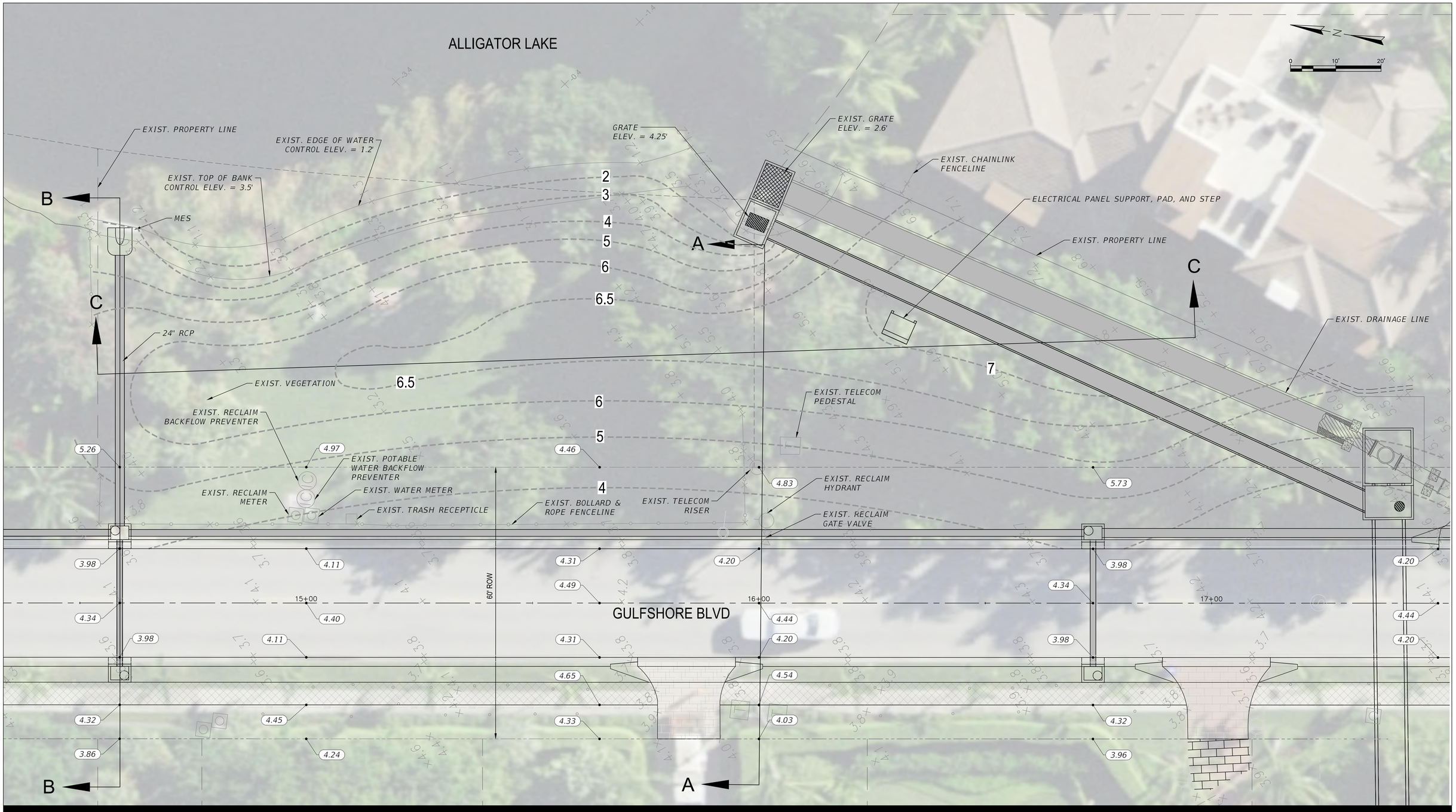

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Revision	By	Appd.	YY.MM.DD

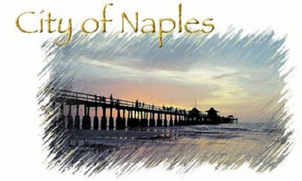
Issued	By	Appd.	YY.MM.DD
ISSUED 90% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	22.04.15
ISSUED 75% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	21.05.13

ECE
Erickson Consulting Engineers
7201 Delainey Court
Sarasota, FL 32420
www.ericksonconsultingengineers.com

Client/Project
CITY OF NAPLES
735 8th St S
NAPLES, FL.
Naples Beach Restoration & Water Quality Improvement Project

