

MANATEE COUNTY UTILITIES SOUTHEAST WRF LAKE FILTRATION SYSTEM

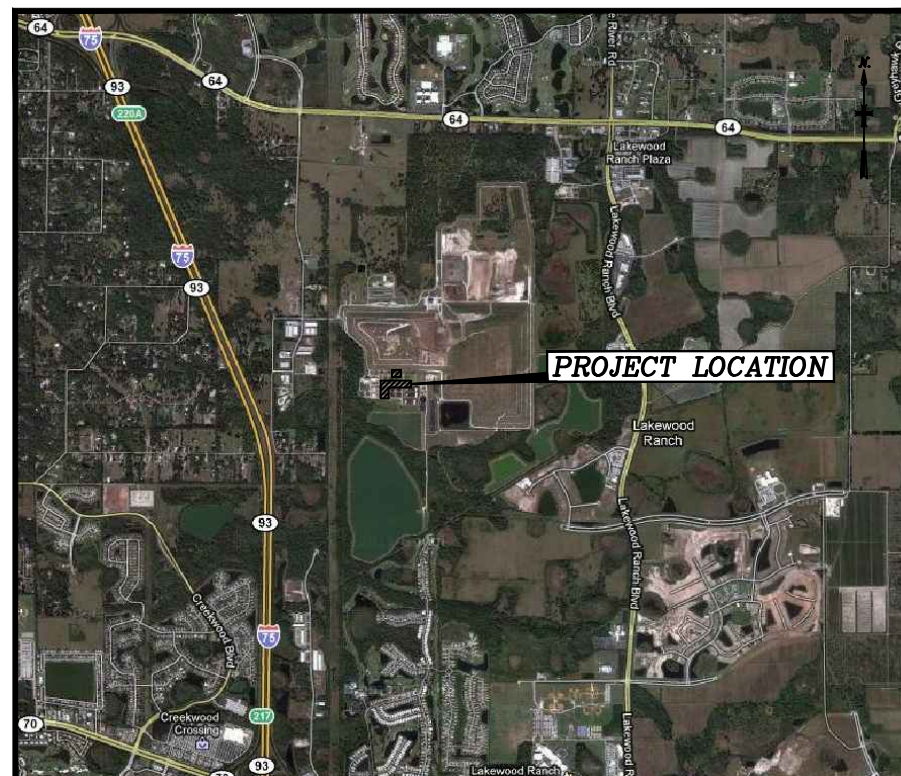
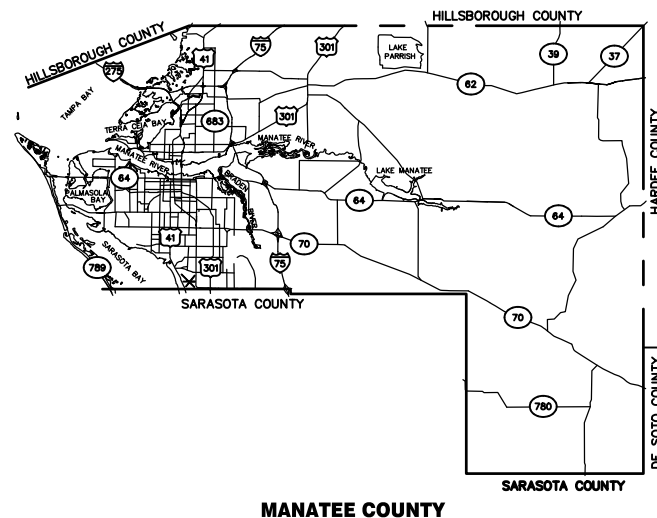


CERTIFICATE OF AUTHORIZATION NO. 67

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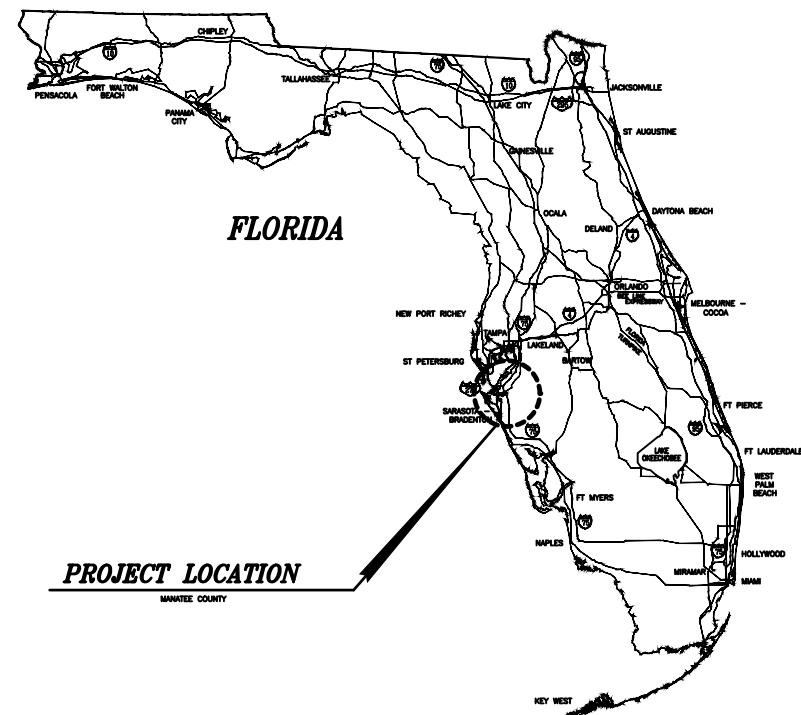
MPI PROJECT NO.: 0132-008

JULY 2012



LOCATION MAP

BID DOCUMENTS



VICINITY MAP

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NOTES

1. TEMPORARY SOIL BANKS SHALL CONTAIN BREACHES THAT PREVENT IMPOUNDMENT OR RESTRICTION OF SURFACE WATER FLOWS.
2. PRE-CONSTRUCTION GROUND ELEVATIONS AND THE CONTOURS OF ALL DISTURBED SOILS, INCLUDING VEHICLE RUTS IN WETLANDS AND OTHER SURFACE WATERS, SHALL BE RESTORED WITHIN 30 DAYS OF COMPLETION OF LINE INSTALLATION. RESTORED GRADES SHALL BE STABILIZED WITHIN 72 HOURS FOLLOWING COMPLETION OF ELEVATION AND CONTOUR RESTORATION TO MINIMIZE EROSION.

GENERAL NOTES

1. THESE PLANS ARE SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE EXISTING CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. CONTRACTORS ARE DIRECTED TO CONDUCT WHATEVER INVESTIGATION THEY DEEM NECESSARY PRIOR TO BIDDING TO DETERMINE THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.
2. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN BASED UPON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) AFFECTING HIS WORK.
3. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN WRITTEN CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
4. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, STORM DRAINS, SEWERS, UTILITIES, AND OTHER FACILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR ANY DAMAGES DUE TO HIS CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE COUNTY.
5. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S MAXIMUM RECOMMENDED DEFLECTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE EXISTING DRAINAGE SYSTEM WITHIN THE LIMITS OF THE PROJECT AREA FOR THE DURATION OF THE PROJECT.
7. THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS AS OUTLINED IN THE SPECIFICATION. RED-LINE DRAWINGS SHALL BE CURRENT WITH EACH PAY APPLICATION SUBMITTED AND WILL BE CHECKED AS PART OF THE PAY APPLICATION REVIEW PROCESS. PAYMENT WILL NOT BE MADE TO CONTRACTOR WITHOUT APPROVED RED-LINE DRAWINGS. THE MOST CURRENT SET OF RED-LINE DRAWINGS SHALL ALSO BE BROUGHT TO EACH CONSTRUCTION PROGRESS MEETING.
8. THE CONTRACTOR SHALL PROVIDE THE COUNTY WITH A DETAILED CONSTRUCTION PHASING PLAN FOR APPROVAL OF THE COUNTY AND THE ENGINEER.
9. FIELD CONDITIONS MAY NECESSITATE ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED PIPELINES TO AVOID CONFLICTS. NO ADDITIONAL PAYMENT SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE COUNTY AND THE ENGINEER.
10. THE CONTRACTOR SHALL INCLUDE IN HIS BID BYPASS PUMPING FACILITIES, PUMPS, FITTINGS, LABOR, ETC. AS NECESSARY, BASED UPON METHOD AND SEQUENCE OF CONSTRUCTION TO COMPLETE ALL WORK WHILE MAINTAINING THE EXISTING PLANT OPERATIONS.
11. ALL PROPOSED WORK SHALL BE COORDINATED WITH WASTEWATER TREATMENT PLANT PERSONNEL AND THE MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
12. THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIALS PRIOR TO FABRICATION OR DELIVERY TO THE JOB SITE.
13. CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT WORKMANLIKE MANNER. WHEN FIELD CONDITIONS INDICATE ANY VARIANCE FROM DETAILED METHODS, THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE AND DETAILED DRAWINGS FOR COUNTY REVIEW AND APPROVAL PRIOR TO MAKING THE CONNECTIONS.
14. UNLESS OTHERWISE INDICATED OR APPROVED, ALL BELOW GROUND DUCTILE IRON PIPE SHALL HAVE PUSH-ON OR MECHANICAL JOINTS, AND ALL ABOVE GROUND DUCTILE IRON PIPE SHALL HAVE FLANGED JOINTS. ALL JOINTS SHALL BE FULLY RESTRAINED. CONTRACTOR SHALL FULLY RESTRAIN EXISTING PIPE AT TIE-IN LOCATIONS OF NEW PIPE.
15. ALL PIPELINES SHALL HAVE A MINIMUM COVER OF 36 INCHES BELOW EXISTING GRADE UNLESS OTHERWISE NOTED OR DIRECTED.
16. SANITARY SEWERS AND FORCE MAINS CROSSING OVER OR UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER OR FORCE MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN 10 FEET BETWEEN ANY TWO JOINTS. AS AN ALTERNATIVE, THE SEWER OR FORCE MAIN MAY BE PLACED IN A WATERTIGHT CASING PIPE.
17. WATER SHALL NOT BE PERMITTED IN BUILDING EXCAVATIONS AND TRENCHES DURING CONSTRUCTION. DEWATERING IS REQUIRED TO A MINIMUM OF 18" BELOW BOTTOM OF EXCAVATION.
18. ALL EXPOSED PIPING SHALL BE PAINTED WITH DESIGNATED COLORS ASSOCIATED WITH THEIR USAGE AS PROVIDED IN THE SPECIFICATIONS.

GENERAL NOTES (CONT'D)

19. ALL NEW PIPELINES SHALL BE FLUSHED, PRESSURE TESTED, AND APPROVED PRIOR TO TIE-INS TO EXISTING FACILITIES. THE CONTRACTOR WILL BE ALLOWED TO USE TEMPORARY PLUGS FOR PRESSURE TESTING.
20. ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE PIPELINE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE.
21. OSHA'S EXCAVATION SAFETY STANDARDS AS WELL AS FLORIDA'S TRENCH SAFETY ACT ARE CONSIDERED COMPLEMENTARY TO THESE CONTRACT DOCUMENTS. IF THERE IS ANY DUPLICATION, REDUNDANCY OR CONFLICT BETWEEN THE STIPULATIONS OF THESE CONTRACT DOCUMENTS AND THOSE STANDARDS, THE MOST STRINGENT REQUIREMENT SHALL GOVERN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EXCAVATIONS DO NOT ENDANGER WORKMEN, EXISTING STRUCTURES, UTILITIES, OR OTHER FACILITIES.
22. CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL ALL EROSION, SEDIMENT AND TURBIDITY CONTROL MEASURES PRIOR TO CONSTRUCTION OF ANY COMPONENTS ASSOCIATED WITH THE PROJECT. SEDIMENT CONTROL INCLUDES SILT DAMS, TRAPS, EROSION PROTECTION, AND ANY OTHER APPURTENANCES NEEDED BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS.
23. CONTRACTOR SHALL STORE CONSTRUCTION EQUIPMENT AND MATERIALS ONLY IN STAGING AREAS APPROVED BY THE COUNTY. SECURITY OF CONSTRUCTION EQUIPMENT AND MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. PUBLIC RIGHTS-OF-WAY MAY NOT BE UTILIZED FOR STORAGE OF EQUIPMENT OR MATERIALS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENTITY THAT OWNS THE RIGHT-OF-WAY. CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.
24. PRIOR TO THE BEGINNING OF CONSTRUCTION, CONTRACTOR SHALL SUBMIT A FUELING SPILL PREVENTION PLAN THAT SHALL CLEARLY INDICATE HOW FUEL SPILLS WILL BE PREVENTED WHEN FUELING BOTH WITHIN AND OUTSIDE OF THE STAGING AREA.
25. CONTRACTOR SHALL SUBMIT A DEWATERING PLAN FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. DEWATERING SHALL BE CONDUCTED IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR SHALL COORDINATE DEWATERING PLAN WITH FDEP AND OBTAIN ANY NECESSARY DEWATERING PERMITS.
26. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY.

UTILITY NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL RELEVANT JURISDICTIONAL BODIES AND UTILITY COMPANIES. AT LEAST 48 HOURS PRIOR TO EXCAVATION, CONTRACTOR SHALL CONTACT THE LOCAL PUBLIC UTILITY NOTIFICATION CENTER: 1-800-432-4770.
2. ALL UTILITY CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST VERSION OF THE MANATEE COUNTY UTILITY STANDARDS.
3. ALL BELOW-GROUND DUCTILE IRON PIPE SHALL BE ENCASED IN A POLYETHYLENE WRAP IN ACCORDANCE WITH AWWA STANDARDS.
4. ALL VALVE BOX COVERS SHALL BE PAINTED TO INDICATE THEIR TYPE OF SERVICE.

SURVEY NOTES

1. STATE PLANE VALUES ARE TIED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM (GRID), WEST ZONE NORTH AMERICAN DATUM 1983-1991, ADJUSTMENT 1999, AND WERE DERIVED FROM COORDINATES PUBLISHED BY THE NATIONAL GEODETIC SURVEY FOR STATIONS 'M 017' (PID AG9122) AND '175 84 A18' (PID AG8411). ELEVATIONS SHOWN HEREON ARE IN FEET AND REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29)
- A. REFERENCE BENCHMARK NO.1: MANATEE COUNTY BENCHMARK NO.72-29-05. ELEVATION = 37.665'.
- B. REFERENCE BENCHMARK NO.2: MANATEE COUNTY BENCHMARK NO.72-29-07. ELEVATION = 38.671'.
2. CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR, LICENSE IN THE STATE OF FLORIDA TO PERFORM CONSTRUCTION STAKING IN ACCORDANCE WITH RULE 61G17-6.004(3) OF THE FLORIDA ADMINISTRATIVE CODE.
3. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING FACILITIES SHOWN WITHIN THE DESIGNATED AREAS ARE PROVIDED BY (SUNCOAST LAND SURVEYING, INC.) SPECIFICALLY FOR THIS PROJECT.

RESTORATION AND CLEAN-UP NOTES

1. THE CONTRACTOR SHALL PROVIDE AN ASPHALT PATCH FOR TRENCH AREAS CONSTRUCTED IN EXISTING ROADWAYS. ADJUST ALL CASTINGS TO MATCH NEW PAVEMENT SURFACE.
2. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER, AND UPON FINAL CLEAN-UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE BROOM SWEEP CLEAN.
3. THE CONTRACTOR SHALL REPLACE ALL EXISTING PAVING, STABILIZED EARTH, CURBS, SIDEWALKS, FENCES, LANDSCAPING AND OTHER IMPROVEMENTS (AND ANY PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, OR EMPLOYEES) WITH THE SAME OR BETTER TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE COUNTY. IF ADDITIONAL TOPOGRAPHIC OR ANY OTHER INFORMATION IS NECESSARY FOR THE CONTRACTOR TO RECONSTRUCT ALL FACILITIES TO PRE-CONSTRUCTION GRADES AND DIMENSIONS, THE ACQUISITIONS OF SUCH ADDITIONAL INFORMATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND AT HIS EXPENSE.
4. ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS OTHERWISE NOTED.
5. ALL DISTURBED GRASS AREAS SHALL BE RESTORED WITH SOLID SOD IN LIKE KIND UNLESS OTHERWISE DIRECTED BY THE COUNTY. WATER, FERTILIZE AND SUPPLY ALL ITEMS AND CARE NECESSARY TO MAINTAIN THE HEALTH OF ALL NEW OR REPLANTED VEGETATION, AT NO EXPENSE TO THE COUNTY, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. ALL PROPERTY MONUMENTS OR PERMANENT REFERENCES REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S SOLE EXPENSE.



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BID DOCUMENTS

CARLTON SERRETTE
P.E. #63640

REVISIONS				
NO.	BY	DATE	REMARKS	

DES MC

DWN MC

CKD JP



MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM

DRAWING INDEX AND
GENERAL NOTES

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THE WATER DIVISION OF ARCADIS

DATE JULY 2012

SHEET G-02

CAD REF. NO. 0132008_002

GENERAL ABBREVIATIONS:

⊙	AT	NTS	NOT TO SCALE
APPROX.	APPROXIMATELY	OC	ON CENTER
ARV	AIR RELEASE VALVE	OD	OUTSIDE DIAMETER
BF	BLIND FLANGE	OF	OVERFLOW
BFP	BACK FLOW PREVENTER	OPNG	OPENING
BFV	BUTTERFLY VALVE	PG	PRESSURE GAUGE
BV	BALL VALVE	PRV	PRESSURE RELIEF VALVE
BW	BACKWASH	PS	PUMP STATION
BYP	BYPASS	PVC	POLYVINYL CHLORIDE
CL	CENTERLINE	PW	POTABLE WATER
CO	CLEAN OUT	R	RADIUS
CONC	CONCRETE	RED	REDUCER
CV	CHECK VALVE	REQ'D	REQUIRED
DEG OR °	DEGREE	RJ	RESTRAINED JOINT
DEMO	DEMOLITION	RCW	RECLAIMED WATER
DIA	DIAMETER	RW	RAW WATER
DIP	DUCTILE IRON PIPE	SHC	SODIUM HYPOCHLORITE
DR	DRAIN	SHF	SODIUM HYPOCHLORITE FILL
E.	EASTING	SPW	STORAGE POND WATER
ECC	ECCENTRIC	SS	STAINLESS STEEL
EFF	EFFLUENT	STD	STORMWATER DRAIN
EJ	EXPANSION JOINT	TOE	TOP OF SLOPE
EL	ELEVATION	TOB	TOP OF BANK
E/P	EDGE OF PAVEMENT	TS	TAP SLEEVE
EX.	EXISTING	TYP	TYPICAL
FF	FINISHED FLOOR	ULP	UTILITY LIGHT POLE
FH	FIRE HYDRANT	VBV	VENTED BALL VALVE
FLE	FILTERED LAKE EFFLUENT	W/	WITH
FLG	FLANGE	WM	WATER MAIN
FM	FORCE MAIN		
GS	GRAVITY SEWER		
HB	HOSE BIB		
HDPE	HIGH DENSITY POLYETHYLENE		
HORZ	HORIZONTAL		
INF	INFLUENT		
INV	INVERT		
LF	LINEAR FOOT		
LFE	LAKE FILTER EFFLUENT		
MFR	MANUFACTURER		
MAX	MAXIMUM		
ME	MATCH EXISTING		
MECH	MECHANICAL		
MES	MITERED END SECTION		
MFR	MANUFACTURER		
MH	MANHOLE		
MIN	MINIMUM		
MJ	MECHANICAL JOINT		
NO OR #	NUMBER		
N.	NORTHING		

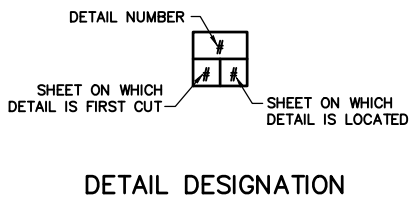
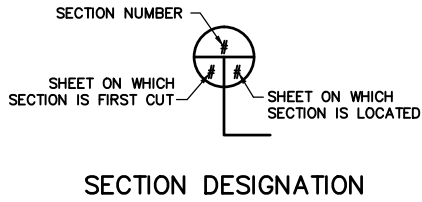
EXISTING ABBREVIATIONS AND LEGEND:

FND	FOUND	▣	AIR RELEASE BOX
SCIR	SET 1/2" CAPPED IRON ROD "LB 4513"	⊠	BACK FLOW PREVENTER
FIR	FOUND IRON ROD (SIZE NOTED)	●	BOLLARD
FCIR	FOUND CAPPED IRON ROD (SIZE NOTED)	▣	CABLE TV BOX
FRR	FOUND RAILROAD SPIKE	⊕	CONCRETE LIGHT POLE
PK	PARKER KAYLON NAIL	⊗	CONCRETE UTILITY POLE
FCM	FOUND CONCRETE MONUMENT (SIZE NOTED)	⊘	CLEANOUT
FIP	FOUND IRON PIPE (SIZE NOTED)	⚠	DECORATIVE LIGHT
FCIP	FOUND CAPPED IRON PIPE (SIZE NOTED)	▣	ELECTRIC BOX
FN&D	FOUND NAIL & BRASS DISK	Ⓢ	ELECTRIC MANHOLE
SN&D	SET NAIL IN BRASS DISC "LB 4513"	▣	ELECTRIC METER
PLS	PROFESSIONAL LAND SURVEYOR	▣	FIBER OPTIC CABLE BOX
LB	LICENSED BUSINESS	○	FIRE HYDRANT
(P)	PLAT	▣	GAS METER
(D)	DESCRIPTION	⊗	GAS VALVE
(F)	FIELD MEASURED	Ⓢ	GREASE-TRAP MANHOLE
POB	POINT OF BEGINNING	✓	GUY WIRE
POC	POINT OF COMMENCEMENT	⊠	IRRIGATION CONTROL VALVE
MH	MANHOLE	▣	MAIL BOX
UG	UNDERGROUND	☆	METAL LIGHT POLE
UD	UNDERDRAIN	⊗	METAL UTILITY POLE
MES	MITERED END SECTION	Ⓢ	MONITOR WELL
FES	FLARED END SECTION	▣	RECLAIMED WATER METER BOX
RCP	REINFORCED CONCRETE PIPE	⊗	RECLAIMED WATER VALVE
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	Ⓐ	ROOF DRAIN
CMP	CORRUGATED METAL PIPE	Ⓢ	SANITARY MANHOLE
DIP	DUCTILE IRON PIPE	⊠	SANITARY VALVE
PVC	POLYVINYLCHLORIDE PIPE	Ⓐ	SIGN
HDPE	HIGH DENSITY POLYETHYLENE PIPE	○	SPIGOT
GTE	GENERAL TELEPHONE AND ELECTRONICS TELEPHONE	Ⓢ	STORM or DRAINAGE MANHOLE
OHW	OVERHEAD WIRES (CABLE, TELEPHONE, ELECTRICAL)	●	SOIL BORING LOCATION
FOC	FIBER-OPTIC CABLE	①	TELECOMMUNICATIONS MANHOLE
CONC	CONCRETE	▣	TELEPHONE BOX
ASPH	ASPHALT	▣	TRAFFIC SIGNAL ACCESS BOX
EM	ELECTRIC METER	Ⓢ	WATER MANHOLE
A/C	AIR CONDITIONER	⊗	WATER VALVE
TOB	TOP OF BANK	▣	WATER METER BOX
TOS	TOE OF SLOPE	Ⓢ	WELL
No.	NUMBER	☆	WOOD LIGHT POLE
FF	FINISH FLOOR	⊗	WOOD UTILITY POLE
LF	LOWEST FLOOR		
DIA.	DIAMETER		
TBM	TEMPORARY BENCHMARK		

— W —	EXISTING WATER LINE
— SAN —	EXISTING SANITARY SEWER
○ MH	EXISTING MANHOLE
— OH —	EXISTING OVERHEAD ELECTRIC
— — — — —	EXISTING STREAM
— UNK —	EXISTING UNKNOWN PIPE
○ □	EXISTING STORM CATCH BASIN
⊗	EXISTING UTILITY POLE
Ⓢ	EXISTING FIRE HYDRANT
▣	EXISTING BUILDING STRUCTURE
— — — — —	WETLANDS

PROJECT LEGEND:

---	PROPOSED UNDERGROUND PIPE
— > —	REDUCER
— —	BLIND FLANGE
— ⊢ —	CAP OR PLUG
— < > —	GATE VALVE
— ○ —	BALL VALVE
— ⊕ —	BUTTERFLY VALVE
— ◇ —	PLUG VALVE
— ▽ —	CHECK VALVE
— SF —	SILT FENCE



MALCOLM
PIRNIE

ARCADIS

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NO.	BY	DATE	REMARKS

DES —

DWN —

CKD —



MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM

ABBREVIATIONS AND LEGEND

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DATE JULY 2012

SHEET **G-03**

CAD REF. NO. 0132008_G03

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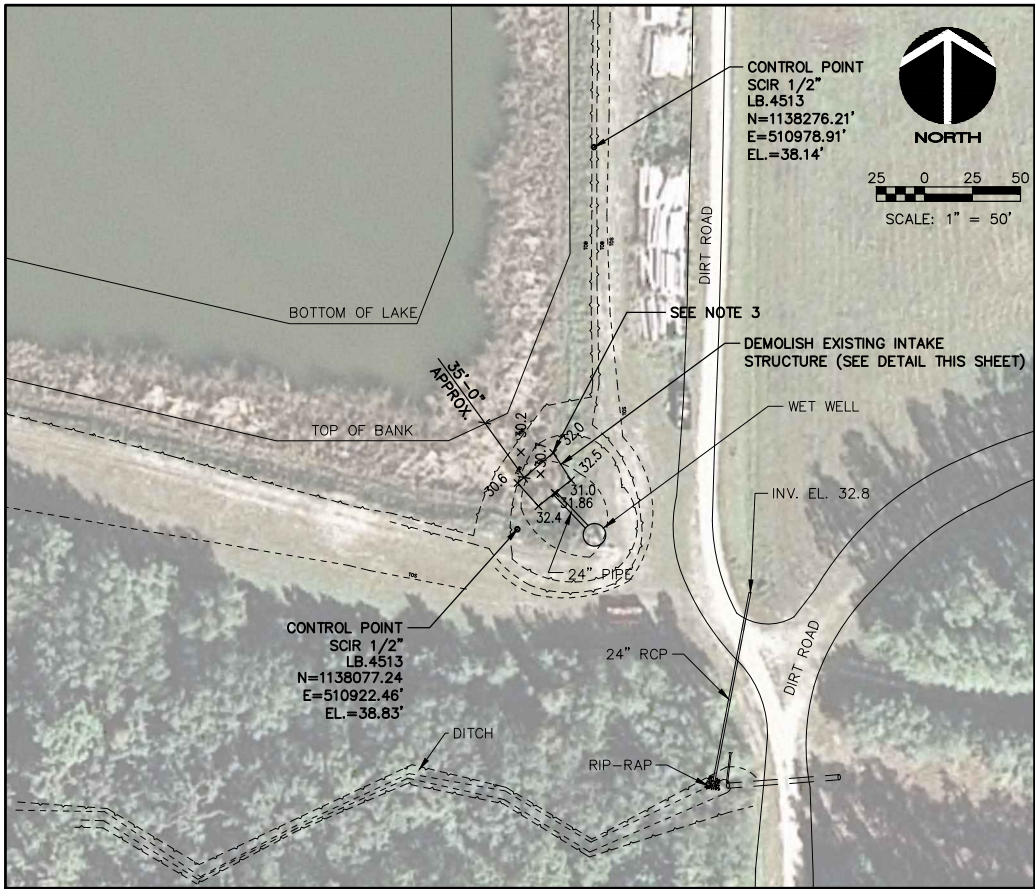
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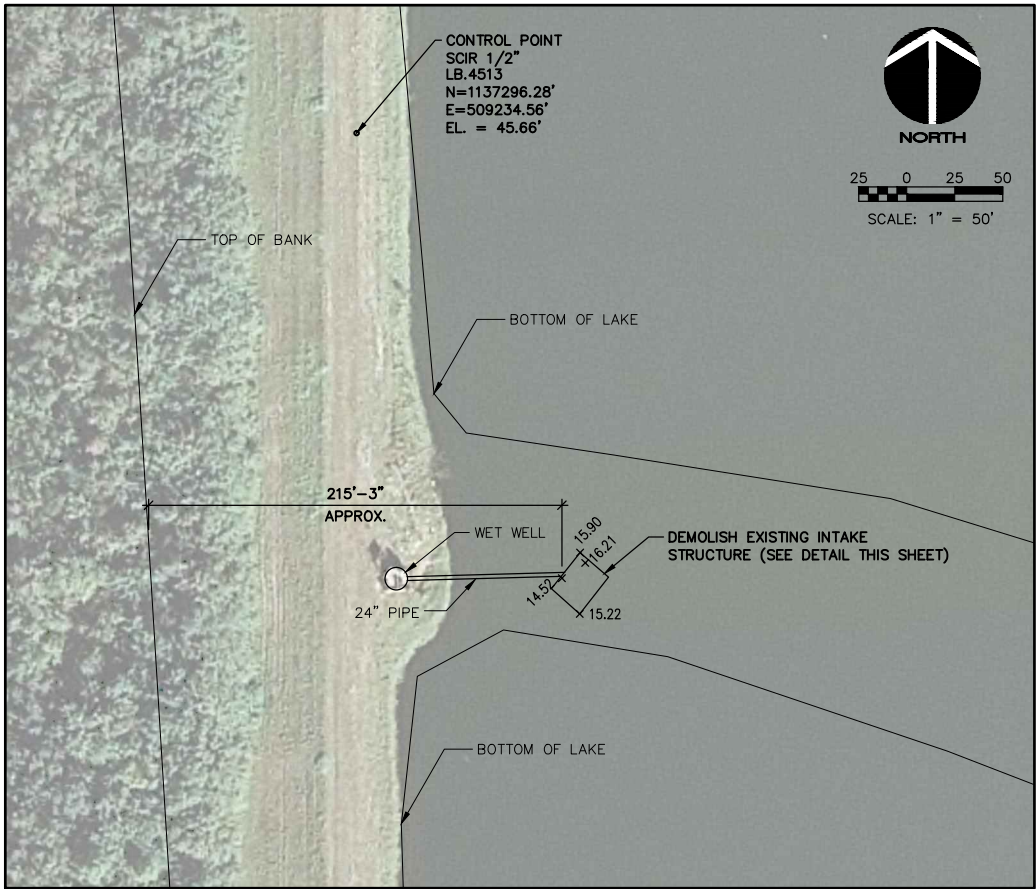
MANATEE COUNTY
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PROPOSED WORK LOCATIONS

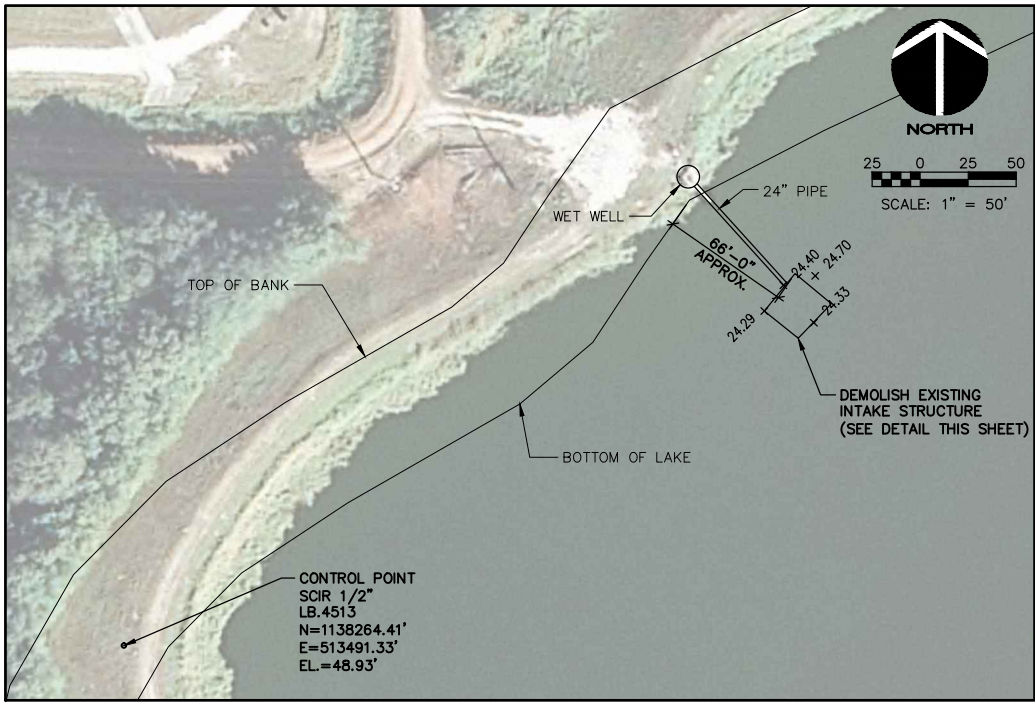
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DATE JULY 2012
SHEET G-04
CAD REF. NO. 0132008_G04



SOUTH LAKE NO. 1
SCALE: 1"=50'

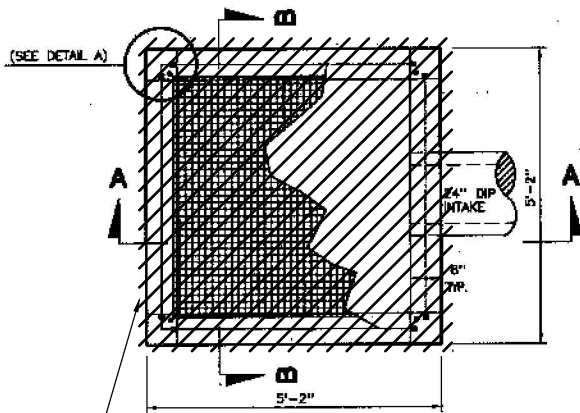


SOUTH LAKE NO. 2
SCALE: 1"=50'

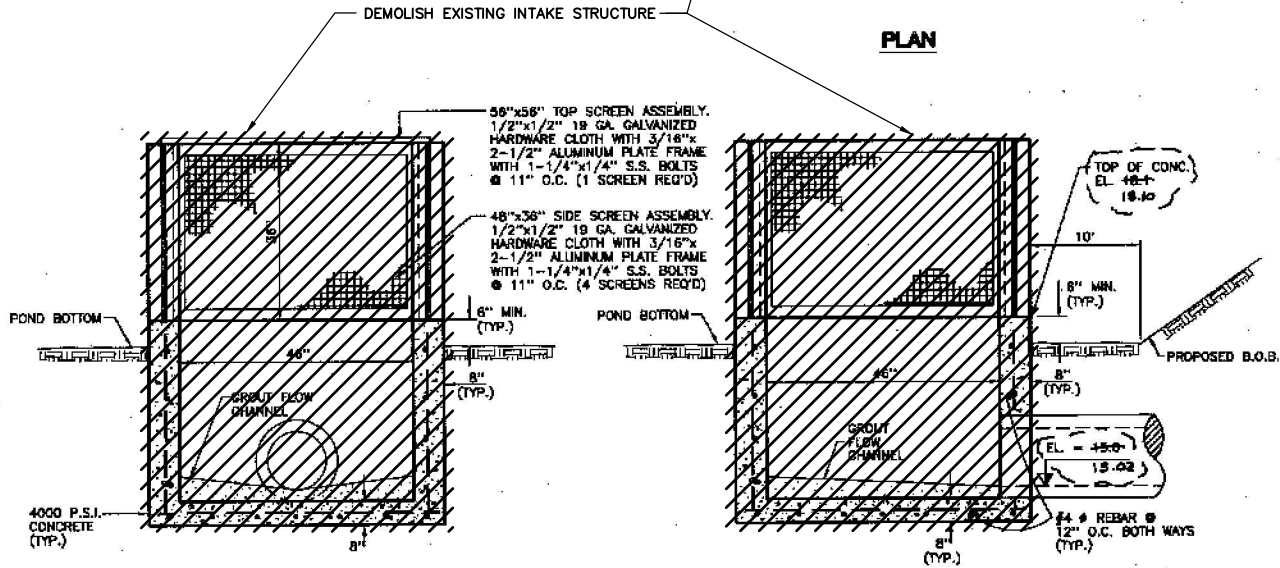


EAST LAKE
SCALE: 1"=50'

- NOTE:
1. SEE SHEET M-01 AND S-02 FOR NEW INSTALLATION OF INTAKE STRUCTURES.
 2. STRUCTURES TO BE DEMOLISHED SHALL BE REMOVED AND PROPERLY DISPOSED OF IN ACCORDANCE TO SPECIFICATIONS ON SECTION 02064.
 3. SOUTH LAKE NO. 1 IS OUT OF SERVICE AND SHALL NOT REQUIRE A COFFERDAM AT TIME OF DEMOLITION, BUT WILL REQUIRE DE-WATERING.



PLAN



SECTION B-B

SECTION A-A

EXISTING INTAKE STRUCTURE DEMO
SCALE: NTS

MANATEE COUNTY
WATER DIVISION OF ARCADIS

CERTIFICATE OF
AUTHORIZATION NO. 67
14025 RIVEREDGE DR. SUITE 600
TAMPA, FLORIDA 33637

BID DOCUMENTS

CARLTON SERRETTE
P.E. #63640

REVISIONS			
NO.	BY	DATE	REMARKS

DES -
DWN -
CND -



**MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM**

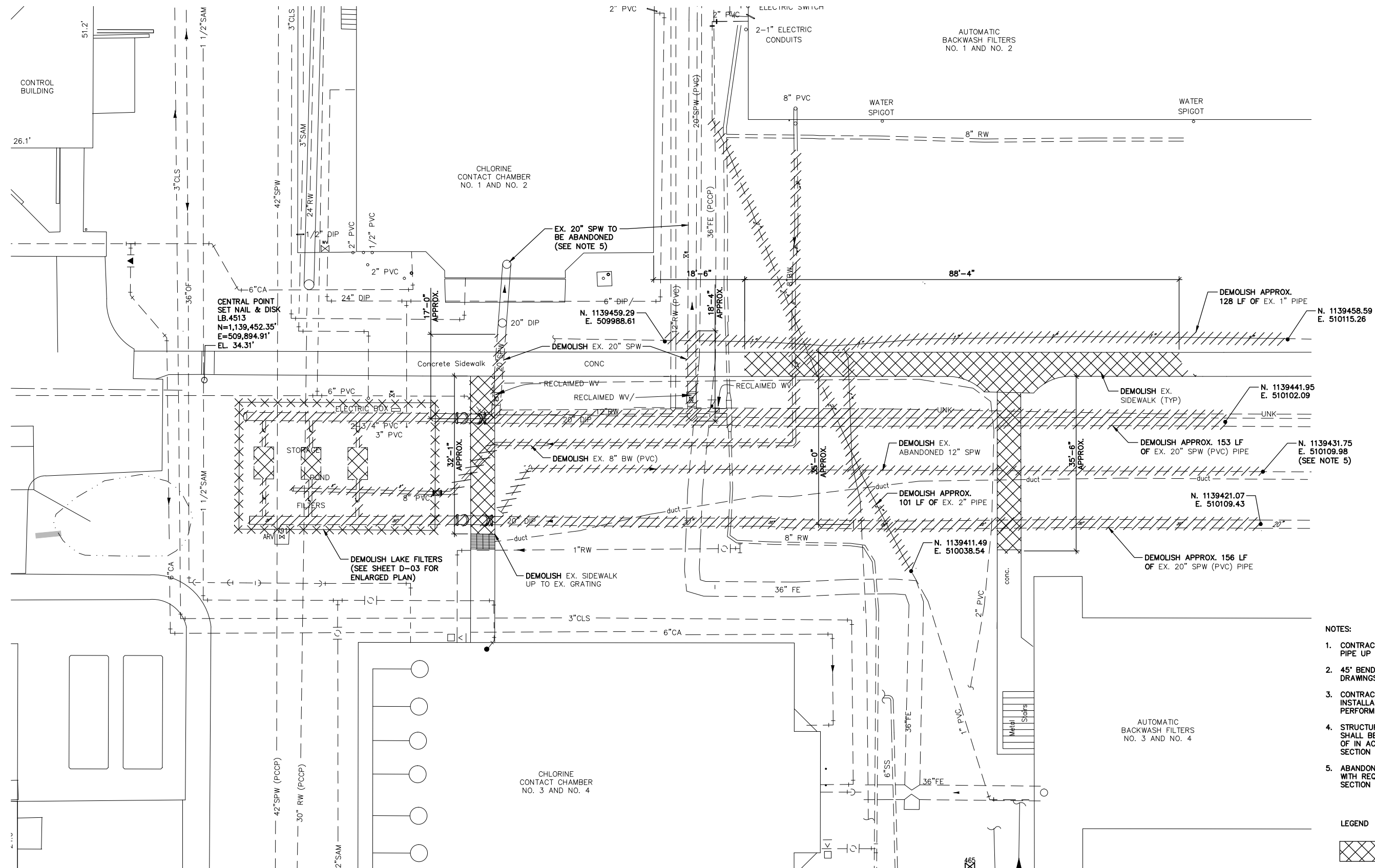
**LAKE INTAKE STRUCTURES
DEMOLITION**

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THE WATER DIVISION OF ARCADIS

