ENERGY COVE WAREHOUSE

FOR

WIGGINS GROUP

1340 ENERGY COVE, GREEN COVE SPRINGS, FL 32043

CLAY COUNTY

PROJECT OWNER AND CONSULTANTS

OWNER: Wiggins Group
Mr. Bryant Wiggins
91 Branscomb Road, Suite 17
Green Cove Springs, FL 32043

SURVEYOR: Bartram Trail Surveying, INC
1501 CR 315, Suite 106
Green Cove Springs, FL 32043
TEL: 904-284-2224

ENGINEER: Tocoi Engineering,
a Baxter & Woodman Company
John J. Mahoney III, P.E.
714 North Orange Avenue
Green Cove Springs, FL 32043
TEL: 815-459-1260

B&W JOB NO: 2500947
CLIENT CODE: WIGCO

811 SAFETY IS IN YOUR HANDS. EVERY DIG. EVERY TIME.

CALL BEFORE YOU DIG
800-432-4770

LOCATION MAP
N.T.S.

TOCOI Engineering
a BAXTER & WOODMAN company

714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260 E.B. NUMBER: 26383

PERMIT PLANS
February 4, 2026

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INDEX OF DRAWINGS

JOHN J. MAHONEY III, P.E.
FLA. REGISTERED ENGINEER, #40177

CITY GENERAL REQUIREMENTS:

1. CITY OF G.C.S. DEPARTMENT OF ENGINEERING REQUIRES TWENTY–FOUR (24) HOUR NOTICE ON ALL MEETINGS AND OR TESTING MEASURES RELATED TO SAID PROJECT.

2. CONSTRUCTION WARNING SIGNS ARE TO BE POST MOUNTED AND ERECTED BEFORE CONSTRUCTION CAN COMMENCE. THESE AND ALL TRAFFIC CONTROL DEVICES SHALL FOLLOW THE STANDARDS SET FORTH BY THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS WELL AS THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD INDEXES.

3. ALL SUB BASE SHALL BE FIRM AND UNYIELDING.

4. ALL JOINTS OF PIPE, REGARDLESS OF MATERIAL TYPE, SHALL BE WRAPPED WITH FABRIC FILTER CLOTH PER FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD INDEX 280.

5. ALL DISTURBED CITY OF G.C.S. RIGHTS–OF–WAY SHALL BE SODDED TO THE DISCRETION AND APPROVAL OF THE CITY OF G.C.S. ENGINEERING DEPARTMENT.

6. THE CURB SHALL BE CHECKED FOR FLOW DESIGN AT ANY STAGE OF THE PROJECT. A WATER TRUCK IS TO BE PROVIDED AT THE FINAL INSPECTION IN ORDER TO CHECK FLOW DESIGN.

7. ALL UNDER DRAIN LINES SHALL HAVE A FORTY–FIVE DEGREE CLEAN OUT AT TWO HUNDRED FOOT (200') INTERVALS AND AT THE END OF THE RUN. THE CURB SHALL BE MARKED WITH TEAL OR HUNTER GREEN PAINT AS TO THE LOCATION OF THE CLEAN OUT.

8. HANDICAP RAMPS SHALL BE INSTALLED WHEREVER THE SIDEWALK MEETS THE CURB.

9. ALL INFORMATION REQUESTED BY THE CITY SHALL BE IN HAND AT THE TIME OF THE FINAL INSPECTION. NO CONDITIONAL CERTIFICATES OF OCCUPANCY SHALL BE GIVEN.

10. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO EXCAVATION AND TAKE ALL MEASURES NECESSARY TO PROTECT UTILITIES DURING CONSTRUCTION. SHOULD ANY UTILITY LINE OR COMPONENT BECOME DAMAGED OR REQUIRE RELOCATION THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RESPONSIBLE UTILITY COMPANY, THE ENGINEER, AND THE CITY.

11. ALL SWALE SECTIONS ARE TO BE SODDED.

12. ALL DEVELOPER OR CONTRACTOR INSTALLED SIDEWALKS SHALL BE INSTALLED PRIOR TO THE FINAL INSPECTION.

13. A COPY OF THE CONTRACTORS' GENERAL LICENSE AND OR UNDER GROUND UTILITY LICENSE SHALL BE PROVIDED AT THE TIME OF THE PRE–CONSTRUCTION CONFERENCE.

14. ANY APPLICABLE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD) OR FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) PERMITS SHALL BE PROVIDED TO THE CITY BY THE PRE–CONSTRUCTION CONFERENCE. NO WORK SHALL BEGIN WITHOUT ALL APPLICABLE PERMITS ON FILE.

15. THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD) BEFORE THE CITY WILL ACCEPT THE PROJECT.

16. THERE SHALL BE A MINIMUM THREE (3) DAYS NOTICE GIVEN FOR SCHEDULING THE FINAL INSPECTION.

17. AT THE FINAL INSPECTION, A LETTER OF COMPLIANCE, PROVIDED BY THE CITY, WILL NEED TO BE FILLED OUT AND SIGNED THE STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER OF RECORD.

18. FIVE (5) DAYS PRIOR TO THE FINAL INSPECTION TWO (2) SETS OF BLUE LINE AS–BUILTS AND ONE (1) COPY ON DISK IN AUTOCAD FORMAT SHOWING THE FOLLOWING SHALL BE SUBMITTED:

CITY EROSION CONTROL NOTES:

19. PURSUANT TO COMPREHENSIVE PLAN POLICY 9:1 OF THE CONSERVATION ELEMENT, THE USE OF ONE OR MORE EROSION CONTROL MEASURES, AS REQUESTED BY THE CITY OF G.C.S. ENGINEERING DEPARTMENT, SHALL BE USED DURING CONSTRUCTION. THESE WILL BE, BUT NOT LIMITED TO, ITEMS SUCH AS TEMPORARY GRASS COVER, SEDIMENT BASINS OR PONDS, MULCHING, TEMPORARY FENCES, DIVERSION CHANNELS AND HAY BALES.

20. PURSUANT TO COMPREHENSIVE PLAN POLICY 9:1 OF THE CONSERVATION ELEMENT, SCHEDULING OF CONSTRUCTION SHALL BE GIVEN SPECIAL CONSIDERATION TO MINIMIZE EXPOSURE OF BARE SOIL. THE CONTRACTOR WILL FORMULATE A CONSTRUCTION SCHEDULE TO BE GIVEN TO THE CITY REPRESENTATIVE.

21. THE CONTRACTOR SHALL CHECK EACH DAY TO INSURE THAT ALL EROSION CONTROL DEVICES ARE IN PLACE AND WORKING PROPERLY.

22. ALL EROSION CONTROL MEASURES SHALL BE IN COMPLIANCE WITH THE RULES, REGULATION AND STANDARDS OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD), THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND THE UNITED STATES ARMY CORP OF ENGINEERS.

23. THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT THE EROSION OF SOIL AND DEPOSITION OF SEDIMENT ON ADJACENT AND DOWNSTREAM PROPERTIES.

24. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION.

CITY PUBLIC SAFETY NOTES:

25. BLUE, ALL–DIRECTIONAL HIGHWAY–STYLE REFLECTIVE MARKERS SHALL BE PROVIDED ON ALL ROADWAYS, ALLEYS, ACCESS ROADS AND ALL PAVED AREA IN FRONT OF EACH HYDRANT. SAID MARKERS SHALL BE LOCATED IN THE LANE OF TRAVEL ON THE SAME SIDE AS THE HYDRANT. THESE MARKERS SHALL BE IN PLACE AT THE TIME OF FINAL INSPECTION OR APPROVAL.

26. A DISK SHALL BE PROVIDED, IN AUTOCAD FORMAT, SHOWING THE LOCATION OF ALL FIRE HYDRANTS BEFORE FINAL APPROVAL. PAVING, DRAINAGE AND CONSTRUCTION NOTES:

27. ALL UNSUITABLE MATERIAL SHALL BE REMOVED TWO FEET (2') BEYOND THE BACK OF CURB AND TWO FEET (2') BELOW FINISHED GRADE.

28. COMPACTION DENSITIES FOR ALL ROADWAY CROSSINGS ARE TO BE TAKEN IN ONE–FOOT (1') LIFTS. STORM SEWER PIPE DENSITIES WILL START AT THE HAUNCHES OF THE PIPE AND BE TAKEN EVERY 6" UNTIL IT HAS REACHED 1' ABOVE THE PIPE.

29. IF UNSUITABLE MATERIAL IS FOUND WITHIN THE LIMITS OF THE ROAD OR IF MATERIAL IS HAULED IN FOR ROADWAY FILL AT A DEPTH GREATER THAN ONE–FOOT (1') THEN THE ENTIRE ROADWAY SHALL BE UNDER DRAINED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND INSTALLED PER THE APPROVED CITY OF G.C.S. DETAIL.

30. ALL STORM SEWER PIPES SHALL BE CUT FLUSH WITH THE INTERIOR WALL OF ANY TYPE MANHOLE OR CURB AND DITCH BOTTOM INLETS.

31. COMPACTION DENSITY TESTS FOR ALL WATER AND SEWER CROSSINGS WILL START THREE FEET (3') ABOVE THE PIPE.

32. COMPACTION DENSITY TESTS FOR ALL WATER AND SEWER CROSSINGS WILL START AT THE SPRING LINE OF THE PIPE.

33. IF THE APPROVED DESIGN REQUIRED THE INLET OR STORM RUN TO BE SURCHARGED, ALL INLETS SHALL BE INSPECTED BEFORE BEING EXPOSED TO THE SYSTEM.

34. TEST CYLINDERS SHALL RUN FOR ALL CONCRETE STRUCTURES. THERE WILL BE THREE (3) TESTS PER EACH DAY POUR WITH ONE (1) AT SEVEN (7) DAY BREAK, AND TWO (2) TWENTY–EIGHT (28) DAY BREAKS.

35. THE ASPHALT SHALL BE CORED FOR THICKNESS AND WILL BE GIVEN A ONE–QUARTER INCH (1/4") TOLERANCE. IF HOWEVER THE CITY'S REPRESENTATIVE IS PRESENT AT POUR AND FEELS COMFORTABLE WITH THE REQUIREMENTS THEN HE OR SHE MAY WAVE THIS POLICY.

36. LBR'S FOR SUBGRADE AT FORTY (40) AND LIME ROCK OR ALTERNATIVE BASE COURSE AT ONE HUNDRED (100). THERE WILL BE NO UNDER TOLERANCE.

37. ALL MATERIAL USED FOR BACK FILL SHALL BE SAND (A3) FREE DRAINING.

38. THERE ARE TO BE NO OPENED TRENCHES AT DAY'S END.

39. ALL DIRT AND DEBRIS TRACKED OUT OF THE PROJECT SHALL BE CLEANED DAILY AND TO THE DISCRETION OF THE CITY OF G.C.S. ENGINEERING DEPARTMENT.

SIGNING AND PAVEMENT MARKING NOTES:

40. ALL SIGNS MUST MEET THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARDS FOR ENGINEERING GRADE SIGN FACES IN REFLECTIVITY.

41. ALL FINAL PAVEMENT MARKINGS WITHIN THE RIGHTS–OF–WAY SHALL BE THERMOPLASTIC.

42. ALL SIGNS SHALL BE ON A TEN–FOOT (10') POLE A MINIMUM OF SEVEN FEET (7') FROM THE GROUND.

43. STREET SIGNS SHALL BE MOUNTED WITH TEE CAPS.

44. STREET SIGNS SHALL BE SIX INCHES (6") WIDE WITH GREEN BACKINGS AND WHITE LETTERS AND BORDERING.

45. STOP SIGNS SHALL BE A MINIMUM TWENTY–FOUR INCH BY TWENTY–FOUR INCH (24" X 24").

46. STOP SIGNS ARE TO BE PLACED FOUR FEET (4') FROM BACK OF CURB, FOR FEET (4') BEHIND CROSS WALKS AND ON THE RIGHT HAND SIDE OF THE ROAD.

47. STREET SIGNS ARE TO BE LOCATED ON THE LEFT HAND CORNER OF THE INTERSECTION FOUR FEET (4') FROM THE BACK OF CURB.

48. STREET / STOP SIGN COMBINATIONS ARE NOT ALLOWED.

49. ALL REGULATORY SIGNS SHALL BE BLACK AND WHITE. ALL CONSTRUCTION WARNING SIGNS SHALL BE ORANGE AND BLACK. ALL WARNING SIGNS SHALL BE YELLOW AND BLACK. ALL NO PARKING AND STOP SIGNS SHALL BE RED AND WHITE.

50. STOP BARS SHALL BE TWENTY–FOUR INCHES (24") WIDE AND LANE WIDTH. ALL STOP BARS SHALL BE THERMOPLASTIC.

51. ALL SIGNS SHALL BE SIDED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.

52. ALL DETECTABLE WARNING PADS FOR ADA RAMPS ARE TO BE WET–SET MATS.

CITY MAINTENANCE OF TRAFFIC:

53. AFTER ISSUANCE OF THE PERMIT, THE PERMITTEE SHALL NOTIFY THE CITY PUBLIC WORKS DEPARTMENT A MINIMUM OF TWO BUSINESS DAYS PRIOR TO COMMENCING CONSTRUCTION. THIS NOTIFICATION WILL ALLOW FOR SCHEDULING OF INSPECTIONS.

54. IF A ROAD CLOSURE IS REQUIRED, THE PERMITTEE SHALL SUBMIT WITH THE PERMIT APPLICATION A MAINTENANCE OF TRAFFIC (MOT) PLAN TO INCLUDE ALL PROPOSED ROAD CLOSURES AND AN EXPECTED TIME DURATION FOR EACH CLOSING.

55. ROAD CLOSURES SHALL REQUIRE SEPARATE APPROVAL BY THE PUBLIC WORKS DEPARTMENT AND A MINIMUM OF THREE BUSINESS DAYS PRIOR NOTIFICATION BEFORE THE COMMENCEMENT OR CONSTRUCTION.

56. ROAD CLOSURES SHALL REQUIRE SEPARATE APPROVAL OF CLAY COUNTY FIRE AND RESCUE.

57. ROAD CLOSURES OF FEWER THAN 15 MINUTES SHALL NOT REQUIRE NOTIFICATION.

CITY AS–BUILT REQUIREMENTS:

58. AS–BUILTS MUST BE SUBMITTED ON THE APPROVED GRADING.

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ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

GREEN COVE SPRINGS GENERAL NOTES

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
2B

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ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA REGISTRATION NUMBER: 40177

ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

EXISTING CONDITION PLAN

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
3

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ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

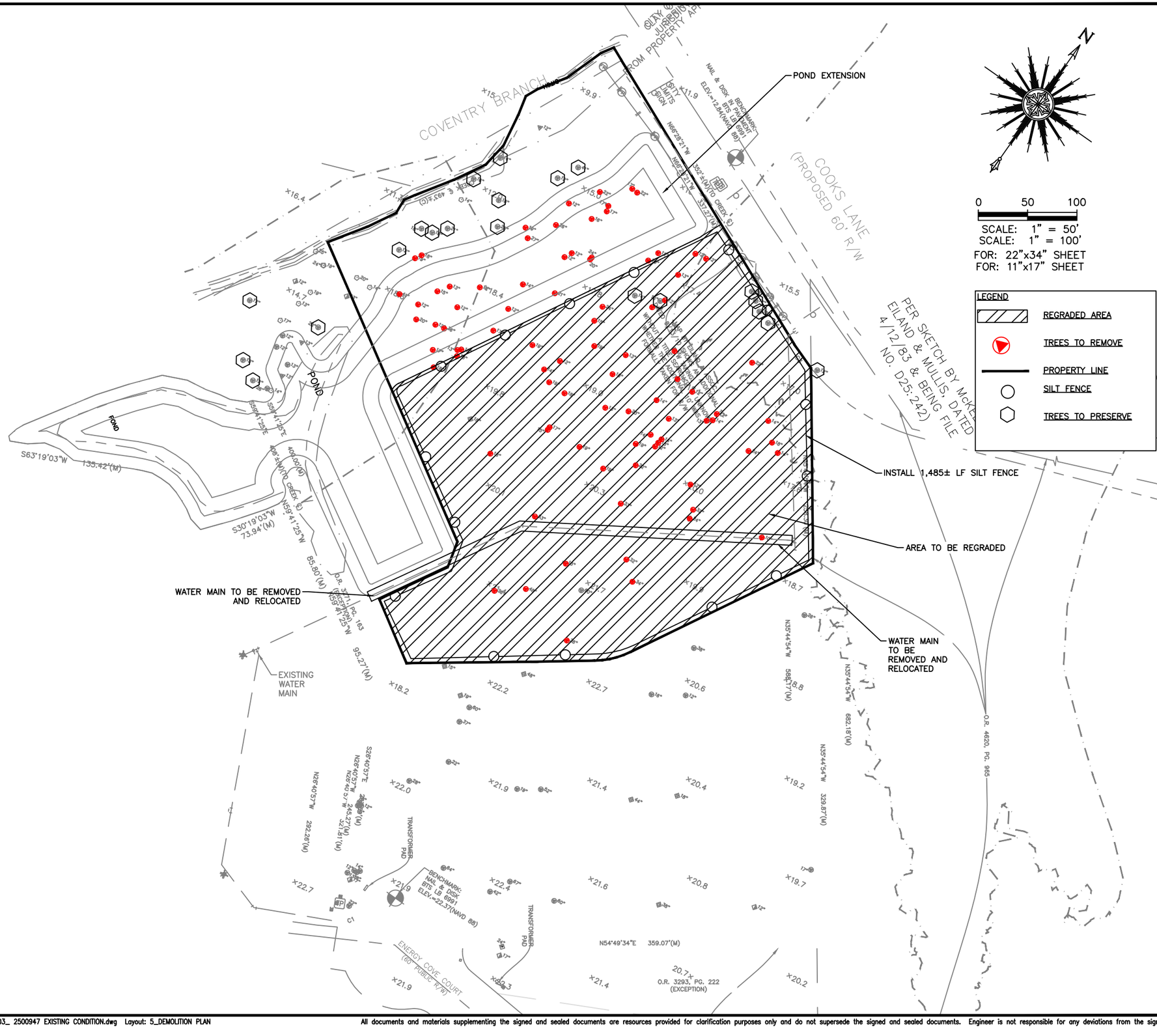
ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

EXISTING DRAINAGE PLAN

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
4



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ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

DEMOLITION PLAN

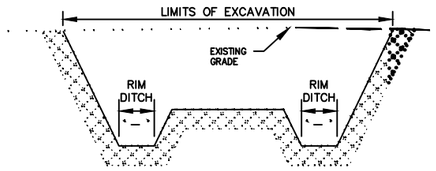
REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

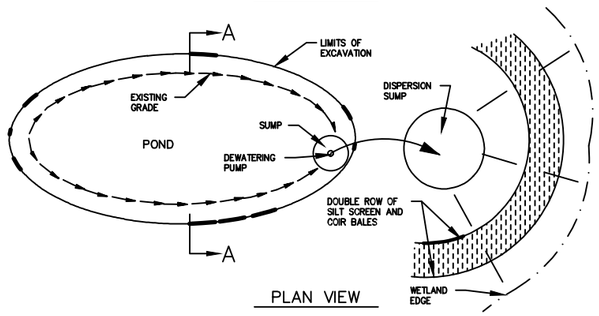
SHEET NO.
5

SEDIMENT AND EROSION CONTROL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION.
2. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
3. ADDITIONAL PROTECTION – ON-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNSEEN CONDITIONS OR ACCIDENTS.
4. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
5. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS REQUIRED, THE STRIPS SHALL BE OVERLAPPED.
6. FDOT NO. 1 COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ON SEDIMENT FILTER DETAIL (SEE DETAIL THIS SHEET). THE DEP TH OF STONE SHALL BE AT LEAST 12 IN GHES OVER THE ENTIRE INLET OPENING . THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
7. IF THE STONE FILTER BECOMES CID GSD WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.
8. BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.
9. BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.
10. THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED .A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
11. EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE.
12. LOOSE COIR SHOULD BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.
13. COIR BALE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
14. CLOSE ATTENTION SHALL BE GIVEN TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.
15. NE CESSARY REP AIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
16. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL .IT MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
17. ANY SEDIMENT DEPOSITS REMAINING IN PLACE, AFTER THE COIR BALE OR FILTER BARRIERS, AND OR SILT FENCES ARE NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
18. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
19. SHOULD THE FABRI C ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFE CTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
20. STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS REQUIRED.
21. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
22. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT RULES AND REGULATIONS.
23. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "THE FLORIDA DEVELOPMENT MANUAL – A GUIDE TO SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (F.D.E.P.) CHAPTER 6.
24. EROSION AND SEDIMENT CON TROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAILS (THIS SHEET) FOR TYPICAL CONSTRUCTION.
25. SOD SHALL BE PLACED IN AREAS WHICH MAY REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITY STANDARDS ARE MAINTAINED.
26. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALL.
27. DEWATERING PUMPS SHALL NOT EXCEED THE CAPACITY OF THAT WHICH REQUIRES A CONSUMPTIVE USE PERMIT FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
28. ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED AND MULCHED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED. CONTRACTOR SHALL USE ADDITIONAL MEASURES TO STABILIZE DISTURBED AREAS THROUGH COMPACTION, SILT SCREENS, COIR BALES, AND GRASSING. ALL FILL SLOPES 3:1 OR STEEPER TO RECEIVE STAKED SOLID SOD.
29. ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
30. THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
31. THE C ONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRIES, RELATIVE TO COMPLIANCE OF SJRWMD FOR EROSION AND SEDIMENTATION CONTROL. THE COST O F THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
32. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS AND PRESERVATION EASEMENTS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A PERMANENT STAND OF SOD AND/OR GRASS PER THE CONTRACT DOCUMENTS AND MEETING THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, ST. JOHNS COUNTY, AND NPDES FINAL STABILIZATION REQUIREMENTS.
34. THESE PLANS INCLUDING THE POLLUTION PREVENTION PLAN INDICATE THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES REQUIRED FOR THIS PROJECT. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "THE FLORIDA DEVELOPMENT MANUAL – A GUIDE TO SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P.) CHAPTER 6. CONTRACTOR SHALL PROVIDE EROSION PROTECTION A ND TURBIDITY C ONTROL AS REQUIRED TO INSURE CONFORMANCE TO STATE AND FEDERAL WATER QUALITY STANDARDS AND MAY NEED TO INSTALL ADDITIONAL CONTROLS TO CONFORM TO AGENCIES REQUIREMENTS. IF A WATER QUALITY VIOLATION OCCURS, THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ALL DAMAGE AND ALL COSTS WHICH MAY RESULT INCLUDING LEGAL FEES, CONSULTANT FEES, CONSTRUCTION COSTS, AND FINES.
35. 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR WILL SUBMIT A "NOTICE OF INTENT" TO THE EPA IN ACCORDANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM RULES AND REGULATIONS. (FOR ANY CONSTRUCTION NOT COVERED BY THE OWNER'S "NOTICE OF INTENT" PERMIT)



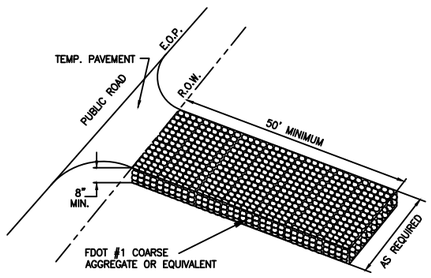
SECTION A–A



PLAN VIEW

TEMPORARY DEWATERING DETAIL

N.T.S.



STABILIZED CONSTRUCTION ENTRANCE

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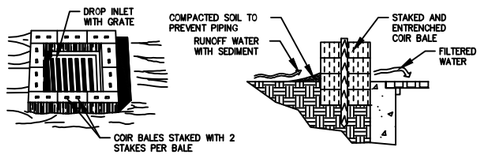
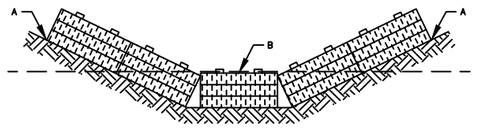


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5 PERCENT) WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 cfs) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

COIR BALE DROP INLET SEDIMENT FILTER

N.T.S.



POINTS A SHOULD BE HIGHER THAN POINT B

PROPER PLACEMENT OF COIR BALE IN A DRAINAGE WAY

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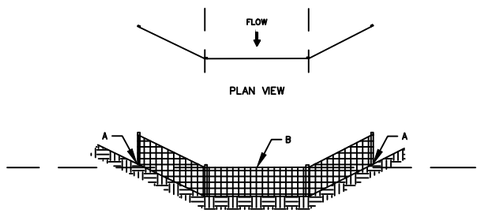
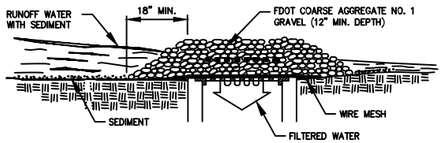


SECTION VIEW
POINTS A SHOULD BE HIGHER THAN POINT B

PROPER PLACEMENT OF A FILTER BARRIER IN DRAINAGE WAY

N.T.S.

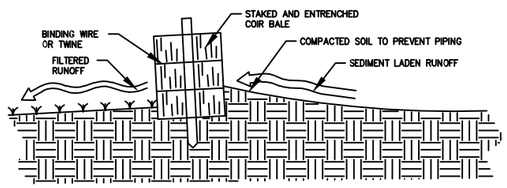


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

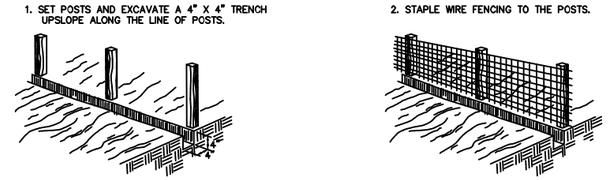
GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

N.T.S.



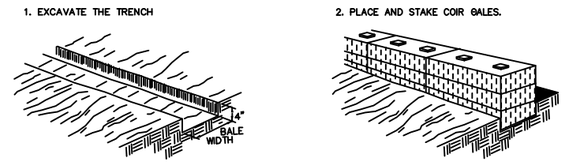
CROSS-SECTION OF A PROPERLY INSTALLED COIR BALE

N.T.S.



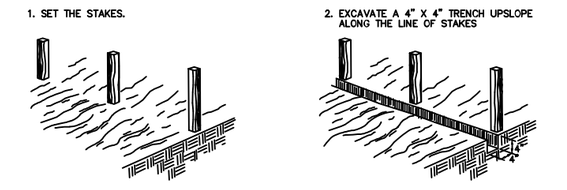
CONSTRUCTION OF SILT FENCE

N.T.S.



CONSTRUCTION OF A COIR BALE BARRIER

N.T.S.



CONSTRUCTION OF A FILTER BARRIER

N.T.S.