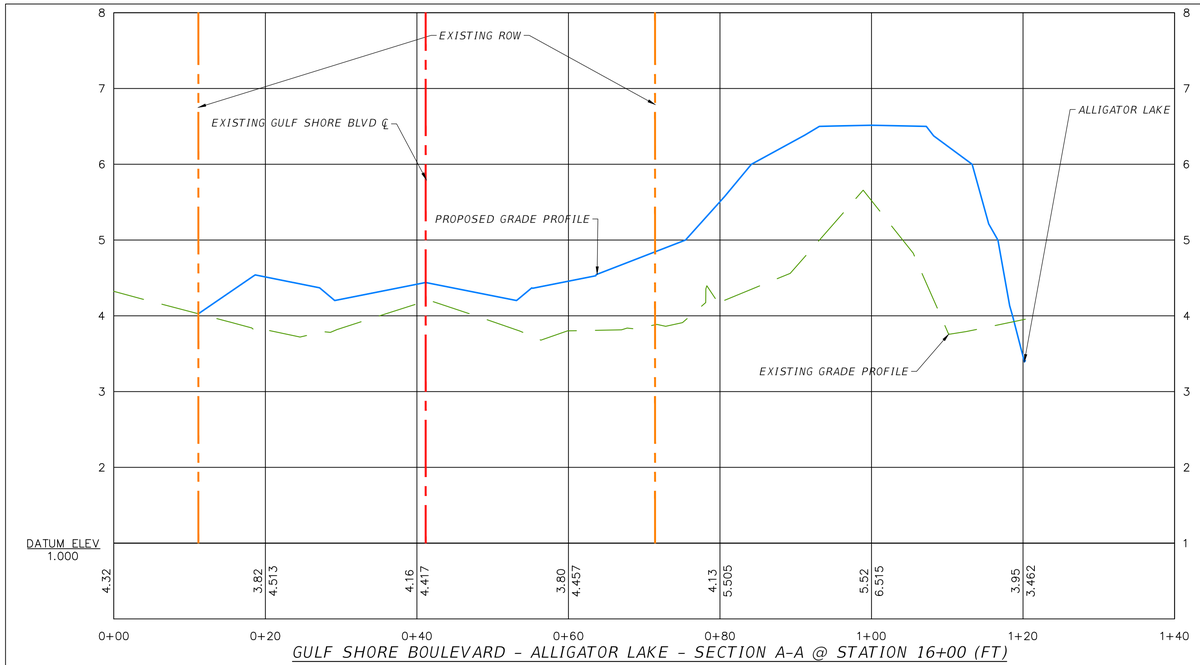
File Name: ALLIGATOR_LAKE_GRD_PLN.dwg

JAW	SMT	KME	21.06.01
Dwn.	Chkd.	Dsgn.	YY.MM.DD

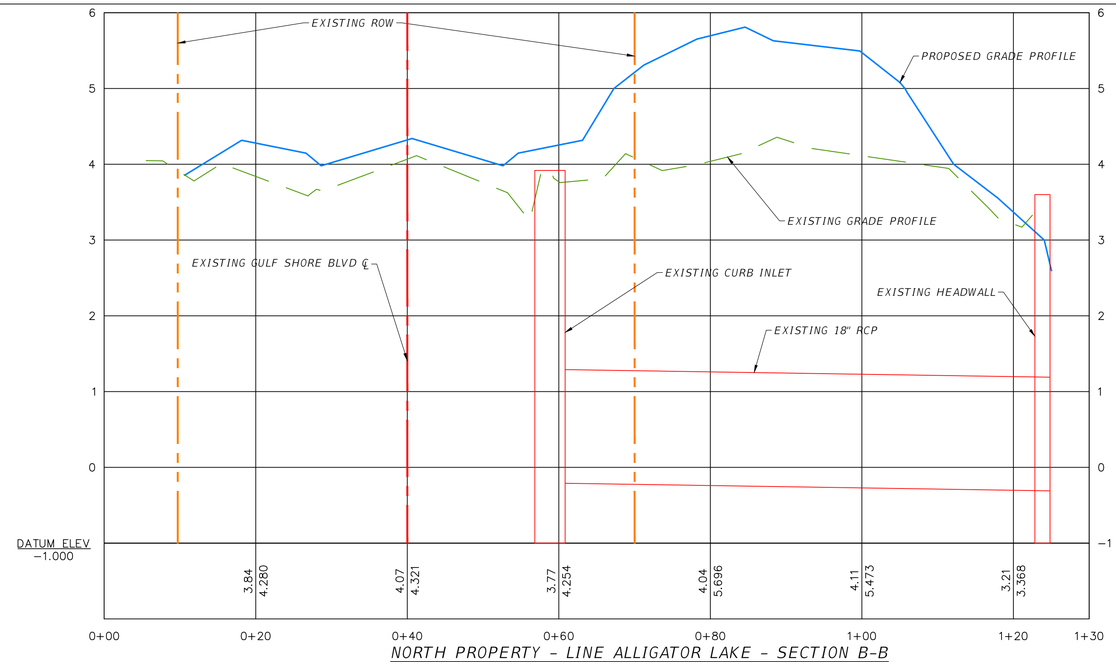


Title
ALLIGATOR LAKE PARK
GRADING PLAN

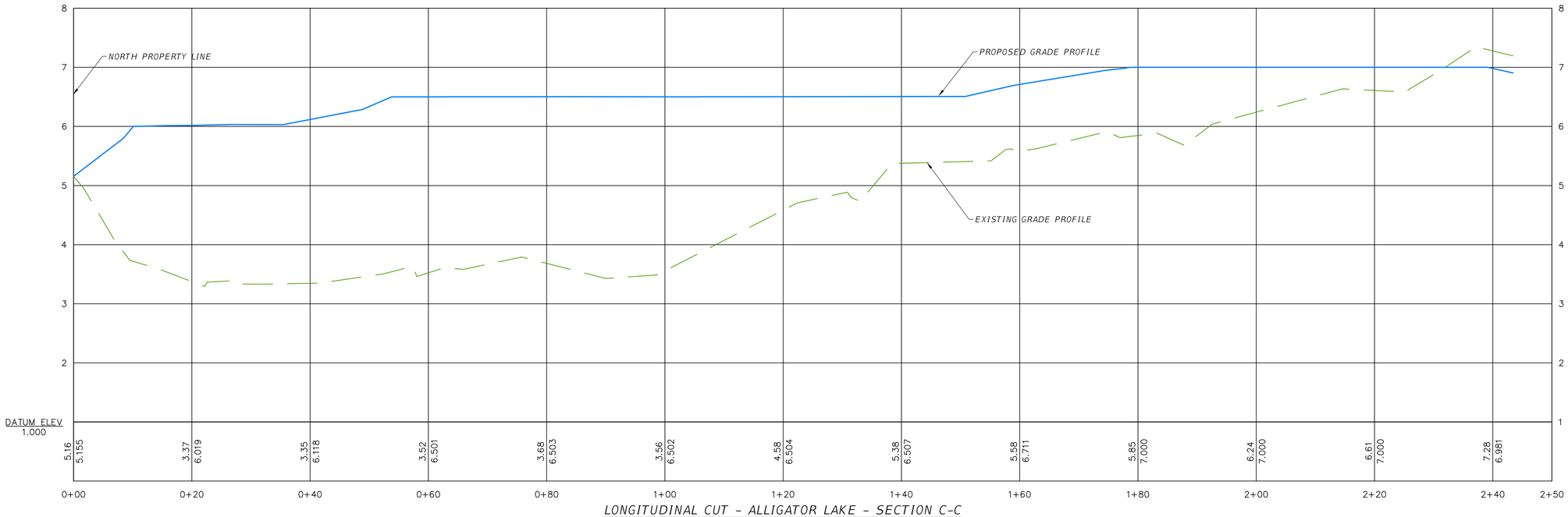
Project No.	Scale	
16-329	AS NOTED	
Drawing No.	Sheet	Revision
GP	101	0



GULF SHORE BOULEVARD - ALLIGATOR LAKE - SECTION A-A @ STATION 16+00 (FT)



NORTH PROPERTY - LINE ALLIGATOR LAKE - SECTION B-B



LONGITUDINAL CUT - ALLIGATOR LAKE - SECTION C-C

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD
ISSUED 90% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	22.04.15
