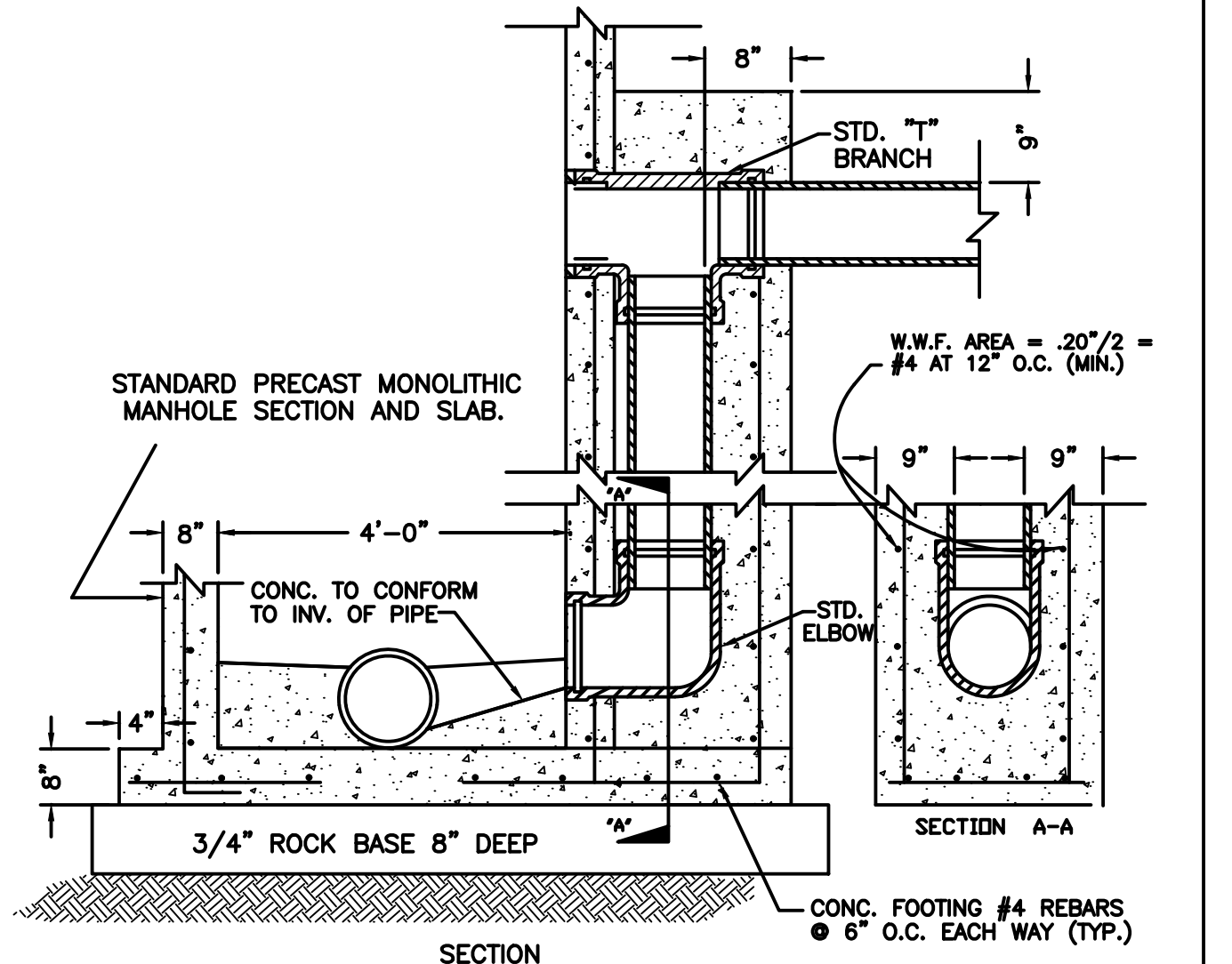
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City of Riviera Beach
Utility District