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA REGISTRATION NUMBER: 40177

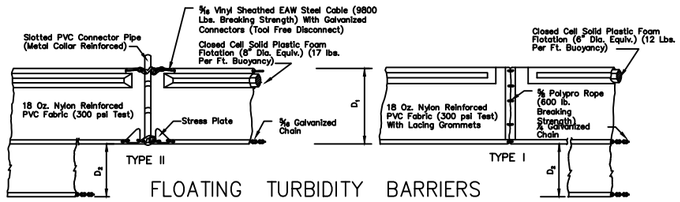
ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

EROSION CONTROL DETAILS

REVISIONS

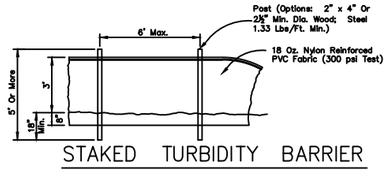
PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
6A

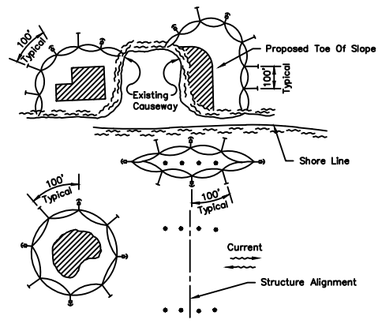


FLOATING TURBIDITY BARRIERS

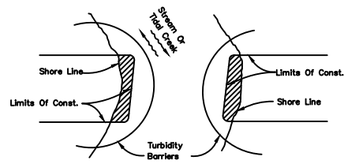
NOTICE:
COMPONENTS OF TYPES I & TYPE II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.



STAKED TURBIDITY BARRIER



LEGEND
- Pile Locations
- Dredge Or Fill Area
- Mooring Buoy w/Anchor
- Anchor
- Barrier Movement Due To Current Action



Note:
Turbidity barriers for flowing streams and tidal creeks may be either floating, or staked types or any combinations of types that will suit site conditions and meet erosion control and water quality requirements. The barrier type(s) will be at the Contractors option unless otherwise specified in the plans, however payment will be under the contract lump sum price established in the bid proposal for Erosion & Sediment Control Posts in staked turbidity barriers to be installed in vertical position unless otherwise directed by the Engineer.

NOTES:
1. Turbidity barriers are to be used in all permanent bodies of water regardless of water depth.
2. Number and spacing of anchors dependent on current velocities.
3. Deployment of barrier around pile locations may vary to accommodate construction operations.
4. Navigation may require segmenting barrier during construction operations.
5. For additional information see Section 104 of the FDOT Standard Specifications.

TURBIDITY BARRIER APPLICATIONS

TURBIDITY BARRIERS

(D-907)
N.T.S.

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260 E.B. NUMBER: 26383

ENGINEER OF RECORD
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ENERGY COVE WEREHOUSE
FOR
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EROSION CONTROL DETAILS

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
6B

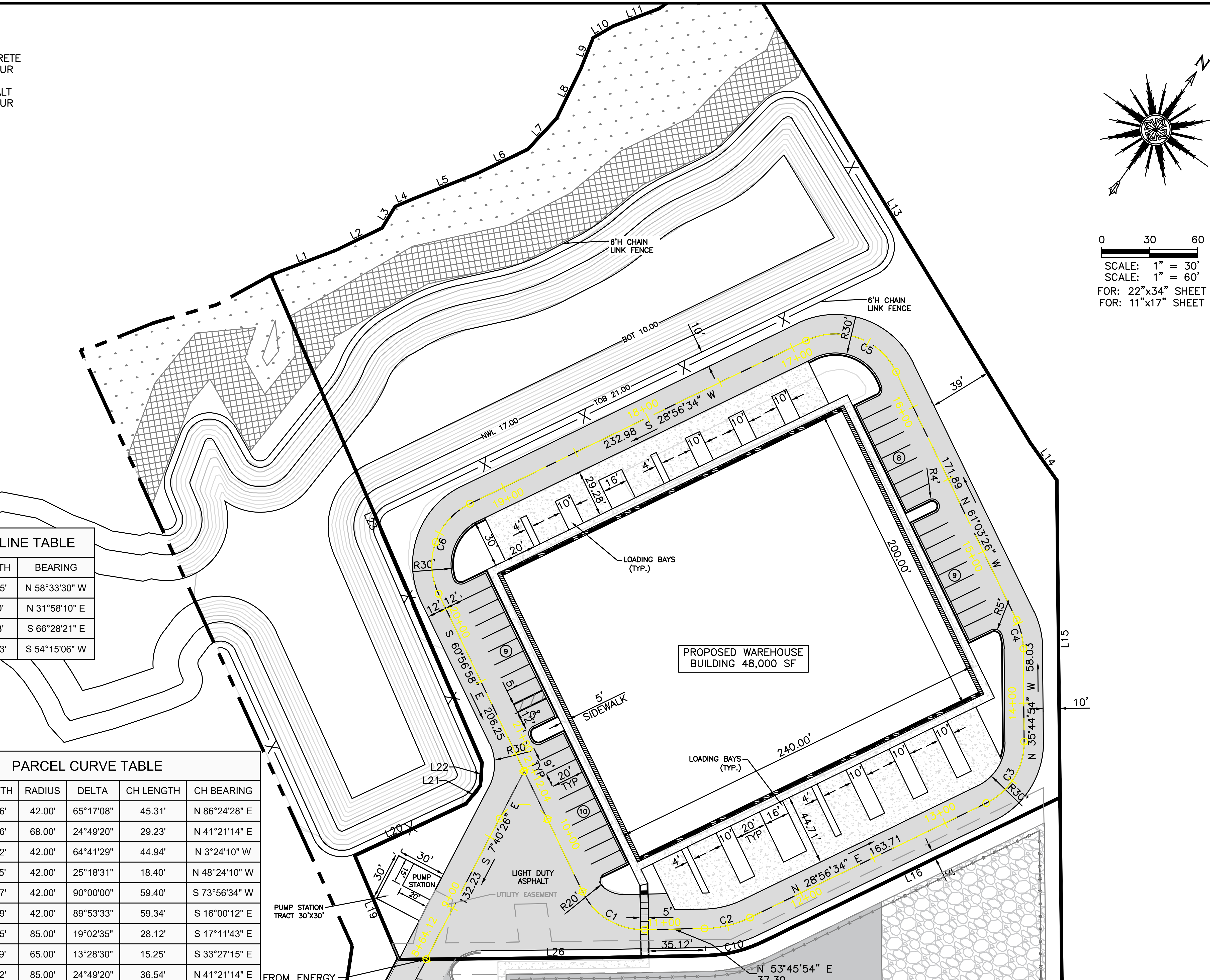
LEGEND

- AREAS WHERE NEW CONCRETE CONSTRUCTION IS TO OCCUR
- AREAS WHERE NEW ASPHALT CONSTRUCTION IS TO OCCUR
- WETLAND AREA
- WETLAND BUFFER
- PROPERTY BOUNDARY
- (10) NUMBER OF STANDARD PARKING SPACES

NOTE: FOR ADA PARKING AND SIDEWALK DETAILS SEE MISC. DETAILS

SITE DATA:

PROPERTY AREA:	4.60 AC.
IMPERVIOUS AREA:	2.66 AC.
% IMPERVIOUS:	57.82%
BUILDING AREA:	1.10 AC.
CONCRETE AREA:	0.64 AC.
ASPHALT AREA:	0.97 AC.
POND AREA:	0.50 AC.
REQUIRED PARKING:	24 UNITS
PROVIDED PARKING:	36 UNITS



PARCEL LINE TABLE		
LINE #	LENGTH	BEARING
L1	43.13'	N 33°55'06" E
L2	32.01'	N 29°07'30" E
L3	15.73'	N 3°53'09" W
L4	12.00'	N 31°48'50" E
L5	42.89'	N 33°14'05" E
L6	35.05'	N 29°22'37" E
L7	26.38'	N 7°49'29" E
L8	34.58'	N 9°10'45" W
L9	20.78'	N 13°14'16" W
L10	14.41'	N 24°34'17" E
L11	30.73'	N 33°56'59" E
L12	43.53'	N 18°54'00" E
L13	337.27'	S 66°28'21" E
L14	29.19'	S 70°27'26" E
L15	197.78'	S 35°44'54" E
L16	206.26'	S 28°56'34" W
L19	70.35'	N 58°12'05" W
L20	76.39'	N 29°49'35" E
L21	14.63'	N 3°10'48" E
L22	14.33'	N 31°22'50" W

PARCEL LINE TABLE		
LINE #	LENGTH	BEARING
L23	331.15'	N 58°33'30" W
L24	13.70'	N 31°58'10" E
L25	15.13'	S 66°28'21" E
L26	126.43'	S 54°15'06" W

PARCEL CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CH LENGTH	CH BEARING
C1	47.86'	42.00'	65°17'08"	45.31'	N 86°24'28" E
C2	29.46'	68.00'	24°49'20"	29.23'	N 41°21'14" E
C3	47.42'	42.00'	64°41'29"	44.94'	N 3°24'10" W
C4	18.55'	42.00'	25°18'31"	18.40'	N 48°24'10" W
C5	65.97'	42.00'	90°00'00"	59.40'	S 73°56'34" W
C6	65.89'	42.00'	89°53'33"	59.34'	S 16°00'12" E
C7	28.25'	85.00'	19°02'35"	28.12'	S 17°11'43" E
C8	15.29'	65.00'	13°28'30"	15.25'	S 33°27'15" E
C10	36.82'	85.00'	24°49'20"	36.54'	N 41°21'14" E

0 30 60
SCALE: 1" = 30' FOR: 22"x34" SHEET
SCALE: 1" = 60' FOR: 11"x17" SHEET

TOCOI Engineering
a BAXTER & WOODMAN company
TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER: 40177

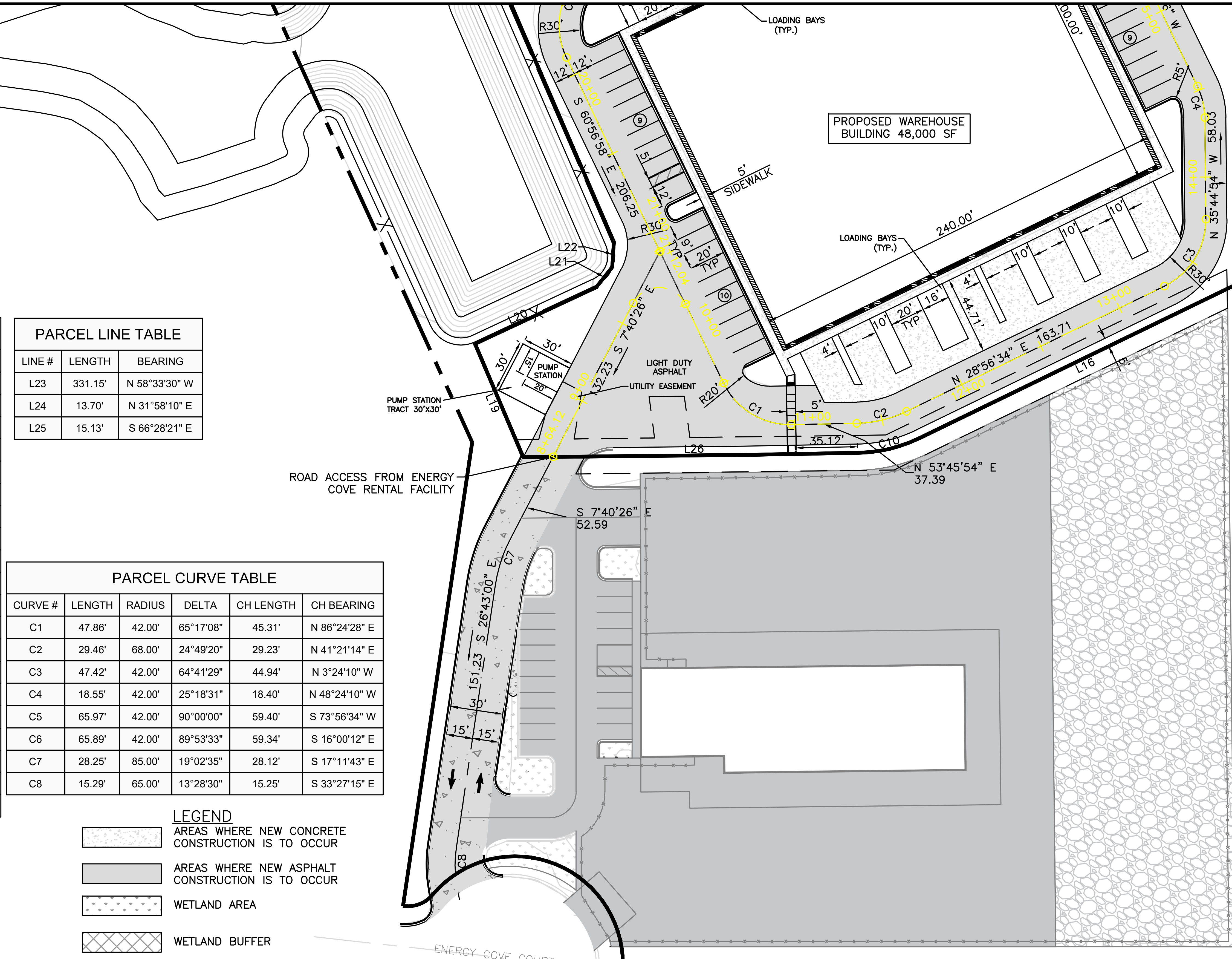
ENERGY COVE RENTAL FACILITY FOR MOFFAT PROPERTIES

GEOMETRY PLAN

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
7A



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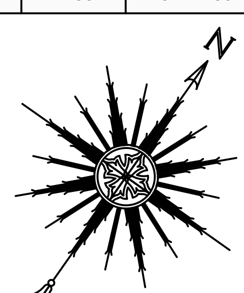

0 30 60

SCALE: 1" = 30'
SCALE: 1" = 60'
FOR: 22"x34" SHEET
FOR: 11"x17" SHEET

LEGEND

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- AREAS WHERE NEW ASPHALT CONSTRUCTION IS TO OCCUR
- WETLAND AREA
- WETLAND BUFFER
- PROPERTY BOUNDARY
- (10) NUMBER OF STANDARD PARKING SPACES

NOTE: FOR ADA PARKING AND SIDEWALK DETAILS SEE MISC. DETAILS

SITE DATA:

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ENERGY COVE RENTAL FACILITY FOR MOFFAT PROPERTIES

GEOMETRY PLAN

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
7B

Date: 2/4/26 Time: 2:04 PM DWG Name: P:\WIGCO\2500947-Energy Cove Warehouse Relocation\00-Design\03-CADD\07_2500947 GEOMETRY.dwg Layout: 7_GEOMETRY B

LEGEND

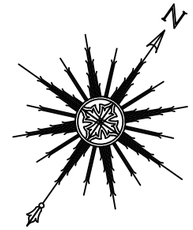
AREAS WHERE NEW CONCRETE CONSTRUCTION IS TO OCCUR

AREAS WHERE NEW ASPHALT CONSTRUCTION IS TO OCCUR

WETLAND AREA

WETLAND BUFFER

PROPERTY BOUNDARY



0 30 60

SCALE: 1" = 30'
SCALE: 1" = 60'
FOR: 22"x34" SHEET
FOR: 11"x17" SHEET

PROPOSED BUILDING WAREHOUSE
FFE 23.00

PUMP STATION

PUMP STATION TRACT 30'X30'

ROAD ACCESS FROM ENERGY COVE RENTAL FACILITY

21.68 LP
21.71
21.84
21.71
21.39
22.46
21.96
22.44
21.94
21.92
21.80
21.96
22.46
22.46
21.96
22.12
21.88 HP
21.96
22.46
22.20
22.51
21.99
22.05
21.76 LP
22.44
21.95 HP
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TOCOI Engineering
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TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

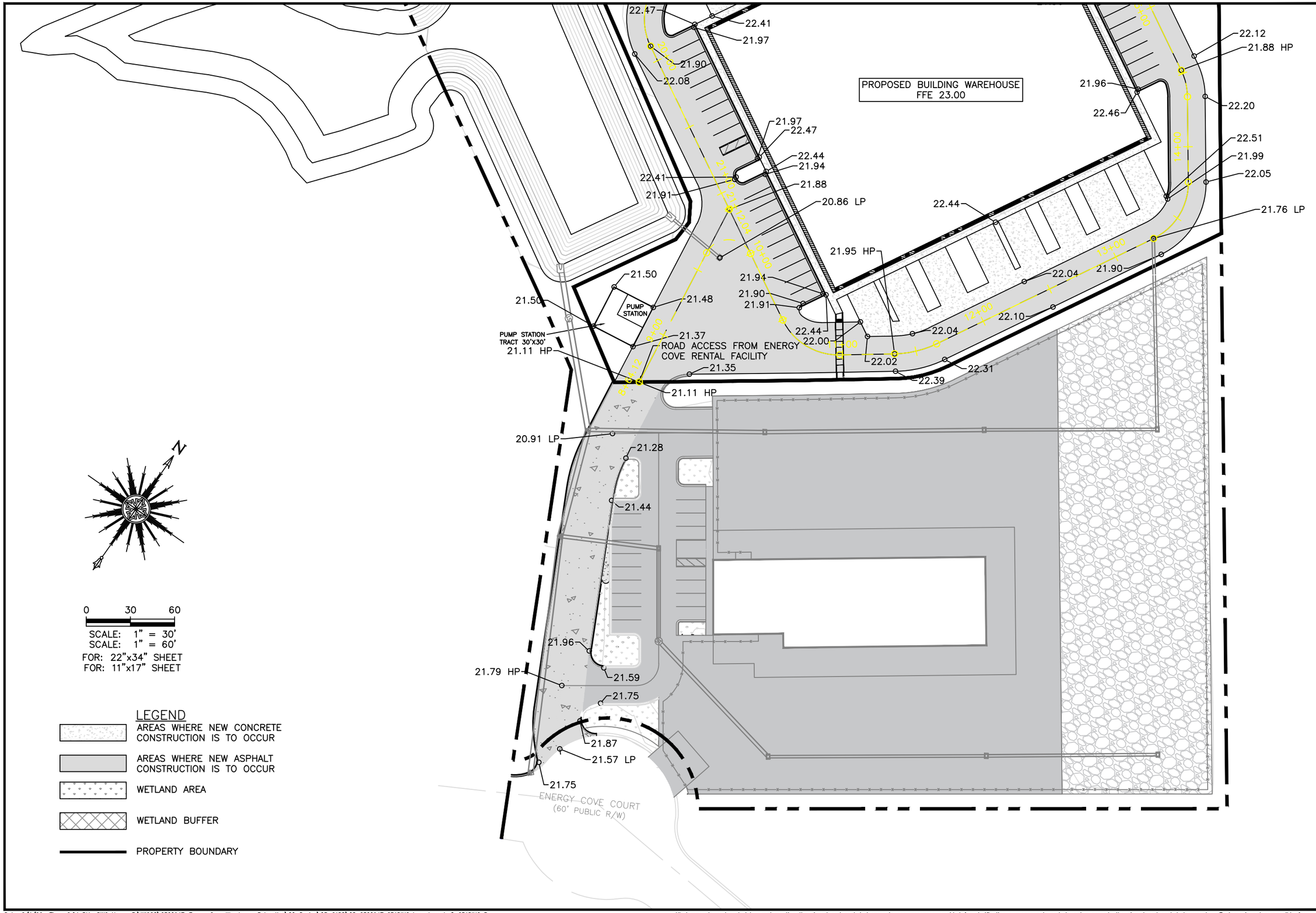
ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

GRADING PLAN

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
8A



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SHEET NO.
8B

LEGEND

AREAS WHERE NEW CONCRETE CONSTRUCTION IS TO OCCUR

AREAS WHERE NEW ASPHALT CONSTRUCTION IS TO OCCUR

WETLAND AREA

WETLAND BUFFER

PROPERTY BOUNDARY

S-2 MES
STA:16+74.26
OFF:39.92
SE INV IN: 18.54 18" RCP

46 LF OF 18" RCP @ 0.30%

S-1 C INLET
RIM:21.68
STA:16+57.35
OFF:-0.23
NW INV OUT: 18.68 18" RCP

FLOOD PLAIN LINE

ZONE A

ZONE X

BOT 10.00

TOB 21.00

NWL 17.00

S-6 MES
STA:19+55.41
OFF:166.61
E INV IN: 16.00

12 LF OF 24" CMP @ 4.34%

S-5 E INLET
RIM:19.50
STA:19+56.47
OFF:156.31
W INV OUT: 16.50
SLOTS 18.50
ORFICE 17.00

S-4 MES
STA:9+66.44
OFF:-36.83
E INV IN: 17.77 18" RCP

46 LF OF 18" RCP @ 0.30%

S-3 C INLET
RIM:20.86
STA:9+65.81
OFF:9.18
W INV OUT: 17.90 18" RCP

ST-120 C INLET
RIM:21.76
STA:13+28.46
OFF:0.00
SE INV OUT: 17.92 18" RCP

104 LF OF 18" RCP @ 0.30%
TO STUB OUT 10' PAST
EOP FOR FUTURE CONNECTION

ST-60 MES
SE INV IN: 14.46 36" RCP

37 LF OF 36" RCP @ 0.30%

ST-50 4' MH
RIM:21.21
SE INV IN: 14.57 36" RCP
NW INV OUT: 14.57 36" RCP

PUMP STATION

PUMP STATION
TRACT 30'X30'

77 LF OF 36" RCP @ 0.29%

ST-30 4' Curb Inlet
RIM:21.07

ROAD ACCESS FROM ENERGY
COVE RENTAL FACILITY

0 30 60

SCALE: 1" = 30'
SCALE: 1" = 60'
FOR: 22"x34" SHEET
FOR: 11"x17" SHEET

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ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
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ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

DRAINAGE PLAN

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
9A

OFF:156.31
W INV OUT: 16.50
SLOTS 18.50
ORFICE 17.00

S-4 MES
STA:9+66.44
OFF:-36.83
E INV IN: 17.77 18" RCP

46 LF OF 18" RCP @ 0.30%

S-3 C INLET
RIM:20.86
STA:9+65.81
OFF:9.18
W INV OUT: 17.90 18" RCP

ST-120 C INLET
RIM:21.76
STA:13+28.46
OFF:0.00
SE INV OUT: 17.92 18" RCP

104 LF OF 18" RCP @ 0.30%
TO STUB OUT 10' PAST
EOP FOR FUTURE CONNECTION

ST-60 MES
SE INV IN: 14.46 36" RCP

37 LF OF 36" RCP @ 0.30%

ST-50 4' MH
RIM:21.21
SE INV IN: 14.57 36" RCP
NW INV OUT: 14.57 36" RCP

PUMP STATION
PUMP STATION TRACT 30'X30'

77 LF OF 36" RCP @ 0.29%

ROAD ACCESS FROM ENERGY COVE RENTAL FACILITY

ST-30 4' Curb Inlet
RIM:21.07
S INV IN: 14.79 36" RCP
NE INV IN: 16.07 24" RCP
NW INV OUT: 14.79 36" RCP

74 LF OF 36" RCP @ 0.31%

40 LF OF 24" RCP @ 0.12%
TO STUB OUT 10' PAST
EOP FOR FUTURE CONNECTION

ST-200 4' Curb Inlet
RIM:20.27
SE INV IN: 16.37 36" RCP
NE INV IN: 16.11 24" RCP
N INV OUT: 15.02 36" RCP

40 LF OF 24" RCP @ 0.31%
TO STUB OUT 10' PAST
EOP FOR FUTURE CONNECTION

162 LF OF 36" RCP @ 0.50%

EXISTING CURB INLET
RIM:21.51
NW INV OUT: 17.18 36" RCP

ENERGY COVE COURT
(60' PUBLIC R/W)

0 30 60
SCALE: 1" = 30'
SCALE: 1" = 60'
FOR: 22"x34" SHEET
FOR: 11"x17" SHEET

LEGEND
- AREAS WHERE NEW CONCRETE CONSTRUCTION IS TO OCCUR
- AREAS WHERE NEW ASPHALT CONSTRUCTION IS TO OCCUR
- WETLAND AREA
- WETLAND BUFFER
- PROPERTY BOUNDARY

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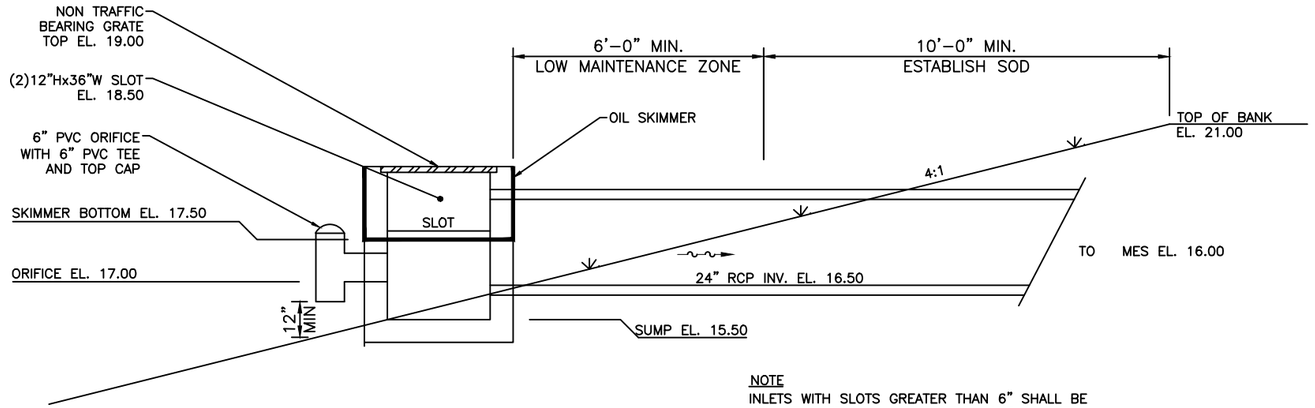
ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

DRAINAGE PLAN

REVISIONS

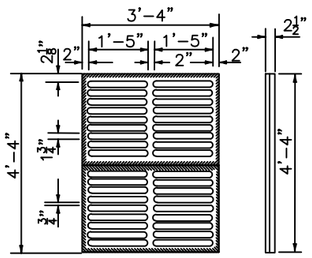
PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
9B



MODIFIED STORM SEWER
TYPE "E" INLET
POND OUTFALL–CONTROL STRUCTURE S–5
N.T.S.

NOTE
INLETS WITH SLOTS GREATER THAN 6" SHALL BE CONSTRUCTED WITH HORIZONTAL BARS AT THE MAXIMUM VERTICAL SPACING OF 6–INCHES. 1" DIA. GALVANIZED PIPE IMBEDDED 2" IN PRECAST STRUCTURE OR OTHER APPROVED METHOD.



GRATE
Approx. Weight 465 Lbs.

EACH GRATE SHALL HAVE A MIN. WEIGHT OF 190 LBS.

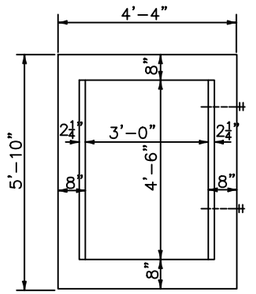
PRECAST IN ACCORDANCE WITH LATEST EDITIONS OF ASTM C76 AND C478.

6"MIN. CLEARANCE FROM O.D. OF TO INSIDE WALL OF INLET.

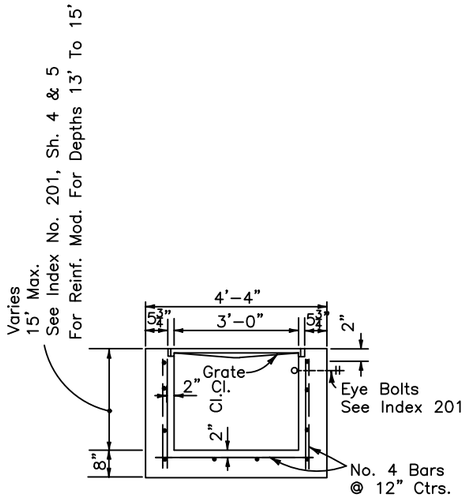
GROUT OR "RAM–NEK" JOINTS WHERE REQUIRED.