ISSUED 75% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	21.05.13

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Client/Project
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735 8th St S
NAPLES, FL.
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File Name: ALLIGATOR_LAKE_GRD_PLN.dwg

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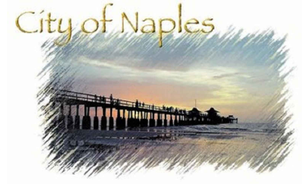
Dwn.	Chkd.	Dsgn.	YY.MM.DD



Title
ALLIGATOR LAKE PARK
CROSS SECTIONS

Project No.	Scale	
16-329	AS NOTED	
Drawing No.	Sheet	Revision
GP	102	0

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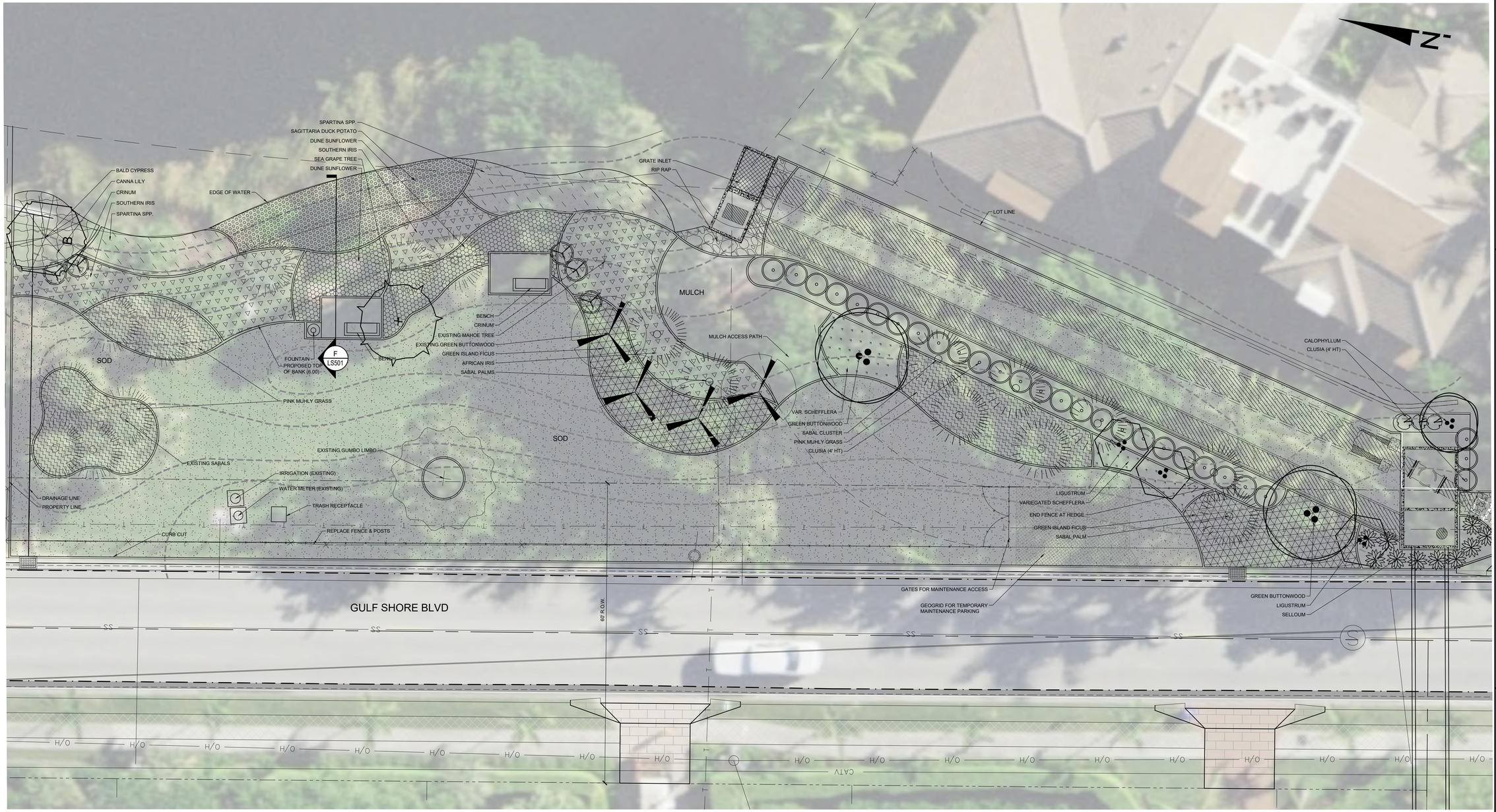


