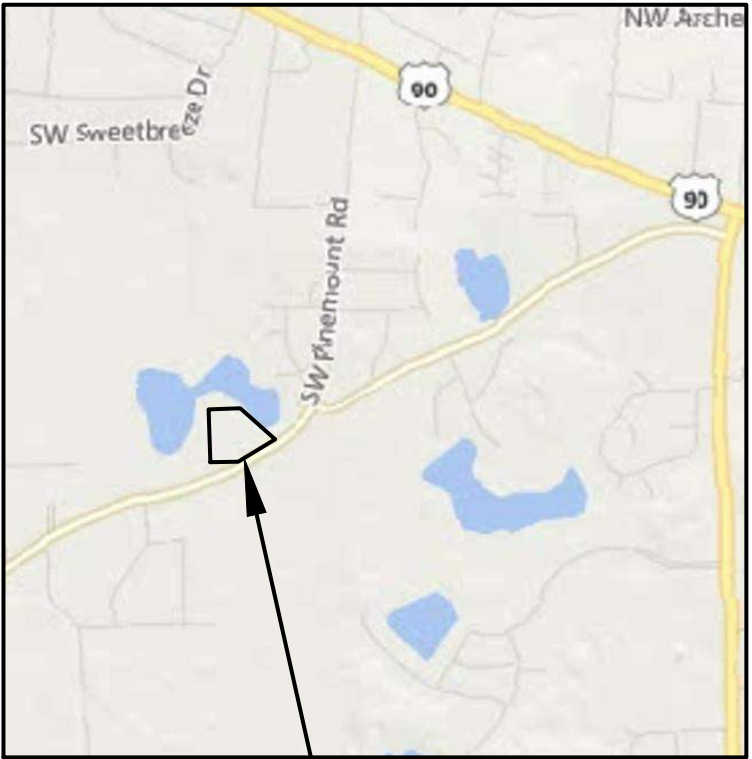


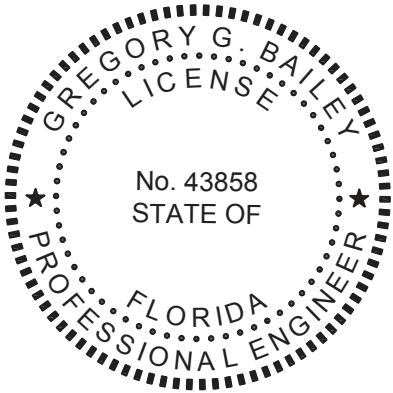
COLUMBIA  
COUNTY

**JEWEL LAKE ALF**  
**LAKE CITY, FL**  
**SECTION 04, TOWNSHIP 4S, RANGE 16E**



PROJECT LOCATION

**PLANS PREPARED FOR:**  
  
**GARY SORENSEN**  
**1400 WEST 22ND ST.**  
**KEARNEY, NE 68845**  
**(308) 237-1475**



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

**Gregory G Bailey**  
Digitally signed by Gregory G Bailey  
DN: CN=Gregory G Bailey,  
OU=A01427E000001680E98940E00004253,  
O=NORTH FLORIDA PROFESSIONAL  
SERVICES INC., C=US  
Date: 2020.12.16 17:01:52-05'00'

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED IN THE ELECTRONIC DOCUMENTS.

NORTH FLORIDA PROFESSIONAL SERVICES, INC.  
P.O. BOX 3823  
LAKE CITY, FL 32056  
CERTIFICATE OF AUTHORIZATION: 29011  
GREGORY G. BAILEY, P.E. NO. 43858

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

**SHEET INDEX**

COVER SHEET	C-1
GENERAL NOTES	C-2
OVERALL SITE PLAN	C-3
SITE PLAN	C-4
GRADING PLAN	C-5
UTILITY PLANS	C-6 - C-7
STORMWATER PLAN	C-8
SWMF PLAN	C-9
LANDSCAPE PLAN	C-10
EROSION CONTROL NOTES & DETAILS	C-11
EROSION CONTROL PLAN	C-12
MISC. DETAILS	C-13 - C-16

**ATTACHMENT: SURVEY BY J. SHERMAN**  
**FRIER & ASSOCIATES, INC.**

**12/2020**  
**COUNTY SITE PLAN MODIFICATION**



**COVER SHEET**

REVISIONS:

JOB NUMBER: L190107SMI	DESIGNED BY: TH	DRAFTED BY: JC	CHECKED BY: GB
DATE: 01/19	ENGINEER OF RECORD: GREG BAILEY	P.E. NO.: 43858	
	SHEET NO.		



File Location: X:\2019\L190107SMI\H.CADD\csm\idsn0113 OVERALL  
Date Created: December 16, 2020 Date Last Saved: December 16, 2020  
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Date Plotted: December 16, 2020

JEWEL LAKE

15' LANDSCAPE BUFFER

5' BUILDING  
SETBACK

35' WETLAND BUFFER

JEWEL LAKE

5' BUILDING  
SETBACK

NOTE:

SEE DETAIL # 2 ON SHEET C-15  
FOR GRADING AT BUILDING

WETLAND BOUNDARY

WETLAND BOUNDARY

35' WETLAND BUFFER

CONSTRUCT SWMF  
SEE SHEET C-9

PROP. BUILDING  
22,838 SF  
68 BEDS

CONSTRUCT ±211 LF  
TYPE "F" CURB PER FDOT  
STANDARD PLAN 520-001

CONSTRUCT ±400 LF  
TYPE "F" CURB PER FDOT  
STANDARD PLAN 520-001

PROPERTY  
BOUNDARY

30' LANDSCAPE BUFFER

CONSTRUCT CONCRETE  
DUMPSTER PAD & ENCLOSURE

CONSTRUCT ±233 LF  
TYPE "F" CURB PER FDOT  
STANDARD PLAN 520-001

CONSTRUCT ±25 LF  
24" SOLID WHITE STOP BAR  
WITH "ONE WAY DO NOT ENTER"

CONSTRUCT ±16 LF  
24" SOLID WHITE STOP BAR  
WITH ±24 LF  
6" SOLID DOUBLE YELLOW LINES

CONSTRUCT DRIVEWAY CONNECTION  
TO EXISTING PAVEMENT

CONSTRUCT R1-1  
STOP SIGN

20' BUILDING  
SETBACK

20' BUILDING  
SETBACK

FENCE TO BE  
REMOVED BY OWNER

RIGHT OF WAY LINE

EDGE OF PAVEMENT

PINEMOUNT ROAD (CR-252)

SAN

W

W

W

W

W

W

W

W

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W

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W

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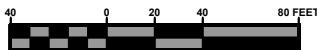
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GRAPHIC SCALE



REVISIONS:

DESIGNED BY:	TH	JC	GB
ENGINEER OF RECORD:	GREG BAILEY		
P.E. NO.:	43656		
DATE:	01/19		
SHEET NO.:	C-3		

JOB NUMBER: L190107SMI

# OVERALL SITE PLAN

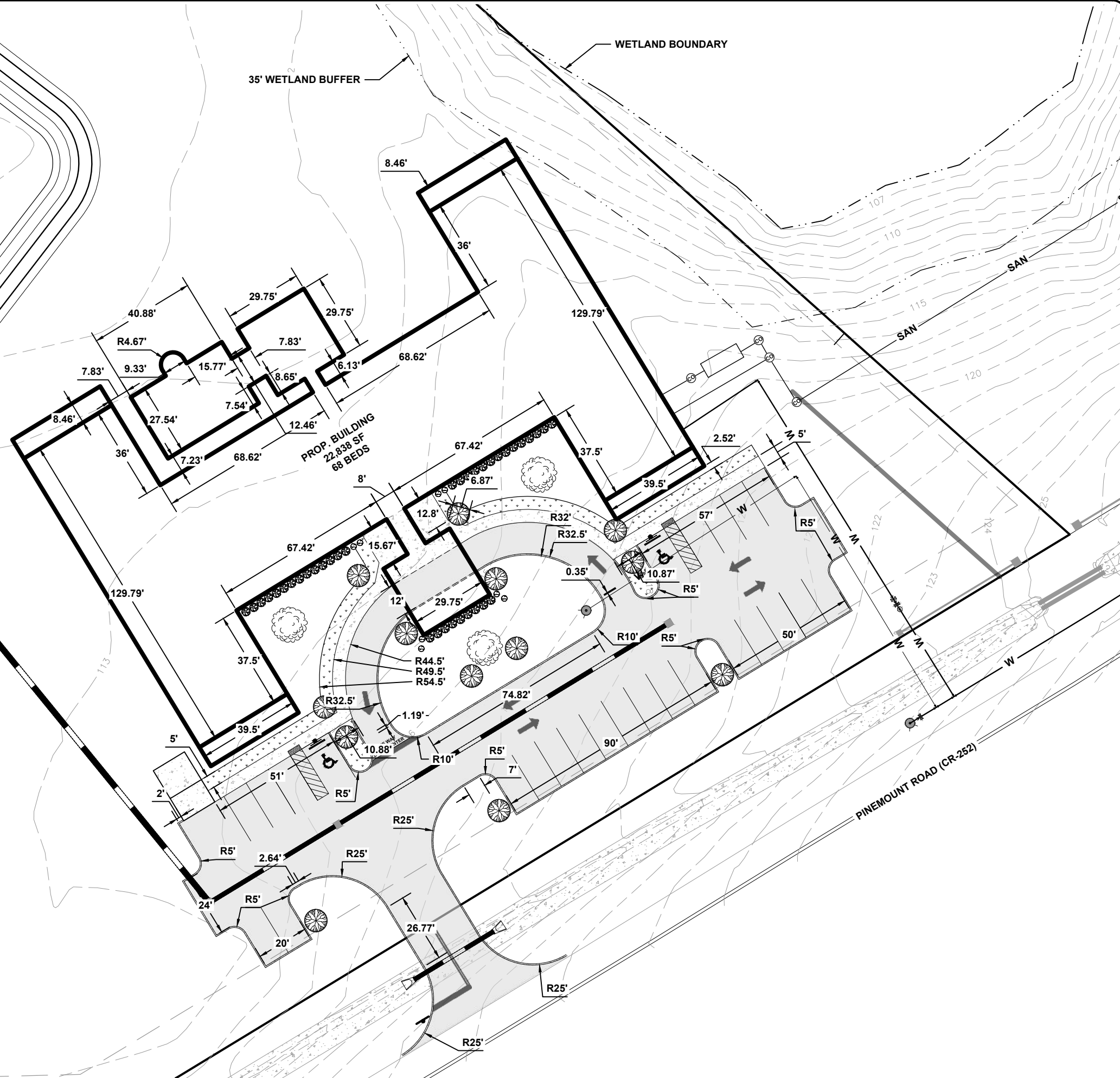
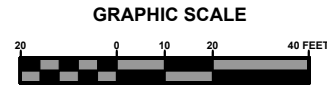
JEWEL LAKE ALF  
LAKE CITY, FL