DATE JULY 2012

SHEET **D-01**

CAD REF. NO. 0132008_D01



- NOTES:

LEGEND

 PIPING[illegible]

YARD PIPING AND LAKE FILTERS DEMOLITION PLAN

XREFS: G:\CADD\ACAD\PROJ\0132 - MANATEE\008\Ref\0132_34x22TB.dwg IMAGES: None
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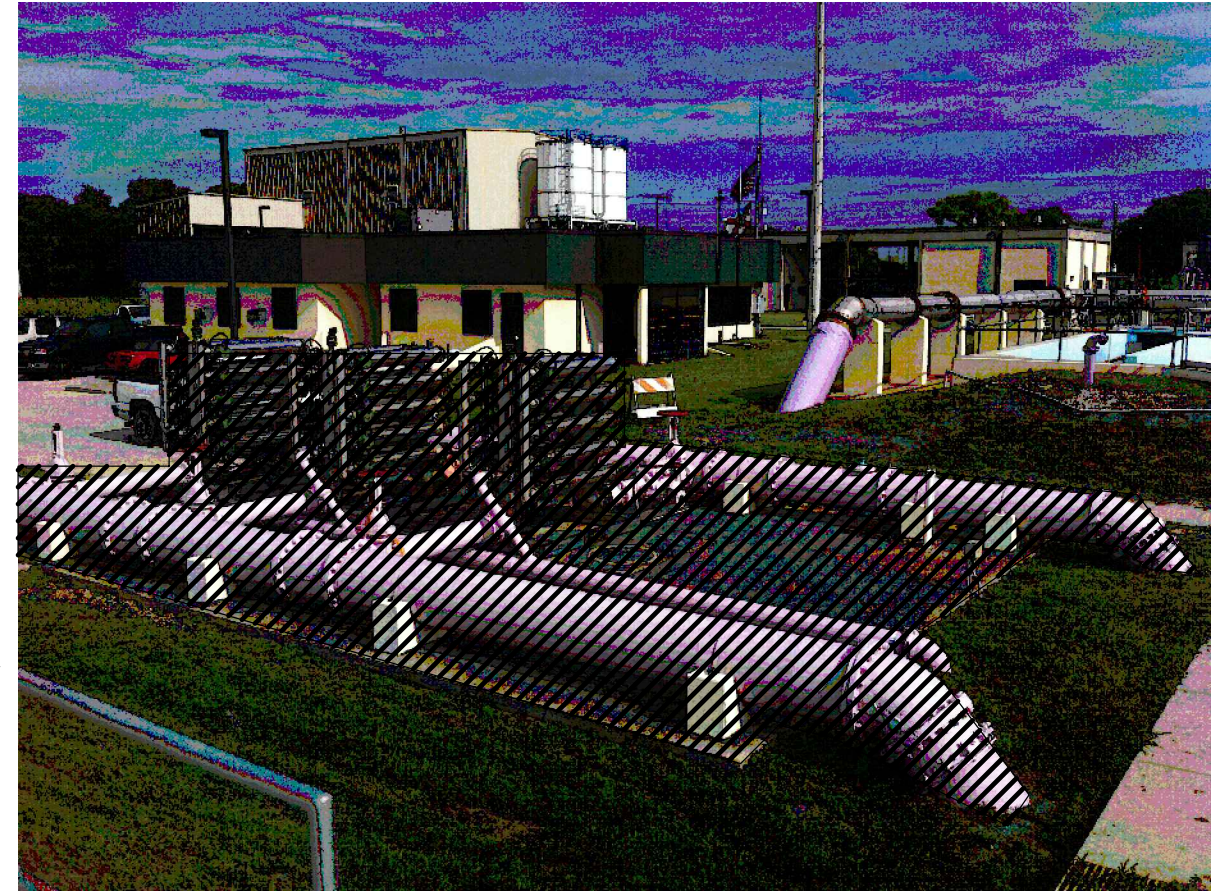
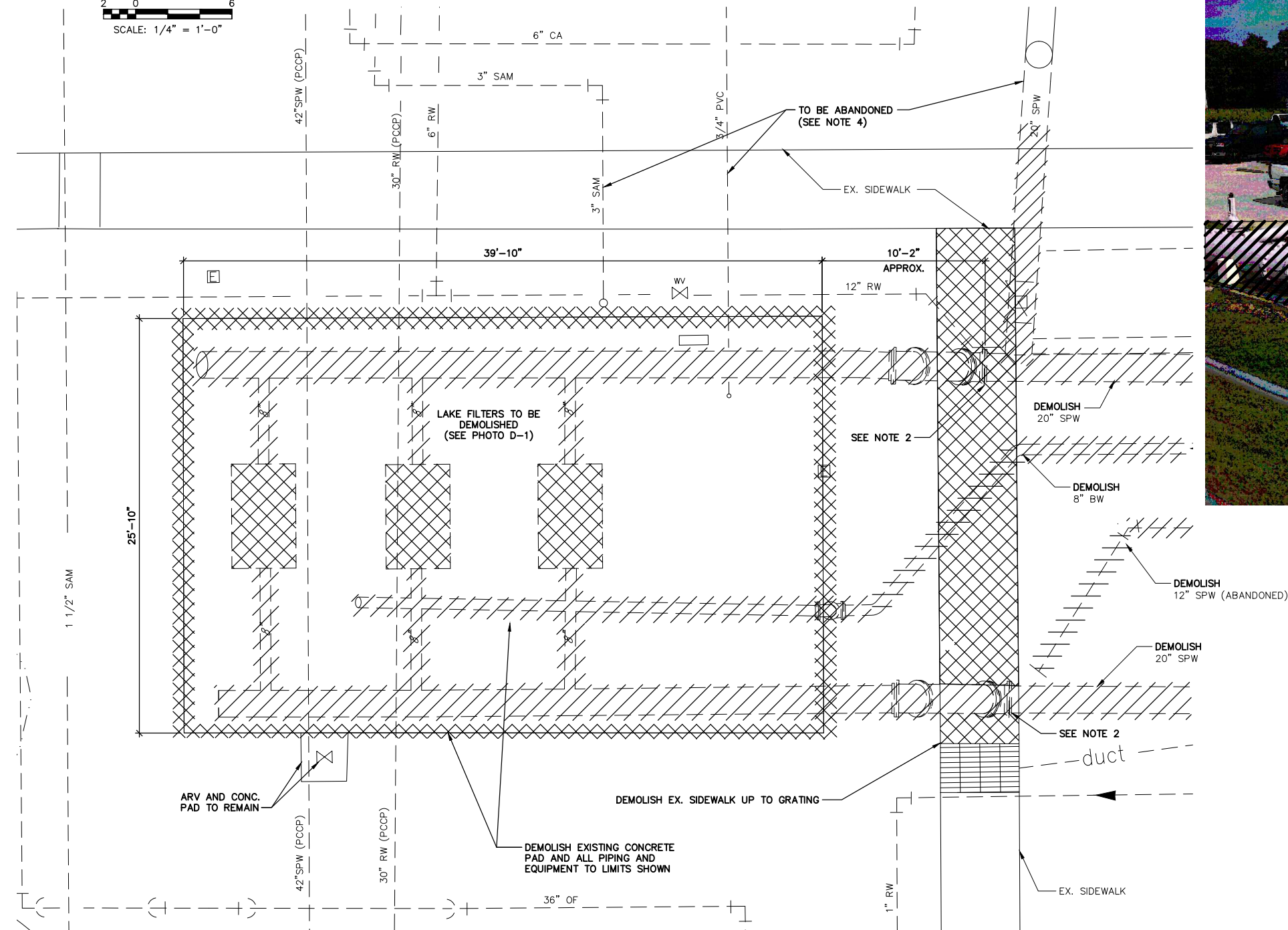
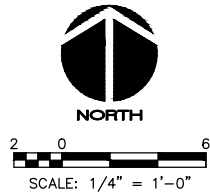




PHOTO D-1
(EXISTING FILTER EQUIPMENT AND APPURTENANCES SHALL BE REMOVED AND PROPERLY DISPOSED OF IN ACCORDANCE TO SPECIFICATIONS ON SECTION 02064)

NOTES:

1. CONTRACTOR SHALL DEMOLISH EXISTING 20" PIPE UP TO AND INCLUDING BURIED 45° BEND.
2. EXISTING FITTING LOCATIONS ARE BASED ON RECORD DRAWINGS, CONTRACTOR TO FIELD VERIFY.
3. STRUCTURES AND PIPING TO BE DEMOLISHED SHALL BE REMOVED AND PROPERLY DISPOSED OF IN ACCORDANCE TO SPECIFICATIONS ON SECTION 02064.
4. ABANDONED PIPING IN PLACE IN ACCORDANCE WITH REQUIREMENTS OF SPECIFICATIONS SECTION 02064.

LEGEND

-  CONCRETE/ASPHALT
-  PIPING

BID DOCUMENTS

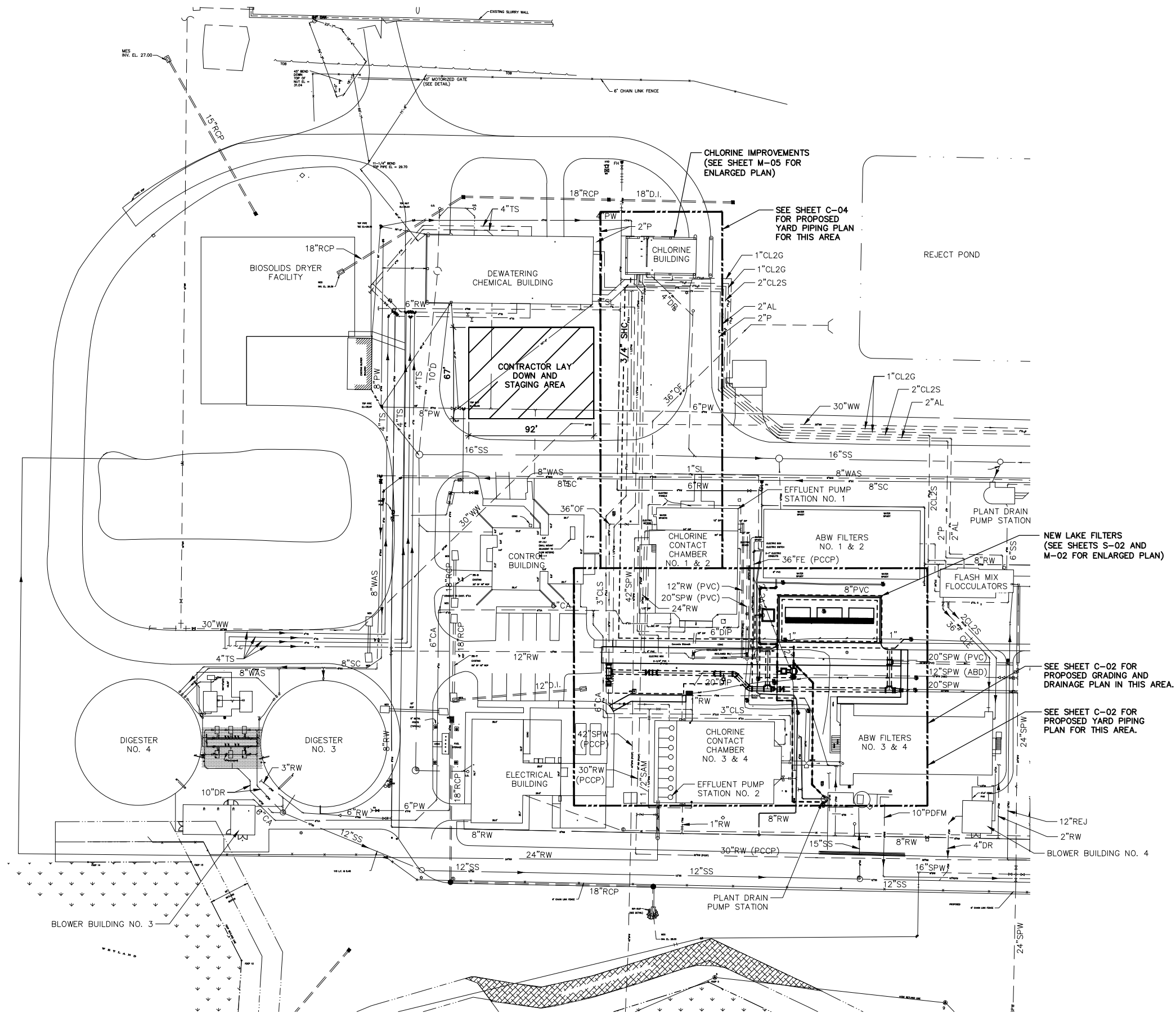
CARLTON SERRETTE
P.E. #63640

REVISIONS				NO.	BY	DATE	REMARKS
DES	DWN	CKD					



MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM

**LAKE FILTERS DEMOLITION PLAN AND
DETAILS**




The Water Division of ARCADIS
CERTIFICATE OF
AUTHORIZATION NO. 67
14025 RIVEREDGE DR. SUITE 600
TAMPA, FLORIDA 33637

BID DOCUMENTS
CARLTON SERRETTE
P.E. #63640

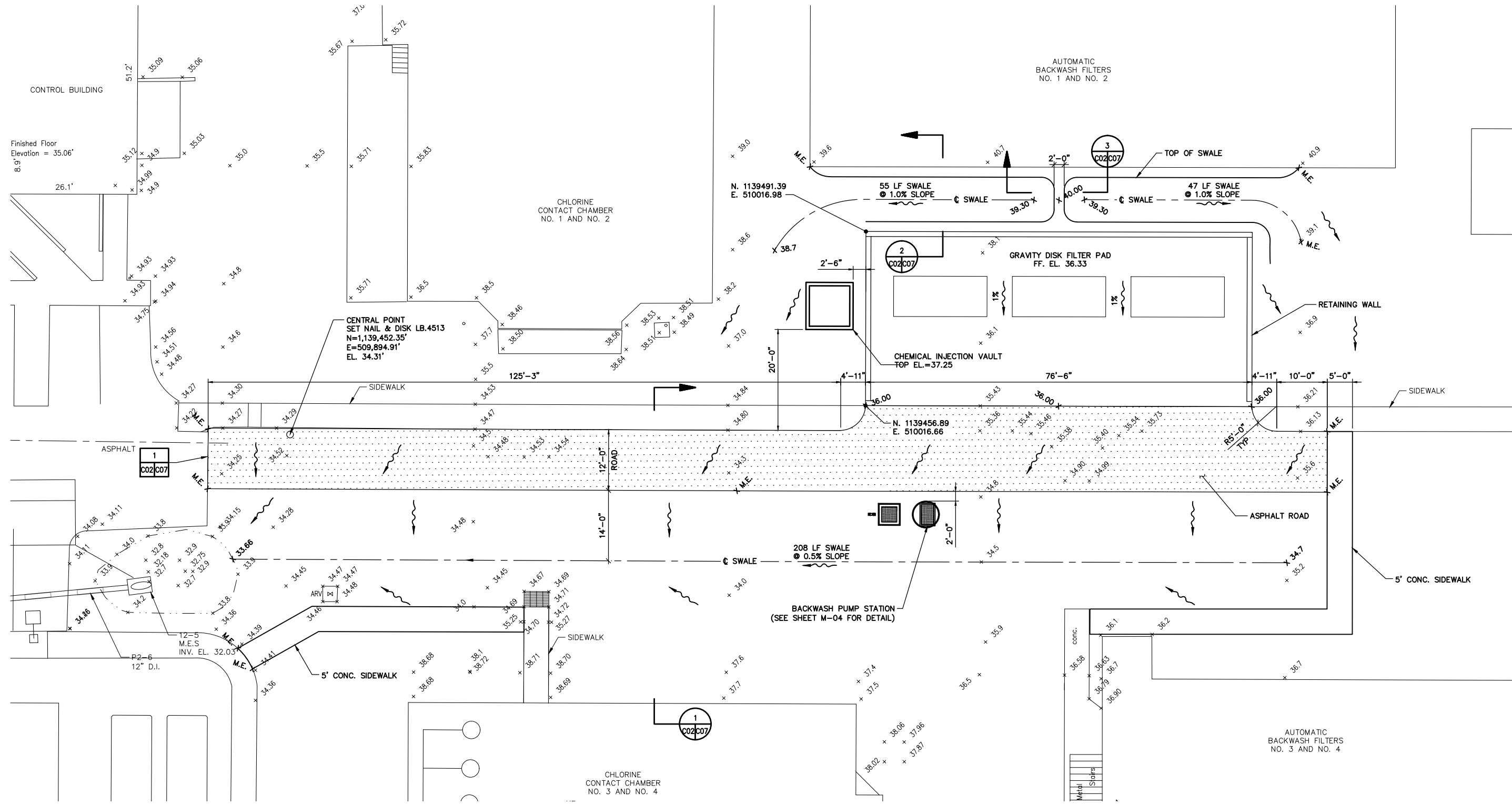
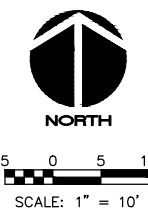
REVISIONS			
NO.	BY	DATE	REMARKS