IMPORTANT!

- *CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND DRAINAGE LOCATIONS PRIOR TO START OF CONSTRUCTION.*
- *EXISTING WATER METER AND IRRIGATION METER, BACKFLOWS TO REMAIN.*
- *CONTRACTOR SHALL TAKE PRECAUTIONS NEEDED TO PREVENT DAMAGE TO EXISTING UTILITIES TO REMAIN.*
- *SITE FURNISHINGS SHALL BE BE RELOCATED AND STORED TO PREVENT DAMAGE DURING CONSTRUCTION UNTIL READY FOR INSTALLATION.*
- *GRADING CONTOURS SHOWN ARE FOR CONCEPTUAL PURPOSES AND SHALL BE FINALIZED AND FINAL FINISH GRADE SHALL BE REVIEWED IN THE FIELD PRIOR TO INSTALLATION OF SITE FURNISHINGS.*
- *PRECAUTIONS SHALL BE TAKEN FOR EXISTING TREES AND PALMS TO REMAIN PRIOR TO START OF SITE GRADING TO PREVENT DAMAGE TO ROOT ZONE INSTALL SILT FENCE PER DETAIL.*

PLANT LEGEND

- *BALD CYPRESS*
- *SEA GRAPE TREE*
- *GREEN BUTTONWOOD*
- *LIGUSTRUM*
- *CALLOPHYLUM*
- *SABAL PALM*
- *EXISTING SABAL PALM*
- *EXISTING MAHOE*
- *EXISTING GUMBO LIMBO*
- *SELLOUM*
- *RED TIPPED COCOPLUM*
- *WAX MYRTLE OR CRINUM*
- *SAGITTARIA DUCK POTATO*
- *VARIEGATED SCHEFFLERA*
- *DUNE SUNFLOWER*
- *GREEN ISLAND FICUS*
- *CANNA LILY*
- *IRIS SP.*
- *PINK MUHLY GRASS*
- *SPARTINA SP.*
- *LIRIOPE*

WALDROP ENGINEERING
CIVIL ENGINEERING & LAND DEVELOPMENT CONSULTANTS
28100 BONITA GRANDE DRIVE - SUITE 305 BONITA SPRINGS, FL 34135
P: 239-405-7777 F: 239-405-7699 EMAIL: info@waldropengineering.com

ENHANCED LANDSCAPE PLANS FOR

ALLIGATOR LAKE PARK

CLIENT: CITY OF NAPLES

LANDSCAPE PLAN

PLAN REVISIONS

05/07/21	REVISED PER CLIENT COMMENTS	REV09 <<75% PROGRESS REVIEW>> 4/7/2021
05/17/21	REVISED PER CLIENT COMMENTS	
08/16/21	90% REVIEW & REVISED PER CLIENT COMMENTS	