- NOTE:**
- FRAME AND COVER SHALL BE U.S. FOUNDRY NO. 402A-AK, VULCAN NO. 1344 OR APPROVED EQUAL FOR 1" DEPTH FRAME, OR U.S. FOUNDRY NO. 465A OR EQUAL FOR 4" DEPTH FRAME.
 - A STEEL MANHOLE RISER (MANHOLE SYSTEMS MODEL MS101) SHALL BE USED TO ELEVATE EXISTING MANHOLE COVERS TO RESURFACE GRADE (MAX. 4" HEIGHT).
 - MANHOLE CASTINGS SHALL BE WATER TIGHT.
 - ALL BEARING SURFACES TO BE MACHINED (IRON TO IRON).
 - FRAME WT.: MIN. 250 LBS.; COVER WT.: MIN. 160 LBS.
 - SPECIFY: SANITARY FOR SEWER OR WATER FOR POTABLE WATER

TYPICAL MANHOLE COVER
N.T.S. 05/27/05

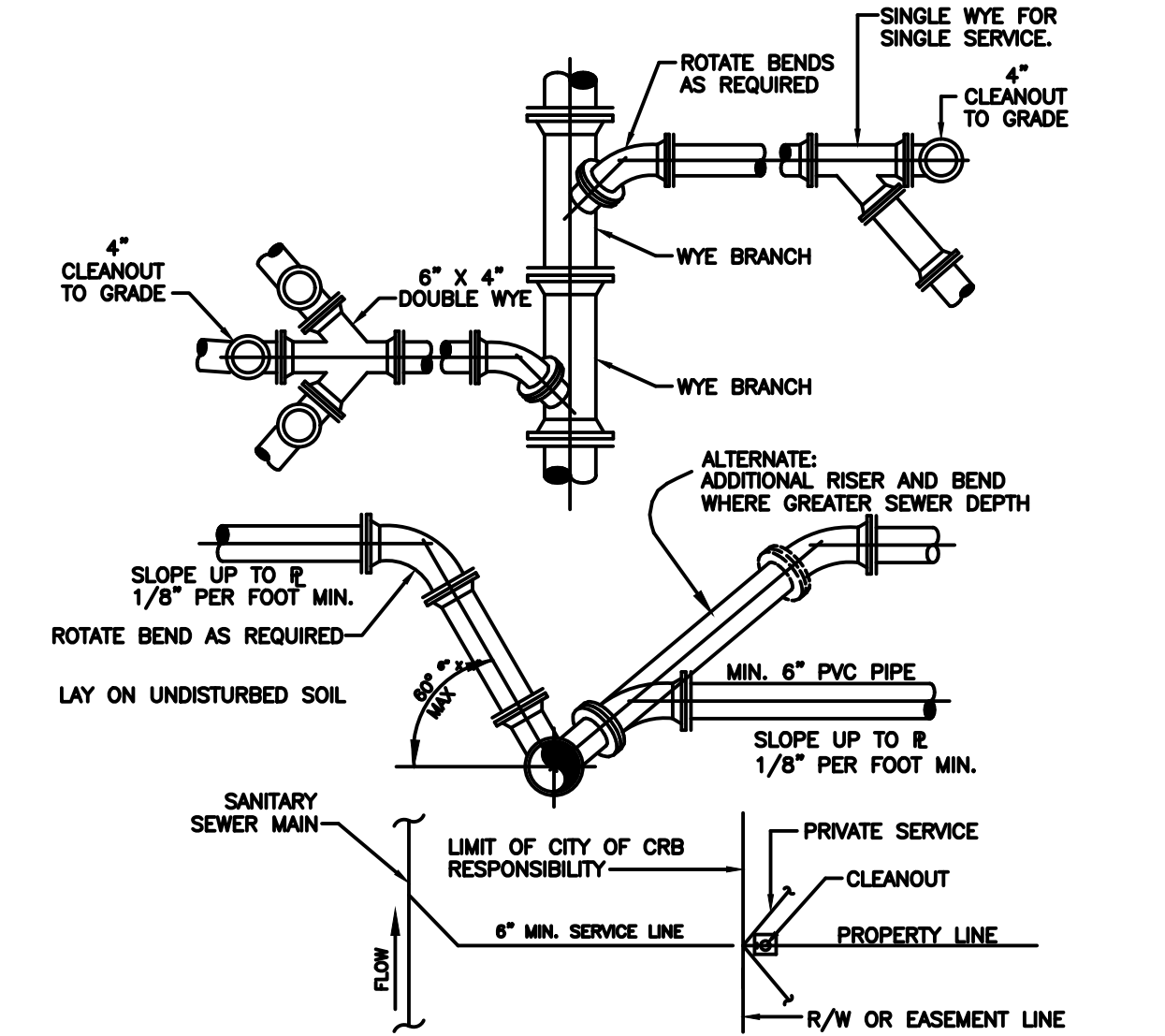
Water & Sewer Details
City of Riviera Beach
Utility District