DES MC
DWN MC
CKD JP



**MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM**

PROPOSED ENLARGED SITE PLAN



MALCOLM PIRNIE **ARCADIS**
The Water Division of ARCADIS

CERTIFICATE OF
AUTHORIZATION NO. 67
14025 RIVEREDGE DR. SUITE 600
TAMPA, FLORIDA 33637

BID DOCUMENTS

CARLTON SERRETTE
P.E. #63640

REVISIONS				REMARKS
NO.	BY	DATE		

DES MC
DWN MC
CND JP



MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM

GRADING AND DRAINAGE PLAN

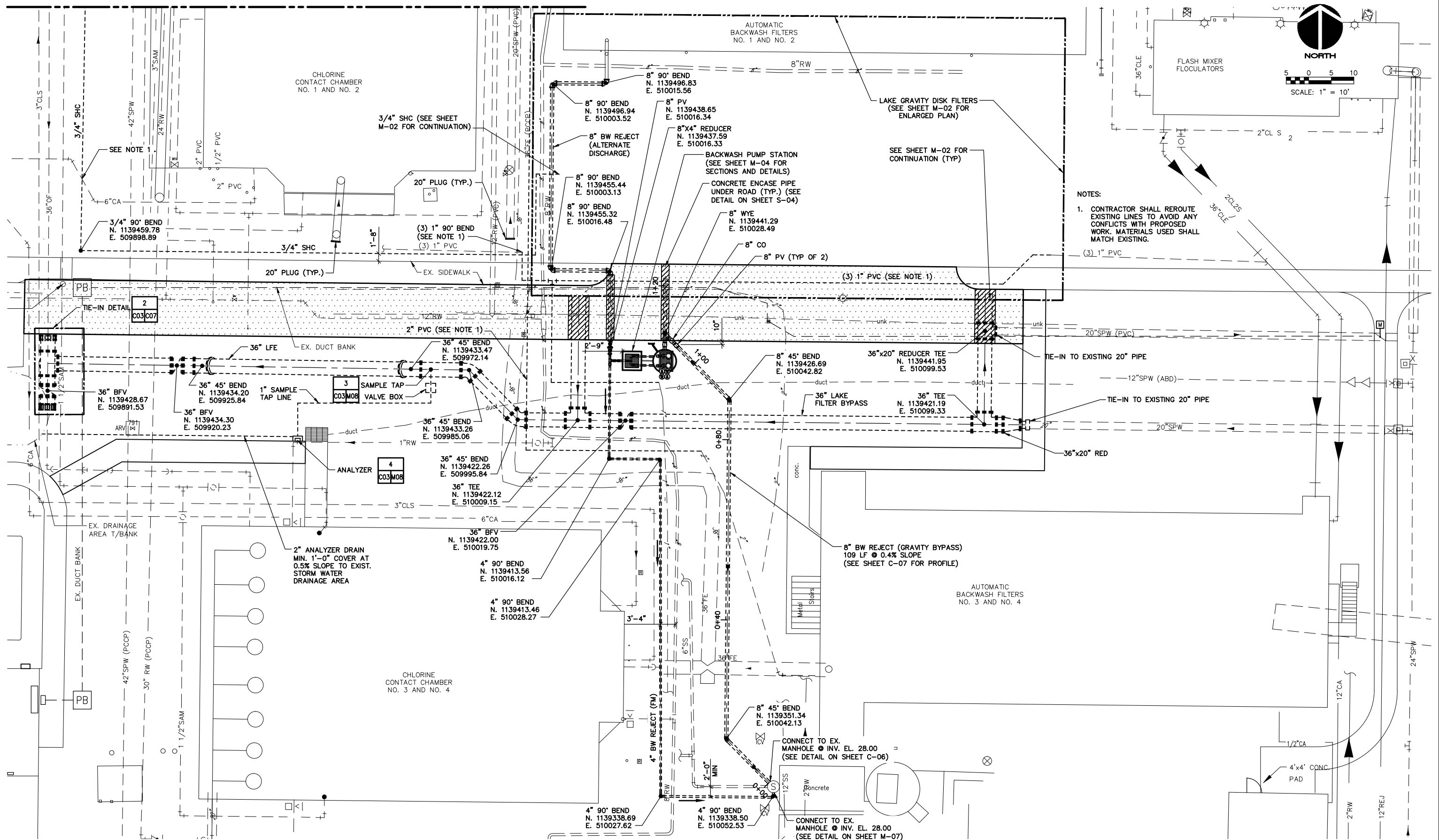
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THE WATER DIVISION OF ARCADIS

DATE JULY 2012

SHEET **C-02**

CAD REF. NO. 0132008_C02

SEE SHEET C-04 FOR CONTINUATION



REVISIONS				
NO.	BY	DATE	REVISIONS	REMARKS

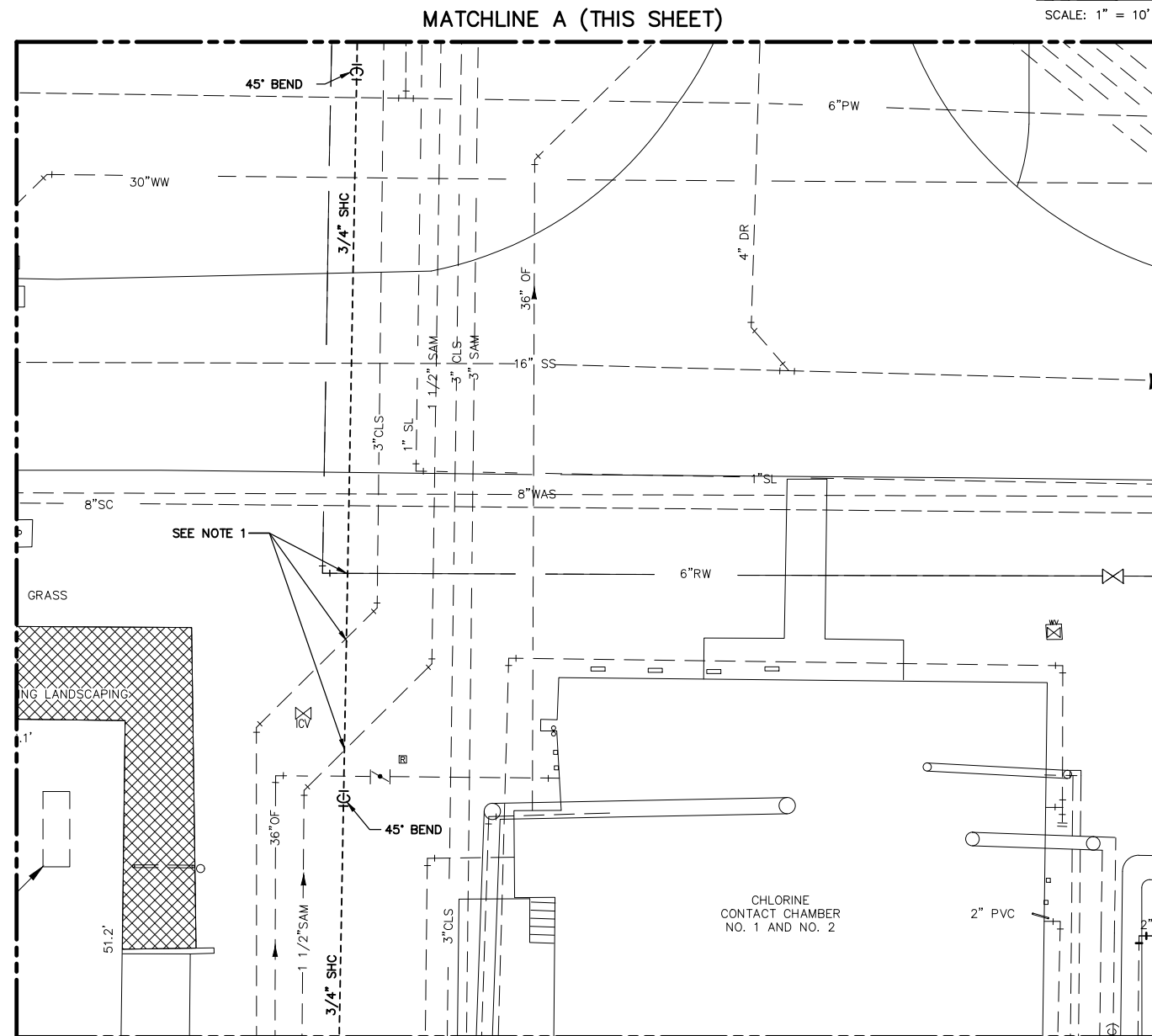
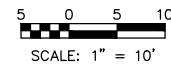
DES	MC
DWN	MC
CKD	JP



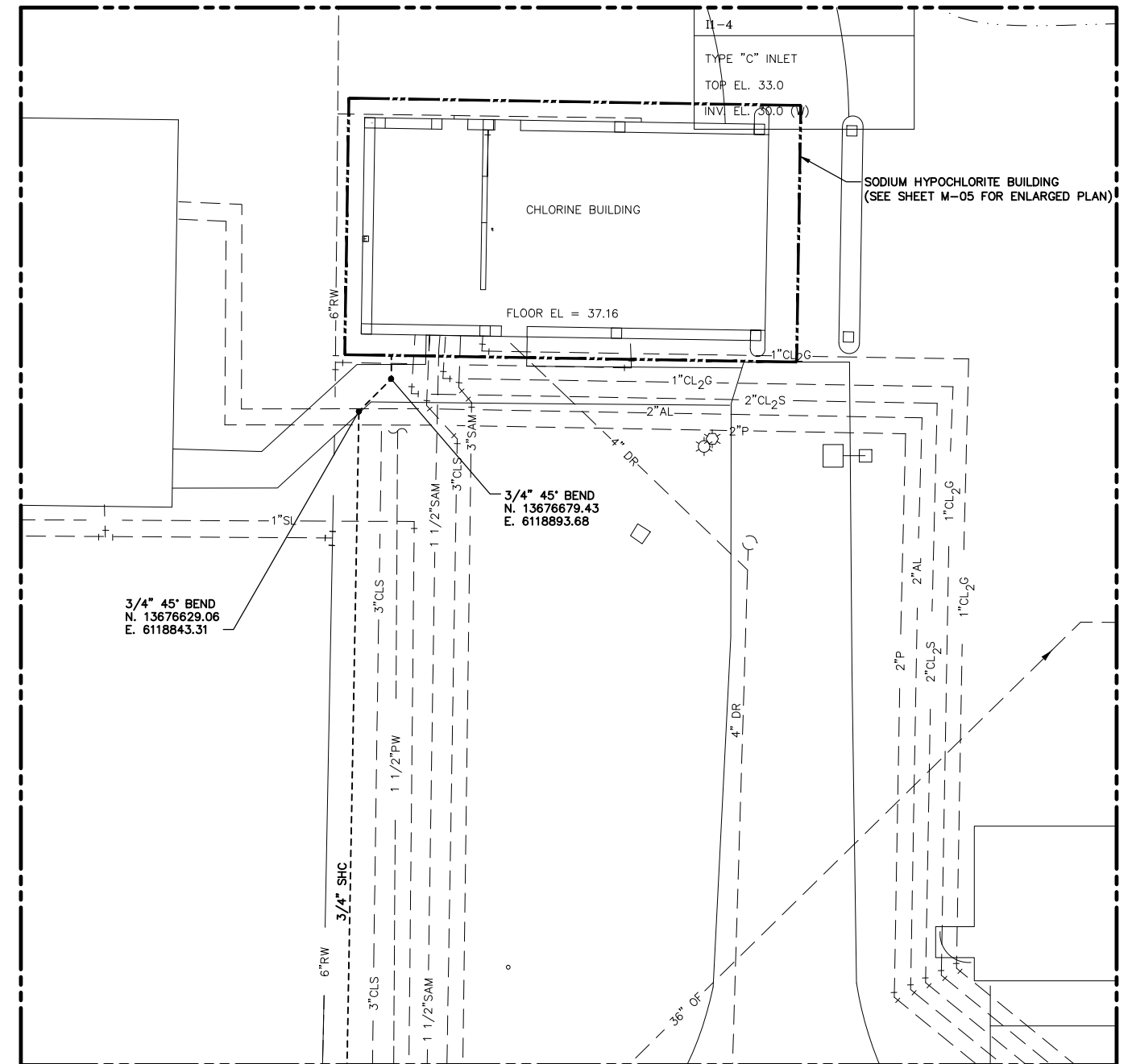
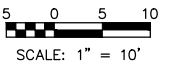
MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM

YARD PIPING PLAN I

1. CONTRACTOR SHALL ROUTE SHC LINE TO AVOID EXISTING PIPING AND MAINTAIN MINIMUM COVER OF 18" MIN.
2. 3/4" SHC PIPING SHALL BE DOUBLE CONTAINED W/ 1-1/2" PIPING IN YARD.



MATCHLINE A (THIS SHEET)



II-4
TYPE "C" INLET
TOP EL. 33.0
INV. EL. 30.0 (V)

SODIUM HYPOCHLORITE BUILDING
(SEE SHEET M-05 FOR ENLARGED PLAN)

FLOOR EL = 37.16

3/4" 45° BEND
N. 13676679.43
E. 6118893.68

3/4" 45° BEND
N. 13676629.06
E. 6118843.31



CARLTON SERRETTE
P.E. #63640

[illegible]

DES	MC
DWN	MC
CKD	JP



**MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM**

YARD PIPING PLAN II

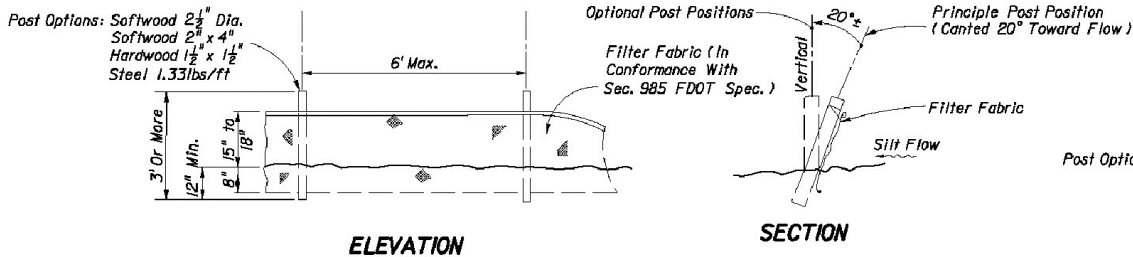
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 THE WATER DIVISION OF ARCADIS
 DATE JULY 2012
 SHEET C-04
 CAD REF. NO. 0132008_C04

ENVIRONMENTAL PROTECTION NOTES:

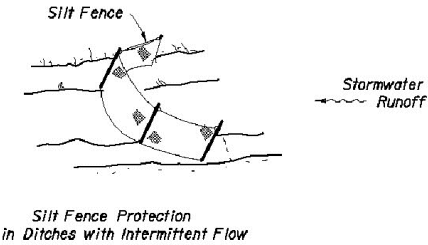
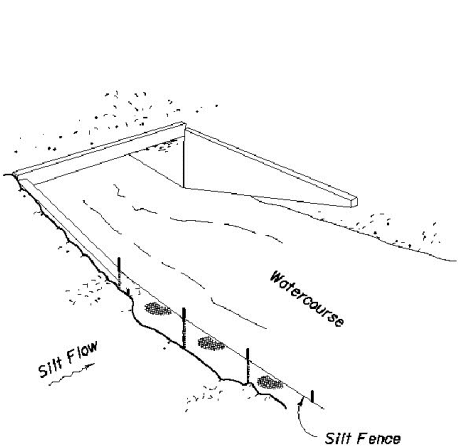
1. SILT BARRIERS, STRAW BALES, STAKED SILT FENCES OR FLOATING SILT SCREENS SHALL BE USED AS SILT BARRIERS. SEE NOTE NO. 7 ON THIS SECTION. THE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL MONITOR AND MAINTAIN THESE SILT BARRIERS DAILY AND CHECK FOLLOWING EACH STORM EVENT. SHOULD THE SILT BARRIERS BECOME LOOSE OR DAMAGED DURING THE CONSTRUCTION PERIOD, CONTRACTOR SHALL RECONSTRUCT AND CORRECT THEM, OR REPLACE THEM WITH A DIFFERENT TYPE IF NECESSARY, AT NO COST TO THE COUNTY.
2. ALL WATER COLLECTED AND PUMPED DURING TRENCH DEWATERING ACTIVITIES SHALL BE DISPOSED OF ON UPLAND AREAS INTO DOUBLE STAKED HAY BALES. DISCHARGE LOCATIONS SHALL BE A MINIMUM OF 75 FEET FROM THE NEAREST WETLAND TO ALLOW FOR A MAXIMUM OVERLAND FILTRATION OF SOIL PARTICLES. ALL PERMITTING ASSOCIATED WITH CONTRACTOR'S DEWATERING ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. EXCAVATION ACROSS ALL WETLANDS WITHIN ESTABLISHED LIMITS OF CONSTRUCTION SHALL BE ACCOMPLISHED BY STRIPPING THE TOP 10 INCHES OF ORGANIC SURFICIAL SOILS FROM THE FULL WIDTH OF THE AREA TO BE DISTURBED AND STOCKPILING THESE SOILS ON UPLAND AREAS. THE REMAINING EXCAVATIONS NECESSARY FOR PIPE INSTALLATION THAT SHALL BE USED FOR BACKFILL SHALL BE TEMPORARILY PLACED ADJACENT TO THE PIPE TRENCH. THE EXCAVATED MATERIAL THAT SHALL NOT BE USED FOR BACKFILL SHALL BE STOCKPILED SEPARATELY FROM SURFICIAL SOILS ON UPLAND AREAS OUTSIDE OF JURISDICTIONAL AREAS DESIGNATED ON THE DRAWINGS AT A MINIMUM DISTANCE OF 200 FEET FROM A WETLAND. BACKFILLING OPERATIONS SHALL PROCEED SUCH THAT SURFICIAL SOILS SHALL BE REPLACED LAST AND SHALL BE SPREAD ACROSS THE ENTIRE DISTURBED WETLAND AREA TO HELP PROMOTE NATIVE VEGETATIVE GROWTH. SURFICIAL SOILS SHALL NOT BE LEFT STOCKPILED IN EXCESS OF TWO WEEKS. ALL WETLAND CROSSINGS THAT ARE DISTURBED DURING CONSTRUCTION, SHALL HAVE AN ADEQUATE AMOUNT OF FILL REMOVED SO THAT THE WETLAND IS RESTORED TO THE ORIGINAL LINE, GRADE AND CROSS-SECTION AS INDICATED BY THESE DRAWINGS.
4. ALL UPLAND AREAS IMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED AND MULCHED, UNLESS OTHERWISE INDICATED ON THESE DRAWINGS.
5. THE CONTRACTOR SHALL BE HELD LIABLE FOR THE VIOLATION OF ANY AND ALL ENVIRONMENTAL REGULATIONS AND PERMIT CONDITIONS, IN ACCORDANCE WITH THE GENERAL CONDITIONS AND GENERAL REQUIREMENTS SECTIONS OF THE CONTRACT DOCUMENTS.
6. BANKS SHALL BE PROTECTED FROM EROSION OR COLLAPSE DURING CONSTRUCTION. MATERIAL SHALL BE CAREFULLY PLACED FROM THE BANK AND NOT DUMPED FROM ABOVE IN AN UNCONTROLLED MANNER. EROSION CONTROL FABRIC SHALL BE USED FOR EROSION PROTECTION WHERE SOD SHALL NOT HOLD OR BECOME ESTABLISHED IN TIME TO PROTECT THE BANKS. UPON COMPLETION OF CONSTRUCTION, BANKS AND WATERWAYS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONFIGURATION AND PROTECTED FROM EROSION.
7. THESE ENVIRONMENTAL NOTES ARE APPLICABLE TO THE COMPLETE PROJECT. HOWEVER, THE CONTRACTOR SHALL TAKE EXTRA PRECAUTIONS WHERE SPECIFIC REFERENCES ARE MADE WITHIN THE DRAWINGS.
8. SILTATION ACCUMULATIONS GREATER THAN THE LESSER OF 12 INCHES OR ONE-HALF THE DEPTH OF THE SILTATION CONTROL BARRIER SHALL BE IMMEDIATELY REMOVED AND PLACED IN UPLAND AREAS (PER S.W.F.W.M.D.).