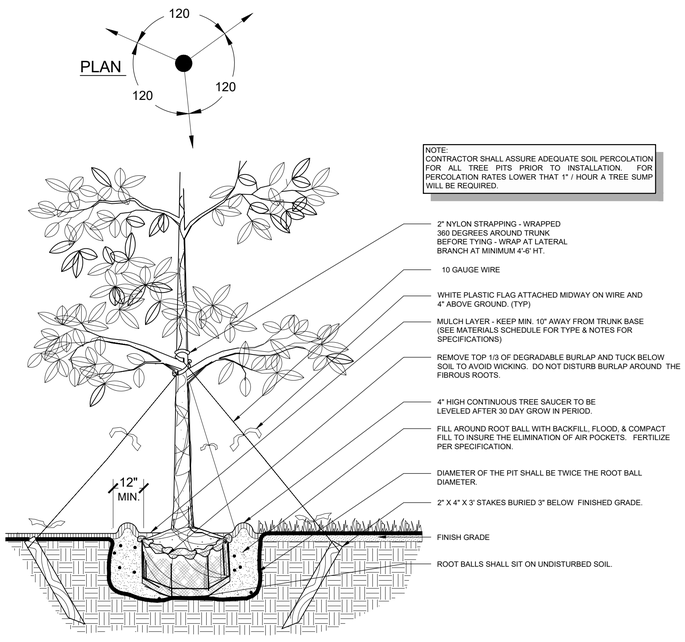
0 5 10 20
SCALE IN FEET

FLORIDA CERTIFICATE OF AUTHORIZATION #LC26000385

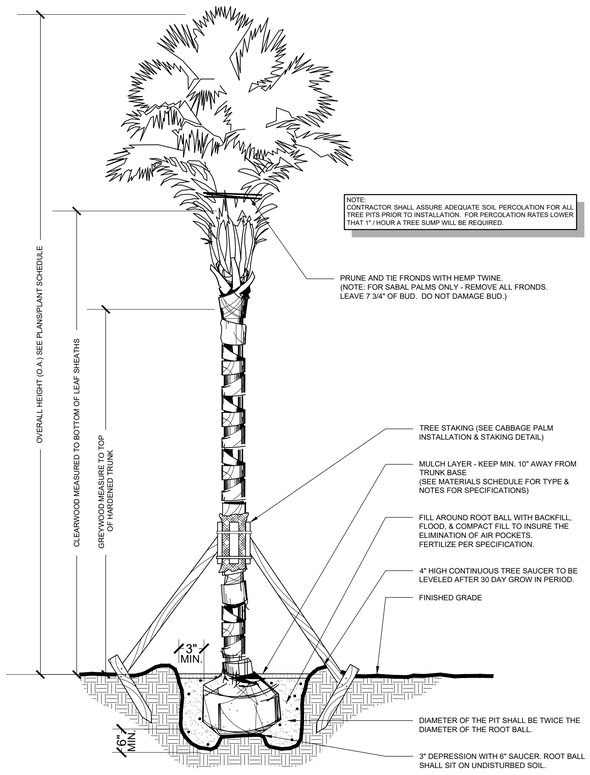
SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

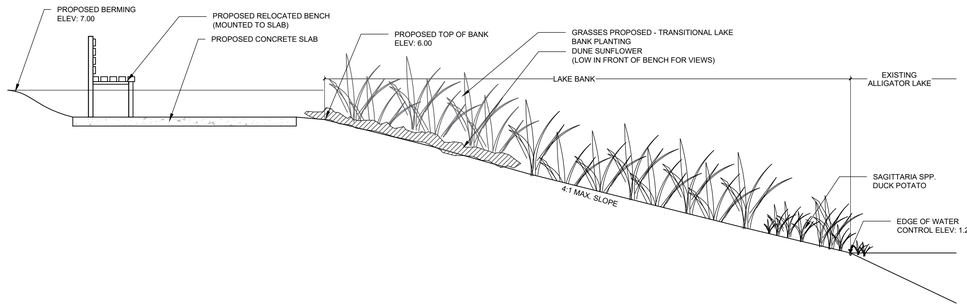
SHEET : LP101



D LARGE TREE INSTALLATION & STAKING
SCALE: N.T.S.



E PALM INSTALLATION
SCALE: N.T.S.



E LITTORAL/LAKE BANK CROSSECTION
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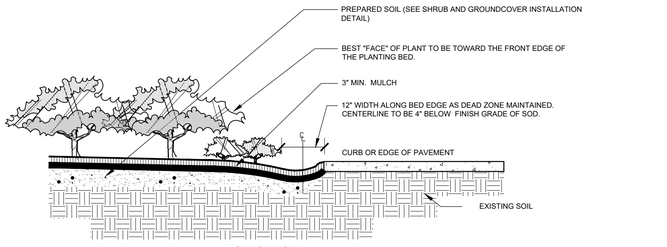
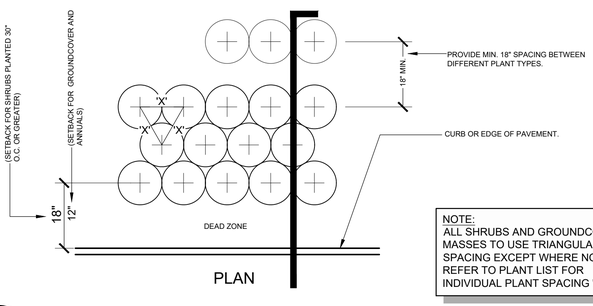
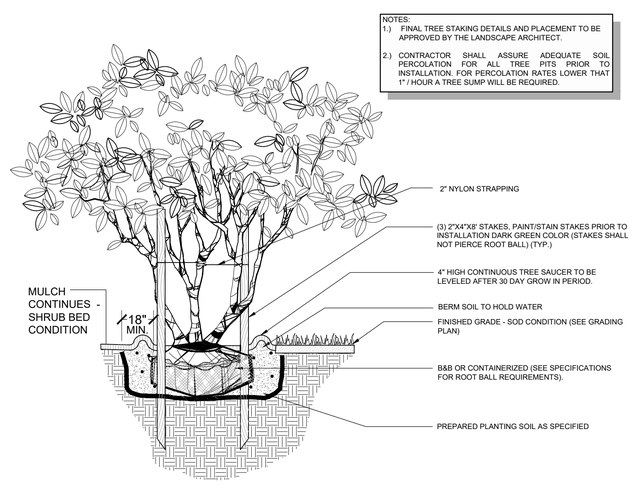