- NOTE:**
- DROP M.H. MUST BE USED WHEN DIFFERENCE OF INVERTS IS 1'-6" USING A TEE AT THE TOP AND A 90° BEND AT THE BOTTOM AS SHOWN.
 - DETAILS NOT SHOWN ARE TO BE THE SAME AS FOR THE TYPICAL MANHOLE DETAIL.
 - STANDARD PRECAST MANHOLE SECTION (4' Ø) AND SLAB TO BE CAST MONOLITHICALLY AS SHALL FULLY EXTEND UNDER THE DROP.
 - INSIDE DROPS ALLOWED ONLY ON EXISTING MANHOLES.

TYPICAL DROP MANHOLE
N.T.S. 05/27/05

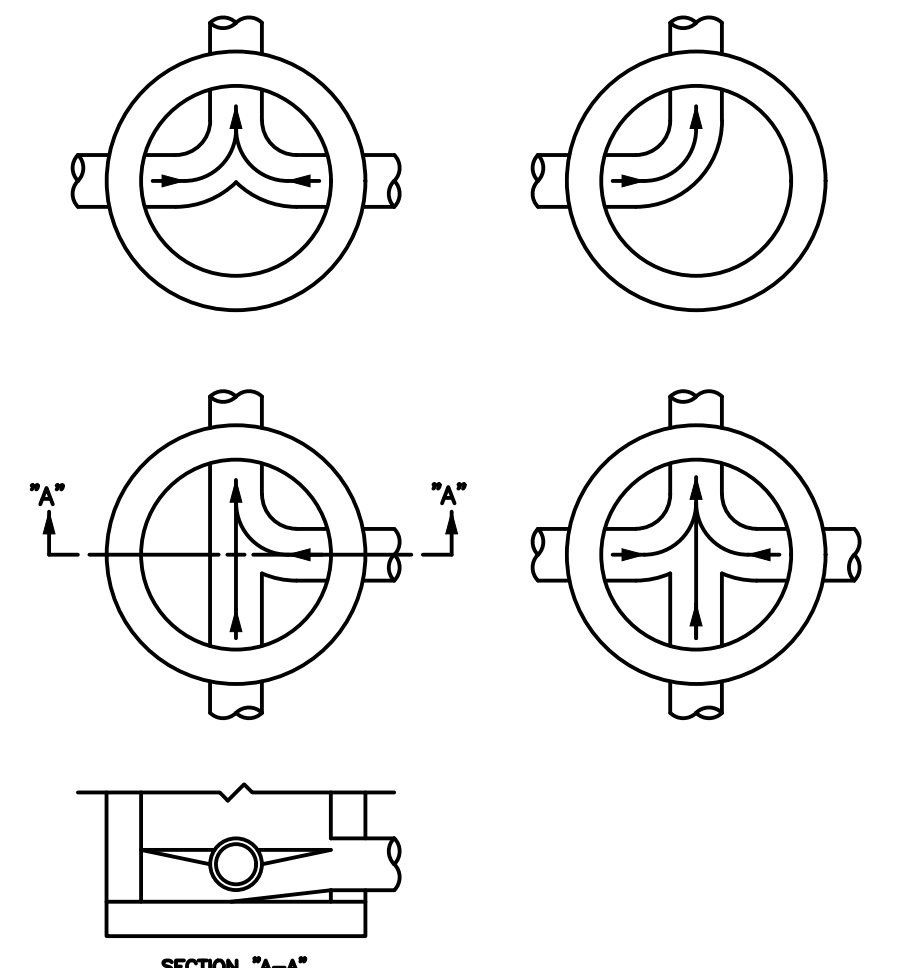
Water & Sewer Details
City of Riviera Beach
Utility District



- NOTES:**
- SERVICE LATERALS SHALL TERMINATE AT PROPERTY LINE AT A DEPTH OF 3 FEET.
 - CLEANOUT CONNECTION TO BE EXTENDED 3 FEET ABOVE GRADE PRIOR TO WATER METER INSTALLATION.
 - CLEANOUTS ARE TO BE SET TO GRADE PRIOR TO WATER METER ACTIVATION.
 - NO 90° BENDS SHALL BE PERMITTED FOR SEWER SERVICE AND CLEANOUT INSTALLATION.