CONCRETE 4000 P.S.I.

SOD 16" ALL AROUND INLET



TOP



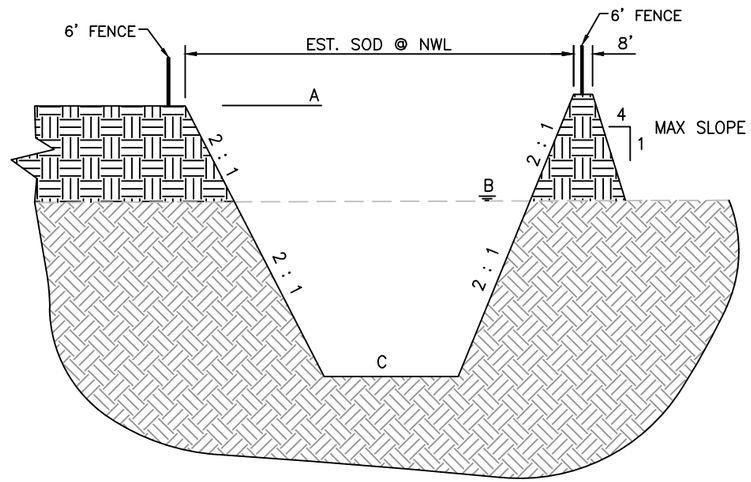
SECTION

Recommended Maximum Pipe Size :
3' – 0" Wall – 24" Pipe
4' – 6" Wall – 42" Pipe

NOTE
INLETS WITH SLOTS GREATER THAN 6" SHALL BE CONSTRUCTED WITH HORIZONTAL BARS AT THE MAXIMUM VERTICAL SPACING OF 6–INCHES. 1" DIA. GALVANIZED PIPE IMBEDDED 2" IN PRECAST STRUCTURE OR OTHER APPROVED METHOD.

STORM SEWER
TYPE "E" INLET
N.T.S.

	DESCRIPTION	ELEVATION
A	TOP OF BANK	21.00
B	NORMAL WATER LEVEL (NWL)	17.00
C	POND BOTTOM	10.00



LEGEND
GROUND

POND SECTION
N.T.S.

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FLORIDA
REGISTRATION NUMBER:
40177

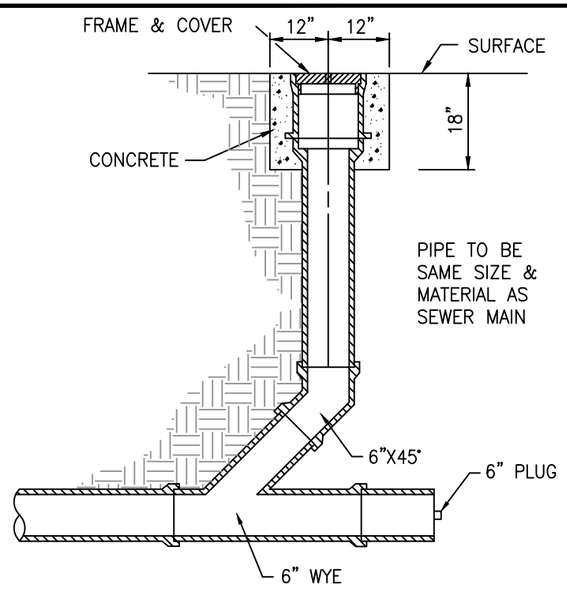
ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

DRAINAGE DETAILS

REVISIONS

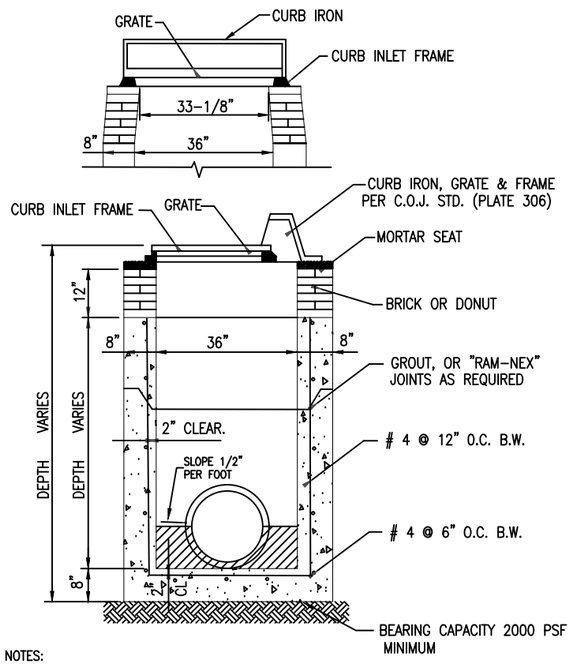
PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
10A



CLEANOUT STRUCTURE

N.T.S.

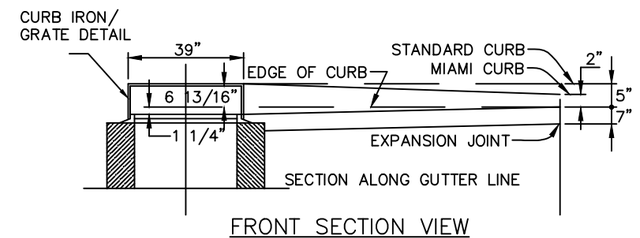


NOTES:

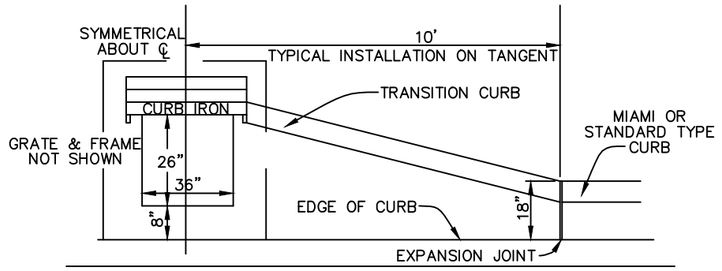
1. CONCRETE DESIGN STRENGTH IS 4,000 PSI.
2. PIPE MUST NOT BE IN CONSTRUCTION JOINT.
3. 6" MIN. PERFORATED PIPE (PERFORATIONS DOWN) THE PERFORATIONS SHALL MEET THE REQUIREMENTS OF A.S.T.M. C508 20' MIN. STUB OUT BOTH SIDES OF INLET. ADDITIONAL LENGTHS TO BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

CURB INLET

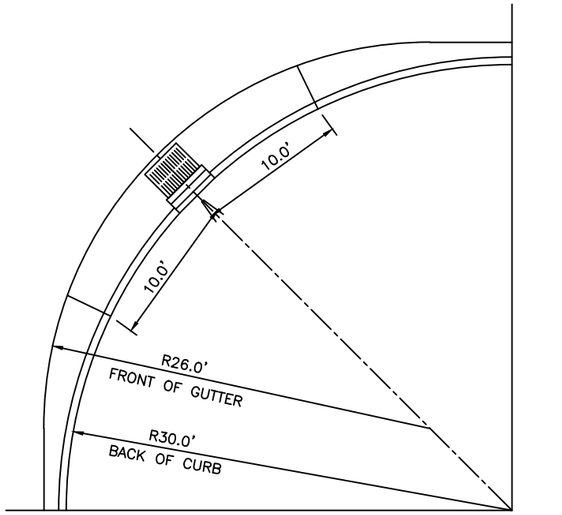
N.T.S.



FRONT SECTION VIEW



TOP VIEW

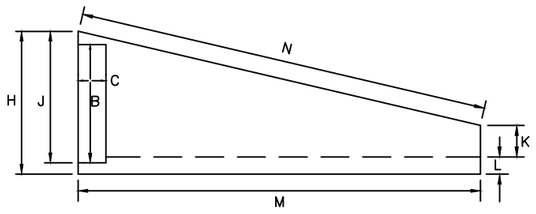


TYPICAL INSTALLATION ON CURB RETURN

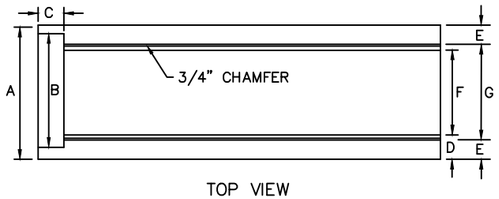
TOP VIEW

STANDARD CURB INLET INSTALLATION

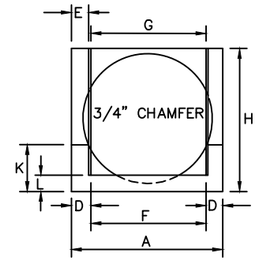
N.T.S.



SIDE VIEW



TOP VIEW



END VIEW

CONCRETE: 4,000 P.S.I.
STEEL: #4 @ 12" E.W., WITH 1 # 6 OVER PIPE OPENING. (2" CLEARANCE OVER STEEL, REINF. BARS, 1/2" TOLERANCE).

TABLE OF DIMENSIONS

RCP/CMP	A	B	C	D	E	F	G
15" – 18"	2'–7"	2'–1"	6"	6"	6¾"	1'–6"	1'–7"
24"	2'–11"	2'–8"	6"	5"	4½"	1'–11"	2'–0"
30"	3'–6"	3'–2"	6"	6"	5½"	2'–5"	2'–6½"
36"	4'–1"	3'–10"	6"	7"	5½"	2'–9"	3'–0"

RCP/CMP	H	J	K	L	M	N
15" – 18"	2'–10"	2'–4"	8"	6"	6'–10"	7'–0"
24"	3'–6"	3'–1"	7½"	5"	10'–0"	10'–3½"
30"	3'–9"	3'–5"	7"	5"	11'–5"	11'–8¼"
36"	4'–6"	4'–0"	6"	6"	14'–0"	14'–4½"

STANDARD CITY OF JACKSONVILLE
MITERED END SECTION (PLATE D–431 & D–432)

N.T.S.

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ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA REGISTRATION NUMBER: 40177

ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

DRAINAGE DETAILS

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
10B

S-2 4' MH
RIM: 21.95
NE INV IN: 17.20 8" PVC
S INV OUT: 17.10 8" PVC

44 LF OF 8" PVC @ 0.40%

S-3 4' MH
RIM: 21.93
N INV IN: 16.92 8" PVC
SE INV OUT: 16.82 8" PVC

S-4 4' MH
RIM: 21.81
NW INV IN: 16.21 8" PVC
SE INV OUT: 16.11 8" PVC

80 LF OF 8" PVC @ 0.40%

S-5 4' MH
RIM: 21.61
NW INV IN: 15.79 8" PVC
NE INV IN: 16.84 8" PVC
SE INV IN: 17.62 8" PVC
W INV OUT: 15.69 8" PVC

72 LF OF 8" PVC @ 0.44%

S-1 4' MH
RIM: 21.73
SW INV OUT: 18.04 8" PVC

BOT 10.00
TOB 21.00
NWL 17.00

212 LF OF 8" PVC @ 0.40%

154 LF OF 8" PVC @ 0.40%

S-6 (3) 4' MH
RIM: 21.92
NE INV IN: 17.48 8" PVC
SW INV OUT: 17.38 8" PVC

S-6 (1) WETWELL
RIM: 21.48
E INV IN: 15.37 8" PVC

[WM] BEND 45 DEG 12" PVC

EXISTING WATER MAIN

PUMP STATION TRACT 30'X30'

PUMP STATION

UTILITY EASEMENT

[WM] 96 LF OF 12" PVC

[WM] 65 LF OF 12" PVC

136 LF OF 8" PVC @ 0.40%

151 LF OF 8" PVC @ 0.40%

[WM] 135 LF OF 12" PVC

[WM] TEE 12"X2" PVC

[WM] FH ASSEMBLY

[WM] 15 LF OF 12" PVC

[WM] BEND 22.5 DEG 12" PVC

[WM] 194 LF OF 12" PVC

EXISTING WATER MAIN

TIE INTO EXISTING STUB OUT

[WM] 8 LF OF 12" PVC

[WM] BEND 45 DEG 12" PVC

S-6 (2) 4' MH
RIM: 21.77
SW INV OUT: 18.08 8" PVC

N

0 30 60

SCALE: 1" = 30'
SCALE: 1" = 60'
FOR: 22"x34" SHEET
FOR: 11"x17" SHEET

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

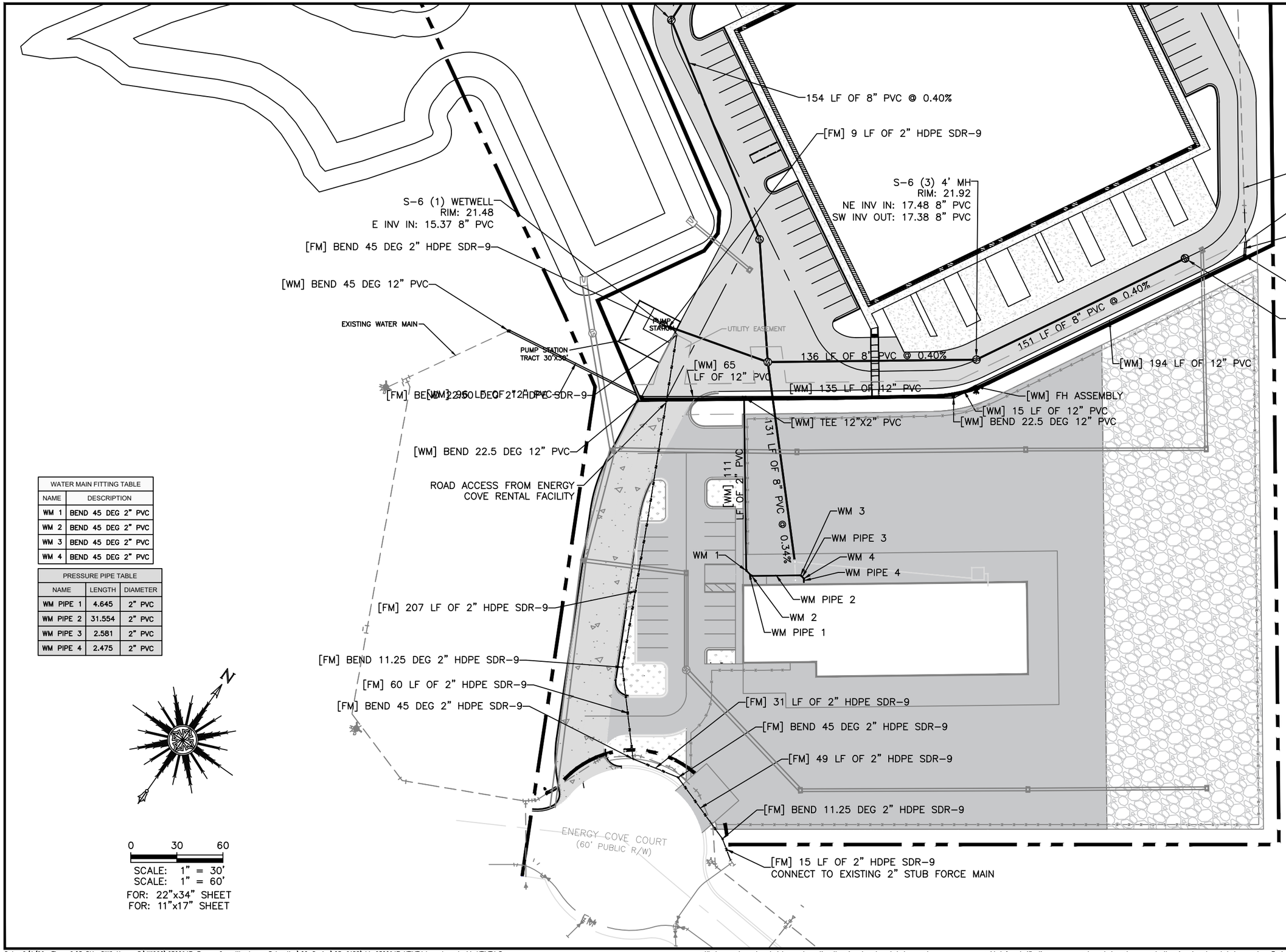
ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

UTILITY PLAN

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	RMV
DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
11A



WATER MAIN FITTING TABLE	
NAME	DESCRIPTION
WM 1	BEND 45 DEG 2" PVC
WM 2	BEND 45 DEG 2" PVC
WM 3	BEND 45 DEG 2" PVC
WM 4	BEND 45 DEG 2" PVC

PRESSURE PIPE TABLE		
NAME	LENGTH	DIAMETER
WM PIPE 1	4.645	2" PVC
WM PIPE 2	31.554	2" PVC
WM PIPE 3	2.581	2" PVC
WM PIPE 4	2.475	2" PVC

N

0 30 60

SCALE: 1" = 30'
SCALE: 1" = 60'
FOR: 22"x34" SHEET
FOR: 11"x17" SHEET

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ENERGY COVE RENTAL FACILITY
FOR
MOFFAT PROPERTIES

UTILITY PLAN

REVISIONS

PLOT DATE:	2/4/26
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DESIGNED BY:	JJM
CHECKED BY:	WAJ
CLIENT CODE:	ALIGN
JOB NO.:	2500939

SHEET NO.
11B

OUTLINE SPECIFICATIONS FOR CONSTRUCTION OF SEWAGE COLLECTION SYSTEM

01. INTENTION. It is the declared and acknowledged intention to secure a new sewerage system, complete, in accordance with the plans, specifications, and contract documents. All new work shall be in accordance with Clay County Utility Authority Specifications and Details and with Clay County Utility Authority Approved Materials Manual and Clay County Engineering Department Details and Specifications and any other Government Regulatory Agency. All work shall conform to the above, whether or not specifically called out or noted on the plans.

02. GENERAL. All materials shall be of those listed in the CCUA Approved Materials Manual. The installation shall be warranted by the Contractor as to materials, workmanship and accuracy of the As-built drawings for a period of two years from the date of completion of the work or beneficial use of the facilities. Workmanship shall be of good quality; i.e., sewers shall be laid true to line and grade, fittings shall be properly installed and restrained, trenches shall be properly excavated and backfilled, manholes shall be installed at locations and to elevations shown on the plans.

02.1 Contractor LICENSE AND APPROVAL. Utility reserves the right to approve or deny approval of Contractor prior to construction of any on-site or off-site utility facilities. Contractor must hold a State Of Florida Underground Utility Contractors license, that named contracting company being the one doing the work on project, and demonstrate acceptable experience in the field of utility construction.

03. SURVEYS. The Utility Contractor shall provide all surveys necessary for the layout and construction of the work of his contract.

04. EARTHWORK. Earthwork shall include all excavation, fill and backfill (hand/machine), compaction and rough grading of materials encountered. No unsuitable materials clay, muck, or peat removed from pipe trenches are to be used for backfill. All fill or backfill shall be either sand or sandy clay, free of roots, trash or other debris. All backfill alongside of and to a height twenty-four inches above all pipe shall be free of clay or organic material, compacted in lifts, the first of which shall be to the spring line of the pipe by either hand or machine operation carefully to 98%. All other backfill shall be compacted by either hand or machine operation carefully to 95% (outside of paving), 98% (under paving) of its optimum moisture content as determined by ASTM D698, latest. Copies of compaction density test reports from a licensed testing agency shall be made available to CCUA if requested.

05. MANHOLES. Manhole bases, sections, and cones shall conform to the requirements of ASTM C478, Specifications for Precast Reinforced Concrete Manhole Sections. Cement shall meet the requirements of ASTM C150, Specifications for Portland Cement, Type II. Concrete shall meet the minimum requirements for Class "A" Concrete Work. Minimum wall thickness shall be 1/12 the inside diameter in inches plus one (1) inch. Bases for manholes shall be cast integrally with the bottom manhole section. Joint contact surfaces shall be formed with machined castings; they shall be exactly parallel with a 2 degree slope and nominal 1/16 inch clearance with the tongue equipped with a proper recess for the installation of an O-ring rubber gasket, conforming to ASTM C443, Joints for circular Concrete sewer and Culvert pipe using Rubber gasket, or RAM-NEK premolded Plastic Joint Sealer with joints Manhole adjustment materials shall be sound, hard, and pre-primed. Precast concrete adjustment rings as manufactured by Taylor Precast Co. (or equal) may be utilized in lieu of brick adjustment. Field mixed mortar for brick shall be composed of portland cement Type II, sand and clean water. Mortar shall be one part cement Type II and two parts sand; lime shall not be used. The outside faces of brick masonry shall be plastered with mortar from 1/4" to 3/8" thick. Precast manhole walls shall not be coated unless otherwise noted. Cement grout for manhole bottoms shall be a stiff rich mix of Type II Portland Cement and sharp plaster sand. Calcium chloride may be added (maximum of 2%) to aid in obtaining a faster set. At permanent pump station locations, the first upstream manhole from the station shall be lined with a polyethylene liner as manufactured and installed by Taylor Precast Co., or approved equal.

05.1 CAST IRON MANHOLE FRAMES AND COVERS. Cast iron manhole frames and covers shall be as detailed on drawings. Castings shall meet the requirements of ASTM A48, Specifications for Gray Iron Castings, Class No. 30, or Grade 65-45-12, Ductile Iron meeting the requirements of ASTM A536, Standard Specification for Ductile Iron Castings. In either case, manhole frame and cover shall be designed to withstand an HS20-44 loading defined in the AASHTO Specifications. Frames and covers shall be machined or ground at touching surfaces so as to seat firmly and prevent crocking.

05.2 FLEXIBLE MANHOLE CONNECTOR. All connections between sewer pipe and pre-cast concrete manholes shall be accomplished by a Flexible Connector, "Kor-N-Seal", as manufactured by National Pollution Control Systems, Inc., or approved equal.

05.3 FLOW CHANNELS. Flow channels in manhole base shall be formed of D.O.T. Class I Type II cement grout with brick and trowel to a smooth surface finish. Grout surface shall be 1" min. thickness over brick or rubble. While the manholes are under construction, cut off pipes at inside face of the manhole and construct the invert to the shape and sizes of pipe indicated.

All inverts shall provide a constant gradient from influent pipe to effluent pipe through manhole. Changes in direction of the sewer and entering branch or branches shall be laid out in smooth curves of the longest possible radius which is tangent to the center lines of adjoining pipelines.

05.4 DROP INLETS. Where shown on the drawings, drop inlets to the manholes shall be constructed as shown on the drawings and specified herein.

06. POLYVINYL CHLORIDE PIPE. Polyvinyl Chloride Sewer Pipe shall conform to the requirements of ASTM D-3034, SDR 26. The PVC compound conforming to ASTM D-1784. Pipe shall be early marked in 5 ft. intervals or less, indicating Manufacturers name, nominal size, cell classification and legend. Joints shall be push-on rubber gasketed, conforming to ASTM 3212. Pipe and fittings shall be installed in accordance with recommended practice ASTM D-2321. All pipe and sewer fittings shall be SDR-26 heavy wall, installed up to a depth of 13' from finish grade to invert of pipe. Maximum depth of gravity sewer without prior approval shall be 13 feet. Sewer pipe and fittings over 13' in depth shall be DR-18 P.V.C. Design of sewer installation over 13' in depth shall have CCUA's prior approval.

07. PIPE BETWEEN MANHOLES. All piping installed between manholes shall be the same material and class. No dissimilar pipe material will be allowed anywhere within a single run of pipe.

08. SANITARY SERVICE LATERALS. Sanitary service laterals shall be Polyvinyl Chloride Pipe conforming to the requirements of ASTM D-3034, SDR 26 where cover over top of pipe is 36 inches or greater. Where cover over top of pipe is less than 36 inches, specific construction conditions shall be directed by the Clay County Utility Authority. All sanitary service laterals shall be a minimum of 4'-0" deep at the right-of-way line to top of pipe. Any sanitary service lateral which must be more than 6'-0" deep shall not be installed prior to obtaining permission from the CCUA field inspector or CCUA Engineering Department. All sanitary service laterals shall be 6-inch diameter from the main to the right-of-way line with a minimum slope of 0.60% (0.6 feet per hundred feet). In single family residential developments, services shall reduce to 4" in size at the property line utilizing the proper fittings for the type of pipe specified. All sewer service laterals over 13' deep shall be constructed of DR-18 PVC pipe, and DR-18 pipe fittings, per CCUA standard sewer system details.

09. FORCE MAINS. Force mains shall be C900 DR-18 PVC and conform to the requirements of ASTM D-1784, D-2241, D-3139 and F-477. Pipe shall be color coded and marked "FORCE MAIN" on at least two sides and at every 12" along the barrel of the pipe. Ductile iron pipe for force main service shall be polylined. Ductile iron pipe is not to be used without prior approval of the Clay County Utility Authority. Fittings shall be C110 gray iron and shall be polylined. Force mains less than 3" shall be SCH80 PVC. All force mains shall be installed with tracer wire per CCUA standard location wire details. All force mains should be installed 5 feet to top of pipe, unless approved by CCUA.

09.1 LIFT STATION VALVES. See CCUA Approved Materials Manual for acceptable plug valves and check valves.

09.2 FORCE MAIN VALVE. Gate valve, resilient seated, same as specified in Water Distribution System Specifications Section 11 at right. Except valve bodies shall be gray iron. Valve box shall have the word "SEWER" cast into the cover.

09.3 FORCE MAIN JOINT RESTRAINT. All fittings shall be properly and adequately restrained against lateral movement at all force main tees, crosses, valves and bends. See CCUA Approved Materials Manual for acceptable restrainers. (SEE RESTRAINED JOINT SCHEDULE)

09.4 FORCE MAIN PIPE FLUSHING. All force main piping shall be flushed with clean water utilizing full pipe diameter. In cases where the water supply is inadequate to flush the full pipe diameter, flushing shall occur to the extent of the water supply that is available.

10. INSTALLATION. All sewer lines, manholes, and appurtenances shall be constructed to the dimensions and elevations indicated on the drawings. Trenches shall be excavated to a width approximately twelve inches greater than the outside diameter of the pipe. Machine excavation shall be to a depth one-fourth pipe diameter above proposed pipe grade; the remaining depth shall be hand excavated and shaped to give full support to the lower one-fourth of each pipe.

Each section of pipe shall be inspected for defects prior to being lowered into the trench. The inside of each bell and the outside of each spigot shall be thoroughly cleaned of all foreign matter prior to making the joint. All sewer lines shall be constructed with the spigot ends pointing in the direction of the flow. Both the bell and the spigot of each joint shall be lubricated with the lubricant recommended by the pipe Manufacturer. All sewer lines shall be cleaned of foreign matter as construction progresses, and shall be in a clean condition upon completion of construction operations. Pipe materials shall remain the same on runs between manholes and/or other structures.

11. INSPECTIONS. Each section of the completed sewer system shall be inspected for proper alignment. Any section of the sewer system which does not display true, concentric alignment shall be reinstalled at no additional expense to the Owner. A written log of inspection shall be kept indicating location of test, potential problems in sewer, dips and depth of water, service locations, and other irregularities in the pipe lines. An image in DVD format shall be made of the television inspection and submitted to the Engineer and the Clay County Utility Authority. Copies of compaction density test reports from a licensed testing agency shall be made available to CCUA if requested.