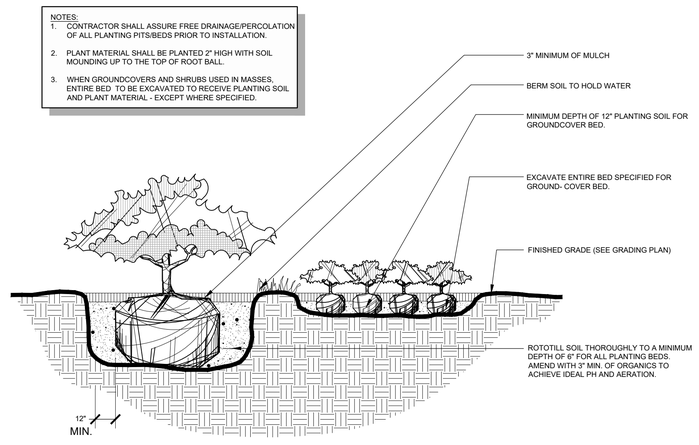


NOTE:
ALL SHRUBS AND GROUNDCOVER MASSES TO USE TRIANGULAR SPACING EXCEPT WHERE NOTED REFER TO PLANT LIST FOR INDIVIDUAL PLANT SPACING 'X'.

A TYPICAL PLANT SPACING DIAGRAM
SCALE: N.T.S.



B MULTI-TRUNK TREE INSTALLATION & STAKING
SCALE: N.T.S.



C SHRUB AND GROUNDCOVER INSTALLATION
SCALE: N.T.S.

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ENHANCED LANDSCAPE PLANS FOR
ALLIGATOR LAKE PARK
CLIENT: CITY OF NAPLES
LANDSCAPE DETAILS

PLAN REVISIONS		
05/07/21	REVISED PER CLIENT COMMENTS	
05/17/21	REVISED PER CLIENT COMMENTS	
08/16/21	90% REVIEW & REVISED PER CLIENT COMMENTS	
	RE"DD <-15% PROGRESS REVIEW>- 4/7/2021	

NOT TO SCALE

FLORIDA CERTIFICATE OF AUTHORIZATION #LC26000335

SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

SHEET : LP501

GENERAL LANDSCAPE:

1. TREES AND SHRUBS SHALL NOT BE PLACED WITHIN THE MIDDLE TWO-THIRDS (⅔) OF ANY DRAINAGE SWALE OR WITHIN THREE (3) FEET MEASURED HORIZONTALLY FROM THE CENTERLINE OF THE DRAINAGE SWALE +/- WHICHEVER IS GREATER. SWALES MUST ALLOW FOR THE POSITIVE FLOW OF WATER WITHOUT OBSTRUCTION.
2. ACTIVITIES HAVE BEEN SHIFTED AWAY FROM EXISTING TREES WHERE POSSIBLE. ADDITIONAL TREES ARE NOT BEING SHOWN FOR REMOVAL. ANY TREES SHOWN NEAR LAKE CONSTRUCTION OR UTILITIES WILL BE AVOIDED AS POSSIBLE THROUGH THE USE OF RETAINING WALLS AND JACK AND BORING PROCEDURES. IF DURING INSTALLATION OF THESE ELEMENTS TREES ARE LOST THEY WILL BE REPLACED PER COLLIER CODE.
3. LANDSCAPE PRACTICES FOR THIS PROJECT SHALL CONFORM TO ALL LANDSCAPE AND LAND DEVELOPMENT CODES OF COLLIER COUNTY, FL.
4. THE CONTRACTOR SHALL NOTIFY ALL NECESSARY UTILITY COMPANIES 48 HOURS MINIMUM PRIOR TO DIGGING FOR VERIFICATION OF ALL UNDERGROUND UTILITIES, IRRIGATION AND ALL OTHER OBSTRUCTIONS AND COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO INITIATING OPERATIONS. SHOULD THE LANDSCAPE CONTRACTOR CAUSE DAMAGE TO ANY UTILITIES, NECESSARY REPAIRS SHALL BE MADE AS QUICKLY AS PRACTICABLE, AT CONTRACTORS EXPENSE.
   "INVESTIGATE BEFORE YOU EXCAVATE"
   CALL SUNSHINE STATE ONE
   1-800-432-4770 TOLL FREE
   FL STATUTE 553.851 (1979) REQUIRES MIN. 2 DAYS NOTICE AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE
5. THE LIMITS OF CONSTRUCTION ARE DEFINED BY THE 'PROJECT BOUNDARY' (LIMITS, ETC...) NOTED ON THE DRAWINGS.
6. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION PRIOR TO INITIATING PLANTING INSTALLATION. ALL EXISTING PLANTING SHALL REMAIN INTACT AND UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. ALL EXISTING SITE FURNISHINGS, PAVING, LANDSCAPE AND OTHER ELEMENTS TO REMAIN SHALL BE PROTECTED FROM ANY DAMAGE UNLESS OTHERWISE NOTED.
7. SEE ALL GRADING PLANS, PAVEMENT, WALLS, AND SITE FURNISHINGS PLANS FOR ADDITIONAL NOTES, SITE PREPARATION, AND OTHER PERTINENT INFORMATION.
8. LANDSCAPE CONTRACTOR SHALL FIELD STAKE THE LOCATION OF ALL PLANT MATERIAL PRIOR TO INITIATING INSTALLATION FOR THE REVIEW AND APPROVAL OF THE LANDSCAPE ARCHITECT.
9. REPORT ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DRAWINGS AND FIELD CONDITIONS TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
10. THE LANDSCAPE CONTRACTOR SHALL CLEAN THE WORK AREAS AT THE END OF EACH WORKING DAY. RUBBISH AND DEBRIS SHALL BE COLLECTED AND DEPOSITED OFF SITE DAILY. ALL MATERIALS, PRODUCTS, AND EQUIPMENT SHALL BE STORED IN AN ORGANIZED FASHION IN THE AREA DIRECTED BY THE OWNER'S REPRESENTATIVE.
11. THE LOCATION OF THE LANDSCAPE HOLDING AREA WILL BE IDENTIFIED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ADHERE TO THE ACCESS ROUTES TO AND FROM THE HOLDING AREA WITHOUT DISRUPTING OR IMPEDING ACCESS TO THE SITE BY OTHERS.
12. IN ORDER TO EXPEDITE THE PROGRESS OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK WITH RELATED CONTRACTORS AND WITH THE GENERAL CONSTRUCTION OF THE PROJECT .
13. THE ATTACHED PLANTING PLANS ARE A GRAPHIC REPRESENTATION FOR THE AESTHETIC TREATMENT OF THE DESIGNATED SITE. ACTUAL PLANT MATERIAL LOCATIONS WILL VARY TO COMPLIMENT EXISTING VEGETATION, SITE CONDITION FEATURES, AND TO PROVIDE SAFETY. PLANT MATERIAL SELECTIONS MAY CHANGE BASED UPON AVAILABILITY; ON SITE SPECIFIC CONDITIONS; AND ARE NOT LIMITED TO THE PLANT MATERIAL LISTED IN THE PLANT SCHEDULE. MINIMUM QUANTITY AND QUALITY WILL BE MAINTAINED. THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO MAKE NECESSARY OR REQUIRED CHANGES AS DICTATED BY THE ABOVE ITEMS. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT.