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Eng. Lic. 29011

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Date Created: December 16, 2020 Date Last Saved: December 16, 2020

D:\cSMidsn01\4 SITE  
Date Last Saved: December 16, 2020



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DESIGNED BY:	TH	DRAFTED BY:	JC	CHECKED BY:	GB
DATE:	01/19	ENGINEER OF RECORD:			
		GREG BULLY			
		P.E. NO.: 43868			
SHEET NO.	24				

# SITE PLAN

## JEWEL LAKE ALF

## LAKE CITY, FL

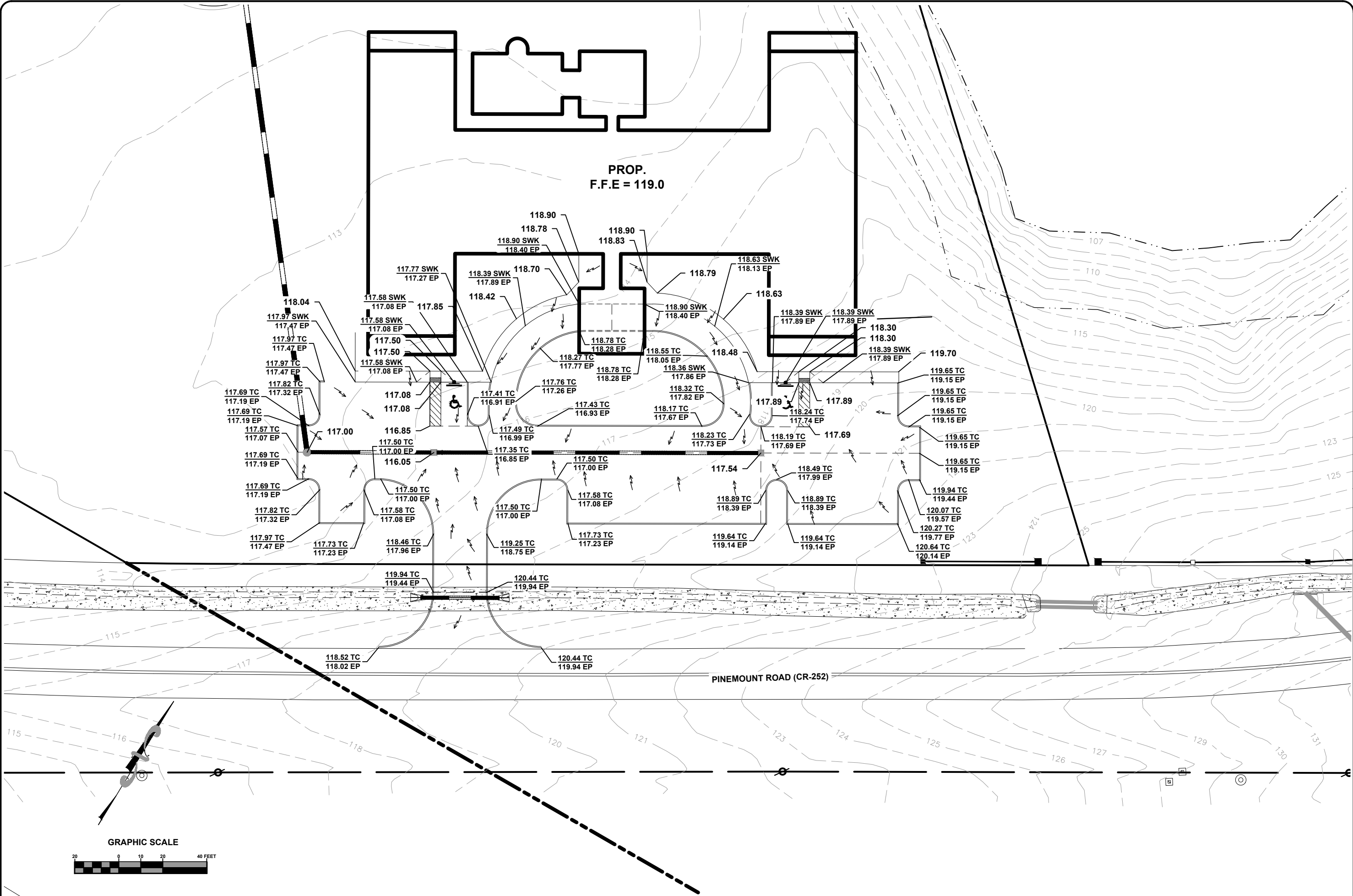
**North Florida Professional Services, Inc.**

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Ph. 877-332-4675  
Eng. Lic. 23011

P.O. BOX 180998  
Tallahassee, FL 32318  
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File Location: X:\2019\190107SMIH.CADD\SMI\gra01\C-5 GRADING PLAN  
Date Created: December 16, 2020  
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# GRADING PLAN

## JEWEL LAKE ALF

### LAKE CITY, FL

North Florida Professional Services, Inc.  
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Ph. 877-335-4675  
Fax. 386-752-4674

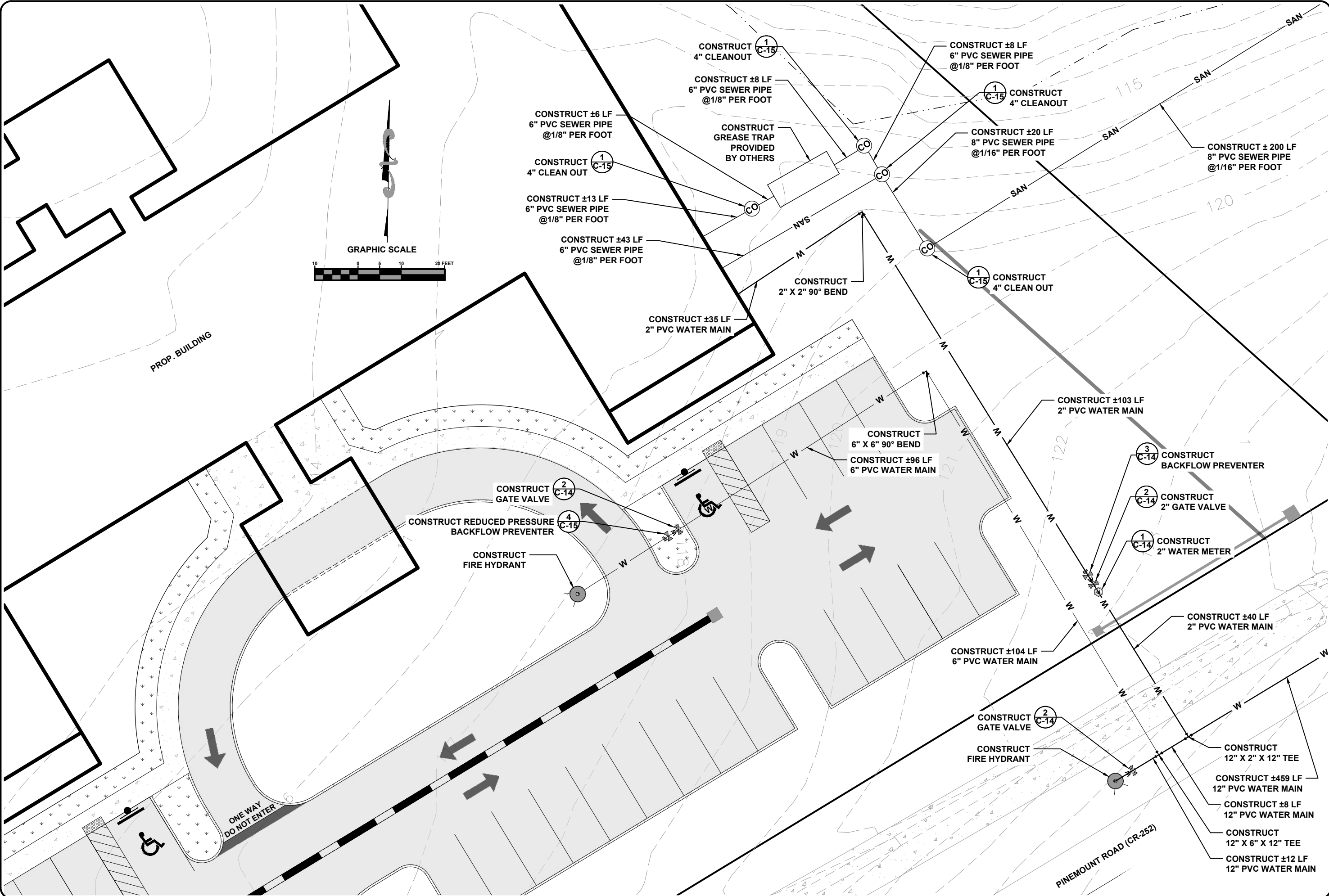


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DATE: 01/19	
ENGINEER OF RECORD: GREG BAILEY	
P.E. NO.: 43656	
SHEET NO. C-5	



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Date Plotted: December 16, 2020



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Lake City, FL 32025  
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# UTILITY PLAN JEWEL LAKE ALF LAKE CITY, FL