11.1 TELEVISION INSPECTIONS Television inspection will be required on all new gravity sewers constructed. This service shall be provided by the Contractor as a part of this Contract. The newly constructed sewers shall be televised in the presence of the Inspector of the Clay County Utility Authority. A full report as to the condition of pipe, type, depth, location of services, length, joint and distance between manholes, etc. shall be furnished to the CCUA inspector prior to the final acceptance of the system. Any pipe found to be cracked, leaking or otherwise defective shall be removed and replaced with new pipe at no additional costs to the Owner. Deflection testing with 5% mandrel also required. Any section not passing the mandrel test shall be corrected. Sewer mains shall be televised after curb and lime rock are in place but prior to paving. Curb and limerock shall be installed, finish graded prior to televising the gravity sewer. Limerock priming and paving operations shall not take place until the CCUA inspector has reviewed the television recorded DVD and approves the gravity sewer system. This will be strictly enforced. All gravity sewers must be flushed no sooner than 4 hours prior to any television inspection. Force main lines shall be pressure tested and approved prior to paving, but not prior to subgrade mixing operation and limerock installation, finish graded and compacted. Sewer services shall be viewed by a camera capable of viewing into service lateral connections. Adequate water must be placed within the upstream manhole to flow through the downstream manhole before inspecting with the camera. All work must be accomplished in the presence of the CCUA inspector. Contractor shall provide CCUA with a 48 hr. notice of intent to televise and inspect sewer main. CCUA inspector shall report to job site at the time specified by Contractor at the time of the call-in. CCUA inspectors will wait at the job site no more than one hour for the televising to begin before leaving the job site. Contractor shall reschedule televising giving CCUA 48 hrs. notice if the above occurs. Inspections start at manhole invert.

11.2 INFILTRATION TEST After completion, the sewers or sections thereof, shall be tested and gauged for infiltration. To check the amount of infiltration, the Contractor, at no added compensation over the contract price for the sewers, shall furnish, and install and maintain a V-notch sharp crested weir in a wood frame on the main sewers as directed by the Engineer. Maximum allowable infiltration shall be 50 gallons per mile, per inch of dia. of sewer per 24 hour day, at any time.

11.3 EXFILTRATION TEST In areas where ground water is not encountered in sewer construction, or it is desired to run exfiltration tests, the Contractor shall furnish and install all necessary materials, equipments, shall supply water, etc., and shall run exfiltration tests to determine acceptance of the sewer. The maximum allowable exfiltration shall be 50 gallons per mile per inch of diameter of sewer per 24 hour day at any time based on two foot minimum internal head.

11.4. A "dip" is defined as any water holding depth which is equal or greater than the minimum depth as listed below. There shall not be any more than 1 "dip" per 135 linear feet of sewer pipe installed. The defective pipe sections, or those dip/sections over the allowable limit, shall be removed and replaced (at no cost to CCUA). Each run of pipe, between two manholes, shall be evaluated independently for compliance. Any "dip" which is greater than the "maximum" "dip" depth listed below are not acceptable and shall be removed and replace at no cost to CCUA. Regardless of the number of "dips" in the line section, if, in the option of the CCUA inspector, the number and/or location of the "dips" is believed to create an unacceptable operating condition, then the defective pipe section(s) shall be removed and replaced at no cost to CCUA. Any deviation from these "dip" limitation must be approved by the CCUA Service Availability Manager.

WATER HOLDING DEPTH (INCHES)		
PIPE SIZE	MINIMUM	MAXIMUM
8-10 INCH	.50	1.00
12-15 INCH	.75	1.50
18-21 INCH	1.00	2.00
24 INCH AND GREATER	1.25	2.50

12. Demarcation box shall be used as an isolation point between the wet well and the motor control center panel. All wiring between the motor control center and wet well shall be interconnected at this point. Install malleable seal off conduits at the demarcation box end, in conduits between the demarcation box and the MCC. All internal hardware including terminal strips, blocks and backplane shall be stainless steel.

12.1 Demarcation box shall be 24" wide, 24" tall and 12" deep nema 4x enclosure manufactured of 316 stainless steel. Enclosure shall have a hinged cover and removable backplane for terminal blocks. The box shall be mounted so that the cover faces away from the wet well.

12.2 Terminal blocks will need to be mounted for each wire passing through the demarcation box. Terminal strips will be rated at 600 volts, sized according to the load served. Antioxidant compound shall be used on all terminal connections, (nolox or equal). Nameplates as specified on the electrical standards sheet shall be provided at the terminal blocks to identify each circuit.

12.3 All wires including spares shall be identified with heat shrink labels. All control wires shall have spade lugs. Wires shall be 600 volt rated thhn/mtw/thhw.

13. SEPARATION OF WATER AND SEWER MAINS. Horizontal and vertical separation between potable water system mains and or appurtenances and sanitary or storm sewers, wastewater or storm water force mains, and reclaimed water mains shall be in accordance with Rule 62-555.314 FAC.

a. New or relocated underground water mains shall be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed storm sewer, storm water force main, reclaimed water main regulated under Part III of Chapter 62-610, F.A.C, or proposed vacuum-type sanitary sewer.

b. 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 III of Chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer.

c. 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 (see Crossing "A" as shown on detail sheet WAT-02).

d. 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. However, it is preferable to lay the water main above the other pipeline.

e. At the utility crossings described in paragraphs (c) and (d) above, one full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, storm water 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.

14. NEW CONNECTION TO EXISTING MAIN. New connection to existing main in service shall be accomplished by the "wet tap" method utilizing full circle stainless steel tapping sleeve and mechanical joint tapping valve. Tapping sleeve shall be rated at 200 p.s.i., non-shock working pressure conforming to AWWA Standard C110, latest revision. Stainless steel tapping sleeves shall be from those listed in CCUA approved material manual. Tapping valve shall be mechanical joint on one end and standard flanged joint on other end. Valve shall conform to Section 09.2 of these specifications.

15. JOBSITE SAFETY. While on the job site, the Contractor shall at all times observe all Federal, State and local safety rules, regulations and laws. This includes, but is not limited to, confined spaces and excavation protection systems as per O.S.H.A. standards.

16. CCUA SHOP DRAWING AND SUBMITTAL PROCESS. A signed acknowledgment by the Contractor and the Material Supplier, on the "Shop Drawings and CCUA's Approved Materials List Form", that all materials will be in accordance with CCUA's Specifications, CCUA's Details and CCUA's Approved Materials Manual, is the only submittal CCUA will require for each item of materials with the following exception: any alternate materials requested by the Engineer; any materials not listed in the CCUA Materials Manual; and materials associated with pumping stations and plant installations. Those exceptions shall have an individual shop drawing submitted for CCUA's review and approval prior to any installation of said materials. This is CCUA's procedure and it does not preclude the Design Engineer from requiring additional submittals and shop drawings as he deems necessary for the project.

17. PUMP STATIONS (TEMPORARY OR PERMANENT). All pump stations shall be constructed in accordance with CCUA standards, rules and regulations and be approved by CCUA All work and materials shall meet the requirements of CCUA Standard Pump Station Details and Specifications or the plans, details and specifications for that specific pump station. A driveway shall be provided from the street (roadway) to within 2 feet of the pump station wetwell, minimum 10 feet wide x 6 inches thick 3,500 p.s.i. concrete. Submersible pump stations shall be fenced completely about the perimeter of the pump station site (location of the pump station site as noted on the plans), including gates and all other items required to make a completely fenced installation. The entire pump station site within the fenced area shall be covered with #57 stone, 6 inch thick minimum, placed over filter cloth.

18. Information shown on the Drawings as to the location of existing utilities has been prepared from the most reliable data available to the Engineer. The Contractor shall be responsible for requesting underground utility locates and shall assist the utility companies by every means possible to determine said locations and the locations of recent additions to the systems not shown. Extreme caution shall be exercised to eliminate any possibility of any damage to utilities resulting from Contractor's activities. The locations of all overhead utilities shall also be verified by the Contractor. The Engineer shall be notified of any conflict that may occur. The Contractor shall be responsible for determining which poles will need shoring during excavation and shall provide such shoring and support as required.

19. CCUA details and specifications (latest available copy) shall be included in all plans submitted for work within the CCUA utility system. No person shall modify, change, omit, or replace any portion of those details and specifications without the express written consent of CCUA. In any instance where the Design Engineer has included his written specifications or details in the plans then the more stringent of the two shall govern.

20. All materials to be used for any project within CCUA'S utility system shall conform to those materials listed in the CCUA approved material manual in effect at the time final plans for that project are approved by CCUA

21. Under no circumstance shall any trees be planted within a CCUA utility easement without:
  a. CCUA approving landscape and irrigation plans.
  b. CCUA being notified prior to the planting of trees and giving approval.
  c. CCUA inspecting the installation of root barrier material (required at all trees which are closer than 7.5' to any CCUA utility line) as shown in CCUA approved material manual and CCUA roadway cross section details, whether or not shown on the plans.

22. At all Jack & Bore locations a CCUA inspector shall inspect the casing spacers to verify they are the correct size and have been installed correctly on the pipe prior to the pipe being installed into the pipe casing. The pipe casing shall be clean and free of all dirt, and shall be cleaned with a Vac-Con if necessary. A CCUA inspector shall be present at all time during this work. Contractor shall be responsible to establish the correct elevation of the Jack and Bore carrier pipe and pipe casing. Contractor shall compact the bottom of the excavation to assure the density of earth is adequate to prevent any settlement of equipment used to perform the Jack and Bore operation. Contractor shall, at all Jack and Bore pits, provide and utilize the necessary de-watering equipment to keep the excavation dry and free from water in accordance with Paragraph 7 of the General Notes. Contractor shall, at all Jack and Bore excavations, provide a rock bed of #57 stone (a minimum of 8-inches thick) to support the track and rail system of the Jack and Bore equipment. This shall be inspected by a CCUA inspector and approved by the inspector prior to beginning the placement of the pipe casing. Contractor shall replace, at his/her expense, any Jack and Bore installed which CCUA refuses to accept for Ownership and which does not meet the requirements of CCUA, due to incorrect grading, damaged or faulty materials, poor workmanship, or anything that CCUA deems as inadequate to perform its intended use.

OUTLINE SPECIFICATIONS FOR CONSTRUCTION OF WATER DISTRIBUTION SYSTEM

01. INTENTION. It is the declared and acknowledged intention to secure a new water distribution system, complete, in accordance with the plans and specifications, and contract documents. All new work shall be in accordance with Clay County Utility Authority Specifications and Details and Approved Materials Manual and Clay County Engineering Department Details and Specifications and any other Government Regulatory Agency. All work shall conform to the above whether or not specifically called out or noted on the plans.

02. GENERAL. All materials shall be in conformance to National Sanitation Foundation (NSF) 61 and those listed in the CCUA Approved Materials Manual. Materials shall be warranted by the Contractor as to materials, workmanship and accuracy of As-built drawings for a period of two years from the date of completion of the work or beneficial use of the facilities. Workmanship shall be of good quality; i.e., mains shall be laid in a uniform alignment, fittings shall be properly restrained, trenches shall be properly excavated and backfilled, fire hydrants and valve boxes shall be adjusted to finished grade. All water mains shall be installed with tracer wire per CCUA standard location wire details.

02.1 Contractor LICENSE AND APPROVAL. Utility reserves the right to approve or deny approval of Contractor prior to construction of any on-site or off-site utility facilities. Contractor must hold a State Of Florida Underground Utility Contractors license, that named contracting company being the one doing the work on project, and demonstrate acceptable experience in the field of utility construction.

03. SURVEYS. The Utility Contractor shall provide all surveys necessary for the layout and construction of the work of his contract.

04. EARTHWORK. Earthwork shall include all excavation, fill and backfill (hand/machine), compaction and rough grading of materials encountered. No unsuitable materials clay, muck, or peat removed from pipe trenches are to be used for backfill. All fill or backfill shall be either sand or sandy clay, free of roots, trash or other debris. All backfill alongside of and to a height twenty-four inches above all pipe shall be free of clay or organic material, compacted by either hand or machine operation carefully to 98%. All other backfill shall be compacted by either hand or machine operation carefully to 95% (outside of paving), 98% (under paving) of its optimum moisture content as determined by ASTM D698, latest. Copies of compaction density test reports from a licensed testing agency shall be made available to CCUA if requested.

05. JOINT RESTRAINT. All fittings shall be properly and adequately restrained against lateral movement at all water main tees, crosses, valves, bends and fire hydrants. Restrainers shall be Uni-Flange Series 1300, 1350, 1390 or approved equal installed per Manufacturer's recommendations and Clay County Utility Authority Details and Specifications (SEE RESTRAINED JOINT SCHEDULE). See CCUA Approved Materials Manual for acceptable restraints.

06. DUCTILE IRON PIPE. Ductile iron pipe shall conform to ANSI Specification A21.50 (AWWA C150) latest, "Thickness Design of Ductile Iron Pipe", Table 50.5, laying condition Type 2, internal operating pressure of 250 p.s.i. for an 8-foot depth of cover, Class 51 minimum and shall be ANSI A21.51 (AWWA C151), latest centrifugally cast pipe. Laying lengths shall be 20 feet or less in length, and shall be clearly marked with pressure rating, thickness, class, height of pipe without lining, length, and Manufacturer. Ductile iron pipe for water service shall be furnished with cement lining per AWWA C110, C115 and C151. The pipe shall have design values of 60,000 p.s.i. minimum tensile strength, and 42,000 p.s.i. minimum yield strength. Ductile iron pipe for water or service lines shall be used in any easement, right-of-way, between lots, and any instance where a building foundation or other permanent appurtenance is within 10' of the water main or a service line larger than 3".

07. DUCTILE IRON FITTINGS shall be C153 cement lined and suitable for the type and class of pipe to which connected. Gaskets shall be suitable for potable, domestic water service. Minimum working pressure shall be 150 p.s.i.

08. POLYVINYL CHLORIDE PIPE. Polyvinyl chloride pipe for water mains 4 inch through 24 inches in diameter, shall be DR18 (C900) Pressure Class 235 psi PVC 1120; water distribution mains above 24 inches in diameter shall be DR25 (C900) PVC 1120, Pressure Class 165 psi, conforming to ASTM D-1784, D-2241, D-3139 and F-477, latest, or P.V.C. C900, Class 165, DR-25, conforming to ASTM D-1784, Cell Class 12454, ASTM F-477, ASTM D-3139, latest, and shall bear the seal of the National Sanitation Foundation. Pipe shall be color coded and marked "WATER" at every 12" along the barrel of the pipe, with lettering facing up. Couplings shall be rubber gasketed, push-on type conforming to ASTM D-2122. DR-18 shall be used for fire mains.

09. STEEL CASING PIPE. Steel casing pipe shall be of size indicated on the Drawings and shall conform to ASTM A139, with a minimum yield strength of 35,000 p.s.i.

10. POLYVINYL CHLORIDE (PVC 1120, SCHEDULE 80) PIPE shall conform to the requirements of ASTM D 1785. Fittings shall be suitable for type of installation required. All piping smaller than 4" shall be Schedule 80 PVC.

11. GATE VALVES AND BOXES. Gate valves shall be non-rising stem type and shall be suitable for a 200 p.s.i. non-shock working pressure. Gate valves shall be mechanical joint, flanged or screwed. Gate valves shall have a 2" operating nut and open left. Gate valves shall have joints suitable for the type of main on which installed. Valves 3" and larger shall be iron body, bronze fitted with resilient seat. Boxes shall be of cast iron construction, 7/32" minimum wall thickness and shall be nontacky tar enamel coated. The word "WATER" shall be cast in the cover. Other gate valves smaller than 3" shall be heavy-duty bronze ball valves. See CCUA Approved Materials Manual for acceptable valves.

12. WATER METER BOXES. Developer shall be responsible for installation of meter boxes on all water services as part of the water main installation. All curb stops shall be adjusted to the proper elevation and shall be accessible for the installation of the water meter. The Contractor shall be required to open all boxes for the Authority's inspector at the final inspection. A treated 6'-6" fence post marker shall be painted blue for identification. Meter boxes shall not be placed in any sidewalk or driveway without the approval of CCUA.

13. CURB STOPS. Curb stops shall be cast bronze, inverted key stop, roundway, with check, lock wing type, for locking in the closed position. See CCUA Approved Materials Manual for acceptable curb stops.

14. FIRE HYDRANTS. Fire hydrants shall be traffic type, 150 pound working pressure, AWWA Standard C502, latest revisions, with two 2 1/2" nozzles, one 4 1/2" nozzle and one 5 1/4" main valve. Fire hydrant shall be be compression type with breakable coupling and bolts. Pipe connection shall be mechanical joint. Fire hydrants shall be painted silver, BLP Mobile Paints, Liquid Aluminum, 1151 alkyd weight 56.6% x volume 41.2% VOC 3.76 lb. per gallon with 1 1/2" penta nuts, opening left. See CCUA Approved Materials Manual for acceptable fire hydrants.

15. INSTALLATION. The minimum cover over top of potable water main shall be 36". All water lines and appurtenances shall be thoroughly cleaned of all foreign matter before being lowered into the trench and shall be kept clean during laying operations by means of plugs or other approved methods. All pipe shall be checked for defects before being lowered into the trench. Defective pipe shall not be used. Pipe found to be defective after installation, shall be removed and replaced with sound pipe at no additional expense to the Owner. The full length of each section of pipe shall rest solidly upon the pipe bed, with recesses excavated to accommodate the bells and joints. All pipe that has the grade or joint disturbed after laying shall be taken up and reinstalled. The pipe shall not be laid in water or when trench or weather conditions are unsuitable for the work. All joints shall be cleaned of all foreign matter before making the joint. Fittings at bends in the pipe shall be properly restrained with joint restrainers adequately sized to prevent movement and dislocating or blowing off when the line is under pressure. Service laterals shall terminate at the point noted in the details.

16. TESTS. After the pipe is laid, the joints completed, and the trench backfilled, the newly laid pipe and appurtenances shall be subjected to a Hydrostatic and Leakage test of 150 pounds per square inch for a period of at least two hours. During this period, all joints shall be inspected to determine water tightness of the system. Any leaks detected shall be corrected. tests shall be in accordance with the CCUA's requirements and specifications. Water main lines shall be pressure tested and approved prior to paving, but not prior to subgrade mixing operation and limerock installation, finish graded and compacted. If CCUA inspector detects the water main has been damaged during priming or paving, he shall require the Contractor to repair the water main and retest the water main.

17. STERILIZATION. After completion of construction and testing, the water system shall be sterilized with chlorine in accordance with AWWA Standard C651 latest, and State of Florida Department of Environmental Protection requirements before acceptance for domestic operation. The amount of chlorine applied shall be sufficient to provide a dosage of 50 parts per million or more, for a period of at least 24 hours. A CCUA inspector must be present for the below referenced sterilization procedures. After completion of sterilization procedures, the system shall be flushed using chlorinated water from a domestic water source having a chlorine residual of at least 1 part per million. The Contractor shall obtain all bacteriological clearances as required by the Florida Department of Environmental Protection. After bacteriological clearances, the pressure in the main shall not drop below 20 p.s.i. Clearance report to be submitted to the Engineer. The Contractor should be aware that there is a timing maximum related to bacteriological clearance of the main, completion of as-built drawings and Engineer/CCUA completion of Certificate of Completion. In any project where the bacteriological clearances are greater than 30 days old at the time of submittal of Certificate of Completion to FDEP or CCUA, the Contractor may be required to pull more samples and obtain more bacteriological clearances. Prior to introducing the chlorine solution, the lines shall be thoroughly flushed with clean water utilizing full pipe diameter. In cases where the water supply is inadequate to flush the full pipe diameter, flushing shall occur to the extent of the water supply that is available. Dechlorination of flushing water may be required to be in compliance with the State of Florida Surface Water Quality Standards (F.A.C. 63-302.530). Dechlorination is necessary if the flushing of highly chlorinated water is to be discharged directly to a surface water or to a storm water system. If the water can be sheet flowed over a large area or discharged to a holding pond, dechlorination may be avoided. See note number 4 of Special Notes below.

18. BACTERIOLOGICAL SAMPLING. Contractor shall ensure the project construction is completely finished prior to any bacteriological sampling and testing.

19. FIRE LINES/MAINS. All fire lines or mains connecting to Clay County Utility Authority owned potable water main shall be installed by a State of Florida Licensed Fire Installation Contractor, and shall meet all requirements of the local Authority, State Fire Marshal, County Fire Marshal, and the National Fire Protection Association. Work performed must meet all requirements of NFPA 24, Standard for the Installation of Private Fire Service Mains and Their Appurtenances.

19.1 The Fire Marshal shall have the right to deny acceptance or use of any fire line, installed and connected to a Clay County Utility Authority owned and maintained water main until such time that the Contractor installing the fire line can produce proof to the Fire Marshal that all paperwork, fees due, or close out documents have been satisfactorily prepared and approved by Clay County Utility Authority.

20. POLYETHYLENE TUBING SERVICE LINES AND MAINS (2 INCH AND SMALLER): Tubing shall be manufactured of PE 4710, High Density Polyethylene (HDPE), in accordance with AWWA C901, ASTM D1248, ASTM D2239, ASTM D3737 and ASTM D3350. The tubing shall have a minimum working pressure of 250 psi. Polyethylene tubing shall be copper tube size SDR-9 and shall be colored blue. HDPE pipe shall have ultraviolet (UV) inhibitors for protection against direct sunlight for 1 year. Inserts for polyethylene tubing may be utilized, at Contractors options, and, if used, shall be 316 stainless steel. The use of no-lead brass couplings, tees and "Y" fittings are acceptable on poly service tubing, if not located under a roadway. Tubing shall be approved for use with potable water by the National Sanitation Foundation (NSF-14) and shall be continuously marked at intervals of not more than four feet with the following:
  Nominal size
  Pressure rating
  NSF seal
  Manufacturer's name or trademark
  Standard dimension ratio
  ASTM specification

GENERAL NOTES

1. AS-BUILT DRAWINGS AND ASSOCIATED COSTS. All cost records pertaining to the cost of water, reclaim and sewer facilities donated to the utility shall be provided to the Utility by applicant. Prior to acceptance of any extension to the Utility's system that is completed by a licensed underground utility Contractor, the Utility will require that the applicant's Contractor provide the Utility, to retain for its permanent records, all field as-built data which shall be provided in accordance with the Utility's `As-built Specifications Standards Manual`, which can obtained from the Utility's website (www.clayutility.org).

2. CONSTRUCTION WARRANTY AND WARRANTY SECURITY PERIOD. Developer's Contractor shall warranty Utility against defects in material and workmanship for the portion of the onsite system to be owned by the Utility for two (2) years. Developer shall secure from its Contractor a written and fully assignable warranty that the system installed will be and remain free from all defects, latent or otherwise, with respect to workmanship. materials, installation, and accuracy of his as-built drawings in accordance with the Utility approved plans and specifications for a period of two years from the date of the system acceptance by the Utility and immediately assign the same and the right to enforce the same to Utility on or before the date of the Utility's acceptance of the system for Ownership and maintenance.

3. CLEAN-UP. All surplus materials of construction shall be removed from the site and disposed of by the Contractor as part of his contract with the Owner.

4. RESTORATION. New Sanitary Sewer and Water Main Construction in earthen areas shall be seeded and mulched in accordance with Section 570 of Standard Specifications of the Florida Dept. of Transportation (latest edition). In locations where existing grassed (sodded) areas are disturbed, sod shall be replaced to preconstruction condition and to limits of construction or where directed by the engineer.

5. PERMITS. The Contractor shall be responsible for obtaining and providing records of all permits required for performing work under this contract, except that the FDEP permits, and wetland permits, if required, will be secured by the Owner or Developer.

6. PIPE BEDDING. In the event unsuitable or unstable bedding material is encountered at or below the limits of the excavation required for installation, such material shall be removed and replaced with suitable compacted backfill material specified by the Design Engineer and approved by the CCUA so as to provide a stable trench bedding surface suitable for proper pipe installation.

6.1. PIPE BEDDING (ROCK BEDDING MATERIAL) Rock material used for pipe bedding shall be #57 stone or crushed concrete (crush-crete) in a #57 size. Rock bedding material shall be completely wrapped in a heavy filter fabric material, overlapped a minimum of one foot. Rock bedding shall be installed to the correct grade and compacted to a density which will prevent any settlement, either by mechanical tamping equipment or by compressing the rock using the bottom of the backhoe bucket. The compaction shall be approved by CCUA inspector. The Contractor shall be required to have submittal approved by Design Engineer and CCUA prior to use of such rock bedding material.

7. DEWATERING. The Contractor shall at all times during construction provide ample means and equipment with which to promptly remove and dispose of all water entering the trench and structure excavations and shall keep said excavations acceptably dry until the piping and / or structures to be built therein are completed. All water pumped or drained from the work area shall be disposed of in a manner as to not damage sewer, water, electrical or any other piping, structures or property. No pipe shall be laid in water and no water shall be allowed to rise above the bottom of any pipe while it is being jointed, except as may be approved in writing by the CCUA

8. HYDROSTATIC TESTING. After all pressure pipes (water mains, services, and force mains) are laid, the joints completed, and the trench backfilled, the newly laid pipe and appurtenances shall be subjected to a hydrostatic test of 150 p.s.i. for a period of at least two hours. The engineer and the Clay County Utility Authority must be notified 48 hours before a test is to be performed. Test shall be as set forth in AWWA standard C600. Any leaks detected shall be corrected and the section of pipeline retested. The two hour test period shall begin when all joints have been determined to be water tight. Leakage shall be limited to that allowance set forth in Section 4 of AWWA Standard C600-87. Hydrostatic and leakage test and blow-down (zeroing of gage) must occur before sampling for bacteriological test. The maximum allowable pressure loss is 5 p.s.i. regardless of the length of pipe.

9. REPORTS. Reports of hydrostatic and leakage tests and sterilization of the newly completed systems shall be submitted to the Clay County Utility Authority prior to requesting acceptance of the system.

10. DENSITY TESTING. In-place density tests are required at intervals not to exceed 150' along pipelines for every other lift. A minimum of one test between manholes is required for every other lift regardless of the distance between sanitary sewer manholes.

11. CONCRETE. All Portland Cement concrete shall be of Type II Portland Cement, 2,500 p.s.i. minimum, ready mixed. All concrete shall be placed before the initial set has taken place. Stale or retempered concrete shall not be used.

12. GATE VALVES AND BOXES. Gate valves shall have a 2" operating nut and open left. Gate valves shall have joints suitable for the type main on which installed. Valves 2" and 3" shall be iron body, bronze fitted. Valves 4" and larger shall be iron body, bronze fitted with resilient seat. The word "WATER" on water boxes and "SEWER" on force main boxes shall be cast in the covers.