TYPICAL LATERAL CONNECTIONS
N.T.S. 5/27/05

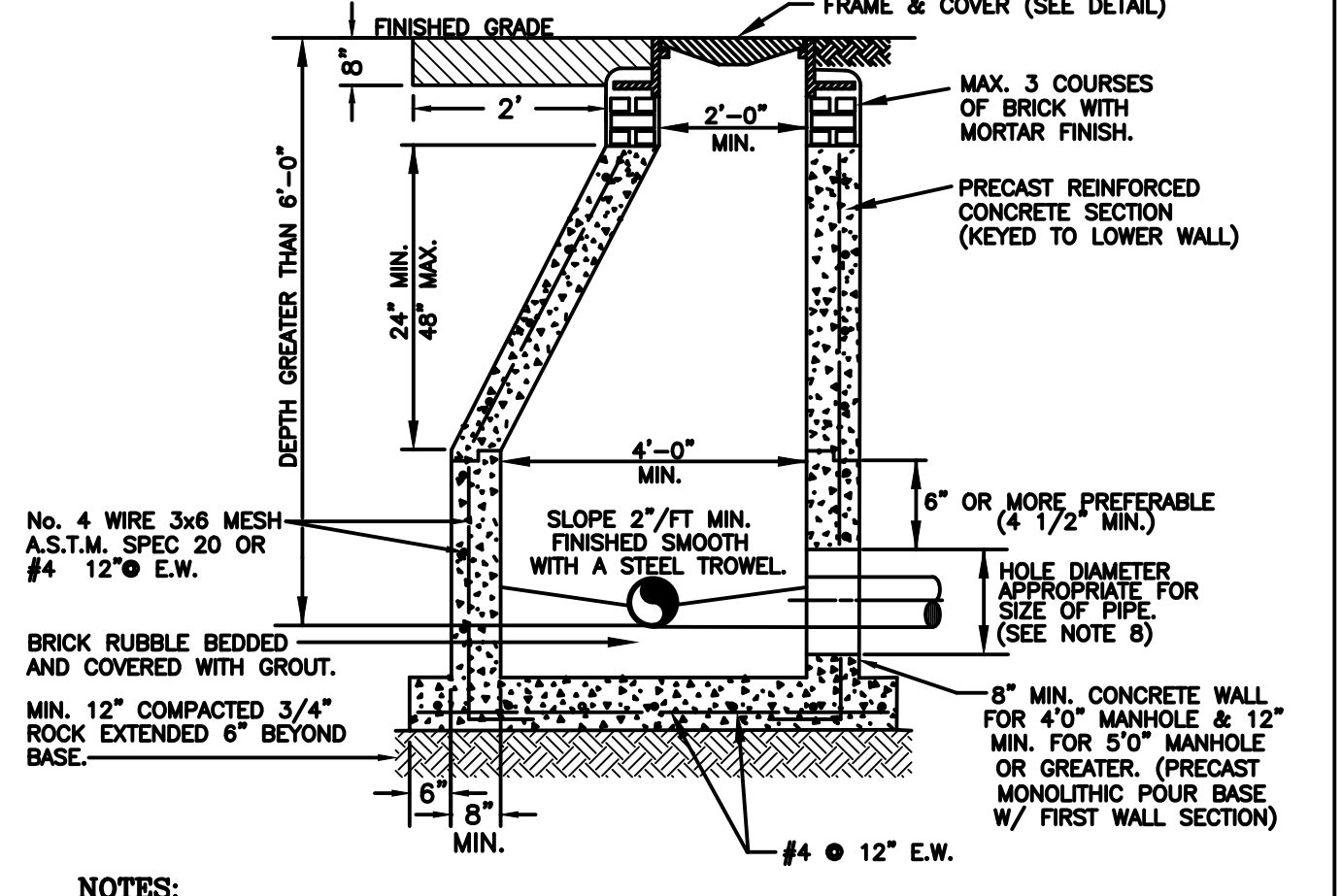
Water & Sewer Details
City of Riviera Beach
Utility District



- NOTES:**
- ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION.
 - PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
 - SERVICE LATERALS ENTERING MANHOLES SPECIFIED ON PLANS MUST HAVE FLOW CHANNELS.
 - BRICKS AND CONCRETE RUBBLE PERMITTED FOR FLOW CHANNEL BUILDUP.
 - SIDEWALLS OF FLOW CHANNEL SHALL BE AT LEAST HALF OF PIPE HEIGHT AT ALL POINTS.