EROSION CONTROL NOTES

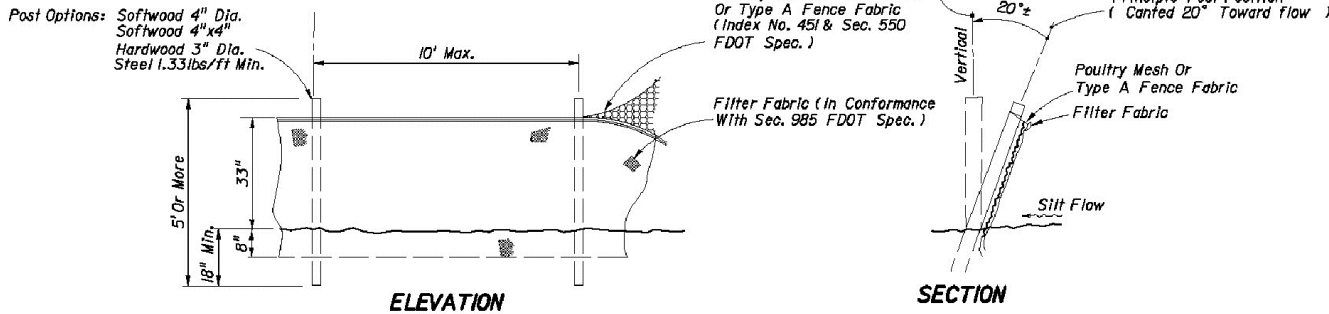
1. ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. CONSTRUCTION PRACTICES INCLUDE:
- A. CONSTRUCT TEMPORARY SEDIMENTATION BASINS OR EARTHEN BERMS AT DOWNGRADIENT ENDS OF NEWLY GRADED AREAS TO PROVIDE FOR SEDIMENT AND TURBIDITY REMOVAL.
- B. LIMIT SITE CLEARING TO THOSE AREAS REQUIRED FOR A PARTICULAR PHASE OF CONSTRUCTION. EXISTING TREES AND VEGETATION TO REMAIN WHEREVER POSSIBLE.
- C. TURBIDITY BARRIERS, HAY BALES AND OTHER EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THE POTENTIAL FOR EROSION IS ELIMINATED.
2. SOLID SOD DITCH AND SWALE BANKS AS SOON AS POSSIBLE AFTER CONSTRUCTION IN ORDER TO STABILIZE THE SLOPES AND MINIMIZE EROSION. IN AREAS DELINEATED AS "WETLANDS," REVEGETATE IN ACCORDANCE WITH PERMIT CONDITIONS.
3. DO NOT EMPLOY SILT FENCES IN A MANNER TO CAUSE THEM TO ACT AS A DAM ACROSS PERMANENTLY FLOWING WATERCOURSES. USE SILT FENCES AT UPLAND LOCATIONS, AND TURBIDITY BARRIERS IN PERMANENT WATER BODIES, REGARDLESS OF WATER DEPTH.
4. TURBIDITY BARRIERS FOR WATER BODIES MAY BE EITHER FLOATING OR STAKED TYPE, OR ANY COMBINATION OF TYPES THAT WILL SUIT SITE CONDITIONS, AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. INSTALL POSTS IN STAKED TURBIDITY BARRIERS IN THE VERTICAL POSITION UNLESS OTHERWISE NOTED.
5. TURBIDITY IN ALL WATER BODIES TO BE CONTROLLED TO PREVENT VIOLATION OF WATER QUALITY PURSUANT TO RULE 62-302.510(5)(r), FLORIDA ADMINISTRATIVE CODE. TURBIDITY SHALL NOT EXCEED 29 NEPHELOMETRIC TURBIDITY UNITS ABOVE NATURAL BACKGROUND CONDITIONS.
6. FOR EROSION CONTROL DETAILS, REFER TO FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) "ROADWAY AND TRAFFIC DESIGN STANDARDS":
- A. TRASH RETAINER AND SEDIMENT BASIN --- INDEX NO. 101
- B. BAILED HAY OR STRAW BARRIERS AND SILT FENCES --- INDEX NO. 102 (ALSO SHOWN THIS SHEET).
- C. TURBIDITY BARRIERS --- INDEX NO. 103.
- ADDITIONALLY, COMPLY WITH FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," SECTION 104 - PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION.



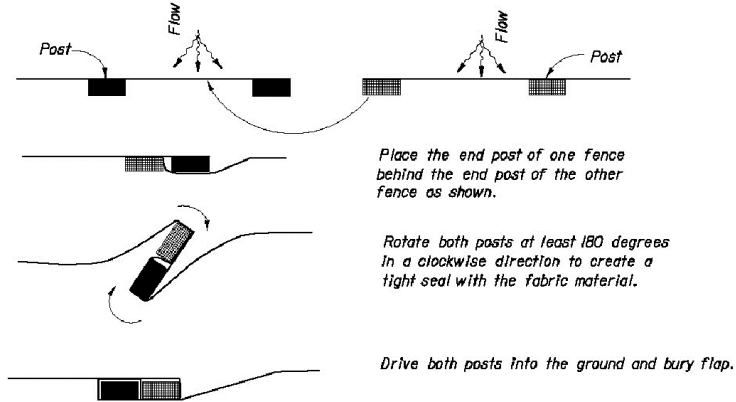
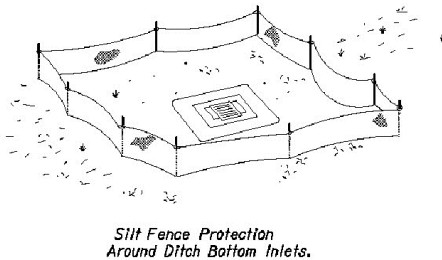
TYPE III SILT FENCE



SILT FENCE APPLICATIONS



TYPE IV SILT FENCE



NOTES FOR SILT FENCES

EROSION CONTROL NOTES CONT.

7. STORM DRAIN INLET PROTECTION SHALL BE ACCOMPLISHED BY FILTER OR OTHER APPROVED METHODS.
8. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE AS PART OF DAILY CLEAN UP.
9. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO CAPTURE AND FILTER SURFACE WATER POLLUTION SHALL BE MINIMIZED. STATE AND LOCAL
10. MINIMIZE THE AMOUNT OF BARE SOIL EXPOSED AT ONE TIME IN SUCH A MANNER AS TO CAPTURE AND FILTER SURFACE WATER

MAINTENANCE

- A. INSPECT SILT BARRIERS IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST ONCE A DAY DURING PERIODS OF PROLONGED RAINFALL. MAKE NEEDED REPAIRS IMMEDIATELY.
- B. SHOULD THE FABRIC ON A SILT BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND IF THE BARRIER IS STILL NEEDED, REPLACE THE FABRIC IMMEDIATELY.
- C. REMOVE SEDIMENT DEPOSITS AFTER EACH STORM EVENT.
- D. ANY SEDIMENT DEPOSITS IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, AND PREPARED FOR SEEDING OR SODDING.

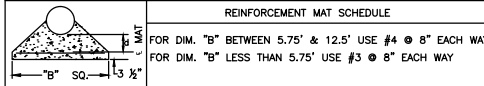
NOTES FOR SILT FENCE

1. TYPE III SILT FENCE TO BE USED AT MOST LOCATIONS. WHERE USED IN DITCHES THE SPACING FOR TYPE III SILT FENCE SHALL BE IN ACCORDANCE WITH CHART I, SHEET I.
2. TYPE IV SILT FENCE TO BE USED WHERE LARGE SEDIMENT LOADS ARE ANTICIPATED. SUGGESTED USE IS WHERE FILL SLOPE IS 1:2 OR STEEPER AND LENGTH OF SLOPE EXCEEDS 25 FEET. AVOID USE WHERE THE DETAINED WATER MAY BACK INTO TRAVEL LANES OR OFF THE RIGHT OF WAY.
3. DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER
4. WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.
5. PERIMETER SILT FENCE SHALL BE TRENCHED 8-10 INCHES DEEP EXCEPT AROUND THE DRIPLINE OF LARGE TREES WHERE YOU SHOULD REFER TO THE TREE PROTECTION BARRIER DETAIL.

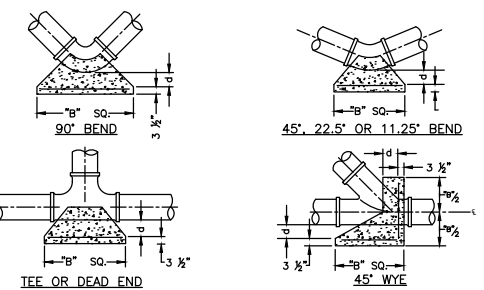
REVISIONS			
NO.	BY	DATE	REMARKS



THRUST BLOCK DIMENSIONS 8 ft. x d inches												
PIPE SIZE (IN.)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		DEAD END & TEE		45° WYE	
	B	d	B	d	B	d	B	d	B	d	B	d
4	1.5	3 1/2	1.1	3 1/2	0.8	3 1/2	0.6	3 1/2	1.3	3 1/2	1.1	3 1/2
6	2.2	5 1/2	1.6	3 1/2	1.2	3 1/2	0.8	3 1/2	1.9	4 1/2	1.6	3 1/2
8	2.9	7	2.1	5	1.5	3 1/2	1.1	3 1/2	2.4	5 1/2	2.0	4 1/2
10	3.5	8 1/2	2.6	6 1/2	1.9	4 1/2	1.3	3 1/2	3.0	7 1/2	2.5	6
12	4.2	10	3.1	7 1/2	2.2	5 1/2	1.6	3 1/2	3.5	8 1/2	3.0	7 1/2
14	4.9	11 1/2	3.6	8 1/2	2.6	6 1/2	1.8	4 1/2	4.1	9 1/2	3.4	8 1/2
16	5.5	13 1/2	4.1	9 1/2	2.9	7	2.1	5	4.7	11 1/2	3.9	9 1/2
18	6.2	15	4.6	11	3.3	8	2.3	5 1/2	5.2	12 1/2	4.4	10 1/2
20	6.9	16 1/2	5.0	12	3.6	8 1/2	2.6	6 1/2	5.8	14	4.9	11 1/2
24	8.2	19 1/2	6.0	14 1/2	4.3	10 1/2	3.1	7 1/2	6.9	16 1/2	5.8	14
30	10.1	24 1/2	7.5	18	5.3	12 1/2	3.8	9	8.5	20 1/2	7.2	17 1/2
36	12.1	29	8.9	21 1/2	6.4	15 1/2	4.5	10 1/2	10.2	24 1/2	8.6	20 1/2



- NOTES:
- ALL THRUST BLOCKS SHALL BE CAST IN PLACE. FITTINGS ADJACENT TO THRUST BLOCKS SHALL BE WRAPPED IN POLYETHYLENE.
 - THIS TABLE IS BASED ON WATER PRESSURE=180 PSI WITH AN ALLOWABLE SOIL BEARING PRESSURE=2000 PSF. CONCRETE STRENGTH & REINFORCEMENT f_c =60.0 KSI. THRUST BLOCK SHALL BE CAST AGAINST FIRM UNDISTURBED SOIL.
 - FOR LARGER "b" DIMENSIONS IT IS NECESSARY TO CHECK THAT PIPE IS SUFFICIENTLY DEEP TO ALLOW 15" MIN. SOIL COVER OVER TOP EDGE OF THRUST BLOCK.
 - RESTRAINED JOINTS MAY BE USED IN LIEU OF THRUST BLOCKS TO SAVE SPACE. THRUST BLOCKS SHALL BE USED IN SITUATIONS WHERE THRUST BLOCKS AND RESTRAINED JOINTS ARE BOTH REQUIRED.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT			CONCRETE THRUST BLOCKS	UG-7
REV. BY	DATE	MAY 10, 2011 DATE OF APPROVAL		
CLB/BR	11/10			
				PAGE 107

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS	90° 45° 22.5°	TEES		REDUCERS		PLUGS & VALVES
			SIZE	LENGTH	SIZE	LENGTH	
36	142	59	28	X36 X30 X24 X18 X12	X36 X30 X24 X18 X12	X36 X30 X24 X18 X12	453
30	124	51	25	X30 X24 X18 X12 X8	X30 X24 X18 X12 X8	X30 X24 X18 X12 X8	391
24	106	44	21	X24 X18 X12 X8 X4	X24 X18 X12 X8 X4	X24 X18 X12 X8 X4	327
20	92	38	18	X20 X16 X12 X8 X4	X20 X16 X12 X8 X4	X20 X16 X12 X8 X4	280
16	77	32	15	X16 X12 X8 X4 X2	X16 X12 X8 X4 X2	X16 X12 X8 X4 X2	231
12	61	25	12	X12 X8 X4 X2 X1	X12 X8 X4 X2 X1	X12 X8 X4 X2 X1	181
10	52	22	10	X10 X8 X4 X2 X1	X10 X8 X4 X2 X1	X10 X8 X4 X2 X1	153
8	44	18	8	X8 X4 X2 X1 X1	X8 X4 X2 X1 X1	X8 X4 X2 X1 X1	128
6	34	14	7	X6 X4 X2 X1 X1	X6 X4 X2 X1 X1	X6 X4 X2 X1 X1	98
4	24	10	5	X4 X2 X1 X1 X1	X4 X2 X1 X1 X1	X4 X2 X1 X1 X1	69

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS	90° 45° 22.5°	TEES		REDUCERS		PLUGS & VALVES
			SIZE	LENGTH	SIZE	LENGTH	
36	100	42	20	X36 X30 X24 X18 X12	X36 X30 X24 X18 X12	X36 X30 X24 X18 X12	188
30	88	37	18	X30 X24 X18 X12 X8	X30 X24 X18 X12 X8	X30 X24 X18 X12 X8	162
24	75	31	15	X24 X18 X12 X8 X4	X24 X18 X12 X8 X4	X24 X18 X12 X8 X4	135
20	65	27	13	X20 X16 X12 X8 X4	X20 X16 X12 X8 X4	X20 X16 X12 X8 X4	116
16	54	22	11	X16 X12 X8 X4 X2	X16 X12 X8 X4 X2	X16 X12 X8 X4 X2	96
12	43	18	8	X12 X8 X4 X2 X1	X12 X8 X4 X2 X1	X12 X8 X4 X2 X1	75
10	37	15	7	X10 X8 X4 X2 X1	X10 X8 X4 X2 X1	X10 X8 X4 X2 X1	63
8	30	13	6	X8 X4 X2 X1 X1	X8 X4 X2 X1 X1	X8 X4 X2 X1 X1	53
6	24	10	5	X6 X4 X2 X1 X1	X6 X4 X2 X1 X1	X6 X4 X2 X1 X1	41
4	17	7	3	X4 X2 X1 X1 X1	X4 X2 X1 X1 X1	X4 X2 X1 X1 X1	29

NOTE:
SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT			RESTRAINED LENGTHS FOR DIP	UG-9
REV. BY	DATE			
CLB/BR	11/10			
		MAY 10, 2011		
		DATE OF APPROVAL		
				PAGE 109

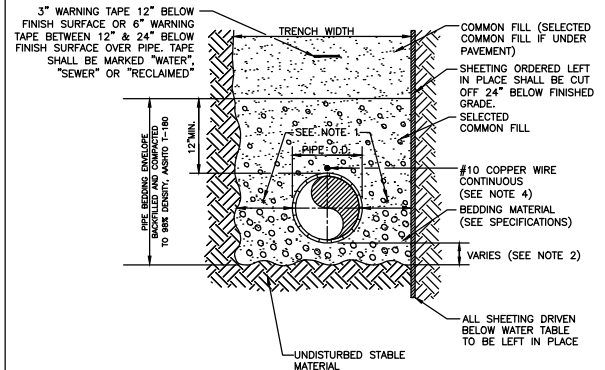
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DR-18 PVC PIPE

MAIN PIPE SIZE	HORIZ. BENDS	90° 45° 22.5°	TEES		REDUCERS		PLUGS & VALVES
			SIZE	LENGTH	SIZE	LENGTH	
24	90	38	18	X24 X18 X12 X8 X4	X24 X18 X12 X8 X4	X24 X18 X12 X8 X4	214
20	78	32	16	X20 X16 X12 X8 X4	X20 X16 X12 X8 X4	X20 X16 X12 X8 X4	184
16	66	27	13	X16 X12 X8 X4 X2	X16 X12 X8 X4 X2	X16 X12 X8 X4 X2	151
12	52	22	10	X12 X8 X4 X2 X1	X12 X8 X4 X2 X1	X12 X8 X4 X2 X1	118
10	44	18	9	X10 X8 X4 X2 X1	X10 X8 X4 X2 X1	X10 X8 X4 X2 X1	100
8	37	15	7	X8 X4 X2 X1 X1	X8 X4 X2 X1 X1	X8 X4 X2 X1 X1	83
6	29	12	6	X6 X4 X2 X1 X1	X6 X4 X2 X1 X1	X6 X4 X2 X1 X1	63
4	21	8	4	X4 X2 X1 X1 X1	X4 X2 X1 X1 X1	X4 X2 X1 X1 X1	45

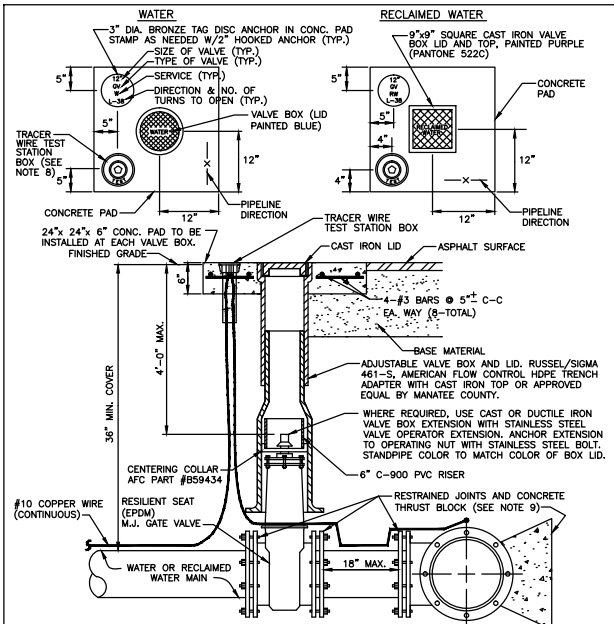
- NOTES:
- RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
 - ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
 - ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
 - PIPE SIZES ARE GIVEN IN INCHES.
 - RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
 - LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
 - THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
 - RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT			RESTRAINED LENGTHS FOR PVC PIPE	UG-8
REV. BY	DATE			
CLB/BR	11/10			
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		DATE OF APPROVAL		
				PAGE 108

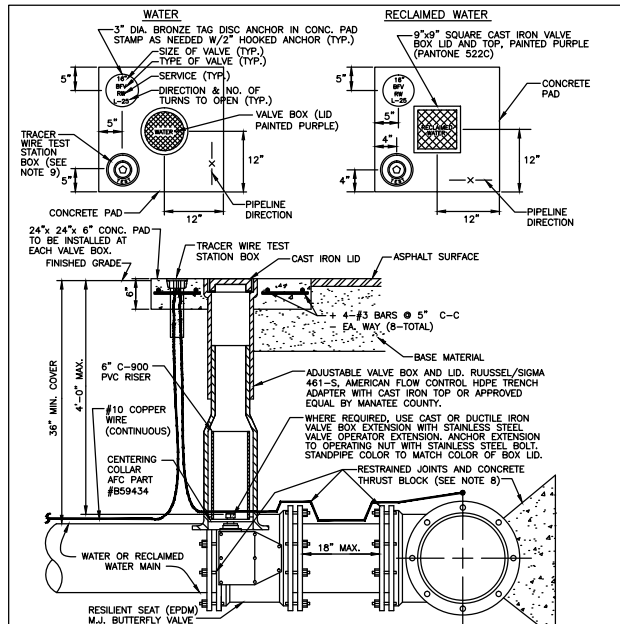
- NOTES:
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 - TYPICALLY 4" TO 6".
 - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT			TRENCH WITH TYPE A-2 PIPE BEDDING	UG-15
REV. BY CLB/BR	DATE 11/10			
MAY 10, 2011 DATE OF APPROVAL				
			PAGE 115	



<p>NOTES:</p> <ol style="list-style-type: none"> "W" or "RW" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. "W" CURB INSTALL A BLUE DISC WITH "W" OR PURPLE DISC WITH "RW" AND A 1/8"x1" GALVANIZED STEEL SCREEN IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRASSES AS DETERMINED IN THE FIELD. WATER VALVES SHALL NOT BE PLACED IN HANDCAPPED RAMPS. PRECAST CONCRETE PADS & THRUST BOLDS SHALL NOT BE USED. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2". FOR VALVES 16" AND LARGER, USE BUTTERFLY VALVES. PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD. TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW-OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX. WHERE TRUSTER BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM THE FULL LENGTH SPECIFIED FOR "TEES." VALVE AND VALVE BOX SHALL BE SERVICED WHERE VALVE IS NOT IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE P252SD CENTER IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD. 				
<p align="center">MANATEE COUNTY PUBLIC WORKS DEPARTMENT</p>			<p>GATE VALVE, BOX, LID AND TAG</p>	<p>UW-2</p>
<p>REV BY CLB/KE</p>	<p>DATE 11/10</p>	<p align="center">MAY 10, 2011</p> <p align="center">DATE OF APPROVAL</p>		
			<p>PAGE 120</p>	



NOTES:

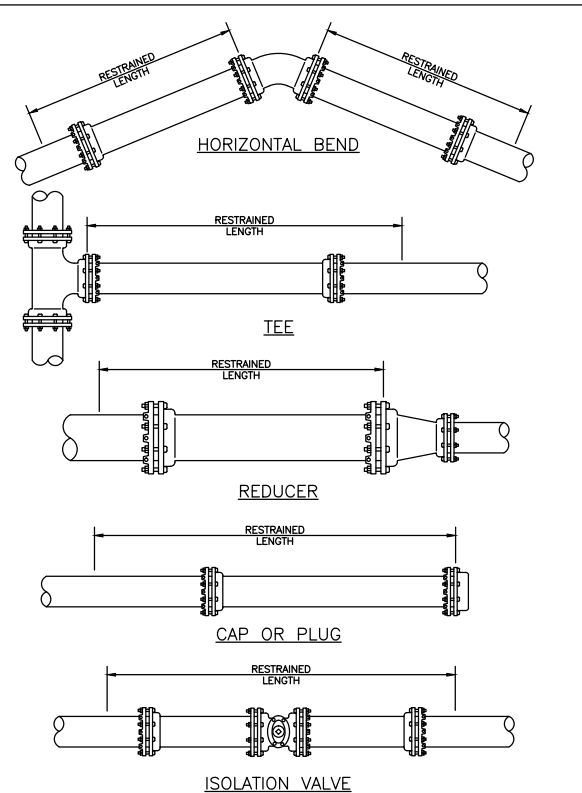
1. "WV" OR "TWV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH IF NO CURB, INSTALL A BLUE DISC WITH "WV" OR PURPLE DISC DISTANCE IN FEET TO THE VALVE. WITH "TWV" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
3. WATER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
4. PRECAST CONCRETE PADS & THRUST BLOCKS SHALL NOT BE USED.
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
6. FOR VALVES 18" AND LARGER, USE BUTTERFLY VALVES.
7. PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD.
8. WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR TEES.
9. BINGHAM & TAYLOR P200NFG OR EQUAL FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET OR PARKING PAD UNDER VEHICLE TRAFFIC, USE P5250G CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		
REV. BY	DATE	
CLB/KE	11/10	
	MAY 10, 2011	
	DATE OF APPROVAL	

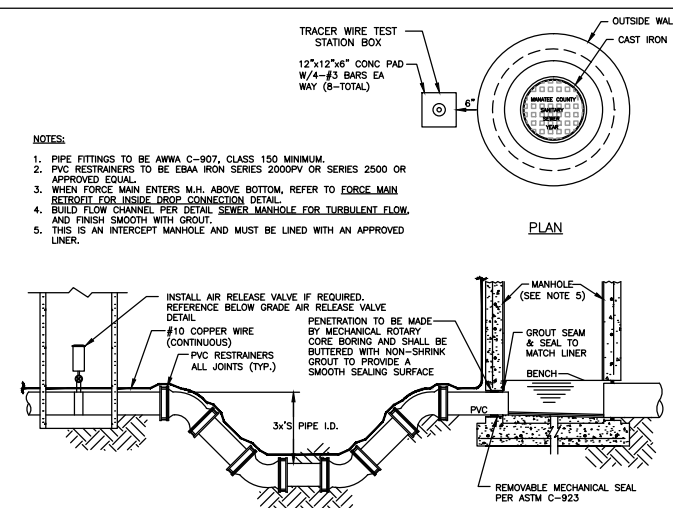
BUTTERFLY VALVE,
BOX, LID AND TAG

UW-3

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MANATEE COUNTY PUBLIC WORKS DEPARTMENT			RESTRAINED LENGTHS FOR PIPE	UG-10
REV. BY	DATE			
CLB/BR	11/10			
MAY 10, 2011				
DATE OF APPROVAL				PAGE 110



MANATEE COUNTY PUBLIC WORKS DEPARTMENT			FORCE MAIN CONNECTION TO MANHOLE	US-9
REV. BY	DATE			
CLB/KE	11/10			
		MAY 10, 2011 DATE OF APPROVAL		
				PAGE 149

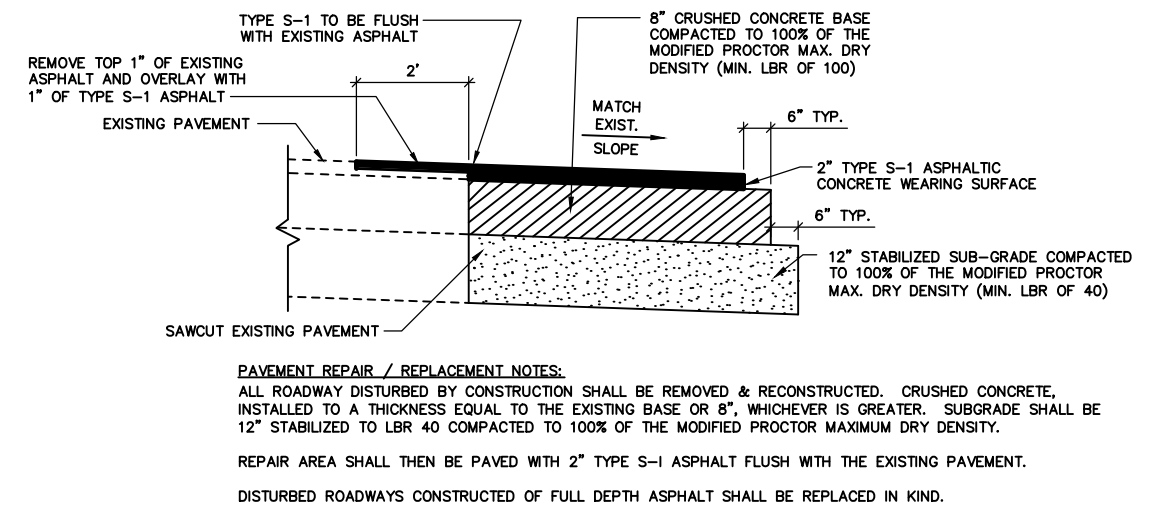
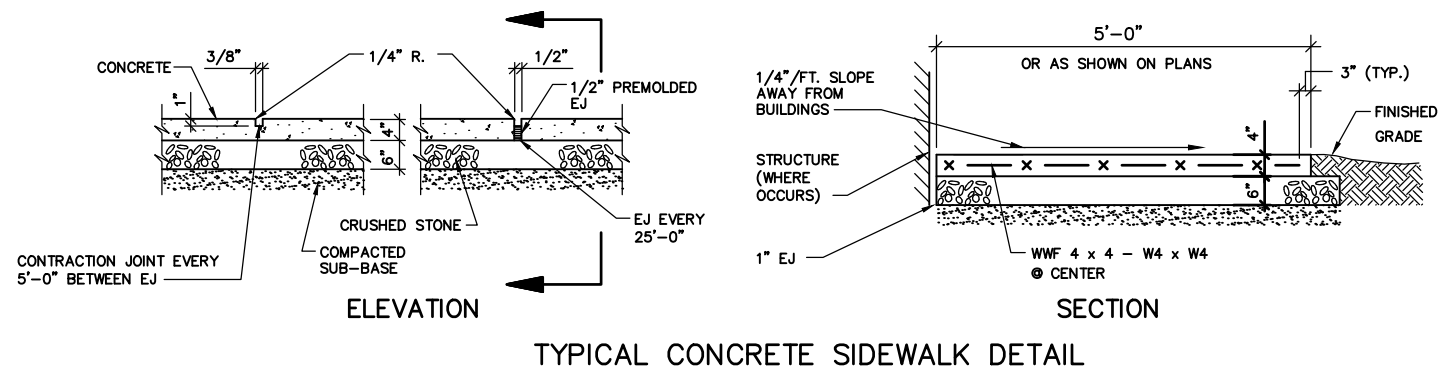
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NO.	BY	DATE	REMARKS

DES	MC
DWN	MC
CKD	JP



MANATEE COUNTY SOUTHEAST WRF LAKE FILTRATION SYSTEM

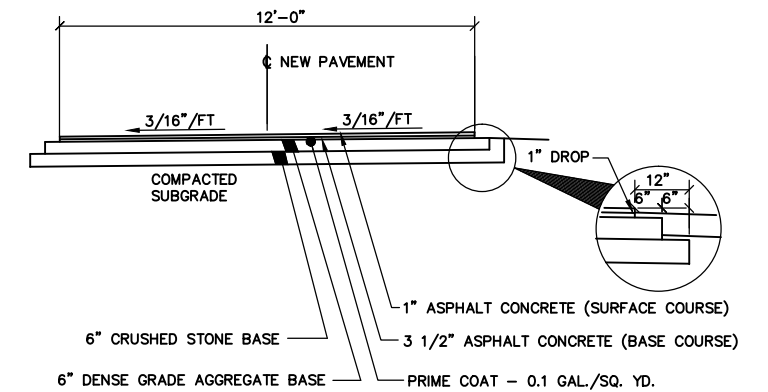
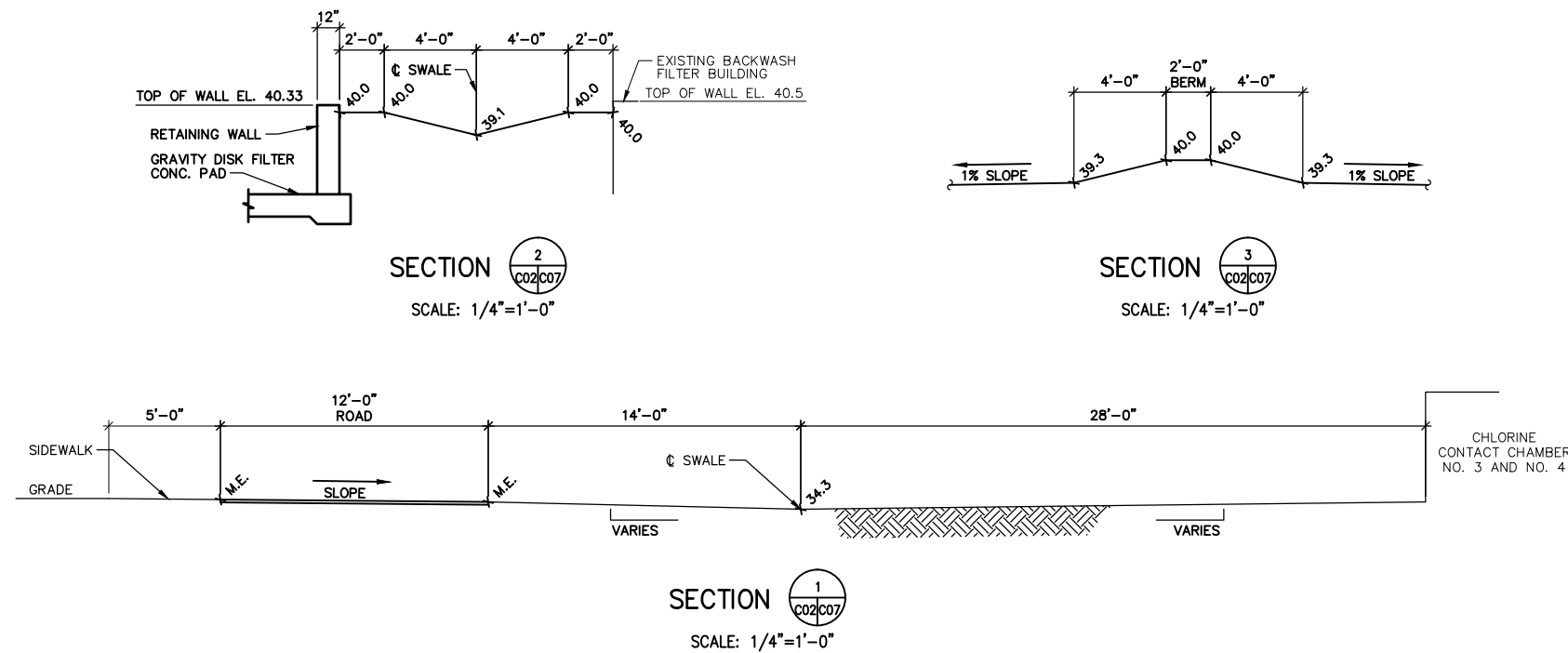
CIVIL DETAILS



TRANSITION BETWEEN NEW AND EXISTING PAVEMENT SECTION DETAIL

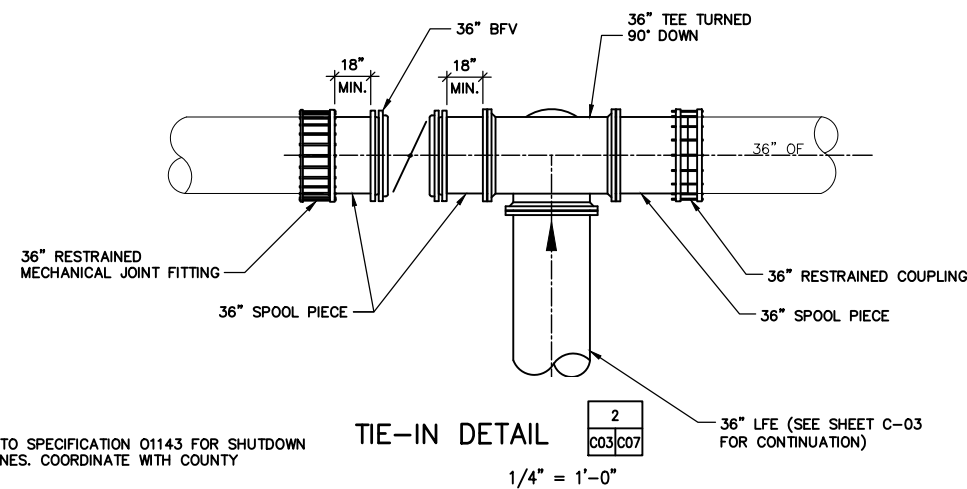
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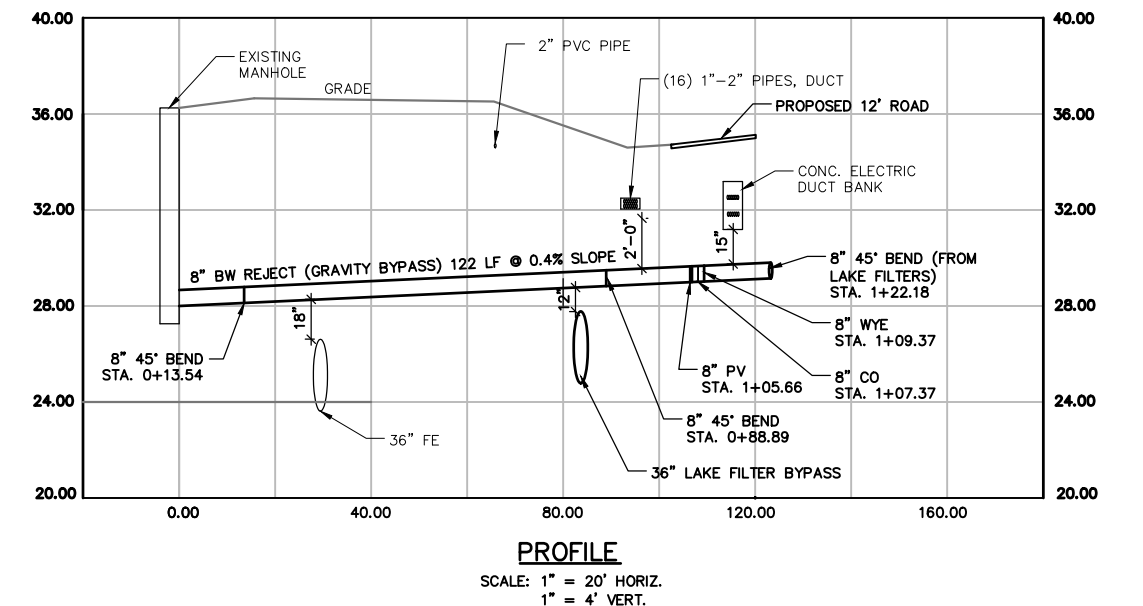


- NOTES:
1. PAVEMENT WIDTH SHALL BE 12'-0" OR AS OTHERWISE INDICATED ON SITE PLAN.
 2. PROVIDE CROWN AND SLOPE AS SHOWN ABOVE FOR ROAD (APPROXIMATELY 2%).

TYPICAL ROADWAY SECTION (TYPE B)



- NOTE:
1. REFER TO SPECIFICATION 01143 FOR SHUTDOWN GUIDELINES. COORDINATE WITH COUNTY



MANATEE COUNTY SOUTHEAST WRF LAKE FILTRATION SYSTEM

CIVIL DETAILS AND SECTIONS

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 MALCOLM PIRNIE, INC.
 THE WATER DIVISION OF ARCADIS
 DATE JULY 2012
 SHEET C-07
 CAD REF. NO. 0132008_C07

MALCOLM PIRNIE
 ARCADIS
 The Water Division of ARCADIS
 CERTIFICATE OF
 AUTHORIZATION NO. 67
 14025 RIVEREDGE DR. SUITE 600
 TAMPA, FLORIDA 33637

BID DOCUMENTS
 CARLTON SERRETTE
 P.E. #63640

REVISIONS			
NO.	BY	DATE	REMARKS

DES MC
 DWN MC
 CKD JP



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GENERAL

- G-1 THESE NOTES ARE GENERAL AND SUPPLEMENTAL TO THE SPECIFICATIONS. THESE NOTES APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
- G-2 STANDARD DETAILS, SHOWN ON DRAWINGS S-04 AND S-05 SHALL BE USED WHEN REFERRED TO, OR WHEN NO DETAILS ARE SHOWN ON THE DRAWINGS.
- G-3 DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE 2007 FLORIDA BUILDING CODE AND 2009 SUPPLEMENTS EXCEPT WHERE OTHER APPLICABLE CODES AND THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.
- G-4 LIVE LOADS:
FLOOR LIVE LOAD = 300 PSF

STAIRS, WALKWAYS,
ELEVATED PLATFORMS: 100 PSF (U.O.N.)
PLATFORMS WITH EQUIPMENT: 150 PSF (U.O.N.)
- G-5 WIND DESIGN:
BASIC WIND SPEED = 130 MPH
IMPORTANCE FACTOR I_w = 1.15
BUILDING CLASSIFICATION = III
EXPOSURE CATEGORY = C
- G-6 ALL DIMENSIONS INDICATED (*) ARE TO BE VERIFIED EITHER BY FIELD MEASUREMENTS FOR EXISTING STRUCTURES OR BY SHOP DRAWINGS FOR EQUIPMENT FURNISHED. STRUCTURAL DIMENSIONS NOT SHOWN BUT CONTROLLED BY OR RELATED TO EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR WITH THE MANUFACTURER PRIOR TO CONSTRUCTION.
- G-7 EQUIPMENT ANCHOR BOLT SIZES, TYPES, AND PATTERNS SHALL BE VERIFIED WITH THE MANUFACTURER. ALL BOLT PATTERNS SHALL BE TEMPLATED TO INSURE ACCURACY OF PLACEMENT.
- G-8 STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.
- G-9 IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE COUNTY IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED BY THE ENGINEER.
- G-10 STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND TEMPORARY SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. OVERSTRESSING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.
- G-11 NO BACKFILL SHALL BE PLACED AGAINST ANY WALL UNLESS ALL SUPPORTING ELEMENTS OF THE STRUCTURE HAVE BEEN CONSTRUCTED AND HAVE REACHED THE SPECIFIED MINIMUM CONCRETE STRENGTH.
- G-12 NO COLD WEATHER CONSTRUCTION OR HOT WEATHER CONSTRUCTION, AS DEFINED IN SPECIFICATION SECTION 03300, IS PERMITTED WITHOUT WRITTEN APPROVAL OF THE COUNTY.
- G-13 OPENINGS AND PENETRATIONS:
THE CONTRACTOR SHALL SUBMIT COMPOSITE DRAWINGS INDICATING ALL FLOOR OPENINGS AND PENETRATIONS THROUGH STRUCTURAL MEMBERS REQUIRED TO ACCOMMODATE ALL OTHER WORK.
THE CONTRACTOR SHALL FOLLOW THE TYPICAL FRAMING DETAILS AT OPENINGS AND REINFORCEMENT DETAILS AT PENETRATIONS THROUGH STRUCTURAL MEMBERS. ACCORDINGLY, THE CONTRACTOR SHALL SUBMIT SHOP DETAILS TO THE ENGINEER FOR REVIEW.