13. PIPE AND PIPE JOINTING FOR FUSED & HDPE PIPE:
  a. Heat Fusion Jointing:

Joints between plain end pipes and pipe fittings shall be made by butt fusion when possible. Electro fusion welding may also be used to complete when the location is not accessible to butt fusion welding equipment. The on-site welder making the joints (butt fusion or electro fusion) shall have received specific training from the Manufacturer of the fittings and/or pipe being welded and shall have written proof of proper training/certification from the associated Manufacturers. Only certified welders who have written training certifications from the fitting and/or pipe Manufacturer will be allowed to perform this work. To weld a fitting or electro fusion coupling in place, the on-site welder (employee) must be trained and certified by the fitting Manufacturer. To butt weld pipe, the on-site welder (employee) must be trained and certified by the pipe Manufacturer. The fusion work shall be accomplished (welding and cool-down/closing times) in accordance with the fitting and pipe Manufacturers' recommendations, at a minimum. CCUA reserves the right to require the Contractor to remove from or not permit an employee to work on the welding or fusing portion of the work if in the opinion of CCUA that person is not properly trained or cannot perform the welding or fusion process in high quality and professional workmanship manner.

  b. External and internal beads shall only be removed when required by CCUA. The internal bead shall be removed from all fused joints of a pipe that is to be used as a gravity sewer line, or as a sewer force main line or as a sleeve or host pipe which will have another pipe installed inside it. The external bead shall be removed from all fused joints of a pipe which will be installed inside of a sleeve or host pipe and the external bead shall be removed from all fused joints of a pipe to be pulled through a reamed Horizontal Directional Drill hole which may have a possible catch point such as extreme rocky ground conditions or other hazards. The Contractor shall be required to follow the requirements and recommendations of the pipe Manufacturer and Clay County Utility Authority.

SPECIAL NOTES

1. The installation of all pipe regardless of the type or size shall be installed in accordance with the Manufacturer's specifications or recommended criteria for the pipe being installed. No pipe shall be installed with the joints over-assembled or over-homed. The reference mark (home-line) shall not be installed into the bell beyond the Manufacturer's recommendation. The Contractor shall be responsible to mark any pipe cut to length with a reference mark (home-line) placed at the correct location on the pipe according to the type and size pipe being installed. CCUA will not permit any pipe joint to be left in place if the joint is over-homed. It shall be the Contractor's responsibility to obtain the information pertaining to installation of pipe to be installed from the Supplying Manufacturer and to install the pipe accordingly.

2. Deflection of all pipe regardless of the type or size shall be installed in accordance with the Manufacturer's specifications or recommended criteria for the pipe being installed. Any pipe which has been installed and does not meet the above listed criteria shall be removed and replaced with new pipe. All costs of removal and reinstallation of said pipe shall be at the Contractor's expense, with no cost to the Owner, and shall meet all CCUA requirements.

3. Any utility pipe regardless of the type or size which has been abandoned, or taken out of service or out of use for any reason, shall either be removed from the ground for its entire length and disposed of in a legal manner, or shall be grout filled in place for its entire length. A CCUA inspector shall be present and witness the grout filling of the pipe from start to finish of the process. If the abandoned pipe is being removed, a CCUA inspector shall be present or be able to view the open ditch where pipe was removed from prior to backfilling that ditch.

4. Disinfection Notes:
  a. Only CCUA staff is authorized to change or adjust existing CCUA valves.
  b. The General Superintendent of the Distribution and Collection System must be informed of any changes to existing CCUA valves.
  c. The scheduling of the disinfection process for new developments installing water mains must be coordinated with CCUA at least seven (7) days in advance.
  d. CCUA inspectors must be present to observe and monitor the disinfection process.

5. CLOSE OUT/COMPLETION. Minimum items required for Close Out / Completion for submittal to the Clay County Utility Authority will include:
  a. Construction Warranty from Developer in the form of a Bond, Letter of Credit or Cashier's Check for a two-year period.
  b. Warranty Certificate for a two-year warranty from the Contractor to the Developer and assignment of same to the Clay County Utility Authority (CCUA).
  c. Developer's Affidavit certifying there is no outstanding debt against utility assets to be deeded to CCUA
  d. Value of Acceptance Report showing value of assets to be deeded to the CCUA
  e. Bill of Sale to CCUA
  f. Bacteriological Test(s)
  g. Pressure Test(s)
  h. Television Reports and Recorded DVDs
  i. Density Reports
  j. Locate Wire test
  k. Final As-Built Drawings and disks

FINAL INSPECTION PROCEDURES

PRIOR TO FINAL INSPECTION, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

1. The sewer line T.V. report, and recorded DVD.
2. All manhole rings and covers have to be adjusted to finish grade.
3. The pressure test and bacteriological clearance analysis report.
4. Water services must be lowered and meter boxes installed, valve boxes must be set on all gate valves.
5. Locate Wire test.
6. Not less than 10 business days Prior to Final Inspection, Contractor shall submit as-built drawings showing at least the following:
  a. Location of valves, mains, services, manholes and locate wire boxes.
  b. Elevation of sewer lines in the manhole, and stub-outs.
7. As-built drawings shall have been updated to accommodate the Clay County Utility Authority's comments and the final elevation of the manhole tops must be included (shall comply to the guidance set forth in Utility's As-built Specifications Standards Manual, which can be obtained from the Utility's website www.clayutility.org).
8. The Engineer of Record certification to FDEP. This can be done with completed as-builts.
9. As-builts, must be accepted and approved by the Clay County Utility Authority.
10. All valves, locate wire boxes, sewer, water and reclaimed services shall be scribed in curb and painted the correct color.
11. All services and valves to be plainly marked with a treated fence post, and electronic locate marker on all sewer lateral and sewer stubs.
12. Pump station start-up report with draw down data for each pump and with both pumps in operation. All electrical components to be completely installed and in proper working condition.

PRIOR TO FINAL ACCEPTANCE FOR OWNERSHIP, THE FOLLOWING MUST BE COMPLETED:

1. A preliminary inspection must be coordinated by the underground utility Contractor and held a minimum of fifteen (15) working days prior to the final inspection/start-up. The preliminary inspection will compare the approved design drawings to the actual site installation, noting any deficiencies.

2. The following must be represented at the preliminary and final inspection:
  a. The Clay County Utility Authority's inspection and distribution and collection departments
  b. The project's Developer and/or general Contractor
  c. The Underground Utility Contractor
  d. All subcontractors associated with the lift station (electrical, pump Manufacturer, control panel Manufacturer, etc.)

3. All manhole rings and covers have to be adjusted to finish grade.
4. Water services must be lowered and meter boxes installed, valve boxes must be set on all gate valves.
5. As-built drawings shall have been updated to accommodate the Clay County Utility Authority's comments and the final elevation of the manhole tops must be included (shall comply to the guidance set forth in utility's `as-built specifications standards manual`, which can be obtained from the utility's web site (www.clayutility.org).
6. All valves, locate wire boxes, sewer, water and reclaimed services shall be scribed in curb and painted the correct color
7. As-builts must be accepted by the Clay County Utility Authority.

NO	DATE	BY	REVISION DESCRIPTION
24	JUN 17	RHD	UPDATED VARIOUS NOTES
23	JAN 17	RHD	UPDATED WATER OUTLINE NOTE 2.0
22	SEP 15	RHD	UPDATED
21	JUNE 15	RHD	UPDATED
20	APR. 15	RHD	UPDATED
19	FEB. 15	RHD	REVISED 06. SERVICE SERVICE LATERAL NOTES
18	DEC. 14	RHD	REVISED 24. JACK AND BORE REQUIREMENTS
17	DEC. 13	DGJ	REVISED 03. COLLECTION / DIST. & 01 GENERAL NOTE
16	MAY 13	RHD	REVISED PARAGRAPHS 06, 09.4 & 17 OF OUTLINE SPECS
15	MAY 13	RHD	REVISED TO ADD TO PARAGRAPH 05.4 & 08 OF OUTLINE SPECS
14	JAN. 13	RHD	REVISED TO ADD TO PARAGRAPH 08 OF OUTLINE SPECS
13	SEPT. 10	MRS	REVISED PARAGRAPH 06. & 08. SDR-35 PIPE TO SDR-26 PIPE
12	AUG. 09	MRS	ADDED CCUA SPECIAL NOTES
11	OCT. 08	MRS	ADDED CCUA IS HEREINAFTER REFERRED TO AS "UTILITY"
10	APRIL 08	MRS	ADDED RESTRAINED JOINT SCHEDULE
9	MAY 07	DGJ	REVISED INSPECTION NOTES & SPECS NO. 11
8	APRIL 06	MRS	REVISED NOTE 11.1 (SEWER) ADDED NOTE 21 & 22
7	JUNE 05	MRS	REVISED NOTE 12 (WATER)
6	JUNE 05	MRS	REVISED NOTE 9 (SEWER) NOTE 2 (WATER)
5	MAY 05	MRS	ADDED NO. 02.1 (Contractor LICENSE AND APPROVAL)
4	MAR. 05	MRS	MODIFY NO. .06 & .08 (SEWAGE COLLECTION SYSTEM)

STANDARD WATER AND SEWER SYSTEM OUTLINE
TECHNICAL SPECIFICATIONS FOR DEVELOPER
INITIATED PROJECTS
(FOR DEVELOPER INITIATED PROJECTS ONLY)

CLAY COUNTY
UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999

ACAD FILE NAME
SPECIF_D.DWG
SHEET NO.
S-SPD

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

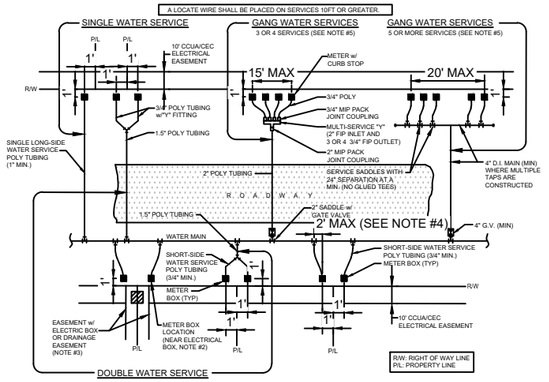
ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

CCUA UTILITY DETAILS

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
12A



NOTES

1. THE SKETCHES ABOVE INDICATE TYPICAL WATER SERVICE AND METER BOX LOCATIONS. ACTUAL LOCATIONS OF BOXES MAY VARY SLIGHTLY ACCORDING TO FIELD CONDITIONS ENCOUNTERED. TYPICALLY, THE METER BOX SHALL BE LOCATED 1.0' OFF OF THE R/W LINE.

2. UNLESS SPECIFIED OTHERWISE BY THE APPLICABLE COUNTY (CLAY OR BRADFORD), THE METER BOX SHALL BE LOCATED 1.0' OFF OF THE R/W LINE, AND 1.0' FOOT INSIDE OF THE PROLONGATION OF ONE OF THE SIDE PROPERTY LINES. IF A CONFLICT EXISTS WITH OTHER UTILITIES, THE METER BOX MAY BE ADJUSTED TO FOUR FEET (MAX.) INSIDE PROPERTY LINES (IN LIEU OF 1.0' FEET), UNLESS APPROVED OTHERWISE BY CCUA. THE WATER METER BOX SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN SIDEWALKS OR DRIVEWAYS). IF AN UNAPPROVED METER BOX IS IDENTIFIED BY CCUA, THEN THE CONTRACTOR OR CUSTOMER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY METER BOX WHICH IS LOCATED IN THE SIDEWALK OR DRIVEWAY OR THE COST TO PROVIDE THE CORRECT METER BOX. CCUA SHALL APPROVE ALL DEVIATIONS TO THE ABOVE PRIOR TO CONSTRUCTION.

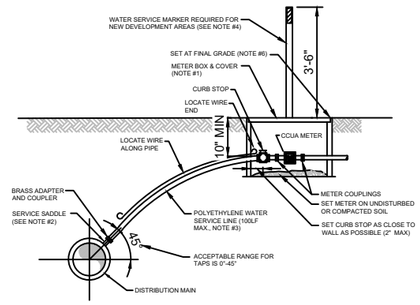
3. IF DRAINAGE OR OTHER EASEMENT IS LOCATED BETWEEN LOTS, METER BOXES SHALL BE LOCATED AT THE EASEMENT LINE BUT OUTSIDE THE EASEMENT AREA.

4. FOR SINGLE SERVICES, THE HORIZONTAL DISTANCE (PERPENDICULAR TO THE MAIN)BETWEEN THE SERVICE'S SADDLE AND THE METER BOX SHALL BE 2 FEET MAXIMUM. FOR DOUBLE 3/4" SERVICES, THE 1 ½" POLY MAIN SHALL BE LOCATED CENTERED BETWEEN THE TWO METER BOXES. LOCATE WIRE IS REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. IF LOCATE WIRE IS REQUIRED, THE WIRE SHALL RUN FROM THE METER BOX TO THE MAIN (WITH NO CONNECTION TO MAIN WIRE WITH THE LAST 24 INCHES STRIPPED OF INSULATION/BARE WIRE AS GROUND). ALL EXCEPTIONS TO THIS REQUIREMENT MUST BE APPROVED BY CCUA. THIS WILL ASSIST IN LOCATING EXISTING SERVICE LINES IN THE FUTURE.

5. GANG WATER SERVICES: FOR 3 OR 4 SERVICES IN ONE AREA, A DUCTICLE IRON PIPE (D.I.P.) WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG-SIDE SERVICES WHERE SHOWN ON THE DRAWINGS. LOCATE WIRE SHALL EXTEND FROM ONE METER BOX TO CURB STOP AT WATER MAIN. FOR 5 OR MORE SERVICES IN ONE AREA, A WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG-SIDE SERVICES WHERE SHOWN ON THE DRAWINGS (TAPS STAGGERED AND AT 2 FEET ON CENTER-MIN). FOR WATER SUPPLY HEADERS WHERE 5 OR MORE TAPS ARE CONSTRUCTED, THE HEADER PIPE SHALL BE 4" AT A MINIMUM. EXAMPLE: CONSTRUCT A 4" MAIN D.I. CROSSING THE STREET FOR 5 RESIDENTIAL CUSTOMERS, UTILIZING 4" G.V., 4" PIPE, 4"X1" SADDLES AND 1" CURB STOPS (NO GLUED TEE FITTINGS). THE 4" OR LARGER D.I.P. WATER MAIN MUST BE SIZED AND DESIGNED BY THE ENGINEER.

6. RECLAIMED WATER METER BOXES OR SERVICES SHALL BE CONSTRUCTED SIMILAR TO THE ABOVE AND SHALL BE LOCATED AT A MIN. OF 10' FROM THE POTABLE WATER SERVICE AND/OR BOX, AND NOT ALLOWED IN CONCRETE OR ASPHALT UNLESS APPROVED OTHERWISE BY CCUA.

WATER SERVICE INSTALLATIONS
2" AND SMALLER METER



NOTES

1. SEE CCUA APPROVED MATERIALS MANUAL AND SYSTEM DETAILS FOR REQUIREMENTS.

2. SINGLE BAND SADDLES MAYBE UTILIZED ON NEW 1" WATER SERVICES WHICH ARE INSTALLED ON A DRY 10" SIZE OR SMALLER WATER MAIN (NEW WATER MAIN CONSTRUCTION). FOR WET TAPS OR WATER MAINS 12" SIZE AND LARGER, A DOUBLE BAND SADDLE IS REQUIRED.

3. NO OPEN CUT UNDER ROADWAY PAVING ALLOWED UNLESS THE ROADWAY IS BEING RECONSTRUCTED OR IF DIRECTED OTHERWISE BY CCUA. CONSTRUCT POLY LINE WITH 36" (MIN.) COVER UNDER ROADWAYS. THE POLY WATER SERVICE LINE SHALL BE SAME SIZE AS THE METER (3/4" MINIMUM) AND BE INSTALLED PERPENDICULAR TO THE MAIN AND NOT EXCEED 100LF UNLESS OTHERWISE APPROVED BY CCUA.

4. INSTALL PVC PLUG IN ALL CURB STOPS IF WATER SERVICE IS "NOT IN USE" (I.E.: IF NO METER IS INSTALLED). IN ADDITION, INSTALL A 6', 6" P.T. FENCE POST (TOP PAINTED BLUE) 12" OFF SIDE OF METER BOX. THE REMOVAL OR TRANSFER OF A WATER SERVICE SHALL INCLUDE BRASS METER COUPLINGS (HEX ON BARREL TYPE).

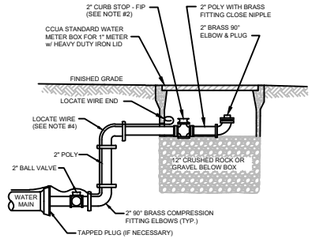
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE METER OR ELECTRONIC DEVICES IF DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.

6. METER BOX AND TOP SHALL BE CLEAR OF ALL DEBRIS TO ALLOW FULL ACCESS TO BOX (I.E., NO DIRT, TRASH OR OTHER DEBRIS PLACED ON TOP OF BOX).

7. LOCATE WIRING REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH / OFFSET GREATER THAN 2.0'.

WATER SERVICE DETAIL- 2" AND SMALLER METER

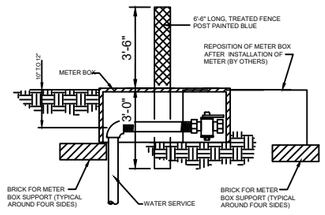
POLYETHYLENE WATER SERVICE DETAILS
(NTS)



NOTES

1. PIPE SHALL BE POLYETHYLENE. FITTINGS SHALL BE BRASS.
2. THE 2" CURB STOP SHALL BE ALL BRONZE. FITTINGS SHALL BE BRASS.
3. LOCATE WIRE FOR 10' OR GREATER IN LENGTH.
4. CANNOT BE PLACED UNDER CONCRETE OR PAVEMENT.
5. PLACE 2 FEET PAST LAST WATER MAIN SERVICE CONNECTION.

FLUSHING VALVE BELOW GRADE



WATER SERVICE MARKER POST

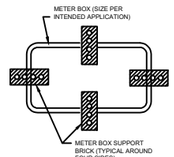
1. ALL SERVICES ARE TO BE CLEARLY MARKED BY A TREATED 6'-6" LONG MARKER (FENCE) POST PAINTED BLUE.

2. ALL SERVICES ARE TO BE EXTENDED ABOVE GRADE UNTIL COMPLETION OF ALL GRADING ACTIVITIES. ONCE FINAL ROAD GRADING IS COMPLETE, LOWER SERVICES BY CUTTING OFF RISER 10" TO 12" BELOW FINAL GRADE AND INSTALL 90° BEND, NIPPLE AND LOCATE WIRE BALL VALVE AT THAT ELEVATION.

3. SET METER BOX OVER ENTIRE HORIZONTAL SECTION OF SERVICE LINE FROM LAST 90° BEND TO THE END OF THE CURB STOP.

4. BOX TO BE REPOSITIONED WHEN THE METER IS INSTALLED.

5. MARKER POST TO BE INSTALLED ADJACENT TO AND LOCATED AT THE MID SECTION OF THE METER BOX.



METER BOX SUPPORT DETAIL

NO	DATE	BY	REVISION DESCRIPTION
1	JUNE '17	RHD	REVISED SADDLE DETAILS
2	JUNE '18	RHD	REVISED WATER SERVICE DETAIL
3		RHD	REVISED METER BOX

DESG
DRWN
CHKD
APPV
DATE

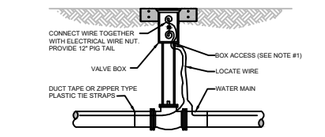
TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

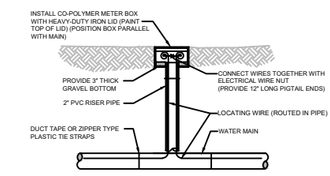
STANDARD SCH80 AND POLYETHYLENE WATER SERVICE DETAILS

ENERGY COVE WEREHOUSE FOR WIGGINS CONSTRUCTION COMPANY

CCUA UTILITY DETAILS



LOCATE WIRE BOX UTILIZING VALVE BOX

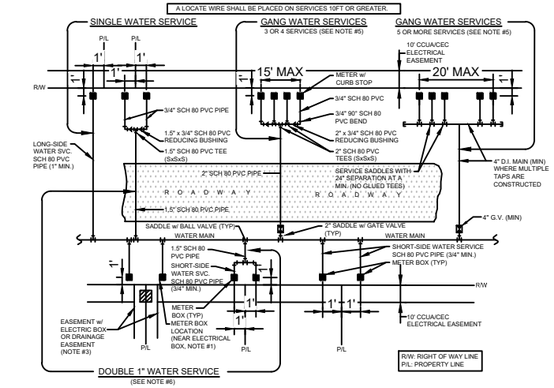


LOCATE WIRE BOX UTILIZING METER BOX

NOTES

1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE.

LOCATE WIRE BOX



NOTES

1. THE SKETCHES ABOVE INDICATE TYPICAL WATER SERVICE AND METER BOX LOCATIONS. ACTUAL LOCATIONS OF BOXES MAY VARY SLIGHTLY ACCORDING TO FIELD CONDITIONS ENCOUNTERED. TYPICALLY, THE METER BOX SHALL LOCATED 1.0' OFF OF THE R/W LINE.

2. UNLESS SPECIFIED OTHERWISE BY THE APPLICABLE COUNTY (CLAY OR BRADFORD), THE METER BOX SHALL BE LOCATED 1.0' OFF OF THE R/W LINE, AND 1.0' FOOT INSIDE OF THE PROLONGATION OF ONE OF THE SIDE PROPERTY LINES. IF A CONFLICT EXISTS WITH OTHER UTILITIES, THE METER BOX MAY BE ADJUSTED TO FOUR FEET (MAX.) INSIDE PROPERTY LINES (IN LIEU OF 1.0' FEET), UNLESS APPROVED OTHERWISE BY CCUA. THE WATER METER BOX SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN SIDEWALKS OR DRIVEWAYS). IF AN UNAPPROVED METER BOX IS IDENTIFIED BY CCUA, THEN THE CONTRACTOR OR CUSTOMER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY METER BOX WHICH IS LOCATED IN THE SIDEWALK OR DRIVEWAY OR THE COST TO PROVIDE THE CORRECT METER BOX. CCUA SHALL APPROVE ALL DEVIATIONS TO THE ABOVE PRIOR TO CONSTRUCTION.

3. IF DRAINAGE OR OTHER EASEMENT IS LOCATED BETWEEN LOTS, METER BOXES SHALL BE LOCATED AT THE EASEMENT LINE BUT OUTSIDE THE EASEMENT AREA.

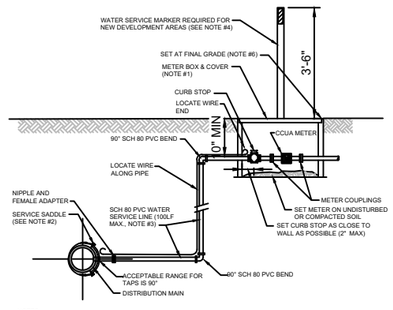
4. FOR SINGLE SERVICES, THE HORIZONTAL DISTANCE (PERPENDICULAR TO THE MAIN)BETWEEN THE SERVICES SADDLE AND THE METER BOX SHALL BE 2 FEET MAXIMUM. FOR DOUBLE 3/4" SERVICES, THE 1 ½" SCH 80 PVC MAIN SHALL BE LOCATED CENTERED BETWEEN THE TWO METER BOXES. LOCATE WIRE IS REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. IF LOCATE WIRE IS REQUIRED, THE WIRE SHALL RUN FROM THE METER BOX TO THE MAIN (WITH NO CONNECTION TO MAIN WIRE WITH THE LAST 24 INCHES STRIPPED OF INSULATION/BARE WIRE AS GROUND). ALL EXCEPTIONS TO THIS REQUIREMENT MUST BE APPROVED BY CCUA. THIS WILL ASSIST IN LOCATING EXISTING SERVICE LINES IN THE FUTURE.

5. GANG WATER SERVICES: FOR 3 OR 4 SERVICES IN ONE AREA, A DUCTICLE IRON PIPE (D.I.P.) WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG-SIDE SERVICES WHERE SHOWN ON THE DRAWINGS. LOCATE WIRE SHALL EXTEND FROM ONE METER BOX TO CURB STOP AT WATER MAIN. FOR 5 OR MORE SERVICES IN ONE AREA, A WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG-SIDE SERVICES WHERE SHOWN ON THE DRAWINGS (TAPS STAGGERED AND AT 2 FEET ON CENTER-MIN). FOR WATER SUPPLY HEADERS WHERE 5 OR MORE TAPS ARE CONSTRUCTED, THE HEADER PIPE SHALL BE 4" AT A MINIMUM. EXAMPLE: CONSTRUCT A 4" MAIN D.I.P. CROSSING THE STREET FOR 5 RESIDENTIAL CUSTOMERS, UTILIZING 4" G.V., 4" PIPE, 4"X1" SADDLES AND 1" CURB STOPS (NO GLUED TEE FITTINGS). THE 4" OR LARGER D.I.P. WATER MAIN MUST BE SIZED AND DESIGNED BY THE ENGINEER.

6. DOUBLE 1" WATER SERVICES IS ALLOWED FOR SHORT SIDE OR LONG SIDE SERVICES AND WHERE SHOWN ON THE DRAWINGS.

7. RECLAIMED WATER METER BOXES OR SERVICES SHALL BE CONSTRUCTED SIMILAR TO THE ABOVE AND SHALL BE LOCATED AT A MIN. OF 10' FROM THE POTABLE WATER SERVICE AND/OR BOX, AND NOT ALLOWED IN CONCRETE OR ASPHALT UNLESS APPROVED OTHERWISE BY CCUA.

SCH 80 PVC WATER SERVICE INSTALLATIONS
2" AND SMALLER METER



NOTES

1. SEE CCUA APPROVED MATERIALS MANUAL AND SYSTEM DETAILS FOR REQUIREMENTS.

2. SINGLE BAND SADDLES MAYBE UTILIZED ON NEW 1" WATER SERVICES WHICH ARE INSTALLED ON A DRY 10" SIZE OR SMALLER WATER MAIN (NEW WATER MAIN CONSTRUCTION). FOR WET TAPS OR WATER MAINS 12" SIZE AND LARGER, A DOUBLE BAND SADDLE IS REQUIRED.

3. NO OPEN CUT UNDER ROADWAY PAVING ALLOWED UNLESS THE ROADWAY IS BEING RECONSTRUCTED OR IF DIRECTED OTHERWISE BY CCUA. CONSTRUCT SCH 80 PVC LINE WITH 36" (MIN.) COVER UNDER ROADWAYS. THE SCH 80 PVC WATER SERVICE LINE SHALL BE SAME SIZE AS THE METER (3/4" MINIMUM) AND BE INSTALLED PERPENDICULAR TO THE MAIN AND NOT EXCEED 100LF UNLESS OTHERWISE APPROVED BY CCUA.

4. INSTALL PVC PLUG IN ALL CURB STOPS IF WATER SERVICE IS "NOT IN USE" (I.E.: IF NO METER IS INSTALLED). IN ADDITION, INSTALL A 6', 6" P.T. FENCE POST (TOP PAINTED BLUE) 12" OFF SIDE OF METER BOX. THE REMOVAL OR TRANSFER OF A WATER SERVICE SHALL INCLUDE BRASS METER COUPLINGS (HEX ON BARREL TYPE).

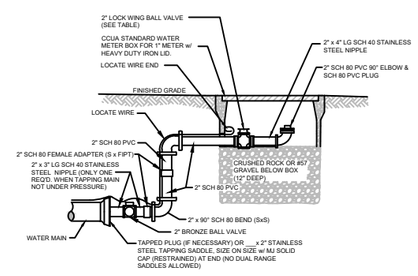
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE METER OR ELECTRONIC DEVICES IF DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.