TYPICAL INVERT FLOW CHANNELS
N.T.S. 5/29/97

Water & Sewer Details
City of Riviera Beach
Utility District



- NOTES:**
- PRECAST CONCRETE, TYPE II, ACID RESISTANT, 4000 P.S.I.
 - RAUBER FLEXIBLE PLASTIC GASKET OR EQUAL AT ALL RISER JOINTS (1/2" THICK, WIDTH AT LEAST HALF THE WALL THICKNESS) WITH NON-SHRINK WATERPROOF GROUT ON INSIDE AND OUTSIDE.
 - ALL OPENINGS SHALL BE SEALED WITH EITHER RESILIENT CONNECTOR (BOOTS) OR P.V.C. MANHOLE ADAPTERS FOR P.V.C. PIPE PENETRATIONS. BOOTS AND ADAPTERS SHALL BE CEMENTED IN WITH NON-SHRINK WATERPROOF GROUT.
 - FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM, AND SHALL BE FORMED IN ALL MANHOLES TO ACCEPT A T.V. CAMERA.
 - LIFT HOLES ARE PERMITTED, BUT SHALL BE SEALED.
 - ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED, WITH NON-SHRINK, WATER PROOF GROUT.
 - INSIDE DROPS SHALL NOT BE DESIGNED TO EXCEED 1.80 FT. AND NOT CONSTRUCTED TO EXCEED 2.0 FT.
 - MIN. HOLE Ø EQUALS PIPE O.D. PLUS 8" FOR P.V.C. ADAPTERS OR PIPE O.D. PLUS 4" FOR BOOTS.
 - MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
 - CONCRETE TO BE SEAL COATED WITH 2 COATS OF COAL EPOXY AND 2 COATS OUTSIDE.
 - MANHOLE MUST BE INSPECTED BEFORE PAINTING AND INSTALLATION.

TYPICAL MANHOLE DETAILS
N.T.S. 5/26/05

Water & Sewer Details
City of Riviera Beach
Utility District

SEPARATION REQUIREMENTS
62-555.314 F.A.C. AUGUST 28, 2003

Horizontal separation between underground water mains and sanitary or storm sewers, wastewater or stormwater force mains, reclaimed water pipelines and on-site sewage treatment and disposal systems.

- New or relocated underground water mains shall be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under part III of Chapter 62-610, F.A.C.
- 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, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under part III of Chapter 62-610, F.A.C. The minimum horizontal separation 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 381.0065(2), F.S. and rule 64E-6.002, F.A.C.

Vertical separation between underground water mains and sanitary or storm sewers, wastewater or stormwater force mains, and reclaimed water pipelines.

Vertical separation between underground water mains and sanitary or storm sewers, wastewater or stormwater force mains, reclaimed water pipelines and on-site sewage treatment and disposal systems.

- New or relocated underground water mains crossing any existing or proposed gravity- or vacuum-type sanitary 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 stormwater force main, or pipeline conveying reclaimed water shall be laid so the outside of the water main is at least 12 inches above or below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.
- At the utility crossings described in paragraphs 1 and 2 above, one full length of water main pipe shall be centered above or below the other pipeline so that all water main joints shall be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or pipelines conveying reclaimed water regulated under part III of Chapter 62-610, 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 III of Chapter 62-610, F.A.C.

SEPARATION REQUIREMENTS

| | |
|-----------|---------|
| BY | |
| DATE | |
| REVISIONS | |
| FILE NAME | 3517EN2 |

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-4452

ISLAND COVE APARTMENTS
WATER & SEWER
DETAILS
RIVIERA BEACH, FLORIDA

| | |
|-----------|----------|
| DATE | 2/8/18 |
| DRAWN BY | CLG |
| F.B./ PG. | ---- |
| SCALE | 1" = 30' |

JOB # 3517-2
SHT. NO.
WS-4
OF 12 SHEETS