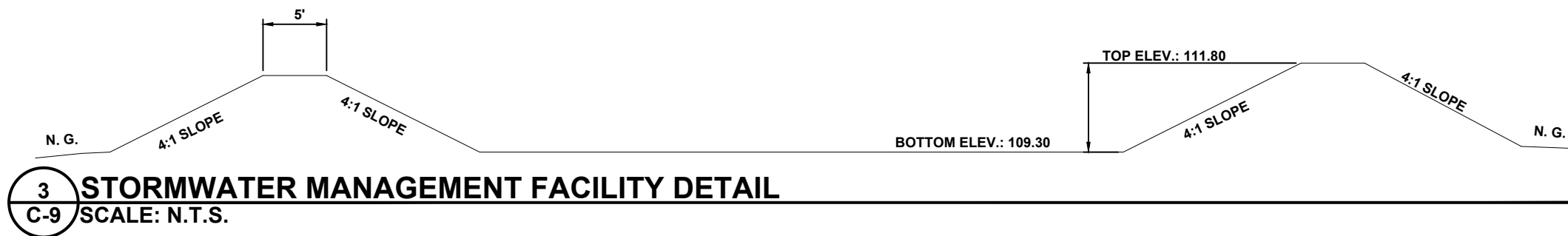
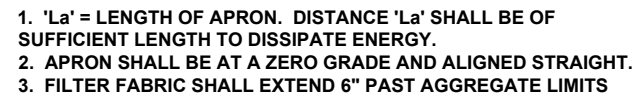
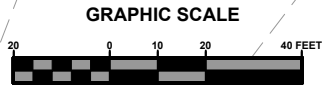
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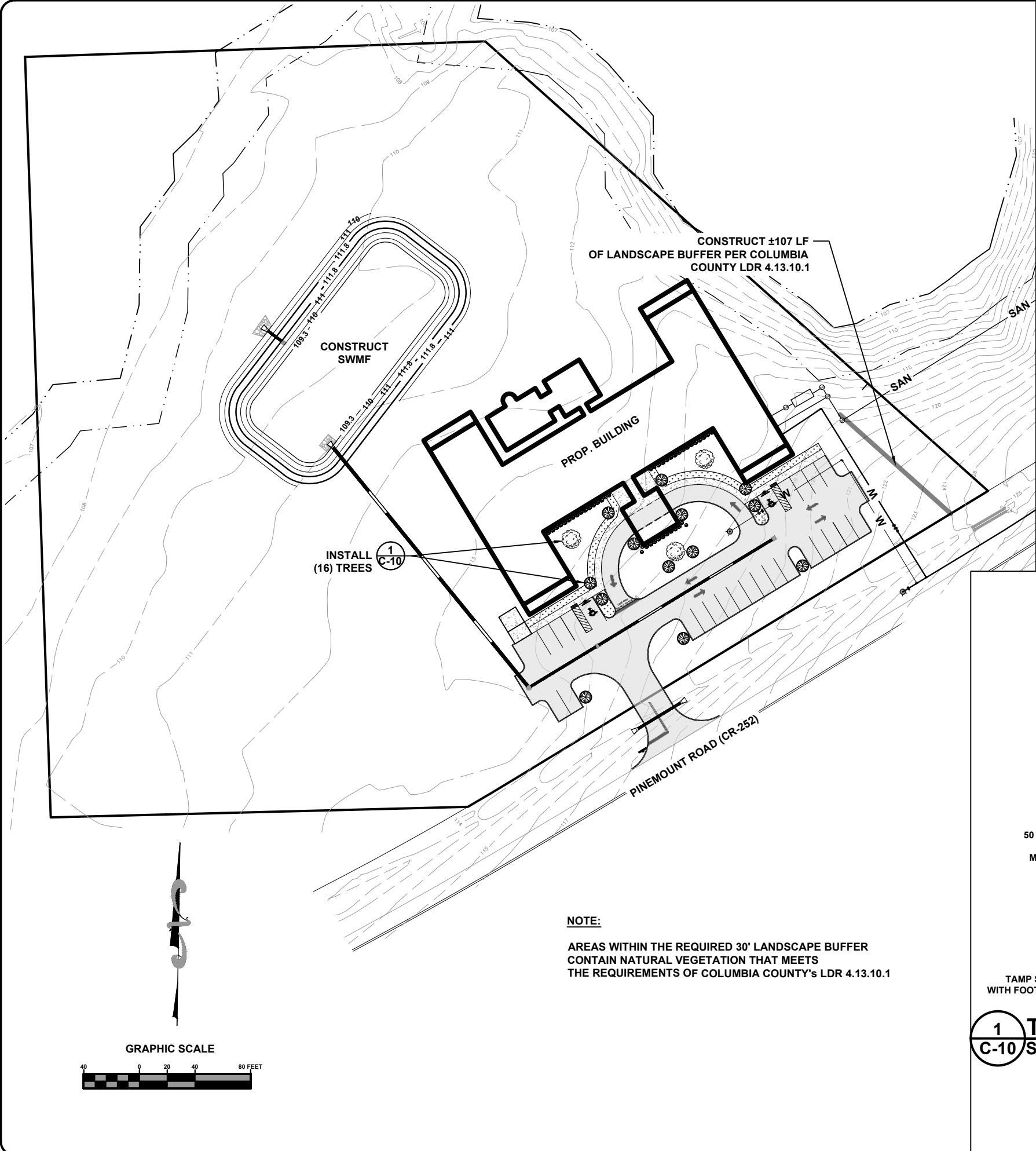
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SHEET NO.			
C-6			



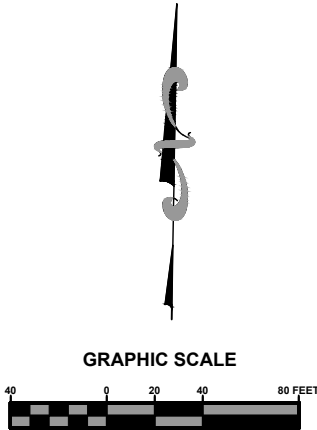








**NOTE:**  
AREAS WITHIN THE REQUIRED 30' LANDSCAPE BUFFER  
CONTAIN NATURAL VEGETATION THAT MEETS  
THE REQUIREMENTS OF COLUMBIA COUNTY'S LDR 4.13.10.1



TREE AND SHRUBBERY REQUIREMENTS				
MAP SYMBOL	COMMON NAME	SCIENTIFIC NAME	NO.	NOTES
	GRASS / SOD			
	DWARF AZALEAS / KNOCK OUT ROSE	RHODODENDRON ATLANTICUM / ROSA RADRAZZ	8	
	CREPE MYRTLE	LAGERSTROEMIA	13	
	BOX WOODS	BUXUS	37	
	OAK TREE	QUERCUS	3	

**LANDSCAPE REQUIREMENTS**

COLUMBIA COUNTY LDR 4.2.17.10

LANDSCAPE  
CALCULATION FOR REQUIRED LANDSCAPE AREA:  
10% OF OFFSTREET PARKING PROVIDED

10% OF 17,028 SF OFFSTREET PARKING =  
1,703 SF OF REQUIRED LANDSCAPE AREA

TOTAL LANDSCAPED AREA PROVIDED = 3,064 SF

TREES  
CALCULATION FOR REQUIRED NUMBER OF TREES:  
1 PER 200 SF OF REQUIRED LANDSCAPED AREA

3,064 SF / 200 SF = 15.32 TREES (15) REQUIRED

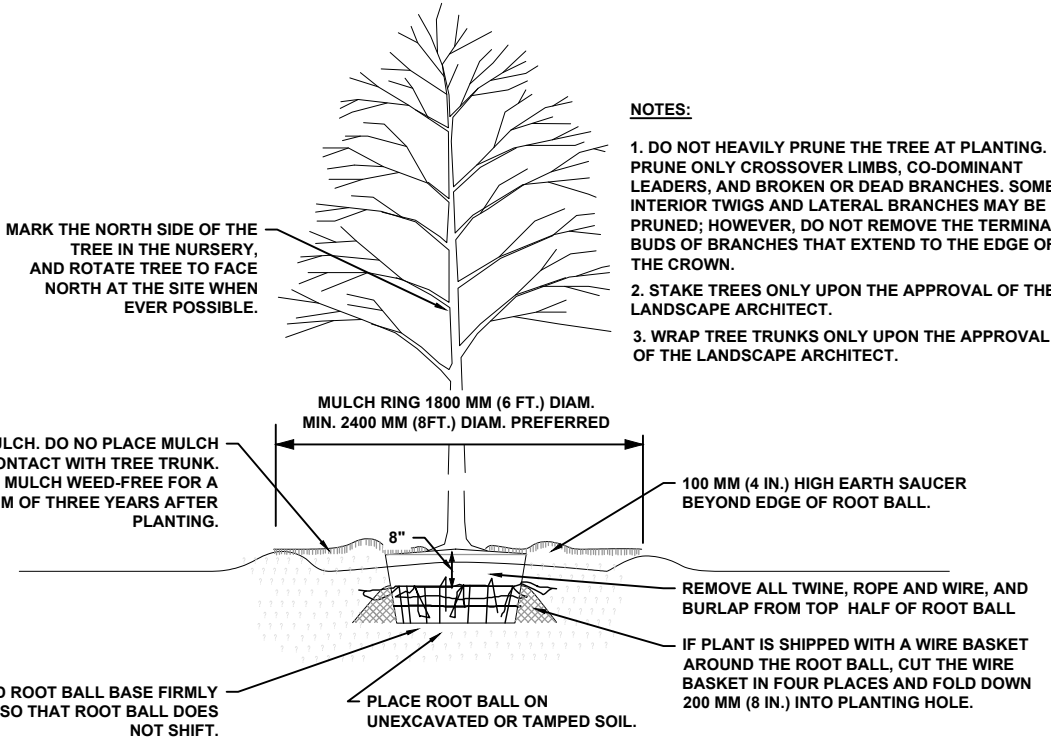
TOTAL NUMBER OF TREES PROVIDED = 16

COLUMBIA COUNTY LDR 4.2.13.2

SUBSTITUTION FOR LANDSCAPE BUFFER AREAS CAN BE A  
6' HIGH MASONRY OR WOOD OPAQUE FENCE

COLUMBIA COUNTY LDR 4.13.10.1

REQUIRES A MINIMUM OF A 30' WIDE LANDSCAPE BUFFER  
FOR THE REAR AND SIDE YARDS WHEN LOCATED  
ADJACENT TO RESIDENTIAL DISTRICTS