6. METER BOX AND TOP SHALL BE CLEAR OF ALL DEBRIS TO ALLOW FULL ACCESS TO BOX (I.E., NO DIRT, TRASH OR OTHER DEBRIS PLACED ON TOP OF BOX).

7. LOCATE WIRING REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH / OFFSET GREATER THAN 2.0".

SCH 80 PVC WATER SERVICE DETAIL
2" AND SMALLER METER

SCH 80 PVC WATER SERVICE DETAILS
(NTS)



NOTES

1. PIPE SHALL BE SCH 80 PVC. FITTINGS SHALL BE SCH 80 PVC.
2. THE 2" BALL VALVE SHALL BE ALL BRONZE. FITTINGS SHALL BE BRASS.
3. LOCATE WIRE FOR 10' OR GREATER IN LENGTH.
4. CANNOT BE PLACED UNDER CONCRETE OR PAVEMENT.
5. PLACE 2 FEET PAST LAST WATER MAIN SERVICE CONNECTION.

2" STANDARD SCH 80 PVC FLUSHING HYDRANT ON DEAD-END LINE

CLAY COUNTY UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999

CLAY COUNTY GOVERNMENT

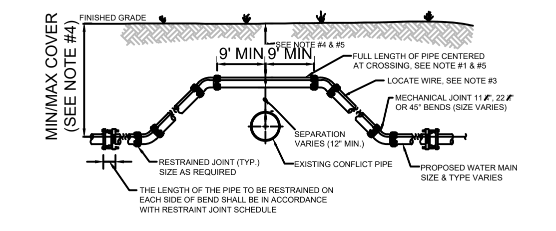
ACAD FILE NAME

SHEET NO.
WAT 01

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
12B

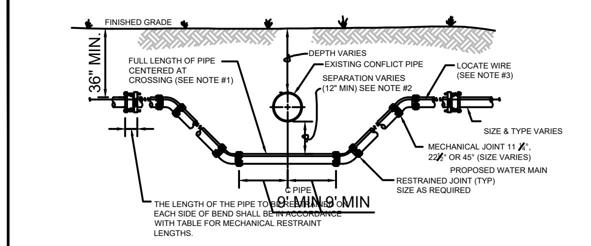


CASE "A" CROSSING

NOTES

1. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.
2. ALL BENDS TO BE RESTRAINED IN BOTH DIRECTIONS PER CCUA REQUIREMENTS, TO WITHSTAND 150 P.S.I. PRESSURE TEST.
3. LOCATING WIRE REQUIRED.
4. THE COVER FOR PIPING SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY CCUA.
5. IF UTILITY CONFLICT IS LOCATED IN A NON-TRAFFIC AREA (NO TRAFFIC LOADS) AND IF THE NEW PIPE SHALL BE DUCTILE IRON PIPE, THEN THE MINIMUM COVER MAY BE REDUCED TO 24 INCHES (ONLY IN THE AREA OF THE CONFLICT).

ADJUSTMENT OVER EXISTING UTILITIES MECHANICAL RESTRAINTS (NTS)

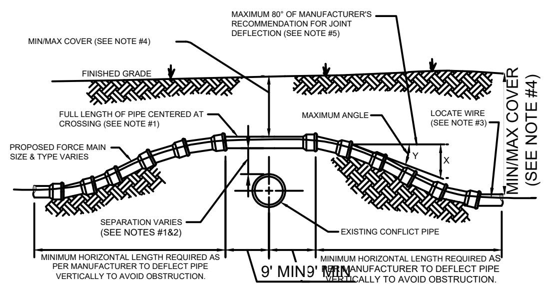


CASE "B" CROSSING

NOTES

1. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557
2. LOCATING WIRE REQUIRED.
3. ALL BENDS TO BE RESTRAINED IN BOTH DIRECTIONS PER CCUA REQUIREMENTS, TO WITHSTAND 150 P.S.I. PRESSURE TEST.
4. THE COVER FOR ALL PIPING SHALL BE 36" (MIN) IN PAVED AND UNPAVED AREAS AND A MAXIMUM COVER OF 84", UNLESS APPROVED BY CCUA.

ADJUSTMENT UNDER EXISTING UTILITIES MECHANICAL RESTRAINTS (NTS)



CASE "A" CROSSING

NOTES

1. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.

2. ALL BENDS TO BE RESTRAINED IN BOTH DIRECTIONS PER CCUA REQUIREMENTS TO WITHSTAND 150 P.S.I. PRESSURE TEST.

3. LOCATING WIRE REQUIRED.

4. THE COVER OVER ALL PIPING SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS OTHERWISE APPROVED BY CCUA. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.

5. CCUA ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY CCUA, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF PIPE LENGTH.

MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION

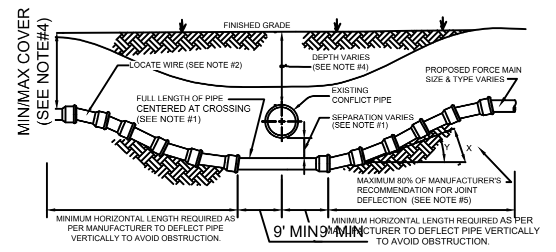
PVC PIPE

PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
2	30	7°	158 FT
4	10	2.4°	480 FT
6	10	2.4°	480 FT
8	10	2.4°	480 FT
10	10	2.4°	480 FT
12	8.5	2°	564 FT
14 - 24	5	1.2°	960 FT
30 - 48	3.25	0.8°	1477 FT

DUCTILE IRON PIPE (Mechanical Joint)

PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
-	-	-	-
4	27	6.5°	177 FT
6	24	5.7°	200 FT
8 - 12	17.5	4.2°	273 FT
14 - 16	12	2.9°	400 FT
18 - 20	10	2.4°	477 FT
24 - 30	8	1.9°	600 FT
36	7	1.7°	687 FT
42 - 48	6.7	1.6°	716 FT

ADJUSTMENT OVER EXISTING UTILITIES PIPE JOINT DEFLECTION



CASE "B" CROSSING

NOTES

1. IF EXISTING CONFLICT PIPE IS A WATER MAIN, 12 INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED UNDER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.
2. LOCATING WIRE REQUIRED.
3. THE COVER OVER ALL PIPING SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS OTHERWISE APPROVED BY CCUA. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.
4. CCUA ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY CCUA, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF PIPE LENGTH.

MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION

PVC PIPE

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30 - 48	3.25	0.8°	1477 FT

DUCTILE IRON PIPE (Mechanical Joint)

PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
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24 - 30	8	1.9°	600 FT
36	7	1.7°	687 FT
42 - 48	6.7	1.6°	716 FT

ADJUSTMENT UNDER EXISTING UTILITIES PIPE JOINT DEFLECTION

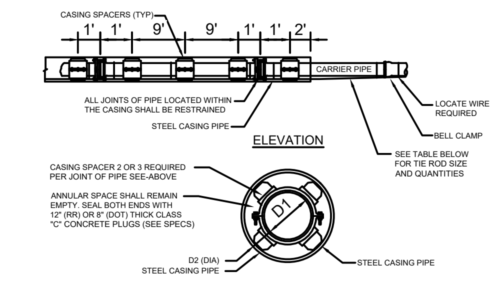
FOR PIPE RESTRAINT JOINT SCHEDULES, SEE STANDARD WATER MISCELLANEOUS DETAILS SHEET

LOCATION OF PUBLIC WATER SYSYEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum Water Main
Vacuum Sanitary Sewer	Water Main 10 ft. preferred 3 ft. minimum	Water Main 12 inches preferred 6 inches minimum	Alternate 3 ft. minimum Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main 10 ft. preferred 6 ft. minimum (3)	Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

(1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
(2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.
(5) All bells must be offset.

Disclaimer – This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.



CASING DETAIL

CARRIER TYPE AND CASING PIPE SIZES (MIN) IN INCHES												
CARRIER PIPE NO. DIA. (D1)	4	6	8	10	12	14	16	18	20	24	30	36
CASING PIPE NOM. DIA. (D2)	14	16	20	20	24	30	30	30	36	42	48	54
WALL THICKNESS RAILROAD (CSX)	0.25	0.281	0.375	0.375	0.375	0.469	0.469	0.469	0.562	0.625	0.688	0.781
WALL THICKNESS DOT	0.25	0.25	0.25	0.25	0.25	0.312	0.312	0.312	0.375	0.50	0.50	0.50
NUMBER OF TIE RODS (EACH END)	2	2	2	4	4	6	6	8	8	12	14	14
TIE ROD SIZE (DIA.)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"

CASING SIZE SCHEDULE

NOTES

1. MIN. COVER TO TOP OF CASING; a) FDOT-3.0' b)RAILROAD-5.5' TO BASE OF RAIL, 4.5' FOR SECONDARY OR INDUSTRIAL TRACKS.

2. ALL JOINTS WITHIN CARRIER PIPE SHALL BE MECHANICAL RESTRAINED JOINTS.

3. FOR STREET USES WHICH ARE NOT DOT OR RAILROAD, USE DOT CASING THICKNESS UNLESS OTHERWISE INDICATED BY ENGINEER.

4. CASING PIPE SHALL BE FURNISHED IN NOMINAL 8 FOOT LENGTHS (MIN.) UNLESS OTHERWISE INDICATED ON THE DRAWING OR APPROVED BY CCUA.

5. PIPE TO BE USED AS A CASING SHALL CONFORM TO EITHER ASTM STANDARD A139 FOR "ELECTRIC FUSION (ARC) WELDED STEEL PIPE". WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI OR "API SPECIFICATION API-5LX, GRADE X-42 WELDED STEEL PIPE".

TYPICAL CASING DETAIL - WATER (NTS)

WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS - NOTES

1) SEPARATION OF WATER AND SEWER MAINS. HORIZONTAL AND VERTICAL SEPARATION BETWEEN POTABLE WATER SYSTEM MAINS AND OR APPURTENANCES AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH RULE 62-555.314 FAC.

2. 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, RECLAIMED WATER MAIN REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C, OR PROPOSED VACUUM-TYPE SANITARY SEWER.

3. 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 III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

4. 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 (SEE CROSSING "A" AS SHOWN ON DETAIL SHEET WAT-02).

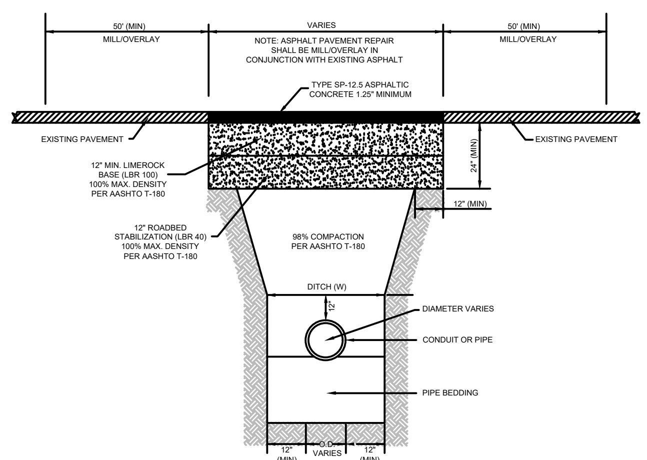
5. NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

6. AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (4) AND (5) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER 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.

7. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SO THAT THE HYDRANTS ARE AT LEAST THREE (3) FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER; AT LEAST THREE (3) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER OR WASTEWATER FORCE MAIN.

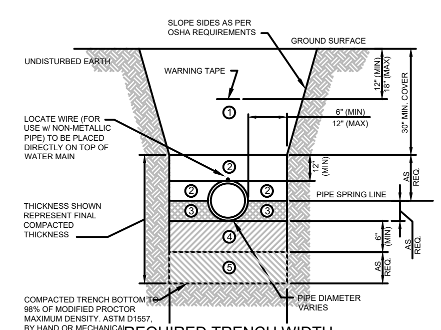
8. WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE, THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER TO OBTAIN APPROVAL OF ANY ALTERNATIVE CONSTRUCTION METHODS PRIOR TO CONSTRUCTION.

NOTES ON UTILITY SEPARATION REQUIREMENTS



REVISED CLAY COUNTY CASE 2 ASPHALT PAVEMENT REPAIR DETAIL

(NTS)



1. FINAL BACKFILL - CLEAN, WELL GRADED MATERIAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. FINAL BACKFILL SHALL BE INSTALLED IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT, AND SHALL BE COMPACTED TO AT LEAST 95% (UNPAVED) AND 98% (PAVED) MODIFIED PROCTOR MAXIMUM DRY DENSITY, ASTM D-1557.

2. INITIAL BACKFILL - CLEAN, WELL GRADED MATERIAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. INITIAL BACKFILL SHALL BE INSTALLED IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT, AND SHALL BE COMPACTED TO AT LEAST 98% MODIFIED PROCTOR MAXIMUM DRY DENSITY, ASTM D-1557. BACKFILL SHALL EXTEND TO THE TOP OF THE PIPE AFTER COMPACTION. ALL LIFTS SHALL BE COMPACTED BY HAND TAMPING OR AN APPROVED METHOD OF MECHANICAL TAMPING. DEWATERING SHALL CONTINUE UNTIL BACKFILL IS COMPACTED AT LEAST 2 FEET ABOVE PIPE.

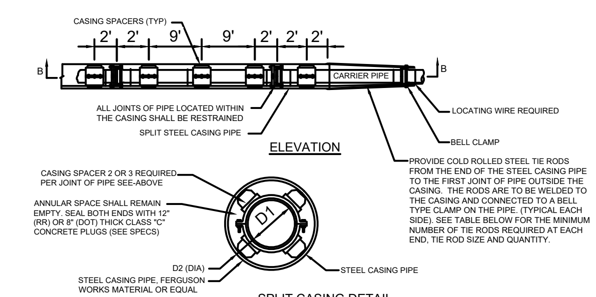
3. HAUNCHING - CLEAN, WELL GRADED MATERIAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. HAUNCHING SHALL BE INSTALLED IN COMPLETELY DEWATERED TRENCHES IN LIFTS NOT EXCEEDING 4 INCHES, LOOSE MEASUREMENT, AND SHALL BE COMPACTED TO AT LEAST 98% MODIFIED PROCTOR MAXIMUM DRY DENSITY, ASTM D-1557, BY HAND TAMPING. HAUNCHING SHALL BE BROUGHT UP EQUALLY ON BOTH SIDES OF THE PIPE. COMPACT BACKFILL TO MID-PIPE.

4. BEDDING - CLEAN, WELL GRADED MATERIAL IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS. BEDDING SHALL BE INSTALLED IN COMPLETELY DEWATERED TRENCHES IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT, AND SHALL BE COMPACTED TO AT LEAST 98% MODIFIED PROCTOR MAXIMUM DRY DENSITY, ASTM D-1557, BY HAND TAMPING OR MECHANICAL TAMPING. PROPERLY SHAPED BELL HOLES SHALL BE EXCAVATED IN THE COMPACTED BEDDING TO PERMIT ASSEMBLY OF THE PIPE. SEE SPECIFICATIONS FOR UNSUITABLE MATERIALS EXCAVATION IF REQUIRED. TRENCH BOTTOM IS AT BOTTOM OF PIPE IF UNSUITABLE MATERIAL IS NOT ENCOUNTERED.

NOTE: NATIVE, UNDISTURBED MATERIAL IN COMPLETELY DEWATERED TRENCHES MEETING THE COMPACTION AND MATERIAL REQUIREMENTS FOR COMPACTED BEDDING MATERIAL NEED NOT BE REPLACED OR REWORKED, EXCEPT FOR SHAPING OF BELL HOLES, AND WHERE REFILL IS REQUIRED.

5. REFILL - REQUIRED WHERE TRENCH HAS BEEN OVER-EXCAVATED. REFILL SHALL BE INSTALLED IN COMPLETELY DEWATERED TRENCHES IN LIFTS NOT EXCEEDING 6 INCHES AND SHALL BE COMPACTED TO 98% OF ASTM D-1557 MAX DRY DENSITY, BY HAND OR MECHANICAL TAMPING.

TYPICAL PIPE TRENCH DETAIL (NTS)



SPLIT CASING DETAIL

CARRIER TYPE AND CASING PIPE SIZES (MIN) IN INCHES														
CARRIER PIPE NO. DIA. (D_1)	4	6	8	10	12	14	16	18	20	24	30	36	42	48
CASING PIPE NOM. DIA. (D_2)	14	16	20	20	24	30	30	30	36	42	48	54	60	66
WALL THICKNESS RAILROAD-(CSX)	0.25	0.281	0.375	0.375	0.375	0.469	0.469	0.469	0.562	0.625	0.688	0.781	0.844	0.938
WALL THICKNESS DOT	0.25	0.25	0.25	0.25	0.25	0.312	0.312	0.312	0.375	0.50	0.50	0.50	0.50	0.50
NUMBER OF TIE RODS (EACH END)	2	2	2	4	4	6	6	8	8	12	14	14	16	16
TIE ROD SIZE (DIA.)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"	1 1/4"	1 1/4"

NOTES

1. NOT ALLOWED UNDER RAILROADS.

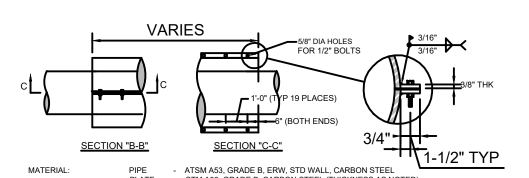
2. THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 4 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE CARRIER PIPE BELL OR COUPLING.

3. ALL JOINTS WITHIN CARRIER PIPE SHALL BE MECHANICAL RESTRAINED JOINTS.

4. FOR STREET USES WHICH ARE NOT DOT OR RAILROAD, USE DOT CASING THICKNESS UNLESS OTHERWISE INDICATED BY ENGINEER.

5. CASING PIPE SHALL BE FURNISHED IN NOMINAL 8 FOOT LENGTHS (MIN.) UNLESS OTHERWISE INDICATED ON THE DRAWING OR APPROVED BY CCUA.

6. PIPE TO BE USED AS A CASING SHALL CONFORM TO EITHER ASTM STANDARD A139 FOR "ELECTRIC FUSION (ARC) WELDED STEEL PIPE". WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI OR "API SPECIFICATION API-5LX, GRADE X-42 WELDED STEEL PIPE".



MATERIAL: PIPE - ASTM A53, GRADE B, ERW, STD WALL, CARBON STEEL
PLATE - STM A36, GRADE B, CARBON STEEL (THICKNESS AS NOTED)
WELDS: ALL WELDS SHALL BE PERFORMED BY A CERTIFIED WELDER
LININGS/COATINGS: INTERIOR - BARE
EXTERIOR - BARE

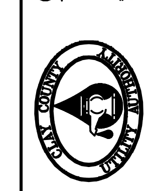
PIPE MAIN FOR CROSSINGS USING SPLIT CASING PIPE

NOT ALLOWED UNDER RAILROADS

TYPICAL SPLIT CASING DETAIL - WATER (NTS)

STANDARD WATER CASING, CROSSING TYPE AND PIPE RESTRAINT DETAILS

CLAY COUNTY UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999



ACAD FILE NAME

SHEET NO.

WAT 02

ENERGY COVE WEREHOUSE FOR WIGGINS CONSTRUCTION COMPANY

CCUA UTILITY DETAILS

ENGINEER OF RECORD JOHN J. MAHONEY III
FLORIDA REGISTRATION NUMBER: 40177

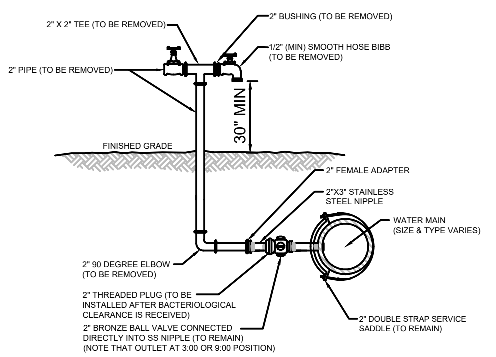
TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260 E.B. NUMBER: 26383

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.

12C



NOTES

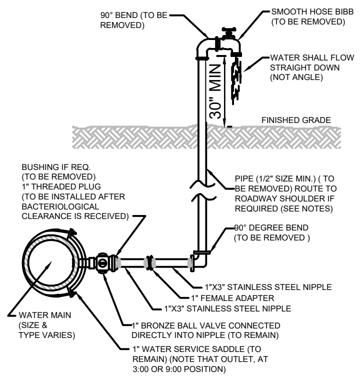
1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROADWAY SHOULDERS (NON-TRAFFIC AREAS).

2. ALL PIPE & FITTING SHALL BE GALVANIZED MATERIAL OR SCH 80 PVC.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTING (AS NOTED) AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.

4. THE CONTRACTOR SHALL COMPLY WITH ALL CCUA RULES AND POLICES AS OUTLINED BY CCUA'S STANDARD WATER SYSTEM STANDARDS AND OTHER ASSOCIATED CCUA STANDARDS.

2" TEMPORARY SAMPLE TAP FOR STUB OUT (NTS)



NOTES

1. LOCATION OF SAMPLE POINT BIBB SHALL NOT BE WITHIN THE ROADWAY BUT ROUTED TO THE ROADWAY SHOULDERS (NON-TRAFFIC AREAS).

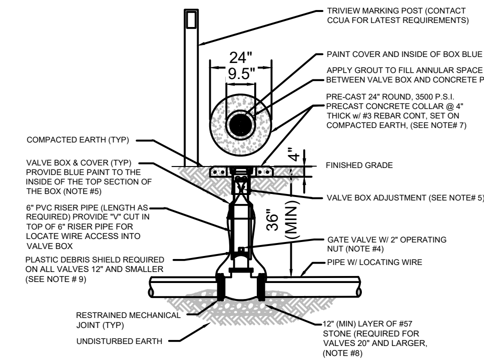
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY PIPING & FITTINGS (AS NOTED), AFTER BACTERIOLOGICAL CLEARANCE IS RECEIVED.

3. PIPE AND FITTINGS SHALL BE PVC SCH 80 OR GALV. MATERIAL.

4. THE USE OF THE ABOVE CONSTRUCTION FOR A TEMPORARY SAMPLE POINT SHALL BE LIMITED TO AREAS WHERE A SAMPLE TAP BY ALTERNATIVE METHODS IS NOT FEASIBLE OR IF DIRECTED OTHERWISE BY CCUA.

5. THE CONTRACTOR SHALL COMPLY WITH ALL CCUA RULES AND POLICIES AS AS OUTLINED BY CCUA'S STANDARD WATER SYSTEM STANDARDS AND OTHER ASSOCIATED CCUA STANDARDS.

TEMPORARY SAMPLE TAP (NTS)



NOTES

1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.

2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAILW-44).

3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED GREEN.

4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.

5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 12" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.

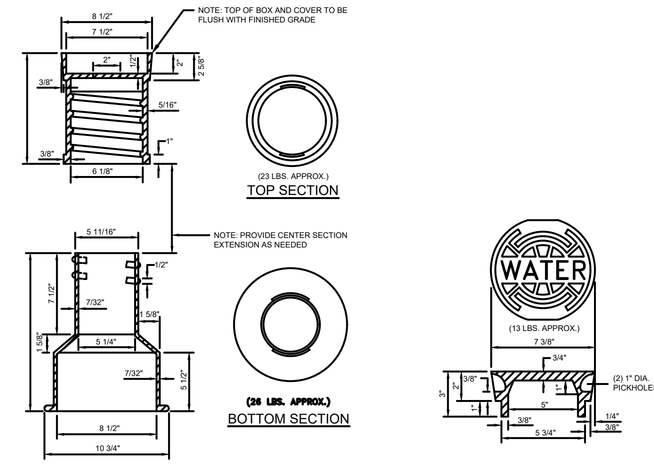
6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A 1/4" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.

7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 - #4 REBAR AROUND PERIMETER, MAY BE USED.

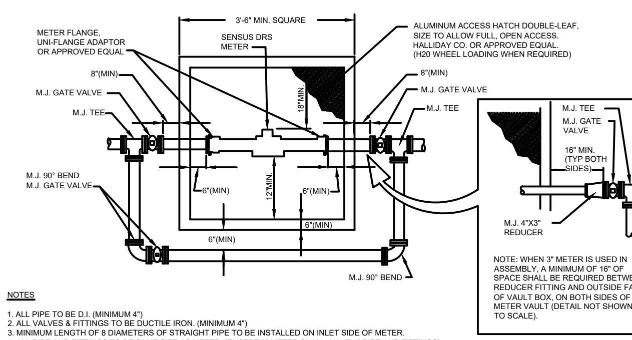
8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/3 THE OVERALL HEIGHT OF THE VALVE.

9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.

WATER VALVE INSTALLATION DETAIL



VALVE BOX AND COVER



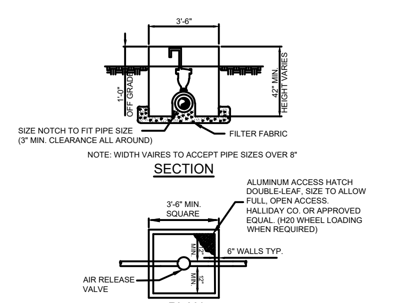
NOTES

1. ALL PIPE TO BE D.I. (MINIMUM 4")
2. ALL VALVES & FITTINGS TO BE DUCTILE IRON. (MINIMUM 4")
3. MINIMUM LENGTH OF 8 DIAMETERS OF STRAIGHT PIPE TO BE INSTALLED ON INLET SIDE OF METER.
4. ALL PIPE AND FITTINGS TO BE SAME SIZE AS METER. (EXCEPT 3" METER SHALL HAVE 4" PIPE AND FITTINGS)
5. CONC. BOX SHALL BE A MINIMUM OF 42" DEEP WITH OPEN BOTTOM, PRECAST WITH NOTCH TO ACCOMMODATE PIPE INSTALLED 36" DEEP, INSTALLED ON 12" OF #57 STONE.
6. CONTRACTOR SHALL PROVIDE SHOP DRAWING OF BOX WITH DIMENSIONS FOR APPROVAL BY CCUA.
7. THE COST OF THE METER WILL BE ASSESSED TO DEVELOPER UNDER SEPARATE AGREEMENT. THE METER ONLY WILL BE FURNISHED TO THE CONTRACTOR BY THE CLAY COUNTY UTILITY AUTHORITY AND THE CONTRACTOR SHALL INSTALL THE METER TO COMPLETE THE INSTALLATION SHOWN HEREON.
8. PIPES COMING IN AND GOING OUT OF BOX SHALL BE 36" DEEP. CONTRACTOR SHALL BE RESPONSIBLE TO ADJUST THE ELEVATION OF THESE PIPES, USE OF BENDS ARE PERMITTED TO ACHIEVE THIS.
9. FOR ANY SIZE WATER AND FIRE LINE METERS NOT LISTED, THE CONTRACTOR SHALL SUBMIT ALL NECESSARY SUBMITTALS TO BE APPROVED BY CCUA.