PROJECT SUBMITTALS:

1. THE PROJECT SUBMITTALS LIST WILL BE GENERATED BY THE LANDSCAPE ARCHITECT AND MUST BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PROJECT COMMENCEMENT.
2. ALL PROJECT SUBMITTALS MUST BE COMPLETED AND COMPLIED IN AN EASILY REPRODUCIBLE FORM. SUBMITTAL SHEETS THAT ARE NOT LEGIBLE AND REPRODUCIBLE WILL BE REJECTED. SUBMITTALS SHEETS THAT DO NOT CLEARLY IDENTIFY THE PRODUCTS OR MATERIALS SELECTED WILL BE REJECTED.
3. PRODUCTS INSTALLED ON THE PROJECT SITE THAT ARE NOT CONSISTENT WITH THE PROJECT SUBMITTALS WILL BE REMOVED AND REPLACED WITH THE PRODUCTS IDENTIFIED IN THE PROJECT SUBMITTAL PACKAGE AT THE CONTRACTORS EXPENSE.

REQUIRED SUBMITTAL FORM:

Submittals/Category	Submitted	Rejected	Re-submitted	Approved
General Submittals				
Emergency Numbers				
MOT Index				
Video				
Locate Tickets				
Project Schedule				
Landscape Submittals				
Plant Nursery List				
All Nursery State Inspection Certification				
Mulch				
Pesticide License				
Staking Methods				
Soil Sample Analysis				
Fertilizer				
Irrigation Submittals				
Purple Class 200 PVC				
SCH 40 PVC Pipe Fittings				
Gasketed Class 200 PVC				
Ductile Iron Fittings				
Valve Boxes				
Valves				
Netafim Drip Tubing & Staples, and Fittings				
Netafim Disc Filter				
Netafim PRV Valve				
Netafim Flush Valve				
Magnetic Detector Tape				
Grounding Rod				
Wire				
Wire Connectors				
Primer and Glue				

PROJECT SCHEDULE:

1. ALL WORK SHALL BE COMPLETED WITHIN THE TIME ALLOTTED IN THE PROJECT SCHEDULE.
2. WITHIN SEVEN (7) DAYS OF RECEIPT OF NOTICE TO PROCEED THE SUCCESSFUL BIDDER WILL FURNISH A CRITICAL PATH SCHEDULE REFLECTING THE ABOVE DATES. THIS SCHEDULE WILL INCLUDE VERIFIABLE MILESTONES TO ENABLE MONITORING OF THE PROJECT SCHEDULE DURING THE CONSTRUCTION PERIOD.