**1 TREE PLANTING DETAIL**  
**C-10 SCALE: N.T.S.**

**LANDSCAPE PLAN**  
**JEWEL LAKE ALF**  
**LAKE CITY, FL**

North Florida Professional Services, Inc.  
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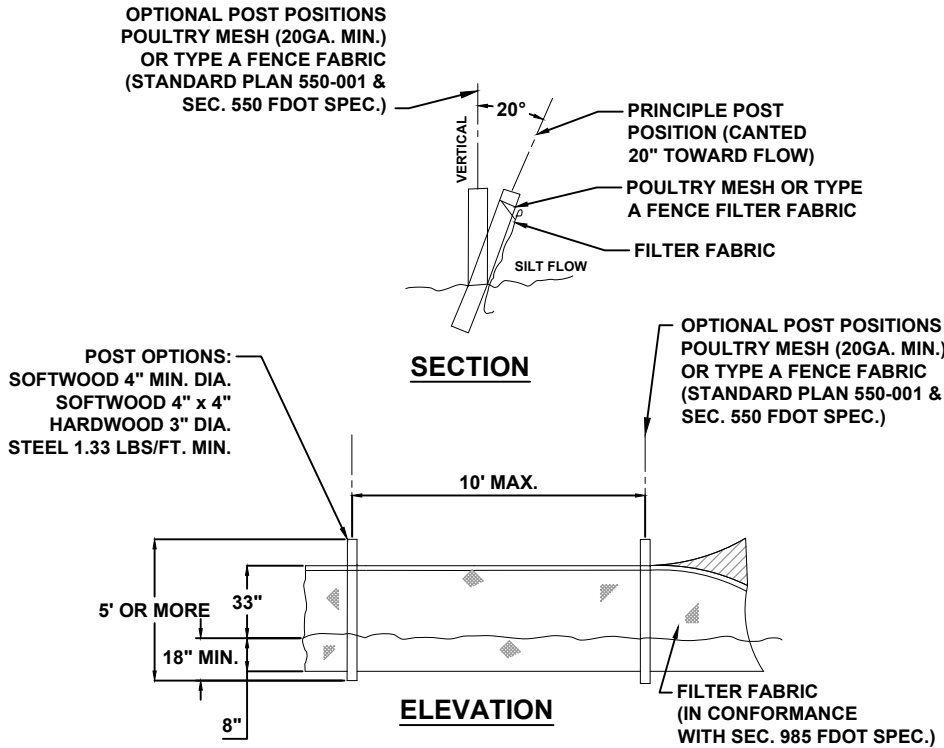


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ENGINEER OF RECORD:	TH	JC	GB
DATE:	01/19		
SHEET NO.	C-10		

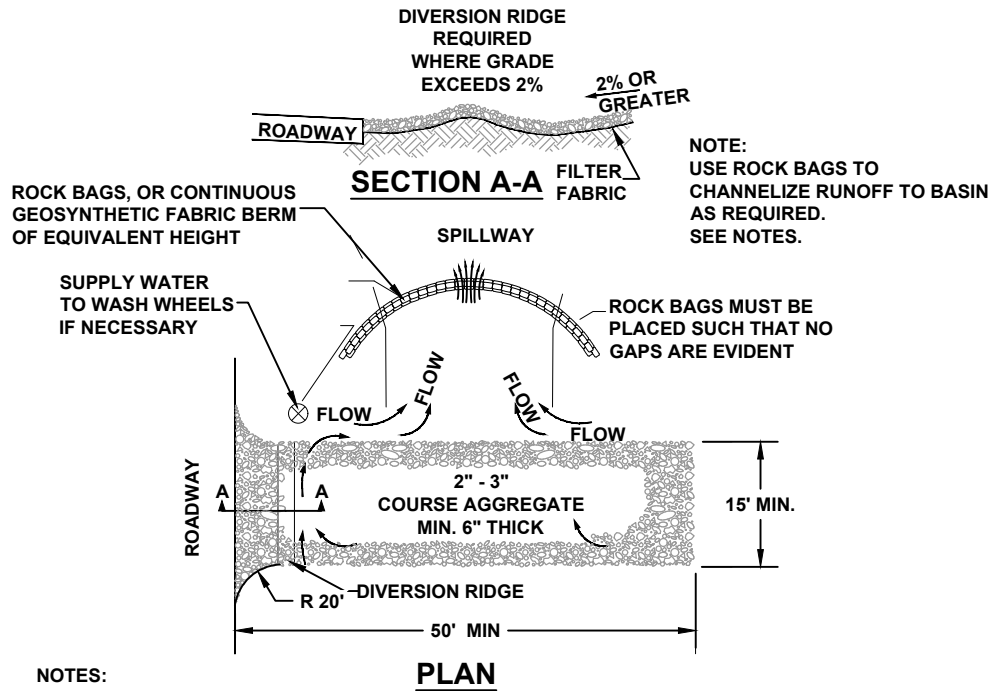
## EROSION CONTROL NOTES

- THIS EROSION AND SEDIMENTATION CONTROL PLAN COMPLIES WITH THE REQUIREMENTS OF THE "FLORIDA DEVELOPMENT MANUAL" AND THE "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTOR'S MANUAL".
- THE CONTRACTOR SHALL ADHERE TO COLUMBIA COUNTY, SRWMD, AND OTHER GOVERNING AUTHORITIES FOR EROSION AND SEDIMENT CONTROL REGULATIONS. IF THE CONTRACTOR NEEDS TO CHANGE THIS PLAN TO MORE EFFECTIVELY CONTROL EROSION AND SEDIMENTATION, THE CONTRACTOR SHALL USE BMP's FROM THE "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTOR'S MANUAL".
- THE CONTRACTOR SHALL ADJUST AND REVISE THIS PLAN TO MEET ACTUAL FIELD CONDITIONS. ANY REVISIONS SHALL BE APPROVED BY THE REVIEWING AGENCIES.
- SEDIMENT AND EROSION CONTROL FACILITIES, STORM DRAINAGE FACILITIES AND DETENTION BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
- EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL OF 0.5 INCHES OR GREATER, AND REPAIRED OR REPLACED AS NECESSARY.
- SEDIMENT AND EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION IS COMPLETE AND UNTIL A PERMANENT GROUND COVER HAS BEEN ESTABLISHED.
- ALL OPEN DRAINAGE SWALES SHALL BE GRASSED AND RIP RAP SHALL BE PLACED AS REQUIRED TO CONTROL EROSION.
- SILT FENCES SHALL BE LOCATED ON SITE TO PREVENT SEDIMENT AND EROSION FROM LEAVING PROJECT LIMITS.
- CONTRACTOR SHALL PLACE A DOUBLE ROW OF SILT FENCE IN AREAS WHERE RUNOFF FROM DISTURBED AREAS MAY ENTER WETLANDS.
- DURING CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETE, ALL STRUCTURES SHALL BE CLEANED OF ALL DEBRIS AND EXCESS SEDIMENT.
- ALL GRADED AREAS SHALL BE STABILIZED IMMEDIATELY WITH A TEMPORARY FAST-GROWING COVER AND/OR MULCH.
- A PAD OF RUBBLE RIP RAP SHALL BE PLACED AT THE BOTTOM OF ALL COLLECTION FLUMES AND COLLECTION PIPE OUTLETS. GRANITE OR LIMESTONE RIPRAP IS REQUIRED, NO BROKEN CONCRETE WILL BE ACCEPTED.
- ALL SIDE SLOPES STEEPER THAN 3:1 SHALL BE ADEQUATELY PROTECTED FROM EROSION THROUGH THE USE OF SYNTHETIC BALES OR SODDING.
- ALL STABILIZATION PRACTICES SHALL BE INITIATED AS SOON AS PRACTICABLE IN AREAS OF THE JOB WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY STOPPED, BUT IN NO CASE SHALL THE DISTURBED AREA BE LEFT UNPROTECTED FOR MORE THAN SEVEN DAYS.
- ALL WASTE GENERATED ON THE PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY CONTRACTOR.
- LOADED HAUL TRUCKS SHALL BE COVERED WITH TARP.
- EXCESS DIRT SHALL BE REMOVED DAILY.
- THIS PROJECT SHALL COMPLY WITH ALL WATER QUALITY STANDARDS. PERMIT REQUIRED FROM SRWMD HAS BEEN OBTAINED.
- QUALIFIED PERSONNEL SHALL INSPECT THE AREA USED FOR STORAGE OF STOCKPILES, THE SILT FENCE AND STRAW BALES, THE LOCATION WHERE VEHICLES ENTER OR EXIT THE SITE, AND THE DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED, AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM OF 0.5 INCHES OR GREATER.
- SITES THAT HAVE BEEN FINALLY STABILIZED WITH SOD OR GRASSING SHALL BE INSPECTED AT LEAST ONCE EVERY WEEK.



### 1 TYPE IV SILT FENCE

C-11 SCALE: N.T.S.



#### NOTES:

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ROCK BAGS OR SANDBAGS SHALL BE PLACED SUCH THAT NO GAPS ARE EVIDENT.

### 2 TEMPORARY CONSTRUCTION ENTRANCE

C-11 SCALE: N.T.S.