METER VAULT DIMENSIONS (OVER 8" CONTACT CCUA ENGINEERING DEPARTMENT)

METER TYPE	3" and 4" VAULT DIMENSIONS	6" VAULT DIMENSIONS	8" VAULT DIMENSIONS
SENSUS TURBINE	4'-0" OUTSIDE 3-'0" INSIDE	4'-6" OUTSIDE 3'-6" INSIDE	4'-6" OUTSIDE 3'-6" INSIDE
SENSUS COMPOUND	4'-0" OUTSIDE 3'-0" INSIDE	4'-6" OUTSIDE 3'-0" INSIDE	4'-6" OUTSIDE 3'-0" INSIDE
SENSUS F2 FIRE LINE	5'-0" OUTSIDE 4'-0" INSIDE	6'-0" OUTSIDE 5'-0" INSIDE	6'-10" OUTSIDE 5'-6" INSIDE
"McCROMETER" PROPELLER	4'-0" OUTSIDE 3'-0" INSIDE	4'-6" OUTSIDE 3'-6" INSIDE	4'-6" OUTSIDE 3'-6" INSIDE

METER VAULT - 3" AND LARGER METERS

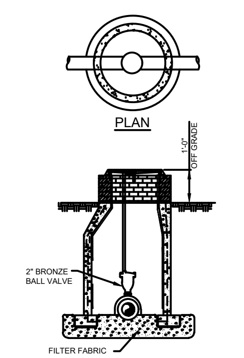


NOTES

1. CONCRETE BOX SHALL BE 42" MIN. DEPTH BUT SHALL BE DEEP ENOUGH TO ACCOMMODATE THE SIZE PIPE AND TYPE OF AIR RELEASE VALVE REQUIRED, WITH OPEN BOTTOM, PRECAST WITH NOTCH TO ACCOMMODATE PIPE INSTALLED WITH 36" COVER FROM TOP OF PIPE TO FINISH GRADE, ON 12" OF #57 STONE,WITH FILTER FABRIC ABOVE AND BELOW THE STONE.
2. CONTRACTOR SHALL PROVIDE SHOP DRAWING OF BOX WITH DIMENSIONS FOR APPROVAL BY CCUA.
3. DIMENSIONS SHOWN ARE MINIMUM AND SHALL BE INCREASED BASED UPON ACTUAL SIZE OF PIPE INSTALLED.

WATER MAIN AIR RELEASE VALVE VAULT

TO BE USED ON ALL PIPES 12" OR LARGER



NOTES

1. FOR PIPE 10" OR SMALLER A 4' DIAMETER, NOTCHED MANHOLE CAN BE USED FOR AIR RELEASE VALVE.
2. SET MANHOLE ON MIN. OF 4 SOLID CONCRETE BLOCKS SPACED EVENLY AROUND THE MANHOLE W/ A MIN. OF 12" OF #57 STONE WITH FILTER FABRIC ABOVE AND BELOW THE STONE.

WATER MAIN AIR RELEASE VALVE VAULT

TO BE USED ON ALL PIPES 10" OR SMALLER

PVC PIPE RESTRAINT NOTES

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THIS SCHEDULE, AT A MINIMUM.

2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.

3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.

4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.

5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.

6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER Lu (FT.)	LOWER Li (FT.)	L (FT.)
4	20	8	4	2	20	3	50
6	28	10	5	2	28	4	20
8	36	14	6	3	36	5	90
10	40	18	8	4	45	6	110
12	50	20	9	4	52	8	120
14	56	23	10	5	60	9	140
16	60	26	11	6	67	10	160
18	69	29	12	6	74	12	180
20	75	32	13	7	80	13	195
24	76	33	15	7	81	14	200
30	88	36	18	9	97	16	235
36	100	40	20	10	110	20	270
42	115	48	23	11	125	24	300
48	125	52	25	12	140	30	340

REDUCERS SIZE (IN.)	L (FT.)
6x4	35
8x6	35
8x4	65
10x8	35
10x6	65
12x10	35
12x8	65
16x12	65
16x10	95
20x18	35
20x16	65
20x12	120
24x20	65
24x18	95
24x16	120
30x24	80
30x20	150
36x30	80
36x24	150
42x36	80
42x30	150
48x42	80
48x36	150

TEES SEE NOTE 5 RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	4	F.O.
4	6 4 < LESS	10 F.O.
8	8 6 < LESS	30 F.O.
10	10 8 6 < LESS	48 14 F.O.
12	12 10 8 < LESS	65 35 F.O.
16	16 12 10 < LESS	100 40 F.O.
20	20 16 12 < LESS	130 80 F.O.
24	24 20 16 12 < LESS	130 90 40 F.O.
30	30 24 20 16 < LESS	140 80 50 F.O.
36	36 30 24 20 < LESS	180 120 50 F.O.
42	42 36 30 24 20 < LESS	220 160 80 40 F.O.
48	48 42 36 30 24 < LESS	250 180 90 40 F.O.

F.O. = FITTING ONLY

PVC PIPE RESTRAINT JOINT SCHEDULE

DUCTILE IRON PIPE RESTRAINT NOTES

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.

2. ASSUMPTIONS: DUCTILE IRON PIPE (WITHOUT POLY WRAP), SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE. FOR D.I.P. W/POLY WRAP, USE RESTRAINT JOINT SCHEDULE FOR PVC PIPE.

3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.

4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.

5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.

6. HDPE TO D.I.P. TRANSITIONS: THE D.I.P. PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

LENGTH (L) TO BE RESTRAINED

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER Lu (FT.)	LOWER Li (FT.)	L (FT.)
4	18	6	4	2	12	2	30
6	22	10	5	2	17	3	40
8	30	13	6	3	22	4	50
10	35	14	7	4	26	5	64
12	42	16	8	4	31	6	75
14	46	20	9	5	35	7	85
16	53	22	11	5	40	8	95
18	57	24	12	6	44	9	105
20	62	26	13	6	48	10	110
24	64	27	14	6	50	11	111
30	73	30	15	7	57	13	137
36	85	34	18	8	66	17	159
42	93	38	20	9	75	20	176
48	102	43	22	10	82	22	198

REDUCERS SIZE (IN.)	L (FT.)
6x4	20
8x6	20
8x4	40
10x8	20
10x6	40
12x10	20
12x8	40
16x12	40
16x10	57
20x18	20
20x16	40
20x12	73
24x20	40
24x18	50
24x16	60
30x24	50
30x20	76
36x30	50
36x24	88
42x36	40
42x30	88
48x42	40
48x36	88

TEE SEE NOTE 5 RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	4	F.O.
4	6 4 < LESS	6 F.O.
8	8 6 < LESS	18 F.O.
10	10 8 6 < LESS	27 8 F.O.
12	12 10 8 < LESS	38 20 F.O.
16	16 12 10 < LESS	60 20 F.O.
20	20 16 12 < LESS	78 40 F.O.
24	24 20 16 12 < LESS	76 53 20 F.O.
30	30 24 20 16 < LESS	99 60 37 F.O.
36	36 30 24 20 16 < LESS	118 88 52 37 F.O.
42	42 36 30 24 20 < LESS	138 110 78 37 F.O.
48	48 42 36 30 24 < LESS	154 132 99 59 F.O.

F.O. = FITTING ONLY

DUCTILE IRON PIPE RESTRAINT JOINT SCHEDULE

REVISION DESCRIPTION | NO | DATE | BY

DESG | DRWN | CHKD | APRV | DATE

STANDARD WATER MISC DETAILS

CLAY COUNTY UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999

ACAD FILE NAME

SHEET NO.

WAT 03

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

CCUA UTILITY DETAILS

REVISIONS

PLOT DATE:	2/4/26
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DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
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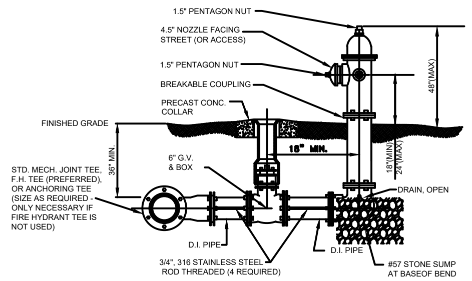
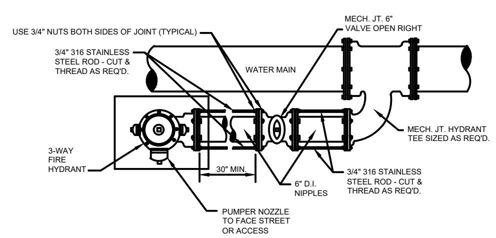
SHEET NO.

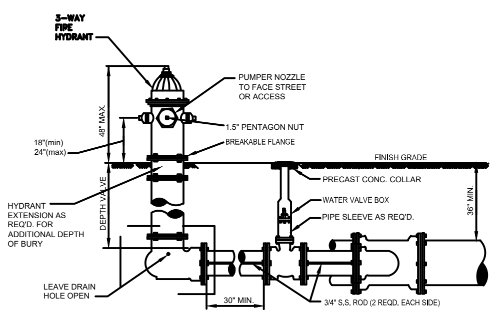
12D



FIRE HYDRANT (STANDARD)

SEE CCUA APPROVED MATERIALS MANUAL





FIRE HYDRANT - LIMITED SPACE

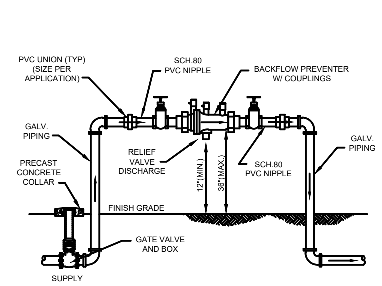
HYDRANT INSTALLATION FOR LIMITED SPACE WITH MECH. JOINT HYDRANT TEE

FIRE HYDRANT CANNOT BE LOCATED LESS THAN 5'-0" FROM BACK OF CURB AND NO MORE THAN 20'-0" BACK OF CURB.

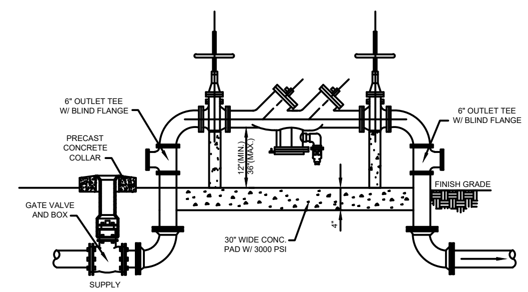
NOTES:

THERE SHALL BE CLEARANCES OF SEVEN AND ONE-HALF FEET (7'-6") IN FRONT OF AND TO THE SIDES OF THE FIRE HYDRANT, WITH A FOUR FEET (4') CLEARANCE TO THE REAR OF THE HYDRANT. *EXCEPTION: THESE DIMENSIONS MAY BE REDUCED BY THE APPROVAL OF THE FIRE OFFICIAL.*

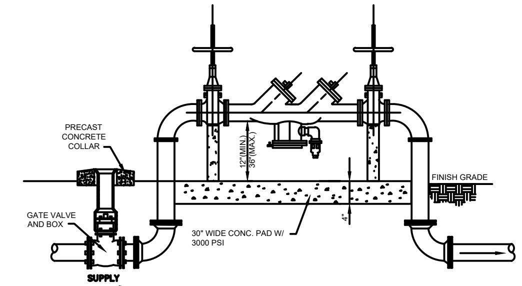
THERE SHALL BE NO OBSTRUCTIONS PLACED IN FRONT OF ANY FIRE HYDRANT ASSEMBLY THAT WOULD PROHIBIT ACCESS.



REDUCED PRESSURE BACKFLOW PREVENTER 2" DIAMETER AND SMALLER (NTS)



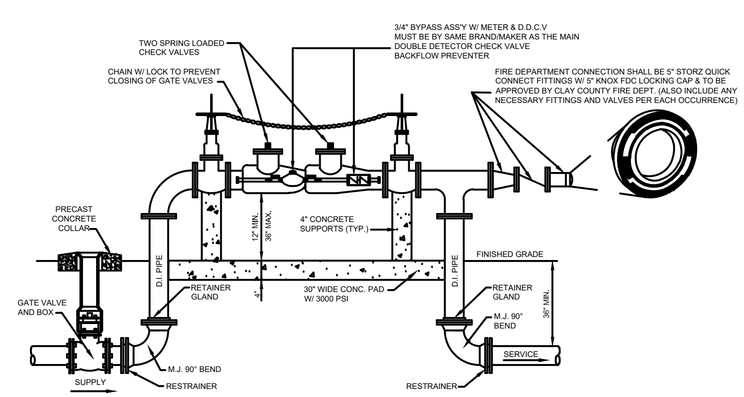
BACKFLOW PREVENTER SIZES 6" & ABOVE WHERE BACKFLOW IS BETWEEN RECLAIMED & POTABLE (NTS)



REDUCED PRESSURE BACKFLOW PREVENTER - SIZES 3" & ABOVE (NTS)

BACKFLOW PREVENTER NOTE:

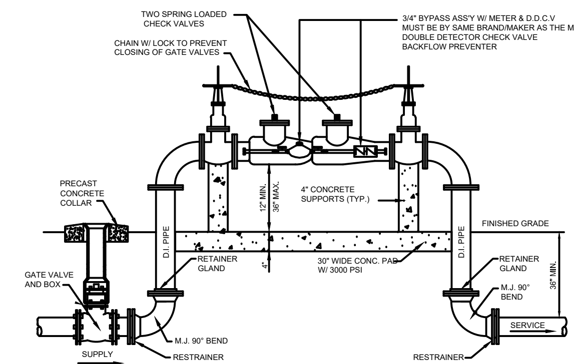
DESIGNS SHOWN FOR BACKFLOW PREVENTER INSTALLATIONS ARE REQUIRED FOR CCUA OWNED INSTALLATIONS - SEE CCUA APPROVED MATERIALS MANUAL. THE BOTTOM OF THE BACKFLOW PREVENTER VALVE IS TO BE NO LESS THAN 12" OR MORE THAN 36" ABOVE THE NATURAL FLOOD GRADE. (SEE CCUA PUMP STATION DETAIL SHEETS (ALL) FOR BACKFLOW PREVENTERS AT PUMP STATIONS)



NOTES

1. DOUBLE DETECTOR CHECK VALVE W/ 3/4" BYPASS METER & 3/4" D.D.C.V ARE REQUIRED ON ALL ON-SITE FIRE SPRINKLER SYSTEMS.
2. PROVIDE FREEZE PROTECTION FOR COMPLETE ASSEMBLY.

DOUBLE DETECTOR CHECK VALVE BACKFLOW PREVENTER WITHOUT ABOVE GROUND ENCLOSURE - 3" AND ABOVE WITH FIRE DEPARTMENT CONNECTION



NOTES

1. DOUBLE DETECTOR CHECK VALVE W/ 3/4" BYPASS METER & 3/4" D.D.C.V ARE REQUIRED ON ALL ON-SITE FIRE SPRINKLER SYSTEMS.
2. PROVIDE FREEZE PROTECTION FOR COMPLETE ASSEMBLY.

DOUBLE DETECTOR CHECK VALVE BACKFLOW PREVENTER WITHOUT ABOVE GROUND ENCLOSURE - 3" & ABOVE WITHOUT FIRE DEPARTMENT CONNECTION

STANDARD FIRE HYDRANT AND D.D.C.V. BACKFLOW PREVENTER DETAILS

CLAY COUNTY UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999

ACAD FILE NAME

SHEET NO.

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TOCOI Engineering
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714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
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ENGINEER OF RECORD
JOHN J. MAHONEY III
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ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

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REVISIONS

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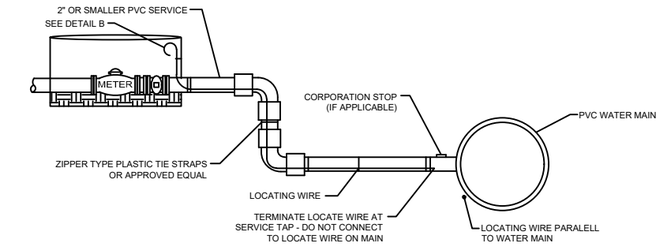
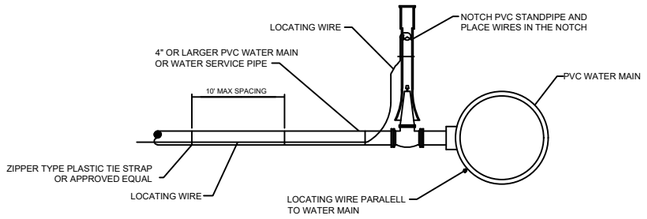


CONNECTION TO PVC MAINS

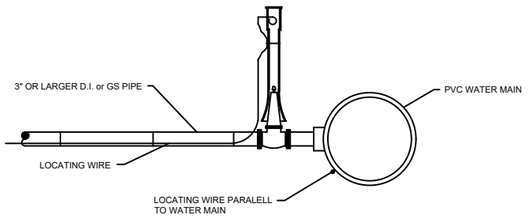
2" OR SMALLER WATER SERVICE
(LONG SERVICES ONLY)



CONNECTION TO PVC MAINS

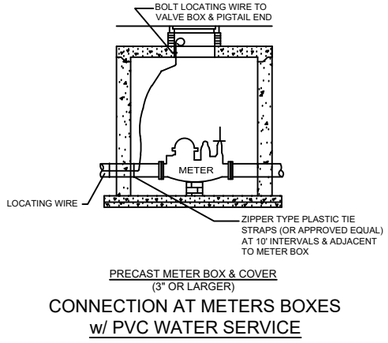
4" OR LARGER PVC WATER MAIN OR WATER SERVICE PIPE

DETAIL - A



CONNECTION TO PVC MAINS

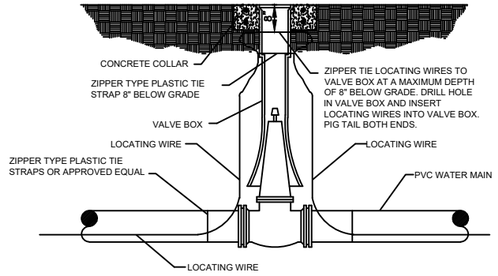
w/3" OR LARGER D.I. OR GS WATER SERVICE OR WATER MAIN



PRECAST METER BOX & COVER
(3" OR LARGER)

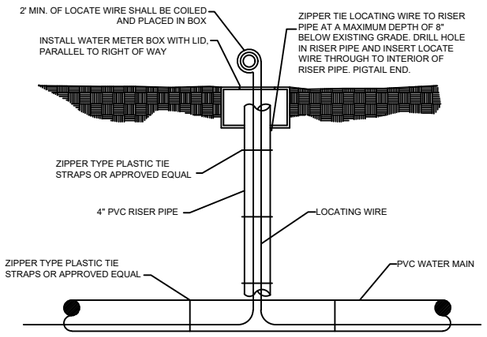
CONNECTION AT METERS BOXES
w/ PVC WATER SERVICE

DETAIL - B



IN-LINE LOCATING STATION- PVC PIPE

VALVE BOX WITH VALVE



IN-LINE LOCATING STATION - PVC PIPE

METER BOX

DETAIL - C

LOCATE WIRE

LOCATE WIRE TESTING REQUIREMENTS
Installed locate wiring shall be tested by the contractor as part of the final inspection procedure, using a certified tester and approved testing equipment. The Contractor shall notify CCUA at least 48 hours in advance of the testing period. At this time the Contractor shall tell CCUA the number of locate personnel to be used for the wire testing, so that CCUA can assign an inspector to work with each locate wire tester. If CCUA has not been notified of the correct number of testing personnel to be used, then the only testers allowed to test the wire shall be those who have a CCUA assigned inspector to work with them. The CCUA inspector shall have the plans on-site, as shall the testing personnel, for the purpose of recording the required test information (ie passed and failed sections) and for as-built preparation. The CCUA field representative or inspector shall be present during the testing period, and have the authority to request tester to retest sections if inspector suspects any problems within that section. The contractor shall provide the Certified Tester a copy of the project site drawings (as-builts preferred). A tone shall be put on the locate wire. The technician shall trace the entire length of the installed wire and spot paint the location at least at 100-foot intervals along the route. The depth shall be tested at 100-foot intervals and tester shall record the depth of pipe/wire on the report at each 100' interval. The certified tester shall report (show on drawings), where the pipe/wire has less than the allowable minimum cover (36 inches) or more than the maximum allowable cover (60 inches) unless called for on the plans or requested and approved by CCUA during the installation of said piping. All lateral stub-outs shall be marked with pain and the depth recorded. A final Locate Wire Report (statement by the certified tester), shall be submitted to CCUA for review and approval. The report shall include a signed statement from the certified tester which certifies that all installed wire (where shown on the drawing), was successfully (sounded), traced with no open breaks. The report shall also include a copy of the project site drawings which indicate all field notes, breaks found/repaired, depths (if installed outside the acceptable cover limits), and other applicable field remarks by the certified tester. A Certified copy of the report and marked-up drawings shall be furnished to CCUA prior to final acceptance of the project or as approved otherwise by CCUA.

Definitions:
Approved Testing Equipment shall include variable frequency controls, digital depth read-out and tone continuity. The following is a list of approved equipment - Dynatel (3M)-2273 Cable/Fault Locator, Metrotech 9800XT, Ditch Witch 950 R/T or CCUA pre-approved equal.

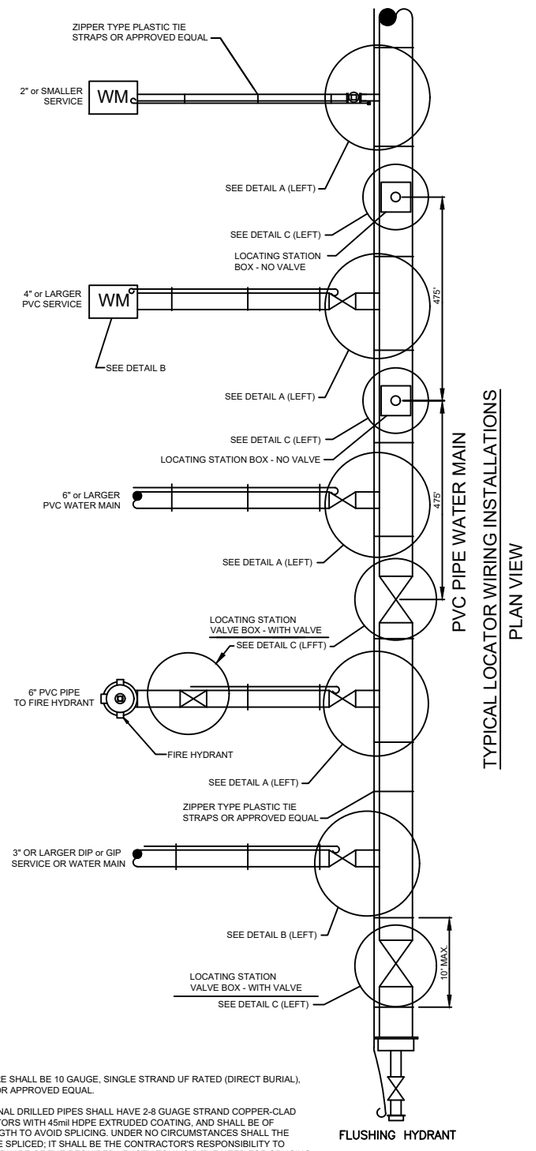
Certified Tester - A person or company that has been certified by the Manufacturer of the approved testing equipment as proficient in the use of the equipment has 8 months experience in the use of the equipment including documented proof of past performance.

CCUA Approval: Clay County Utility Authority shall have the authority to approve Certified Tester, or deny the approval of Certified Tester to work on Utility's System. CCUA shall have the authority to remove any previously Certified Tester from its approved list of Certified Testers as CCUA deems necessary.

LOCATE WIRE INSTALLATION
Contractor shall furnish and install locate wiring on all water mains, sewer force mains, and reclaimed water mains (both PVC and ductile 1" inch size and greater. Locate wire must be attached to mains and services with duct tape or approved iron) and on all service mains 1 ½ plastic zipper ties, (pulled tight to keep wire from rotating out of location), at each side of bell joint or fitting and at 10 foot intervals along pipeline (at a minimum). Locate wire shall be brought to grade within a valve box or locating station box, as required, at 475 foot intervals (see note # 2 this page). Locate wire shall be installed in box and along pipeline as detailed in the CCUA Standard Details. Locate wire shall be installed beneath the pipe line at the 5:00 to 7:00 o'clock position on the pipe. Connection or splices underground which are not inside a locate box (or valve box), shall be prohibited unless approved otherwise by CCUA. The request to make an underground connection or wire splice shall be done in writing to CCUA. The request shall contain the complete job name, name of street, station number as shown on plans and scaled as close as possible to the location of splice or connection, and the reason for request. CCUA shall have at least 48 hrs. to respond verbally and 5 working days to respond in writing. If an underground connection is unavoidable and approved by CCUA, then the wire shall be first tied in a knot (to minimize future separation), then the wire ends shall be connected utilizing an electric wire nut, then make the connection water tight by using either vinyl mastic tape (4" wide X 0.09" thick by 3M-Scotch 2210), or plastic enclosure (Snaploo Model LV 9500/951-4 large by TKH) or CCUA approved equipment.

LOCATE WIRE BOX INSTALLATION
Where utility mains are to be installed beneath sidewalks, valve boxes shall be installed instead of locate wire boxes. The valve box lids shall indicate the type of line (i.e. water, sewer, or reclaimed water). The valve box shall be adjusted so the top of valve box is flush with the finished sidewalk grade. If for any reason a locate wire box must be offset from the C/L of pipeline, then the contractor shall have installed an adequate length of wire to avoid splices and the exact location of the locate box including the amount of the offset distance shall be recorded on the As-builts.

AS-BUILT DRAWINGS
Shall comply to the guidance set forth in CCUA's 'As-built Specifications Standards Manual', which can be obtained from CCUA's website (www.clayutility.org).



TYPICAL LOCATOR WIRING INSTALLATIONS
PLAN VIEW

FLUSHING HYDRANT

NOTES:

1. LOCATING WIRE SHALL BE 10 GAUGE, SINGLE STRAND UF RATED (DIRECT BURIAL), COPPER WIRE, OR APPROVED EQUAL.

2) ALL DIRECTIONAL DRILLED PIPES SHALL HAVE 2-8 GUAGE STRAND COPPER-CLAD STEEL CONDUCTORS WITH 45mil HDPE EXTRUDED COATING, AND SHALL BE OF SUFFICIENT LENGTH TO AVOID SPLICING. UNDER NO CIRCUMSTANCES SHALL THE TRACER WIRE BE SPLICED; IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ORDER ROLLS OF WIRE OF THE REQUIRED LENGTH TO AVOID THE NEED FOR SPLICING THE TRACER WIRE.

3. LOCATE BOXES SHALL BE INSTALLED AT THE LOT LINE IN RESIDENTIAL SUBDIVISIONS, OR COMMERCIAL PROPERTIES; BOXES SHALL NOT BE LOCATED IN SIDEWALKS OR DRIVEWAYS. LOCATE BOXES SPACING SHALL NOT EXCEED 500 FEET.

4. WHERE IT IS NOT POSSIBLE TO LOCATE THE BOX OUTSIDE OF A PAVED STREET OR PARKING LOT, THE LOCATE WIRE SHALL BE PLACED IN A VALVE BOX INSTEAD OF A ROME BOX. VALVE BOX LID SHALL BE MARKED ACCORDING TO THE TYPE OF PIPE SERVED.