FOUNDATIONS

- F-1 GEOTECHNICAL ENGINEERING SERVICES REPORT
TITLED: GEOTECHNICAL INVESTIGATION REPORT
SOUTHEAST WATER RECLAMATION FACILITY,
MANATEE COUNTY FLORIDA
PREPARED BY: MC SQUARED, INC
DATED: OCTOBER 2011
- F-2 FOUNDATION WORK SHALL FOLLOW THE PROCEDURES RECOMMENDED IN THE GEOTECHNICAL REPORT.
- F-3 THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION TO EXISTING UNDERGROUND UTILITIES. VERIFY UTILITIES LOCATION BEFORE PROCEEDING WITH EXCAVATION.
- F-4 ALL CONSTRUCTION OPERATIONS DEALING WITH EARTHWORK SHALL BE INSPECTED BY AN EXPERIENCED GEOTECHNICAL ENGINEER OR TECHNICIAN APPROVED BY THE COUNTY AND AT THE CONTRACTOR'S EXPENSE.
- F-5 SLAB AND FOUNDATIONS PARAMETERS:
A) UNIT WEIGHT OF BACKFILL = 115 PSF
B) UNIT WEIGHT OF BACKFILL = 52 PSF (BOUYANT)
C) MINIMUM DEPTH OF FOUNDATION BEARING = 1.5 FEET BELOW GRADE
D) MAXIMUM ALLOWABLE NET SOIL PRESSURE = 2000 PSF
E) MODULUS OF SUBGRADE REACTIONS FOR SLABS-ON-GRADE = 100 PSI/IN (AFTER COMPACTION TO 98 PERCENT)
- F-6 ALL EXCAVATIONS SHALL BE ADEQUATELY DEWATERED UNTIL CONCRETE HAS BEEN PLACED. WATER ACCUMULATION EXCEEDING 1 INCH SHALL BE PUMPED OUT.

CONCRETE

- C-1 CONCRETE 28-DAY COMPRESSIVE STRENGTH: 4500 PSI
- C-2 REINFORCEMENT: ASTM A615, GRADE 60, OR ASTM A706, GRADE 60 WHERE REINFORCEMENT IS TO BE WELDED.
- C-3 CONCRETE COVER FOR REINFORCING:
A) SURFACES CAST AGAINST SUBGRADE 3" MIN
B) TOP SURFACES OF SLABS WHERE PVC WATERSTOP IS REQUIRED IN WALLS 3" MIN
C) FORMED SURFACES IN CONTACT WITH WEATHER, SOIL, OR LIQUID 2" MIN
D) BOTTOM SURFACES OF SLABS OVER LIQUID 2" MIN
F) SURFACES NOT IN CONTACT WITH WEATHER, SOIL, OR LIQUID 1 1/2" MIN
- C-4 CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE LOCATED AT NO MORE THAN 40' ON CENTER. CONSTRUCTION JOINT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER.
- C-5 EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DOCUMENTS, SHALL BE PROVIDED FOR PRIOR TO PLACING CONCRETE.
- C-6 AT ALL TYPICAL CURBS, EQUIPMENT PADS, AND PIPE SUPPORT PIERS, REINFORCING DOWELS SHOWN MAY BE REPLACED WITH MATCHING DOWELS SET IN EPOXY IN DRILLED HOLES AS SPECIFIED. DOWELS LOCATED CLOSER THAN 3" FROM ANY EDGE OF CONCRETE SHALL NOT BE REPLACED WITH DRILLED DOWELS.
- C-7 WHERE DRILLED EPOXY DOWELS ARE SHOWN TO BE PLACED INTO HARDENED CONCRETE, ADJUST THE DOWEL LOCATIONS AS NEEDED TO AVOID DRILLING THROUGH ANY REINFORCING BARS. IF THE DOWEL LOCATION NEEDS TO BE MODIFIED, CONTACT THE ENGINEER.
- C-8 WHERE HORIZONTAL CONSTRUCTION JOINTS, LOCATED ABOVE THE FOUNDATION SLAB, EXTEND BEYOND WHERE NEEDED, THEY SHALL BE TERMINATED AT A VERTICAL CONSTRUCTION JOINT AS APPROVED BY THE ENGINEER.
- C-9 DOWELS, ANCHOR BOLTS, PIPES, AND OTHER EMBEDDED ITEMS SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.
- C-10 CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN OR PASS THROUGH COLUMNS OR BEAMS UNLESS INDICATED OTHERWISE OR AUTHORIZED BY ENGINEER.
- C-11 ALL EXPOSED CORNERS SHALL HAVE A 3/4" CHAMFER OR A 1/2" RADIUS TOOLED CORNER.
- C-12 LAP SPLICES SHALL BE IN ACCORDANCE WITH THE TABLE SHOWN ON DRAWING S-04.

ALUMINUM FRAMING

- A-1 ALL ALUMINUM SHALL BE NEW AND CONFORM TO THE APPLICABLE A.S.T.M. SPECIFICATIONS AS REGISTERED WITH "THE ALUMINUM ASSOCIATION". FOR THE ALLOYS LIST BELOW:
- A-2 A. STRUCTURAL SHAPES AND PLATES ALLOY 6061-T6.
B. WELDING FILLER ALLOY 5356.
C. BOLTS - STAINLESS STEEL TYPE AISI TYPE 316.
D. ANCHOR BOLTS - STAINLESS STEEL AISI TYPE 316.
E. EXPANSION BOLTS - STAINLESS STEEL AISI TYPE 316.
- A-3 SHOP CONNECTIONS SHALL BE BOLTED OR WELDED.
- A-4 FIELD CONNECTIONS SHALL BE BOLTED: FIELD WELDING SHALL NOT BE PERMITTED.
- A-5 BRACING SHALL HAVE A MINIMUM OF TWO BOLTS PER CONNECTION UNLESS NOTED.
- A-6 ALL BOLTS SHALL BE 5/8" DIA. MINIMUM UNLESS OTHERWISE NOTED ON CONTRACT DRAWINGS.
- A-7 BEAM CONNECTION SHALL BE PROVIDED TO SUPPORT THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY OF THE BEAM FOR THE SPAN AND ALLOY INDICATED.
- A-8 WHERE ALUMINUM COMES IN CONTACT WITH CONCRETE OR OTHER DISSIMILAR MATERIALS, BACK PAINT ALUMINUM WITH BITUMINOUS PAINT.

ABBREVIATIONS

AB	ANCHOR BOLTS	JT	JOINT
ADD'L	ADDITIONAL		
AL	ALUMINUM	L	ANGLE (STRUCTURAL SHAPE)
ALT	ALTERNATE	LL	LIVE LOAD
		LLH	LONG LEG HORIZ
		LLV	LONG LEG VERT
BOT	BOTTOM	LP	LOW POINT
BRG	BEARING		
C	CHANNEL STRUCTURAL SHAPE	MAX MECH	MAXIMUM MECHANICAL
CJ	CONSTRUCTION JOINT	MFR	MANUFACTURE, MANUFACTURER
CL	CLEAR	MID	MIDDLE
CONC	CONCRETE	MIN	MINIMUM
CONN	CONNECTION		
CONST	CONSTRUCTION		
CONT	CONTINUOUS	N	NORTH
C/C	CENTER TO CENTER	NF	NEAR FACE
CTR	CENTER	#	NUMBER
		NTS	NOT TO SCALE
DET	DETAIL		
DIA	DIAMETER		
DIAG	DIAGONAL	OC	ON CENTER
DIM	DIMENSION	OD	OUTSIDE DIAMETER
DL	DEAD LOAD	OF	OUTSIDE FACE
DN	DOWN	OPNG	OPENING
DP	DEEP	OPP	OPPOSITE
DWG	DRAWING		
DWL	DOWEL		
		PL	PLATE
		PSF	POUNDS PER SQUARE FOOT
		PVC	POLYVINYL CHLORIDE
E	EAST		
EA	EACH		
EF	EACH FACE		
EJ	EXPANSION JOINT		
EL	ELEVATION	R	RADIUS, RISER
EMB	EMBEDMENT	REINF	REINFORCEMENT
EQ	EQUAL	REQD	REQUIRED
EQUIP	EQUIPMENT	RO	ROUGH OPENING
ES	EACH SIDE		
EW	EACH WAY		
EW T&B	EACH WAY TOP & BOTTOM	S	SOUTH
EXIST	EXISTING	SECT	SECTION
EXP	EXPANSION	SH	SHEET
		SIM	SIMILAR
		SL	SLAB
		SPEC	SPECIFICATION
		SQ	SQUARE
FIN	FINISH	SS	STAINLESS STEEL
FL	FLOOR	STD	STANDARD
FTG	FOOTING	STL	STEEL
		STRUCT	STRUCTURAL
GA	GAUGE		
GALV	GALVANIZE	T&B	TOP AND BOTTOM
GD	GRADE	TOC	TOP OF CONCRETE
GRTG	GRATING	THK	THICK
		T/	TOP OF
H	HIGH	T	TREAD
HT	HEIGHT	TYP	TYPICAL
HORZ	HORIZONTAL		
HP	HIGH POINT	UON	UNLESS OTHERWISE NOTED
HS	HIGH STRENGTH		
		VERT	VERTICAL
ID	INSIDE DIAMETER		
IF	INSIDE FACE	W/	WITH
		WP	WORKING POINT
		WS	WATERSTOP

MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM

STRUCTURAL GENERAL NOTES, DESIGN
LOADS, CRITERIA AND LEGEND

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MALCOLM PIRNIE, INC.
THE WATER DIVISION OF ARCADIS
DATE JULY 2012
SHEET S-01
CAD REF. NO. 0132008_S01

MALCOLM
PIRNIE


The Water Division of ARCADIS

CERTIFICATE OF
AUTHORIZATION NO. 67
14025 RIVEREDGE DR. SUITE 600
TAMPA, FLORIDA 33637

H. A. HOBI
P.E. #59360

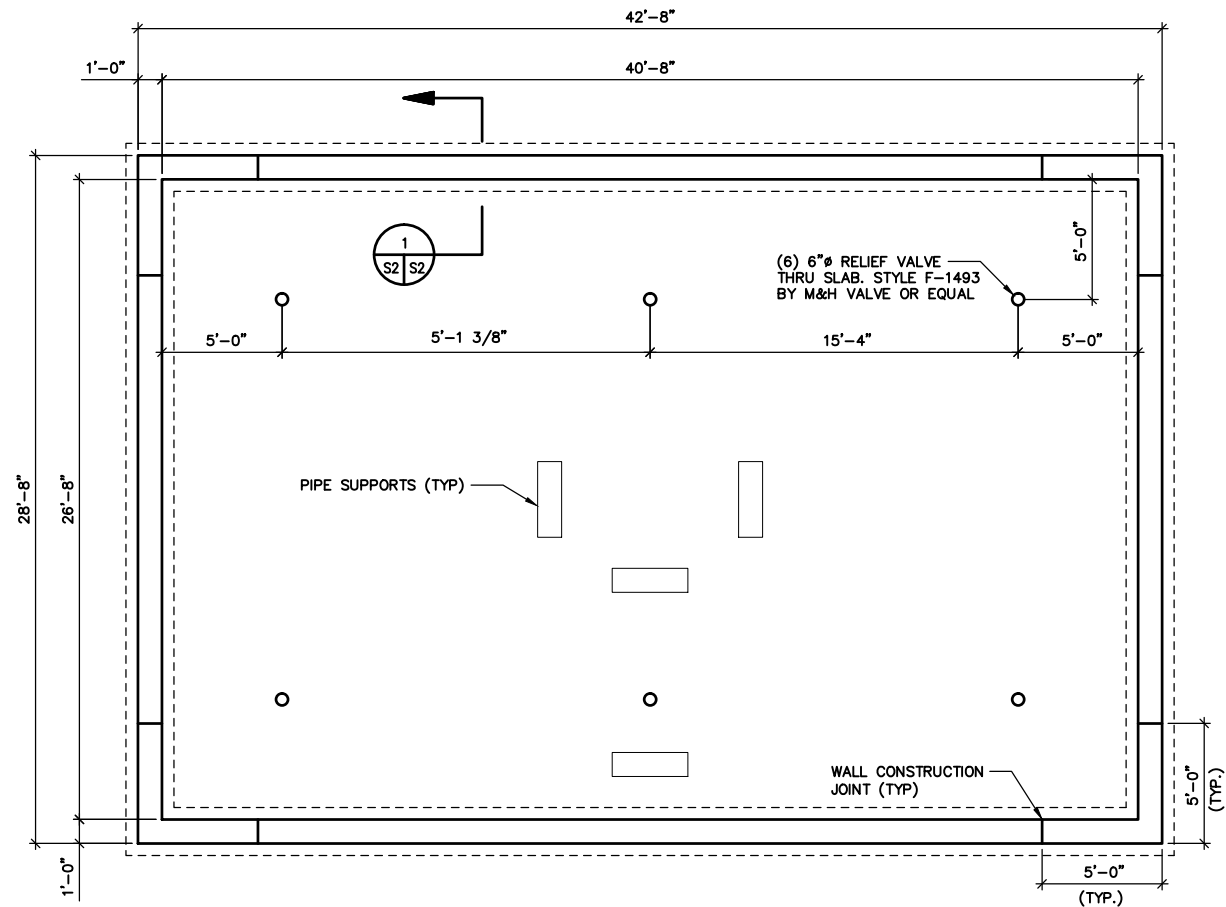
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REVISIONS			
NO.	BY	DATE	REMARKS

DES SH
DWN SH
CKD SH



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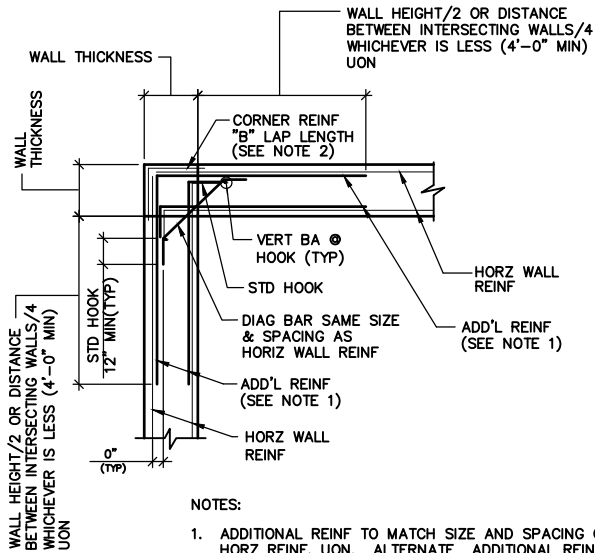


CONC. INTAKE STRUCTURE(S)
SCALE: 1/4"=1'-0"

LAKE NAME	TOP OF WALL EL.	TOP OF CONCRETE EL.	NORTH ARROW	COFFERDAM
SOUTH LAKE NO. 1	33.00	29.00		NOT REQUIRED
SOUTH LAKE NO. 2	17.50	13.50		REQUIRED
EAST LAKE	27.00	23.00		REQUIRED

NOTES:

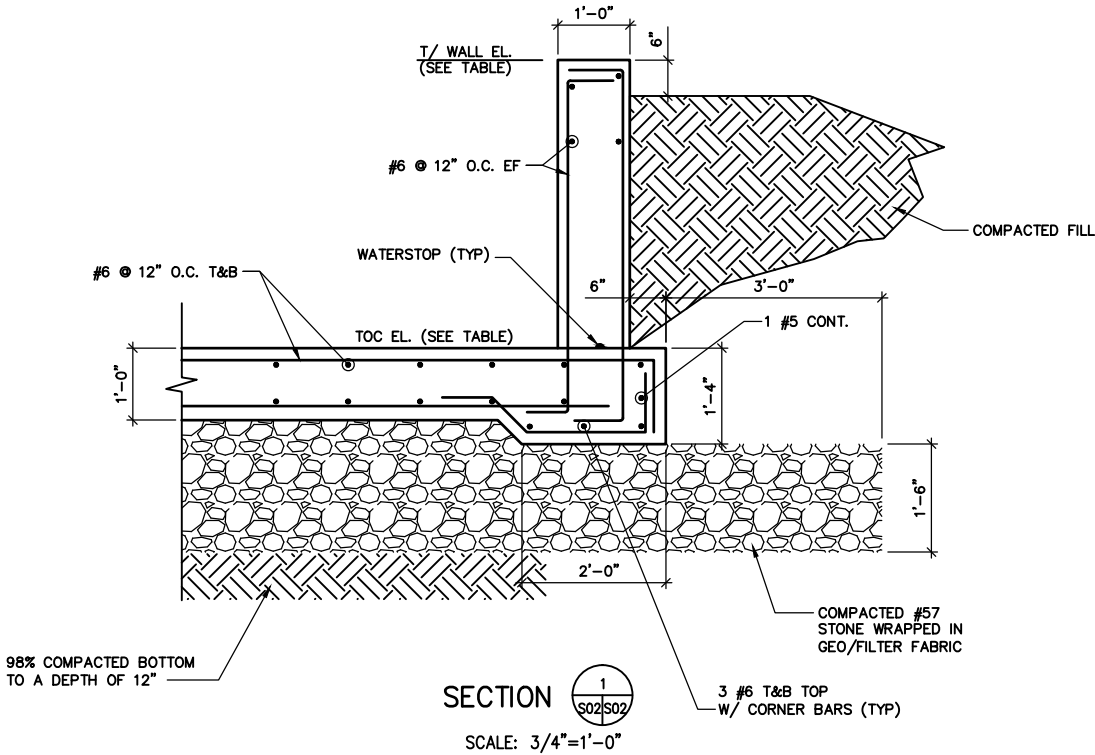
- CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING HIS OWN GEOTECHNICAL INVESTIGATION AT EACH INTAKE STRUCTURE LOCATION BEFORE START OF CONSTRUCTION.
- CONTRACTOR SHALL SUBMIT DEWATERING PLANS AND SIGNED AND SEALED COFFERDAM CALCULATIONS AND DRAWINGS FOR SOUTH LAKE NO. 2 AND EAST LAKE, TO ENGINEER FOR APPROVAL. SEE SPECIFICATION SECTION 02221.
- CONTRACTOR SHALL KEEP EXCAVATION DEWATERED DURING INTAKE CONSTRUCTION.
- EXCAVATION BOTTOM SHALL BE INSPECTED AND APPROVED BY GEOTECHNICAL ENGINEER BEFORE PLACING #57 STONE.
- SOUTH LAKE NO. 1 IS OUT OF SERVICE AND SHALL NOT REQUIRE A COFFERDAM AT TIME OF DEMOLITION, BUT WILL REQUIRE DE-WATERING.



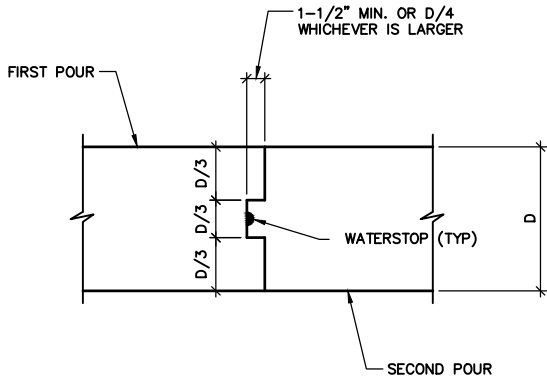
NOTES:

- ADDITIONAL REINF TO MATCH SIZE AND SPACING OF WALL HORZ REINF, UON. ALTERNATE ADDITIONAL REINF WITH HORZ WALL REINF. REINF MAY BE COMBINED WHERE LAPPING OF ADDITIONAL REINF FROM ADJACENT WALL INTERSECTION OCCURS.
- PROVIDE CORNER BAR REINF AT ALL WALL CORNERS AS SHOWN. CORNER BAR REINF TO MATCH SIZE AND SPACING OF WALL HORZ REINF.

TYPICAL ADDITIONAL REINFORCEMENT
DETAIL AT WALL CORNERS
(INTAKE STRUCTURE ONLY)



SECTION 1
SCALE: 3/4"=1'-0"



NOTES:

- CARRY ALL REINFORCEMENT THROUGH JOINT.
- POUR LONGER WALLS FIRST.