#### REVISIONS:

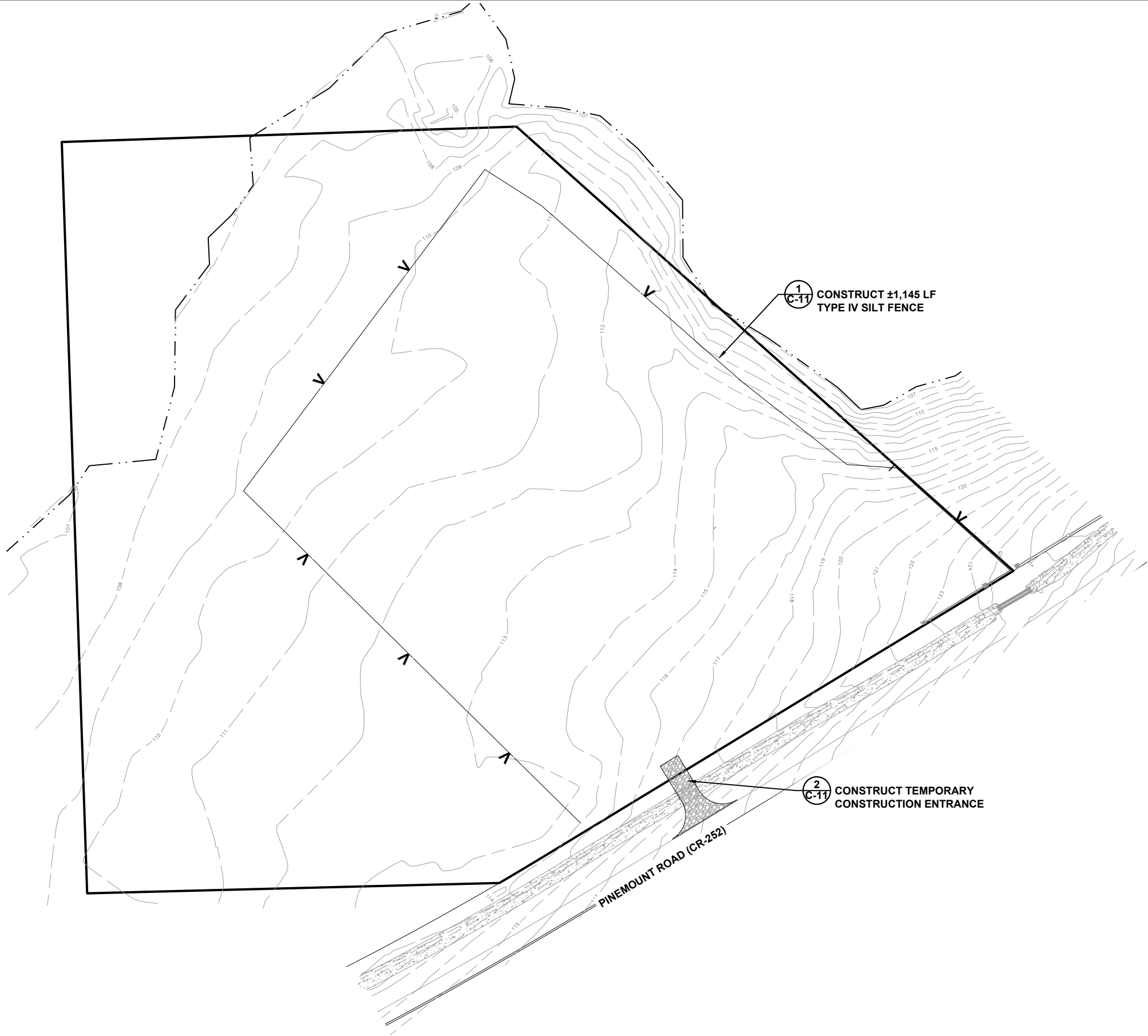
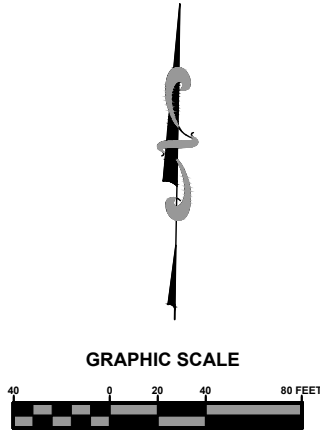
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DATE: 01/19	ENGINEER OF RECORD: GREG BAILEY P.E. NO.: 43656	
JOB NUMBER: L190107SMI	SHEET NO. C-11	

## EROSION CONTROL NOTES & DETAILS

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Eng. Lic. 29011




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ENGINEER OF RECORD: GREG BAILEY	CHECKED BY: GB
DATE: 01/19	
P.E. NO.: 43656	
SHEET NO. C-12	

REVISIONS:

EROSION CONTROL PLAN

JEWEL LAKE ALF

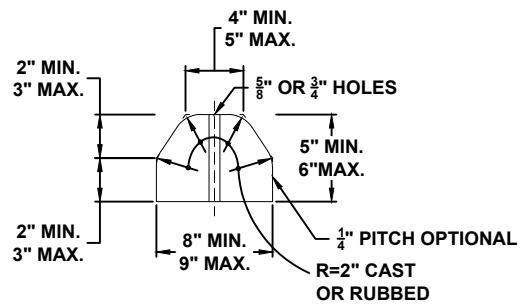
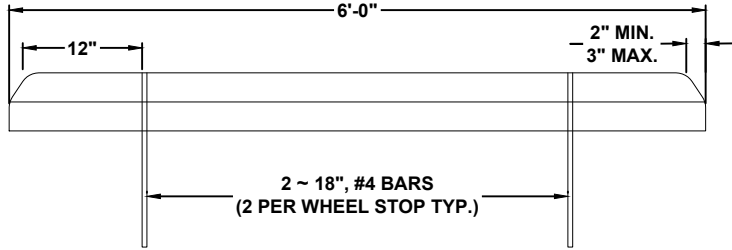
LAKE CITY, FL



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Fax. 386-752-4674

P.O. BOX 180998  
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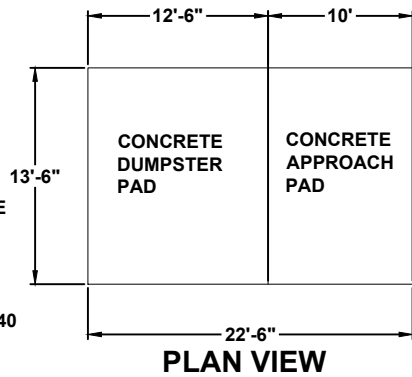
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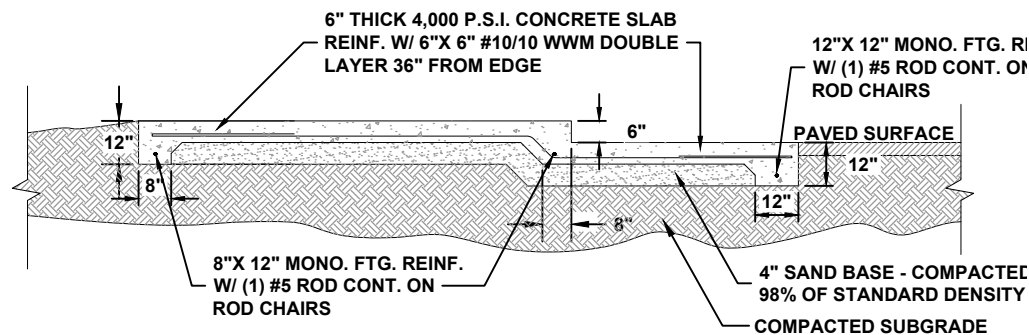
## 1 WHEEL STOP DETAIL C-13 SCALE: N.T.S.

### CONCRETE NOTES:

- THE DESIGN OF FOUNDATIONS AND SLAB-ON-GRADE IS BASED ON AN ASSUMED MINIMUM BEARING CAPACITY OF 2,000 PSF.
- THE AREA UNDER FOOTINGS, FOUNDATIONS, AND CONCRETE SLABS-ON-GRADE SHALL HAVE ALL VEGETATION, STUMPS, ROOTS, AND FOREIGN MATERIALS REMOVED PRIOR TO THEIR CONSTRUCTION. FILL MATERIAL AND BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, LARGE ROCKS, AND ANY OTHER FOREIGN MATERIAL.
- THE CONTRACTOR SHALL INVESTIGATE ACTUAL LOCATIONS OF UNDERGROUND LINES AND UTILITIES BEFORE EXCAVATING. ALL EXCAVATIONS NEAR THESE LINES SHALL BE CARRIED OUT WITH EXTREME CAUTION.
- A MINIMUM CONCRETE COVER OF 3" SHALL BE PROVIDED FOR ALL REINFORCING STEEL.
- REINFORCING STEEL:  
REINFORCING STEEL BARS.....ASTM A-615 GRADE 40  
WELDED WIRE FABRIC.....ASTM A-185

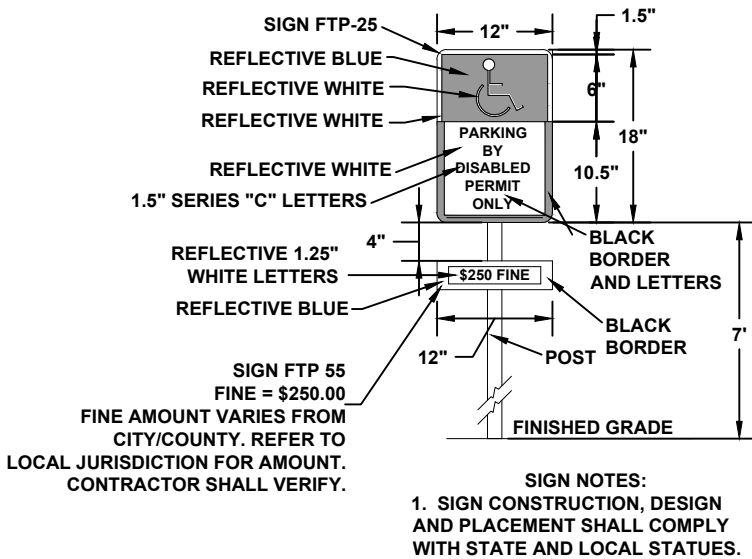


PLAN VIEW



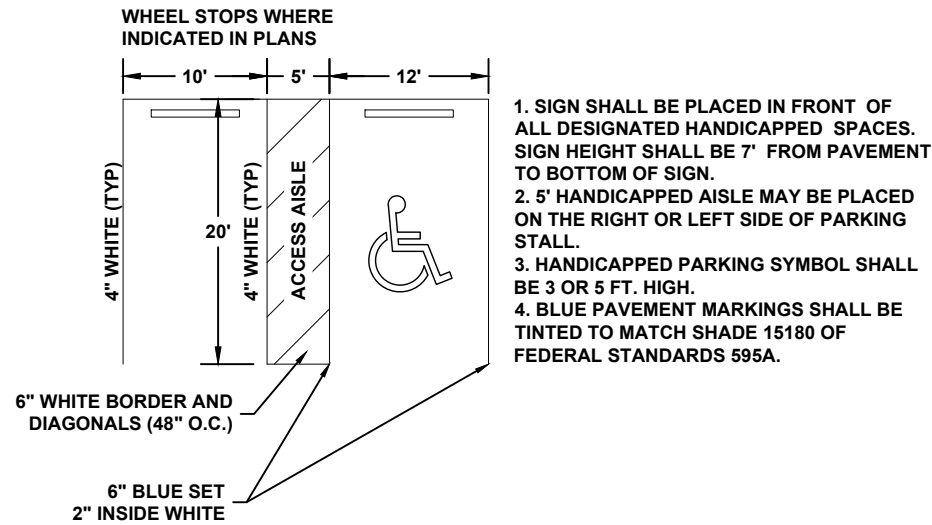
SECTION VIEW

## 4 DUMPSTER PAD DETAIL C-13 SCALE: N.T.S.



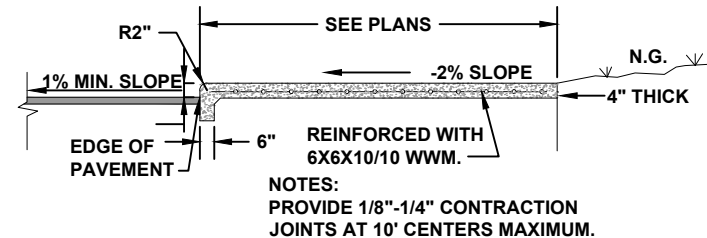
SIGN NOTES:  
1. SIGN CONSTRUCTION, DESIGN AND PLACEMENT SHALL COMPLY WITH STATE AND LOCAL STATUES.