NO	DATE	BY	REVISION DESCRIPTION
6	JUNE 17	RMD	REVISED NOTES AND DETAILS
5	DEC 2013	DJU	REVISED NOTE REGARDING AS--BUILTS
4	MAY 2013	MRS	GENERAL UPDATES & REVISIONS
3	JUNE 08	MRS	GENERAL UPDATES & REVISIONS
2	APR 08	MRS	GENERAL UPDATES & REVISIONS

PROJECT:
STANDARD LOCATOR WIRE INSTALLATIONS

CLAY COUNTY
UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999

ACAD FILE NAME
LW-STD

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
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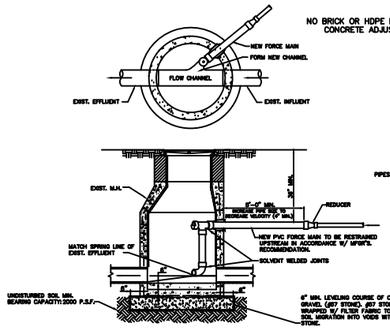
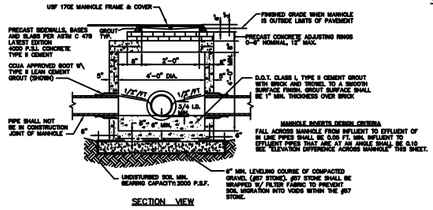


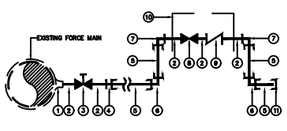
TYPICAL FORCE MAIN CONNECTION TO MANHOLE

NOTE:
1. THIS MANHOLE AND THE NEXT TWO MANHOLES DOWNSTREAM (AS REQUIRED BY UTILITY) ARE TO HAVE POLYETHYLENE LINER AS MANUFACTURED BY STANDARD PRECAST CO. (AGRU SURE GRIP) OR APPROVED EQUAL.
2. 8" CONNECTION IS BEING MADE TO AN EXISTING MANHOLE, THAT MANHOLE AND THE NEXT TWO MANHOLES DOWNSTREAM (AS REQUIRED BY UTILITY), SHALL BE LINED WITH "SPECTRASHIELD" OR APPROVED EQUAL.
3. SIZE OF DROP PIPE CONNECTION TO MANHOLE SHALL BE DESIGNED BY THE PROJECT ENGINEER, MINIMUM SIZE SHALL BE 4". CONNECTION AND DROP PIPE SHALL BE SIZED TO REDUCE THE VELOCITY AND PREVENT "SPLASHOVER" WITHIN THE MANHOLE. 5'-0" MINIMUM DISTANCE FROM MANHOLE TO REDUCER MAY BE INCREASED TO ASSIST IN THIS VELOCITY REDUCTION.



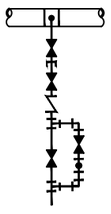
SECTION VIEW

SHALLOW SANITARY SEWER MANHOLE

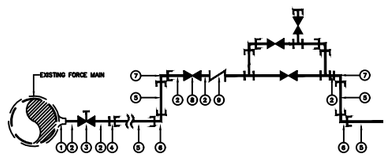


2" SEWAGE FORCE MAIN MANIFOLD
SERVICE CONNECTION DETAIL

FOR MEDIUM TO HIGH PRESSURE CONNECTION SYSTEMS

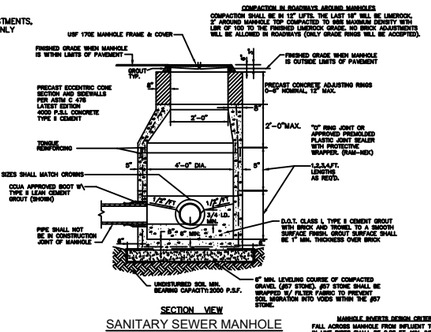


TOP VIEW



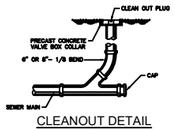
SEWAGE FORCE MAIN MANIFOLD

SERVICE CONNECTION (WITH PRESSURE GAUGE FITTING)
FOR LOW PRESSURE RECEIVING SYSTEMS
FOR CREATING ARTIFICIAL HEAD PRESSURE



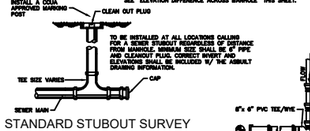
SECTION VIEW

SANITARY SEWER MANHOLE



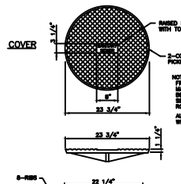
CLEANOUT DETAIL

N.T.S.



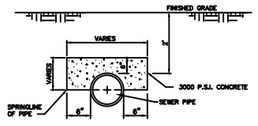
STANDARD STUBOUT SURVEY
ACCESSIBLE CLEANOUT

N.T.S.



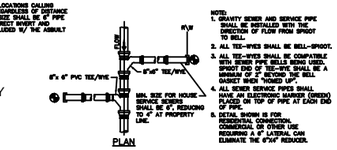
MANHOLE FRAME AND COVER SHALL BE USF CO. MOD. NO. 170E

SANITARY SEWER MANHOLE FRAME & COVER

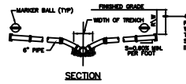


REQUIRED WHERE TOP OF SEWER PIPE IS WITHIN 2' OF FINISHED GRADE UNLESS ALTERNATE DETAIL IS APPROVED BY THE CLAY COUNTY UTILITY AUTHORITY.

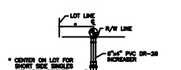
CONCRETE CAP FOR SEWER PIPES



PLAN



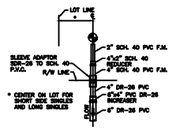
SECTION



SINGLE FAMILY RESIDENTIAL SERVICE

DENOTES SERVICE MARKER POST

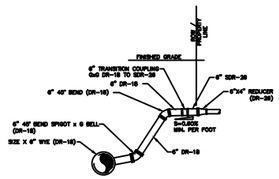
STANDARD SINGLE SEWER
SERVICE LATERALS



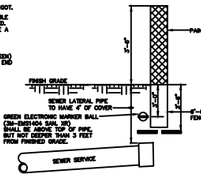
SINGLE SERVICE

DENOTES SERVICE MARKER POST

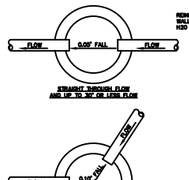
GRINDER PUMP STATION
FORCE MAIN CONNECTION
TO SINGLE GRAVITY SERVICE



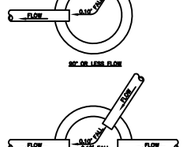
SEWER SERVICE LATERAL ON
GRAVITY MAIN 13' OR DEEPER



SEWER SERVICE
MARKER POST

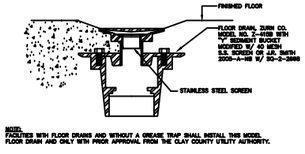


STRAIGHT THROUGH FLOW
AND UP TO 30° OR LESS FLOW



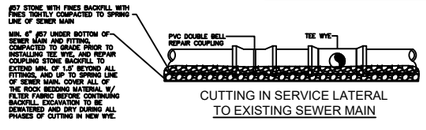
90° OR LESS FLOW

ELEVATION DIFFERENCE
ACROSS MANHOLE

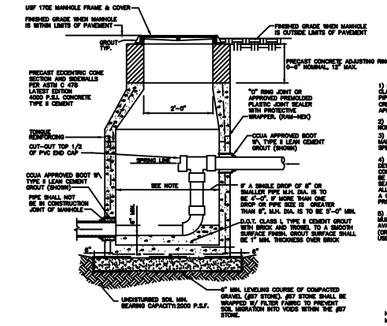


NOTE:
FACILITIES WITH FLOOR DRAINS AND WITHOUT A GREASE TRAP SHALL INSTALL THIS MODEL FLOOR DRAIN AND ONLY WITH PRIOR APPROVAL FROM THE CLAY COUNTY UTILITY AUTHORITY.

FLOOR DRAIN WITH STRAINER DETAIL

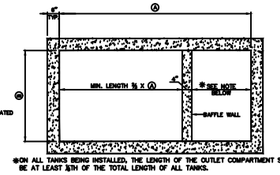


CUTTING IN SERVICE LATERAL
TO EXISTING SEWER MAIN

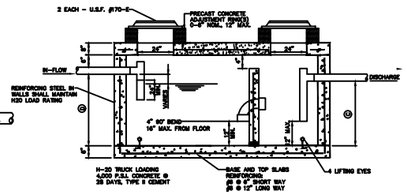


NOTE: FOR ADDITIONAL MANHOLE SPECIFICATIONS, SEE "SANITARY SEWER MANHOLE" DETAIL THIS SHEET. MAXIMUM ALLOWABLE DIFFERENCE IN INVERT ELEVATION WITHOUT INTERNAL DROP CONNECTION IS 24". SEE "ELEVATION DIFFERENCE ACROSS MANHOLE" THIS SHEET.

TYPICAL GRAVITY SEWER DROP PIPE
CONNECTION TO MANHOLE



*ON ALL TANKS BEING INSTALLED, THE LENGTH OF THE OUTLET COMPARTMENT SHALL BE AT LEAST ⅓TH OF THE TOTAL LENGTH OF ALL TANKS.

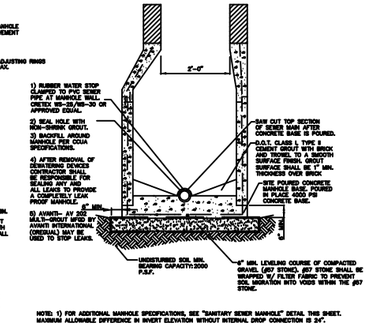


CAPACITY IN GALLONS	
DIM \ 1,000 MIN.	1,250
A	7.0'
B	5.0'
C	4.50'
D	4.75'

COMPLIES WITH A.S.T.M. C-913, PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES AND A.S.T.M. C-890, MINIMUM STRUCTURAL DESIGN LOADING FOR MONOLITHIC OR SECTIONAL PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES

NOTES:
1. GREASE TRAP SHALL BE SIZED BY THE PROJECT ENGINEER USING THE ANTICIPATED PEAK FLOW OF WATER ENTERING THE GREASE TRAP IN ACCORDANCE WITH THE 2003 STATE OF FLORIDA BUILDING CODE – PLUMBING.
2. ROUND-UP TO MATCH THE CLOSEST CAPACITY IN GALLONS PER THE CHART.

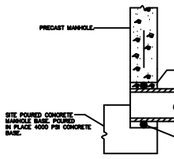
GREASE INTERCEPTOR DETAIL



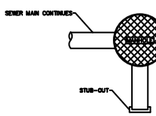
NOTE: 1) FOR ADDITIONAL MANHOLE SPECIFICATIONS, SEE "SANITARY SEWER MANHOLE" DETAIL THIS SHEET. MAXIMUM ALLOWABLE DIFFERENCE IN INVERT ELEVATION WITHOUT INTERNAL DROP CONNECTION IS 24".

SADDLE MANHOLE DETAIL

THIS DETAIL IS ONLY TO
BE USED WITH SPECIFIC APPROVAL BY CCUA.



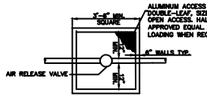
SADDLE MANHOLE DETAIL SECTION



PROCEDURES FOR CONNECTING
TO A GRAVITY STUB

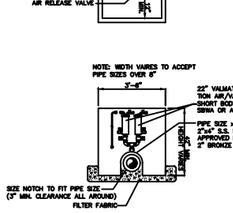
NOTE: BEFORE CONNECTING TO ANY GRAVITY STUB, EXCAVATE AND SHOOT THE ELEVATION OF THE STUB INVERT AND THE ELEVATION OF THE INVERT OF THE SAME PIPE COMING OUT OF THE IMMEDIATE DOWNSTREAM MANHOLE. MEASURE THE DISTANCE FROM THE MANHOLE TO THE STUB, CALCULATE THE PIPE GRADE. IF THE GRADE ON THE PIPE IS LESS THAN PLAN DESIGN THEN CONTACT THE CLAY COUNTY UTILITY AUTHORITY AND THE PROJECT ENGINEER BEFORE PROCEEDING FURTHER. THE PROJECT ENGINEER AND THE CLAY COUNTY UTILITY AUTHORITY WILL MAKE THE DECISION ON HOW TO RESOLVE THE DISCREPANCY BEFORE THE CONTRACTOR CAN PROCEED FURTHER.

NO WORK WILL BE ALLOWED ON A GRAVITY LINE UPSTREAM OF THE CONNECTION POINT TO THE CLAY COUNTY UTILITY AUTHORITY'S SYSTEM WITHOUT PRIOR APPROVAL OF THE CLAY COUNTY UTILITY AUTHORITY.



SANITARY SEWAGE FORCE MAIN
AIR RELEASE VALVE VAULT

TO BE USED ON ALL PIPES 12" OR LARGER



SANITARY SEWAGE FORCE MAIN
AIR RELEASE VALVE VAULT

TO BE USED ON ALL PIPES 10" OR SMALLER

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260
E.B. NUMBER: 26383

NO	DATE	BY	REVISION DESCRIPTION

DESG
DRWN
CHKD
APRV
DATE

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

PROJECT:
ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY
CCUA UTILITY DETAILS

STANDARD SEWER SYSTEM DETAILS

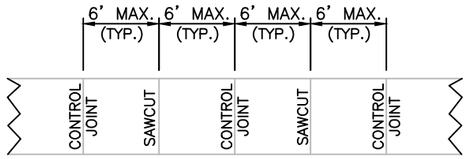
CLAY COUNTY
UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999

REVISIONS

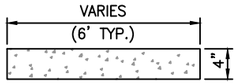
PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
S-SEW

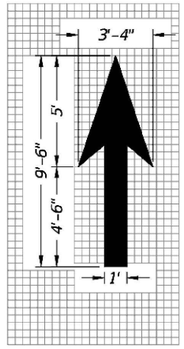
SHEET NO.
12G



PLAN



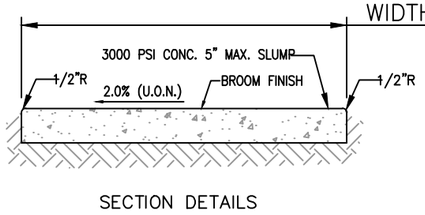
SECTION



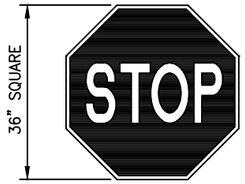
Through Lane-Use Arrow
12 S.F.

NOTE:
ALL ARROWS TO BE SOLID WHITE THERMOPLASTIC AS PER DIMENSIONS SHOWN ABOVE.

PAVEMENT TRAFFIC ARROWS
N.T.S.



SECTION DETAILS



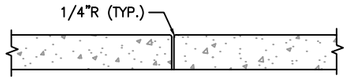
R1-1
36"x36"

NOTE:
THE STOP SIGN SHALL BE OCTAGON WITH WHITE MESSAGE AND BORDER ON A RED BACKGROUND.

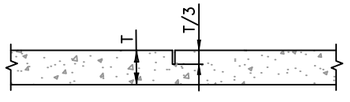
STOP

THE POSTS AND BRACKETS WILL BE PER FDOT STANDARD INDEX 11860 AND 11861.

STOP SIGN



PROVIDE AT INTERVALS SHOWN IN PLAN VIEW
CONTROL JOINT (1-1/2" DEEP)

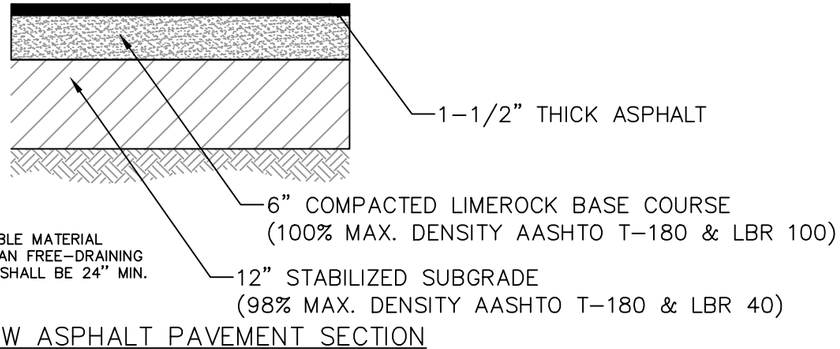


PROVIDE AT INTERVALS SHOWN IN PLAN VIEW
SAWCUT

SIDEWALKS SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE, CLASS NON-STRESS (NS), AND ALL METHODS OF CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDING TO THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

CONCRETE SIDEWALK DETAILS
N.T.S.

NOTE:
UNDERCUT ALL UNSUITABLE MATERIAL AND BACKFILL WITH CLEAN FREE-DRAINING SAND (BOTTOM OF CUT SHALL BE 24" MIN. BELOW FINISH GRADE)



NEW ASPHALT PAVEMENT SECTION
N.T.S.

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260 E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA REGISTRATION NUMBER: 40177

ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

MISCELLANEOUS DETAILS

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	-
DESIGNED BY:	-
CHECKED BY:	-
CLIENT CODE:	-
JOB NO.:	-

SHEET NO.
13

STORM WATER POLLUTION PREVENTION PLAN

CITY'S REQUIREMENTS

SITE DESCRIPTION

PROJECT NAME AND LOCATION:
ENERGY COVE WAREHOUSE
1340 ENERGY COVE, GREEN COVE SPRINGS,
FL 32043

OWNER NAME AND ADDRESS:
MR. BRYANT WIGGINS
WIGGINS GROUP
91 BRANSCOMB ROAD, SUITE 17
GREEN COVE SPRINGS, FL 32043

DESCRIPTION
SECTION 38, TOWNSHIP 6S, RANGE
26E PT LOT 1 BLK 1 DB J PGS 273
& 274

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
CLEARING AND GRUBBING; EARTHWORK, PAVEMENT AND GRADING; STORM SEWER, UTILITIES, AND PREPARATION FOR FINAL PLANTING AND SEEDING.

RUNOFF CURVE NUMBERS:
1. PRE-CONSTRUCTION =
2. DURING CONSTRUCTION =
3. POST-CONSTRUCTION =

SOILS:
SEE SOIL BORING REPORT FOR SOILS DATA

SITE MAPS:
- SEE ATTACHED GRADING PLAN FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS.
- SEE ATTACHED EROSION & TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS
- SEE GENERAL NOTES FOR REQUIRMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.

SITE AREA:
1. TOTAL AREA OF SITE = 4.60 AC
2. TOTAL AREA TO BE DISTURBED = 3.21 AC

NAME OF RECEIVING WATERS:

CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF. AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.

STORM WATER MANAGEMENT

STORM WATER DRAINAGE WILL BE PROVIDED BY (DESRIPTION:) ________
____

FOR THE PROJECT. AREAS WHICH ARE NOT TO BE CONSTRUCTED ON, BUT WILL BE REGRADED SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE, WHEN CONSTRUCTION IS COMPLETE, A TOTAL OF ___ ACRES WILL HAVE BEEN REGRADED, ___ ACRES LEFT UNDISTURBED. THE SITE DISCHARGES TO A WET DETENTION SYSTEM. WHERE PRACTICAL, TEMPORARY SEDIMENT BASINS WILL BE USED TO INTERCEPT SEDIMENT BEFORE ENTERING THE PERMANENT DETENTION BASIN. THE WET DETENTION SYSTEM IS DESIGNED WITH A ___ DAY MINIMUM RESIDENCE VOLUME. THIS IS IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT FOR THIS TYPE OF DEVELOPMENT AT THE TIME OF PERMITTING.

TIMING OF CONTROLS/MEASURES

REFER TO " CONTRACTORS RESPONSIBILITY" FOR THE TIMING OF CONTROL/MEASURES.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.

D.E.R. DREDGE/FILL PERMIT # ________________
C.O.E. DREDGE/FILL PERMIT # ________________
S.J.R.W.M.D. M.S.S.W. PERMIT #________________

POLLUTION PREVENTION PLAN CERTIFICATION

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.

SIGNED:____
CITY ENGINEER

CONTRACTOR'S REQUIREMENTS

GENERAL

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE
2. INSTALL SILT FENCES AND HAY BALES AS REQUIRED
3. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN
4. CONSTRUCT SEDIMENTATION BASIN
5. CONTINUE CLEARING AND GRUBBING
6. STOCK PILE TOP SOIL IF REQUIRED
7. PERFORM PRELIMINARY GRADING ON SITE AS REQUIRED
8. STABILIZE DENUDED AREAS AND STOCKPILES AS SOON AS PRACTICABLE
9. INSTALL UTILITIES, STORM SEWER, CURBS & GUTTER.
10. APPLY BASE TO PROJECT
11. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING
12. COMPLETE FINAL PAVING
13. REMOVE ACCUMULATED SEDIMENT FROM BASINS
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/SOD AS REQUIRED

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION & TURBIDITY CONTROL PLAN.

CONTROLS

IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED , MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE EROSON AND TURBIDITY CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED,TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND AS REQUIRED TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROLS
STABILIZATION PRACTICES

1. HAY BALE BARRIER: HAY BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
   D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF STRAW BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO INSURE AGAINST WASHOUT.

   REFER TO CITY STANDARD DETAIL D-913 FOR CONSTRUCTING THE HAY BALE BARRIER. ALSO REFER TO D-901, D-911 AND D-12 FOR PROPER LOCATION, MATERIAL & USAGE.
2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.

   REFER TO CITY STANDARD DETAIL D-910 FOR PROPER CONSTRUCTION OF THE FILTER FABRIC BARRIER.
3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.
4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE. LEVEL SPREADER SHALL BE CONSTRUCTED IN ACCORDANCE TO CITY STANDARD DETAIL D-914.
5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
8. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 30 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.
9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.
10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX & AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.
11. TEMPORARY REGRASSING : IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.
14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

STRUCTURAL PRACTICES

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY. AND IT SHALL BE CONSTRUCTED IN ACCORDANCE TO D-914.
2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN AN DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA.
   THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDANTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:
   A. BLOCK & GRAVEL SEDIMENT FILTER – THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE. REFER TO D-902 FOR CONSTRUCTION OF A CURB INLET SEDIMENT FILTER, AND D-904 FOR CONSTRUCTION OF A DROP INLET SEDIMENT FILTER.
   B. GRAVEL SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES & UNPROTECTED AREAS. REFER TO D-903 FOR CONSTRUCTION OF CURB INLET & DROP SEDIMENT TRAP.
   C. DROP INLET SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA ($S < 5\%$) AND WHERE SHEET OR OVERLAND FLOWS ($Q < 0.5$ CFS) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS. REFER TO D-905 FOR CONSTRUCTION OF HAY BALE & FABRIC SEDIMENT FILTER.
3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION & SEDIMENT PROBLEM TO THE RECEIVING WATER BODY. SILT FENCES & HAY BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.
4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE.

THE 3,600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL

WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS,WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DEPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

☐ Concrete	☐ Fertilizers	☐ Wood
☐ Asphalt	☐ Petroleum Based Products	☐ Masonry Blocks
☐ Tar	☐ Cleaning Solvents	☐ Roofing Materials
☐ Detergents	☐ Paints	☐ Metal Studs
☐ ________	☐ ________	☐ ________

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
- MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
- ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (i.e. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

MAINTENANCE/INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

- NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.
- ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
- BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
- SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB, WHICHEVER COMES FIRST.
- DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
- TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
- A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. A COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED.
  THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS.
  THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
- THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
- PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE. SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

NON-STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

- WATER FROM WATER LINE FLUSHING
- PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
- UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

RESPONSIBLE FOR/DUTIES	BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS	SIGNATURE
GENERAL CONTRACTOR		
SUB-CONTRACTOR		
SUB-CONTRACTOR		
SUB-CONTRACTOR		
SUB-CONTRACTOR		

TOCOI Engineering
a BAXTER & WOODMAN company
714 NORTH ORANGE AVENUE, GREEN COVE SPRINGS, FL 32043
TEL: 815-459-1260
E.B. NUMBER: 26383

ENGINEER OF RECORD
JOHN J. MAHONEY III
FLORIDA
REGISTRATION NUMBER:
40177

ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

SWPPP CONTRACTOR REQUIREMENTS

REVISIONS

PLOT DATE:	2/4/26
DRAWN BY:	–
DESIGNED BY:	–
CHECKED BY:	–
CLIENT CODE:	–
JOB NO.:	–

SHEET NO.
14

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF
A RAINFALL EVENT OF 0.25 INCHES OR MORE

INSPECTOR:_____ DATE:_____

INSPECTOR'S QUALIFICATIONS:
_____
_____
_____
_____

DAYS SINCE LAST RAINFALL:_____ AMOUNT OF LAST RAINFALL _____ INCHES

STABILIZATION MEASURES

INSPECTION AREA (DESCRIPTION OF LOCATION)	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABLIZED ? (YES/NO)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED:
_____
_____
_____
_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

PAGE 1 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

STRUCTURAL CONTROLS

DATE:_____

EARTH DIKES/SWALES

DIKE OR SWALE	FROM	TO	IS DIKE/SWALE STABILIZED ?	IS THERE EVIDENCE OF WASHOUT OR OVERTOPPING

MAINTENANCE REQUIRED FOR EARTH DIKE/SWALE:
_____
_____
_____
_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

CATCH BASIN/CURB INLET/OUTFALL TURBIDITY CONTROLS

STRUCTURE/ OUTFALL	ARE TURBIDITY CONTROLS IN PLACE	ANY EVIDENCE OF CLOGING/WASHOUT OR BYPASSING ?	ARE TURBIDITY CONTROLS IN NEED OF REPLACING	DOES SILT NEED TO BE REMOVED FROM AROUND CONTROL

MAINTENANCE REQUIRED FOR CATCH BASIN/CURB INLETS/OUTFALLS TURBIDITY CONTROLS:
_____
_____
_____
_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

PAGE 2 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

SEDIMENT BASIN

DEPTH OF SEDIMENT IN BASIN	DEPTH OF SEDIMENT SIDE BASIN	ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT ?	CONDITION OF OUTFALL FROM SEDIMENT BASIN

MAINTENANCE REQUIRED FOR SEDIMENT BASIN:
_____
_____
_____
_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

OTHER CONTROLS

STABILIZED CONSTRUCTION ENTRANCE

DOES MUCH SEDIMENT GET TRACKED ON TO ROAD ?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE ?	IS THE CULVERT BENEATH THE ENTRANCE WORKING? (IF APPLICABLE)

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:
_____
_____
_____

TO BE PERFORMED BY:_____ ON OR BEFORE:_____

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PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:
_____
_____
_____
_____
_____
_____
_____
_____
_____

REASONS FOR CHANGES:
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

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.

SIGNATURE:_____

DATE:_____

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NOTE TO CONTRACTOR:
THIS IS THE CONTRACTORS CERTIFICATION REQUIRED BY THE EPA'S NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), STORM WATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION SITES OVER 5 ACRES. THIS CERTIFICATION MUST BE COMPLETED WEEKLY AND AFTER EVERY RAINFALL EVENT OVER 0.25 INCHES. IT IS SUGGESTED THAT THIS SHEET BE REMOVED FROM THE PLAN SET AND DUPLICATED AS NEEDED BY THE CONTRACTOR.

SHEET NO. 15

PLOT DATE: 2/4/26
DRAWN BY:
DESIGNED BY:
CHECKED BY:
CLIENT CODE:
JOB NO.:

REVISIONS

ENERGY COVE WEREHOUSE
FOR
WIGGINS CONSTRUCTION COMPANY

SWPPP CONTRACTOR CERTIFICATION

ENGINEER OF RECORD
JOHN J. MAHONEY III

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REGISTRATION NUMBER:
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