TYPICAL WALL CONSTRUCTION JOINT DETAIL
SCALE: 1-1/2"=1'-0"



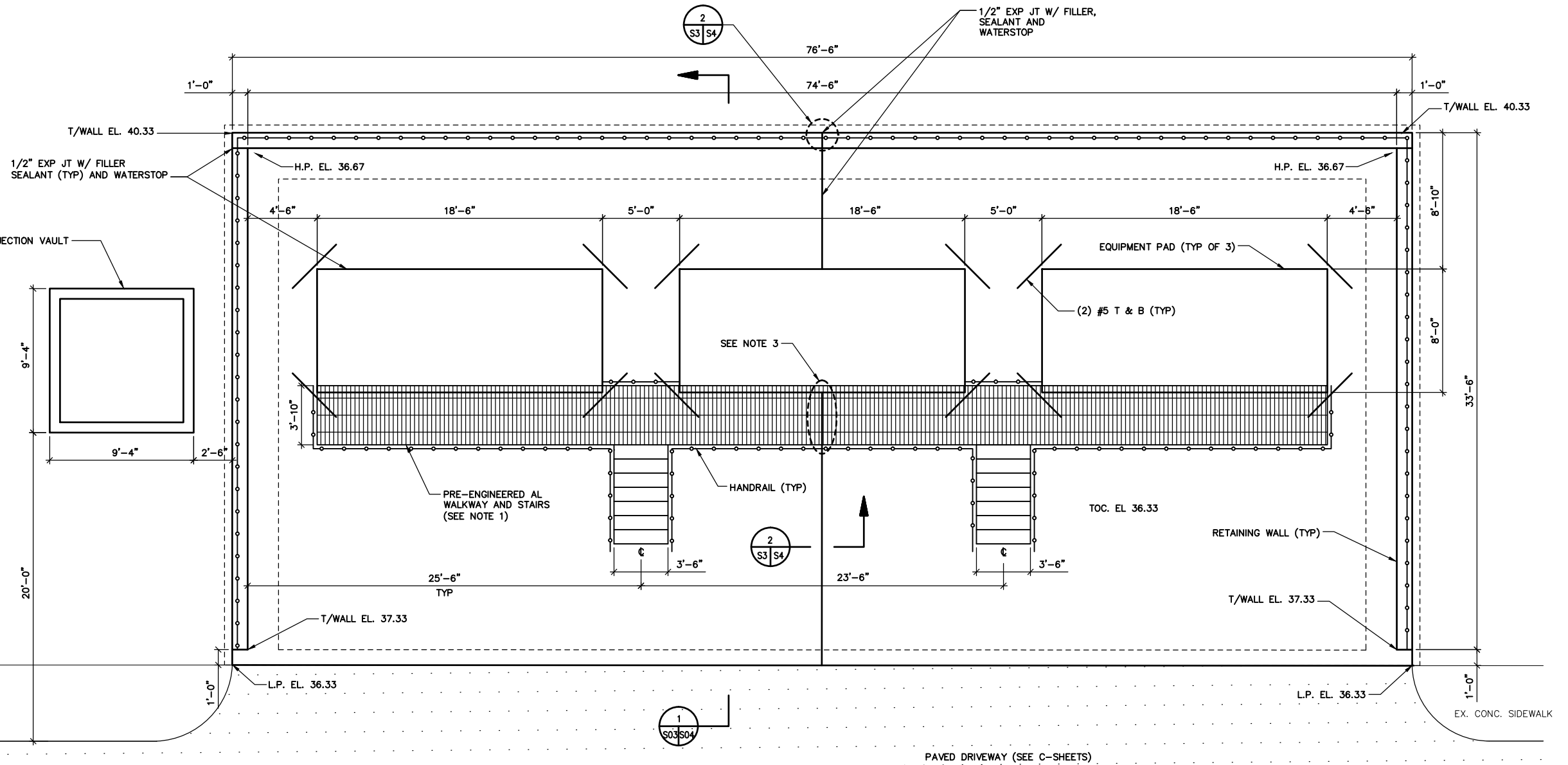
2 0 6
SCALE: 1/4" = 1'-0"

AUTOMATIC
BACKWASH FILTERS
NO. 1 AND 2

CHLORINE
CONTACT CHAMBER
NO. 1 AND 2

1
S03 M07

CHEMICAL INJECTION VAULT



NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR ALUMINUM STAIRS AND PLATFORM SIGNED AND SEALED BY FLORIDA PE.
2. ALL ALUMINUM SECTIONS SHALL BE SIZED BY THE MANUFACTURER TO RESIST APPLICABLE LOADS.
3. HANDRAILS AND PLATFORM SHALL HAVE EXPANSION JOINT OVER SLAB EXPANSION JOINT.

MALCOLM PIRNIE
The Water Division of ARCADIS
CERTIFICATE OF
AUTHORIZATION NO. 67
14025 RIVEREDGE DR. SUITE 600
TAMPA, FLORIDA 33637

BID DOCUMENTS

H. A. HOBI
P.E. #59360

REVISIONS				NO.	BY	DATE	REMARKS
DES	SH	DWN	MC				

DES SH
DWN MC
CKD SH

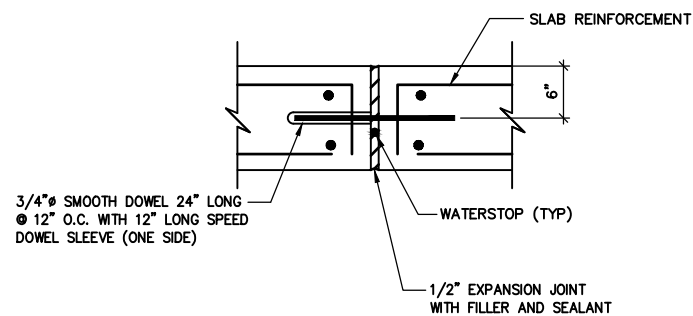
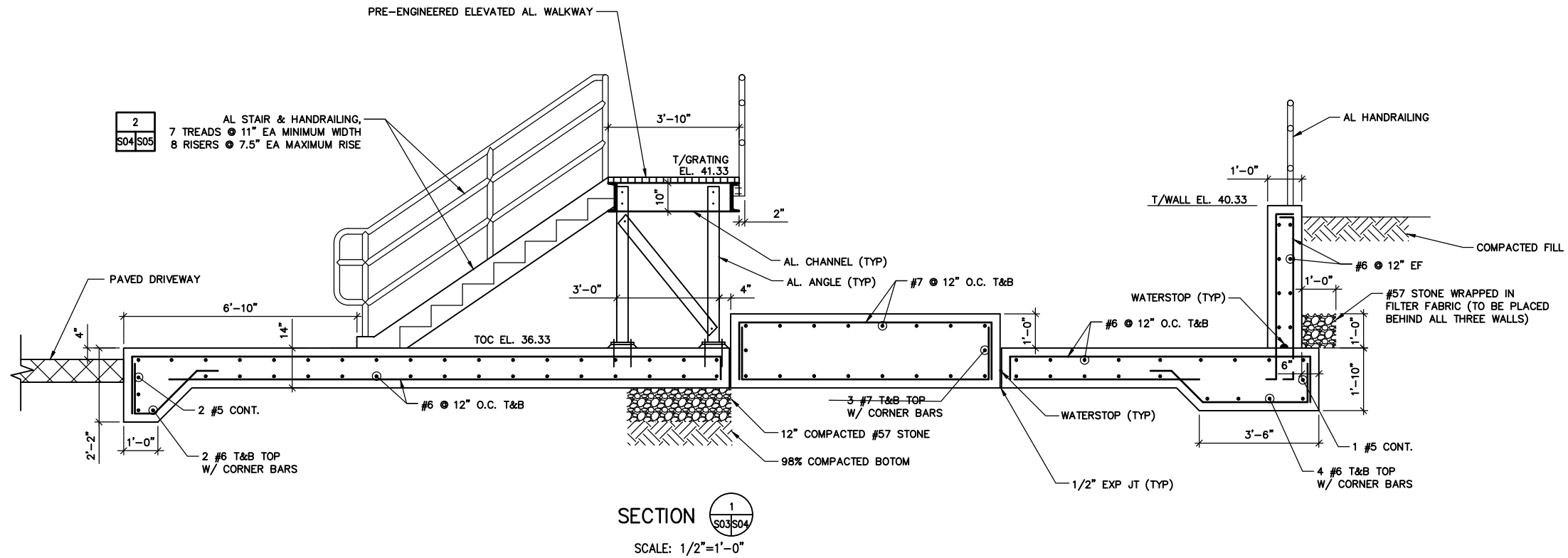


**MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM**

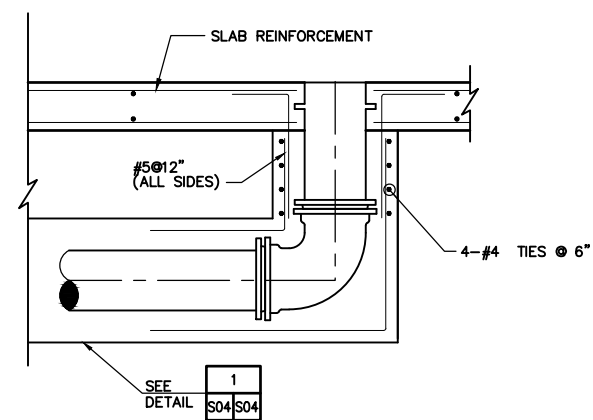
**LAKE GRAVITY DISK FILTER
FOUNDATION PLAN**

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MALCOLM PIRNIE, INC.
THE WATER DIVISION OF ARCADIS
DATE JULY 2012
SHEET S-03
CAD REF. NO. 0132008_S03

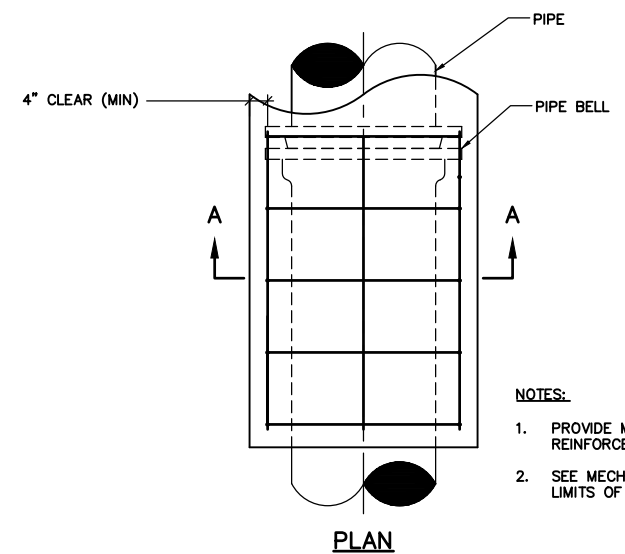
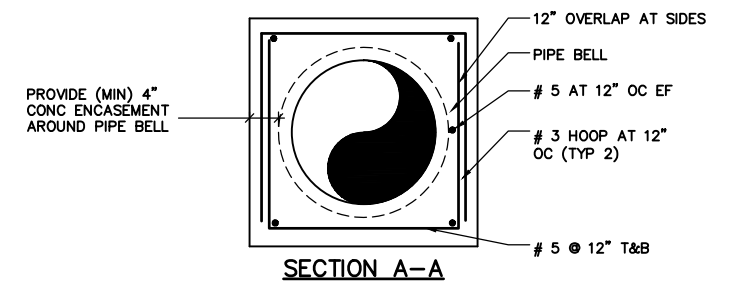
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2
S3 S4 TYPICAL EXPANSION JOINT DETAIL



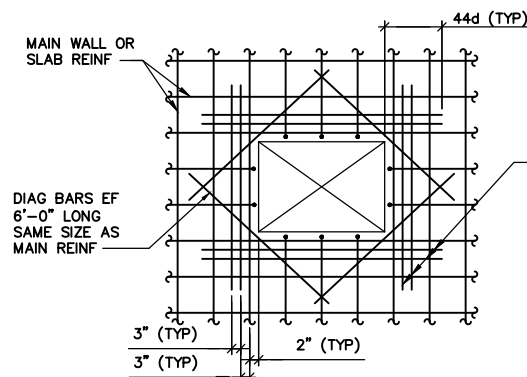
TYPICAL PIPE ENCASEMENT DETAIL



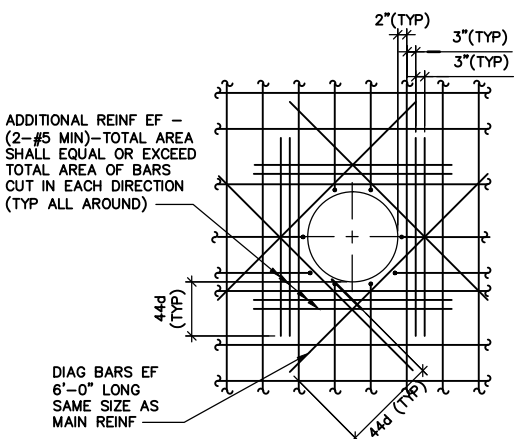
1
S04 S04 TYPICAL CONCRETE ENCASEMENT DETAIL

REVISIONS				NO.	BY	DATE	REMARKS
DES	SH	DWN	MC				

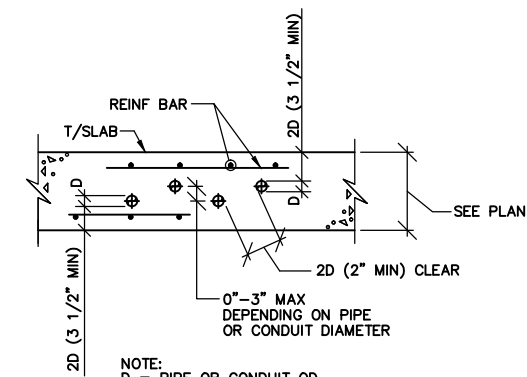




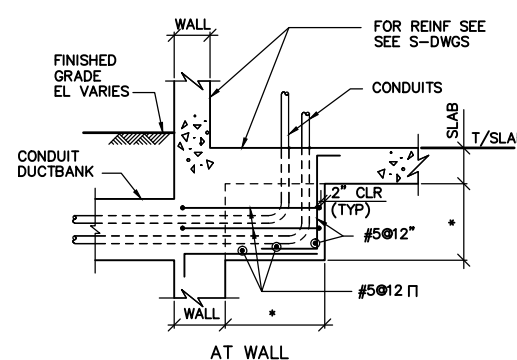
NOTE: PROVIDE STD HOOK AT END OF ALL BARS TERMINATING AT OPNG.
RECTANGULAR (8" SQ OR LARGER)



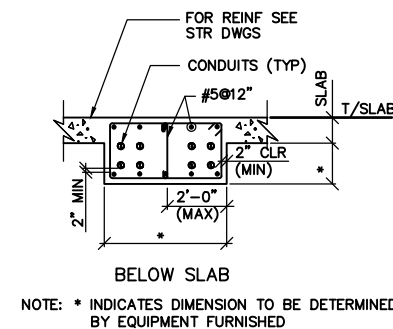
NOTE: PROVIDE STD HOOK AT END OF ALL BARS TERMINATING AT OPNG.
CIRCULAR (8" DIA OR LARGER)
REINFORCEMENT AT OPENINGS IN
WALLS AND SLABS



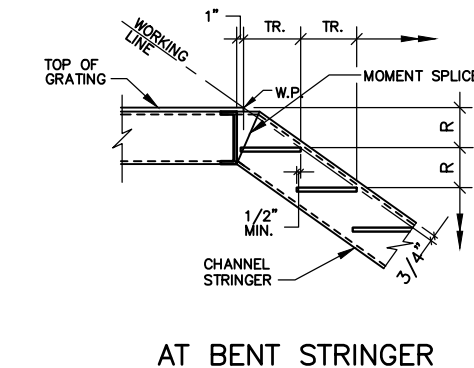
TYPICAL CONDUIT ENCASEMENT DETAIL



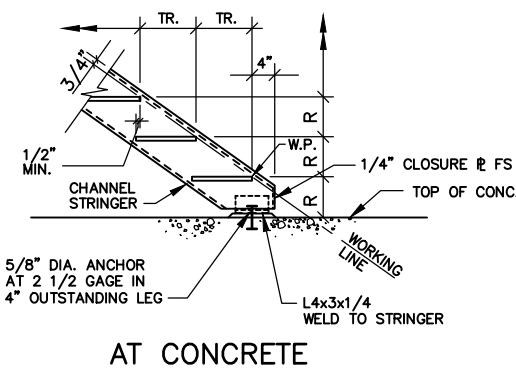
TYPICAL PIPE/VALVE SUPPORT DETAIL



TYPICAL EQUIPMENT SUPPORT PAD DETAIL
NOT TO SCALE
FOR ALL EQUIPMENT SUPPORT PADS



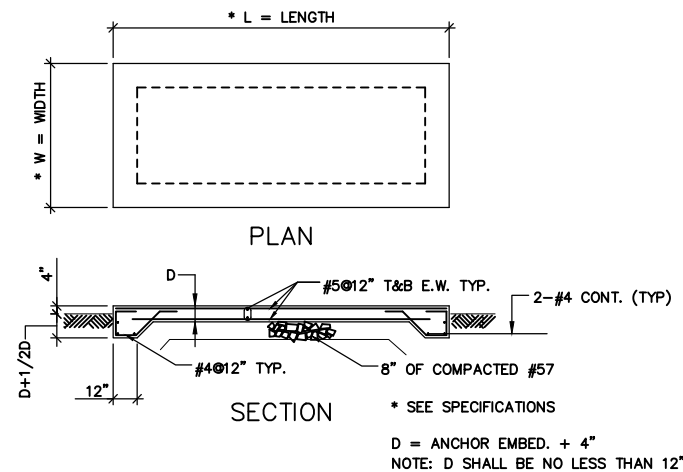
AT BENT STRINGER



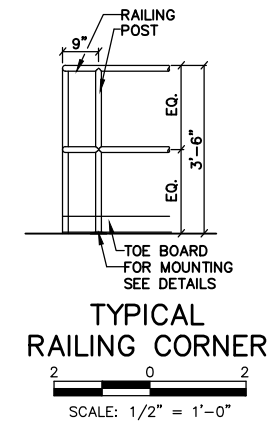
AT CONCRETE

EMBEDMENT CHART		
BOLT DIA. (IN.)	L (IN.)	
	F1554 GRADE A36 A582 TYPE 316	F1554 GRADE 105
1/2	6	8 1/2
5/8	7 1/2	11
3/4	9	13
7/8	10 1/2	15
1	12	17
1 1/8	13 1/2	19 1/2
1 1/4	15	21 1/2
1 3/8	16 1/2	23 1/2
1 1/2	18	25 1/2

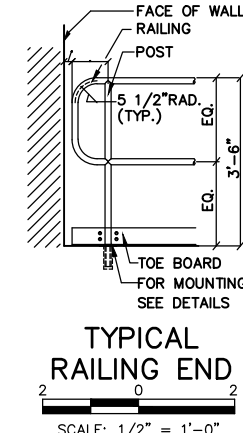
TYPICAL ANCHOR BOLT DETAIL



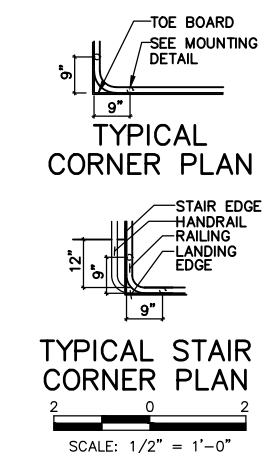
ANALYZER PAD DETAIL
NOT TO SCALE



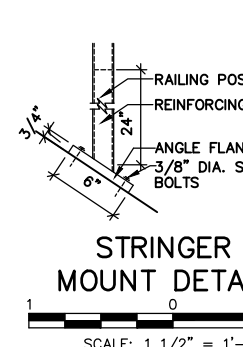
TYPICAL RAILING CORNER



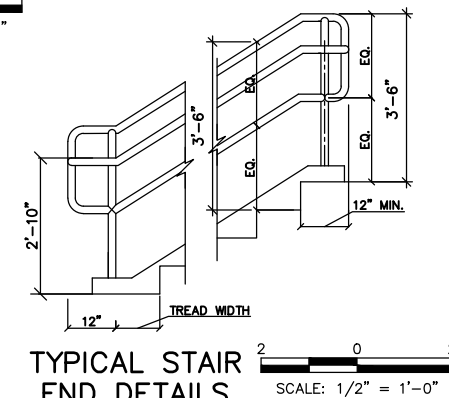
TYPICAL RAILING END



TYPICAL STAIR CORNER PLAN



STRINGER MOUNT DETAIL



TYPICAL STAIR END DETAILS

REVISIONS			
NO.	BY	DATE	REMARKS