## 2 HANDICAP PARKING SIGN DETAIL C-13 SCALE: N.T.S.



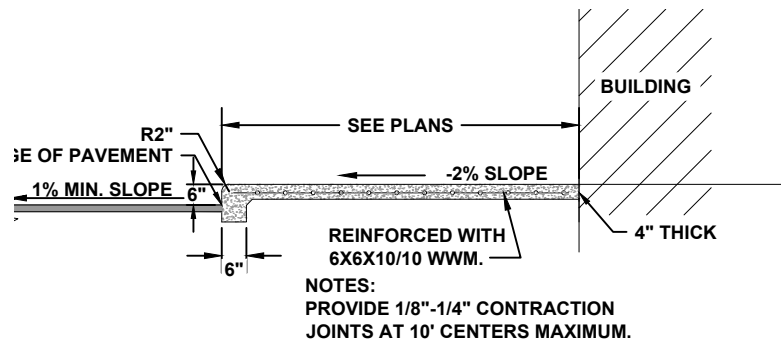
- SIGN SHALL BE PLACED IN FRONT OF ALL DESIGNATED HANDICAPPED SPACES. SIGN HEIGHT SHALL BE 7' FROM PAVEMENT TO BOTTOM OF SIGN.
- 5' HANDICAPPED AISLE MAY BE PLACED ON THE RIGHT OR LEFT SIDE OF PARKING STALL.
- HANDICAPPED PARKING SYMBOL SHALL BE 3 OR 5 FT. HIGH.
- BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARDS 595A.

## 3 HANDICAP PARKING STALL DETAIL C-13 SCALE: N.T.S.



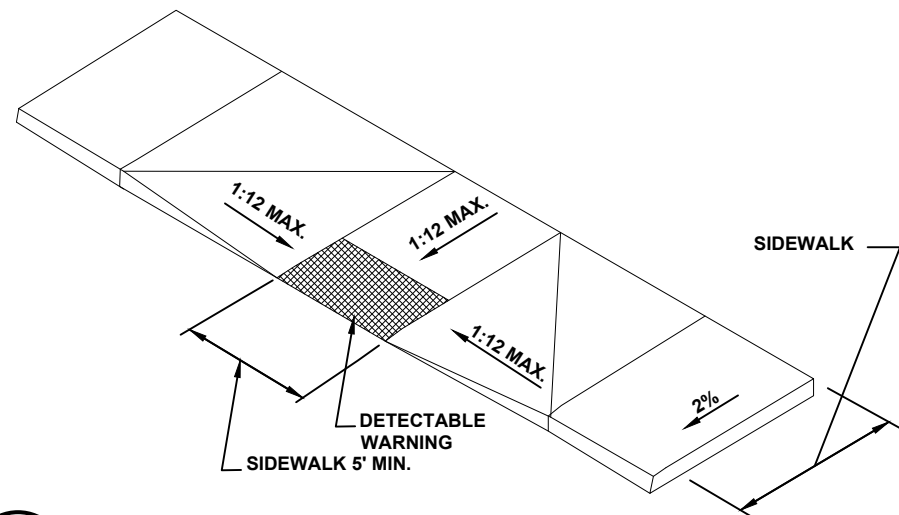
NOTES:  
PROVIDE 1/8"-1/4" CONTRACTION JOINTS AT 10' CENTERS MAXIMUM.

## 5 SIDEWALK DETAIL - B C-13 SCALE: N.T.S.



NOTES:  
PROVIDE 1/8"-1/4" CONTRACTION JOINTS AT 10' CENTERS MAXIMUM.

## 6 SIDEWALK DETAIL- A C-13 SCALE: N.T.S.



## 7 ADA RAMP DETAIL C-13 SCALE: N.T.S.

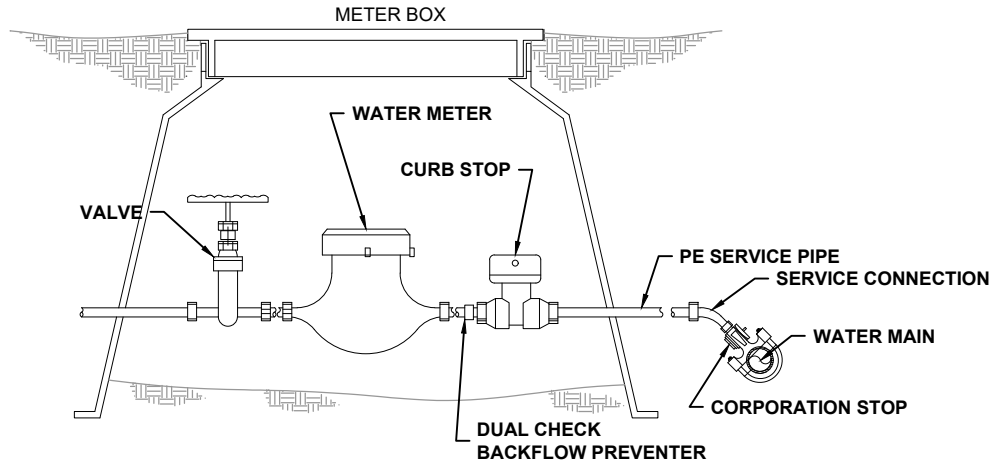
MISC. DETAILS  
JEWEL LAKE ALF  
LAKE CITY, FL

North Florida Professional Services, Inc.  
P.O. BOX 3823  
Tallahassee, FL 32318  
Ph. 877-335-1525  
Eng. Lic. 29011



JOB NUMBER: L190107SMI	DESIGNED BY: JC	CHECKED BY: GB
DATE: 01/19	ENGINEER OF RECORD: GREG BAILEY	P.E. NO.: 14366
SHEET NO. C-13		

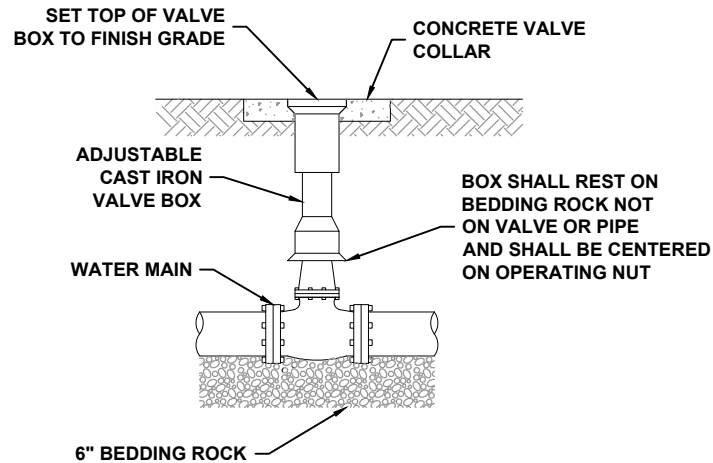
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NOTES:

1. P.E. TUBING IS TO BE BACKFILLED BY HAND UP TO THE TOP OF THE SERVICE.

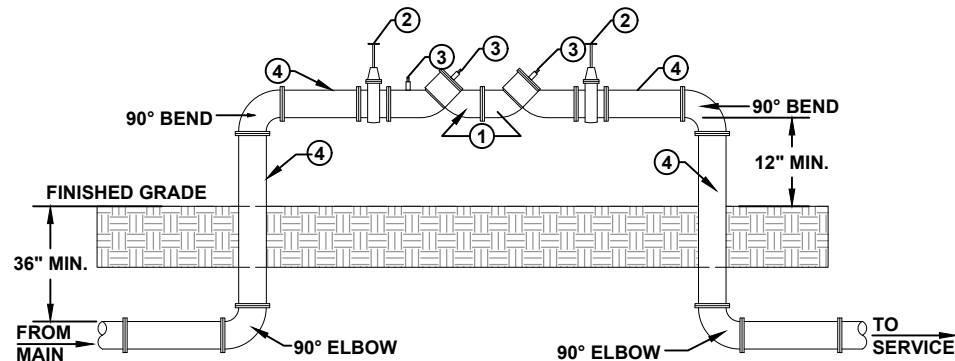
**1 METER BOX ASSEMBLY**  
C-14 SCALE: N.T.S.



NOTES:

1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.

**2 VALVE AND BOX DETAIL**  
C-14 SCALE: N.T.S.

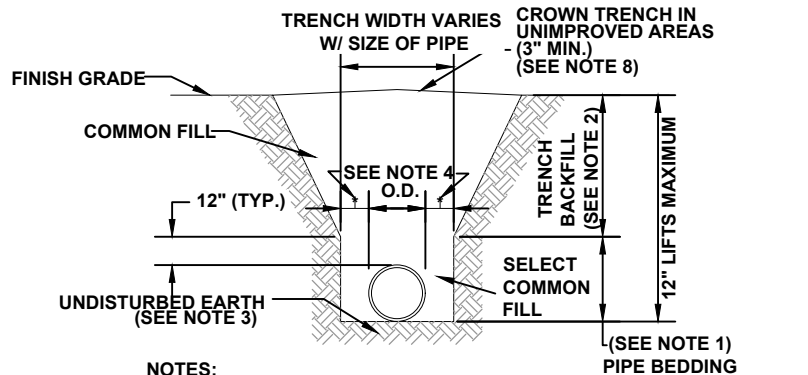


MATERIALS	
ITEM	DESCRIPTION
1	BACKFLOW PREVENTER
2	GATE VALVE
3	TEST COCKS
4	DUCTILE IRON PIPE - FLANGED END x FLANGED END

NOTES:

1. UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE SERVICE METER AND A BACKFLOW PREVENTER USED FOR SYSTEM CONTAINMENT. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED DOWNSTREAM OF METER.
2. UNDER NO CIRCUMSTANCES, SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR THIS OR OTHER APPLICATION OTHER THAN BACKFLOW DEVICE TESTING.
3. PROVIDE AND INSTALL COVER OVER BACKFLOW PREVENTER AS REQ'D BY LOCAL AUTHORITIES

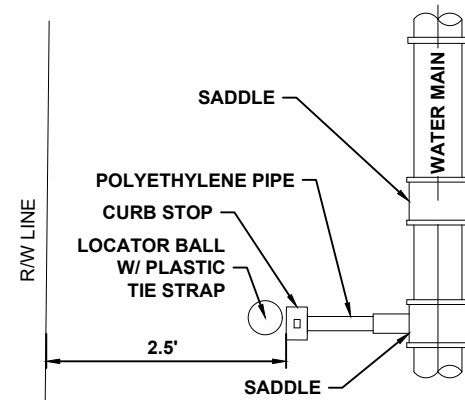
**3 DOUBLE CHECK BACKFLOW PREVENTER**  
C-14 SCALE: N.T.S.



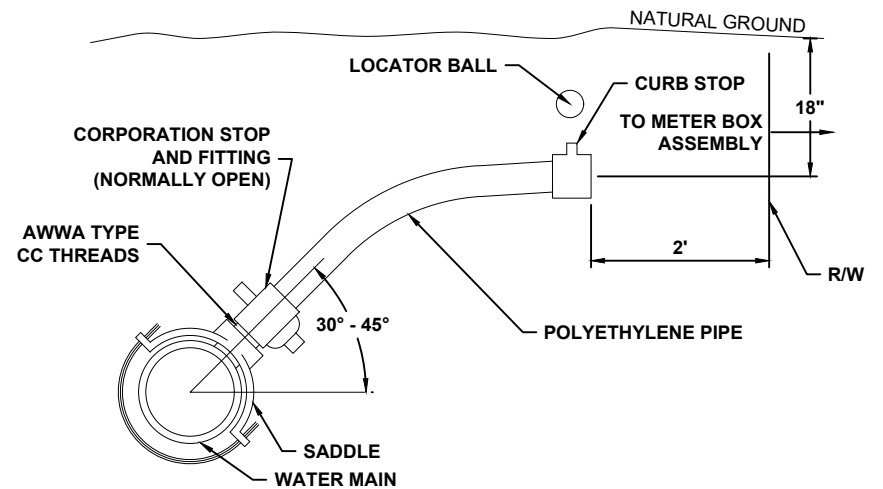
NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK WILL BE REQUIRED IFOVER-EXCAVATION OCCURS.
4. (\*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. PROVIDE TRENCH SLOPING AND BRACING AS REQUIRED FOR SAFETY.
8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN PAVED AREAS SHALL COMPLY WITH THE REQUIREMENTS OF THE ROAD CONSTRUCTION SPECIFICATIONS.

**4 TRENCH AND BACKFILL DETAILS**  
C-14 SCALE: N.T.S.



PLAN



SINGLE SERVICE PROFILE

NOTES:

1. ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/ PACK JOINT TYPE CONNECTIONS.
2. NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.
3. EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE BURIED APPROXIMATELY 3" BELOW FINAL GRADE AND SHALL BE CLEARLY MARKED WITH A 2" x 2" x 18" STAKE WITH THE TOP PAINTED BLUE AND MARKED WITH THE NUMBER OF THE LOT TO BE SERVED.
4. CONTRACTOR SHALL PROVIDE LOCATOR BALLS W/ PLASTIC TIE STRAPS. LOCATOR BALLS SHOULD BE SECURED TO LATERAL W/ TIE STRAP.

**5 WATER SERVICE CONNECTION DETAILS**  
C-14 SCALE: N.T.S.

MISC. DETAILS  
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LAKE CITY, FL

North Florida Professional Services, Inc.  
P.O. BOX 3823  
Tallahassee, FL 32318  
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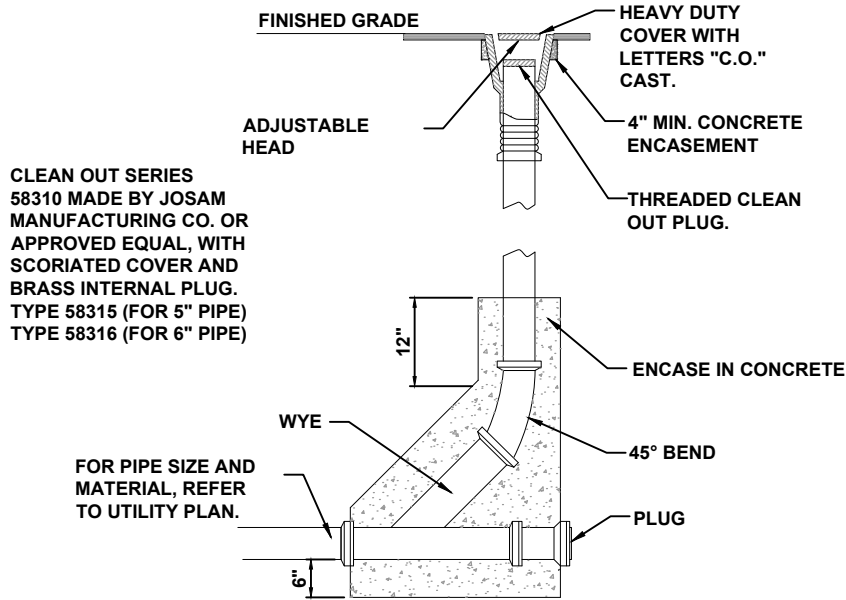


REVISIONS:

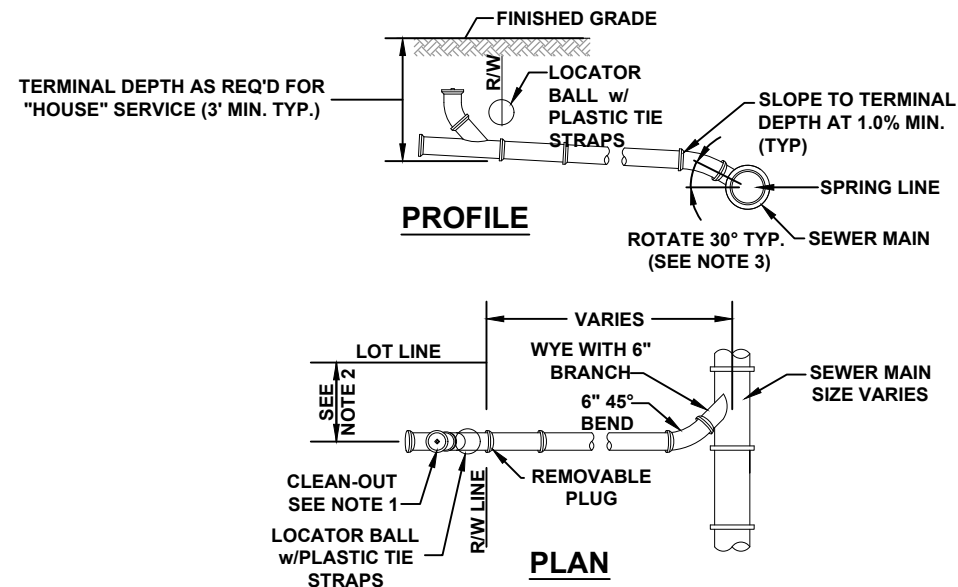
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DATE: 01/19	DATE: 01/19
ENGINEER OF RECORD: GREG BAILEY	P.E. NO.: 43656
JOB NUMBER: L190107SMI	SHEET NO. C-14



File Location: X:\2019\190107SMIH.CADD\csmidet01\DET 3  
Date Created: December 15, 2020  
Date Plotted: December 16, 2020  
Date Last Saved: December 16, 2020  
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



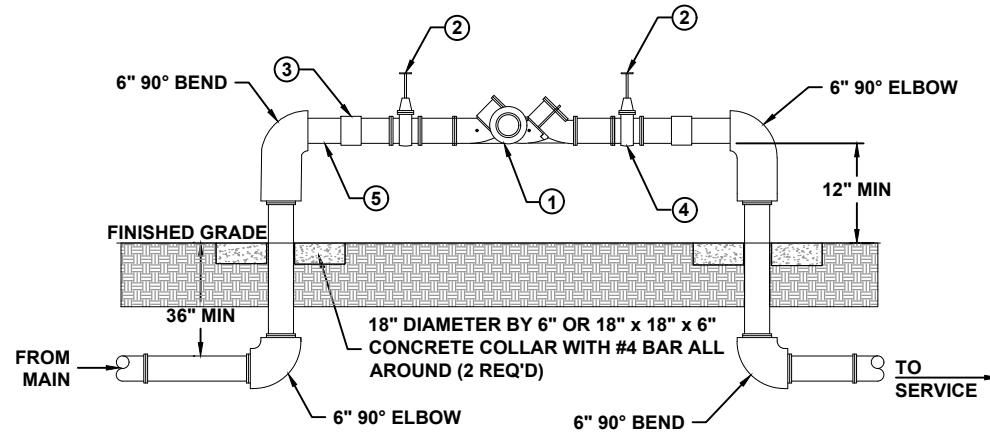
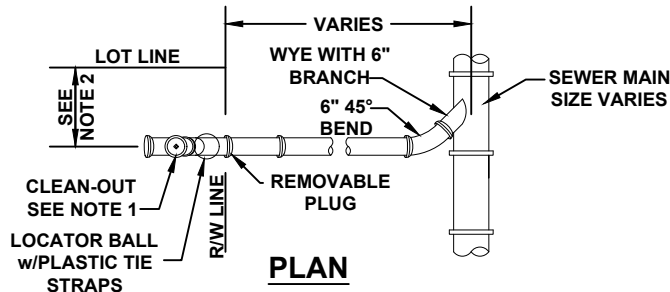
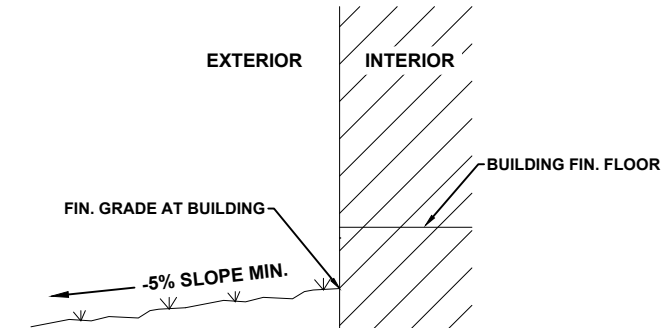
**1 CLEANOUT DETAIL**  
C-15 SCALE: N.T.S.



**2 GRADE AT BUILDING DETAIL**  
C-15 SCALE: N.T.S.

- NOTES:
- CLEAN-OUT (SHOWN LIGHTER) SHALL BE INSTALLED BY THE BUILDER IN ACCORDANCE WITH STANDARD PLUMBING CODE.
  - LOCATE SINGLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE, 25' MAXIMUM.
  - INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
  - CONTRACTOR SHALL PROVIDE LOCATOR BALLS w/PLASTIC TIE STRAPS. LOCATOR BALLS SHALL BE SECURED TO LATERAL w/PLACTIC TIE STRAPS.

**3 SANITARY SEWER SERVICE LATERALS**  
C-15 SCALE: N.T.S.



MATERIALS	
ITEM	DESCRIPTION
1	6" BACKFLOW PREVENTER
2	6" GATE VALVE
3	6" UNION
4	6" TEST COCKS
5	6" THREADED NIPPLE

- NOTES:
- UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE SERVICE METER AND A BACKFLOW PREVENTER USED FOR SYSTEM CONTAINMENT. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED DOWNSTREAM OF METER.
  - IF A PRESSURE MONITOR IS TO BE INSTALLED, ADD A TEE, VALVE FITTINGS, AND MOUNT ON SUPPLY SIDE PRIOR TO BACKFLOW PREVENTION DEVICE: UNDER NO CIRCUMSTANCE, SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR THIS OR OTHER APPLICATION OTHER THAN BACKFLOW DEVICE TESTING.
  - A CONBRACO SERIES 40-000 FREEZE PROTECTION VALVE SHALL BE INCLUDED.
  - PROVIDE AND INSTALL COVER OVER BACKFLOW PREVENTER AS REQ'D BY LOCAL AUTHORITIES
  - BACKFLOW PREVENTER SHALL COMPLY WITH NFPA 24.

**4 REDUCED PRESSURE BACKFLOW PREVENTER**  
C-15 SCALE: N.T.S.

**MISC. DETAILS**  
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LAKE CITY, FL

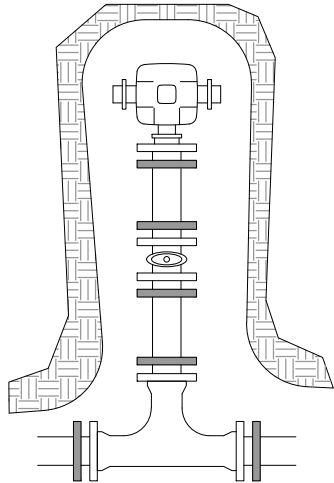
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REVISIONS:  
JOB NUMBER: L190107SMI  
DESIGNED BY: JC  
CHECKED BY: GB  
DATE: 01/19  
ENGINEER OF RECORD:  
GREG BAILEY  
P.E. NO. 14366  
SHEET NO. C-15

LENGTH (L) TO BE RESTRAINED

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD- ENDS L (FT.)
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	45° BENDS L (FT.)	45° BENDS L (FT.)	
	LU (FT.)	LI (FT.)	LU (FT.)	LI (FT.)	LU (FT.)	LI (FT.)	
4	20	8	4	2	20	3	50
6	28	10	5	2	28	4	70
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



HYDRANT LEADS

TEES (NOTE 5)		
RUN SIZE	BRANCH SIZE	L (FT.)
4"	4"	F.O.
6"	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

REDUCERS	
SIZE	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

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 THE ABOVE SCHEDULE, AT A MINIMUM. UNLESS OTHERWISE INDICATED, ALL REQUIRED RESTRAINTS SHALL BE INCLUDED IN PRICE OF FITTING, VALVE OR PIPE.

2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR = 1.5, TEST PRESSURE = 150 PSI, 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.

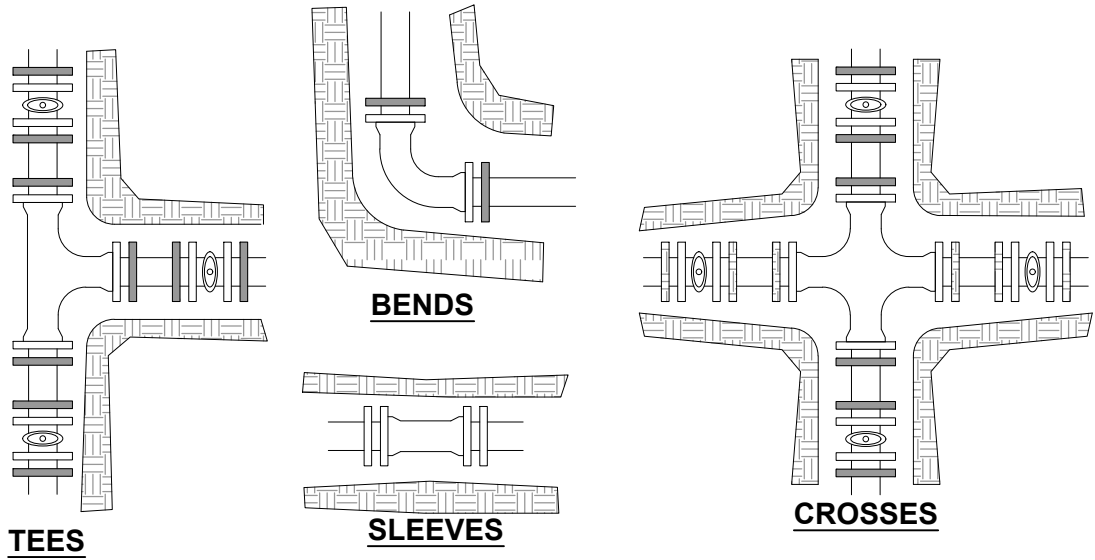
3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.

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 TRANSITION: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

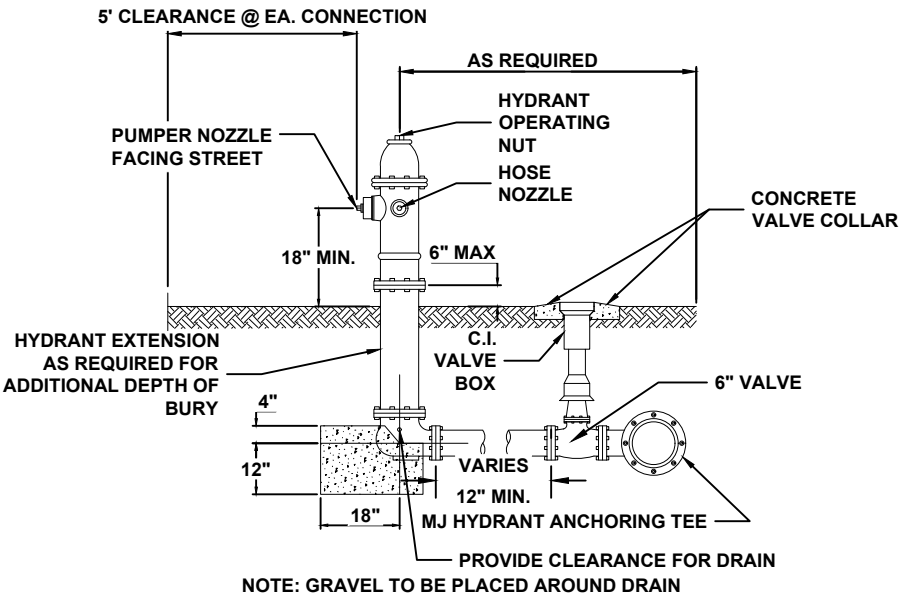
7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.



DENOTES  
MEGALUGS

PIPE RESTRAINT NOTES:

- DUCTILE IRON FITTINGS TO BE RESTRAINED TO PVC (C900) PIPE WITH SERIES 2000 PVC MECHANICAL RESTRAINT GLANDS AS MANUFACTURED BY EBAA IRON, INC. OR EQUAL.
- PVC (C900) PIPE TO BE RESTRAINED EACH SIDE OF FITTINGS FOR LENGTHS AS NOTED IN TABLE BELOW. RESTRAINT WILL BE ACCOMPLISHED WITH DUCTILE IRON RESTRAINT HARNESS CONFORMING TO ASTM A-536. RESTRAINT HARNESS TO BE SERIES 1600 AS MANUFACTURED BY EBAA IRON, INC. OR EQUAL.
- THE TABLE BELOW SHOWS TYPICAL NUMBERS OF 20' LENGTH SECTIONS OF PIPE TO BE MECHANICALLY RESTRAINED FOR THE FOLLOWING ASSUMPTIONS (1) DEPTH OF COVER = 36", (2) TEST PRESSURE = 150 PSI, (3) SAFETY FACTOR = 1.5, (4) LAYING CONDITIONS = PIPE EMBEDDED IN LOOSE CLEAN SAND AND COMPACTED TO TOP OF PIPE (APPROXIMATELY 90% STANDARD PROCTOR)
- MEGALUGS TO BE USED ARE MECHANICAL JOINTS.
- PLACE CONCRETE BLOCK UNDER ALL GATE VALVES AND HYDRANTS.
- PLACE RESTRAINTS AT ALL TEES, BENDS, AND AT HYDRANTS.
- ALL BOLTS INCLUDING T-BOLTS SHALL BE STAINLESS STEEL.



NOTE: GRAVEL TO BE PLACED AROUND DRAIN