LIQUIDATED DAMAGES:

1. THE SUCCESSFUL BIDDER SHALL HAVE ITS WORK SUBSTANTIALLY COMPLETED BY THE RESPECTIVE TIMEFRAME. THE TERM SUBSTANTIAL COMPLETION SHALL REFER TO THE DATE OF COMPLETION FOR THE CONTRACTOR S PORTION OF THE WORK, AS ESTABLISHED IN THE VARIOUS PHASES OF THE SCHEDULE.
2. BY SUBMITTING THE BID, THE BIDDER AGREES THAT THE PERIODS FOR PERFORMING THE WORK ARE REASONABLE, AND THAT THE BIDDERS WORK CAN BE SUBSTANTIALLY COMPLETE BY ITS APPLICABLE DATE(S) FOR SUBSTANTIAL COMPLETION.
3. IF THE SUCCESSFUL BIDDER DOES NOT HAVE THE WORK ON THE PROJECT SUBSTANTIALLY COMPLETE BY THE DATE(S) IDNETIFIED FOR SUBSTANTIAL COMPLETION AS ESTABLISHED IN THE PROJECT TIME SCHEDULE, THE SUCCESSFUL BIDDER WILL PAY THE OWNER (AND THE OWNER MAY SETOFF FROM SUMS COMING DUE THE SUCCESSFUL BIDDER) LIQUIDATED DAMAGES AT THE RATE OF 0.00 PER CALENDAR DAY BEYOND THE DATE OF SUBSTANTIAL COMPLETION.
4. THE BIDDER ACKNOWLEDGES BY SUBMITTING THE BID AND ENTERING INTO A CONTRACT WITH THE OWNER THAT SUCH AMOUNTS OF LIQUIDATED DAMAGES REPRESENT A REASONABLE ESTIMATE OF THE ACTUAL DAMAGES THAT THE OWNER WOULD INCUR IF THE WORK IS NOT SUBSTANTIALLY COMPLETE BY THE FOREGOING DATES. THESE LIQUIDATED DAMAGES ARE DAMAGES FOR LOSS OF USE OF THE PROJECT,AND THE SUCCESSFUL BIDDER IN ADDITION TO THE LIQUIDATED DAMAGES WILL BE OBLIGATED TO INDEMNIFY AND HOLD THE OWNER HARMLESS FROM ANY CLAIMS IF THE WORK ON THE PROJECT IS ACCELERATED BECAUSE OF DELAY.

SITE REQUIREMENTS:

1. ALL CONTRACTORS AND SUBCONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATIONS AND PROTECTION OF ALL EXISTING UTILITIES SHOWN, ALL EXISTING UTILITIES NOT SHOWN, AND ALL PROPOSED UTILITIES ON THESE PLANS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ADJACENT IMPROVEMENTS FROM DAMAGE AND EROSION. ANY ADJACENT IMPROVEMENT DAMAGED DURING CONSTRUCTION SHALL, AT A MINIMUM, BE RESTORED TO A STATE EQUAL TO ITS PRE-CONSTRUCTION STATE.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE WORK, AND SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
5. CONTRACTOR SHALL AGREE TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN THE CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER.
6. DURING CONSTRUCTION, CREWS ARE REQUIRED TO HAVE AT LEASE ONE (1) ENGLISH SPEAKING PERSON ON SITE.

EXISTING TREE CARE:

1.) FLAG ALL TREES AND PALMS TO BE SAVED IN PLACE. PROVIDE BARRICADING IN ACCORDANCE WITH LOCAL STANDARDS AROUND TREES TO BE SAVED IN PLACE PRIOR TO SITE DEMOLITION.
2.) ALL WORK SHALL BE UNDERTAKEN IN THE PRESENCE OF A REGISTERED ARBORIST EMPLOYED BY THE LANDSCAPE CONTRACTOR. ALL TREES AND PALMS TO BE SAVED SHALL BE EXAMINED FOR DAMAGE, DISEASE AND INSECT INFESTATION. PARTS OF THE TREE SHOWING THESE CONDITIONS SHALL BE TREATED OR PRUNED IN ACCORDANCE WITH THE ARBORISTS RECOMMENDATIONS. REMOVE ALL DEAD LIMBS AND VINES.
3.) ROOT PRUNE ALL TREES TO BE SAVED PRIOR TO GRADING AROUND TREES. CUT ALONG LINES OFFSET FROM LINES OF DEVELOPMENT SURROUNDING THE TREE, IE. AT BUILDING FOUNDATIONS, PARKING LOTS, ETC.
4.) TREAT ALL CUTS WITH A FUNGICIDAL BARRIER. BACKFILL THE TRENCH, WITHIN 4 HOURS OF DIGGING, WITH A 1:1 MIXTURE OF SITE SOIL AND SAWDUST OR OTHER FINE ORGANIC MATERIAL. DO NOT COMPACT.
5.) FERTILIZE THE PLANT AS DIRECTED BY THE CONSULTING ARBORIST.
6.) THE ARBORIST SHALL VISIT THE SITE PERIODICALLY TO ASSESS THE HEALTH OF THE TREES AND ISSUE REPORTS ON THE RELATIVE HEALTH OF THE TREES AND MAKE RECOMMENDATIONS FOR FURTHER TREATMENTS IF NECESSARY.

INSTALLATION:

PLANTING LAYOUT:

1.) THE LANDSCAPE CONTRACTOR SHALL FIELD STAKE THE LOCATION OF ALL PLANT MATERIAL PRIOR TO INITIATING INSTALLATION FOR THE REVIEW AND APPROVAL OF THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
2.) THE LANDSCAPE CONTRACTOR SHALL FIELD ADJUST LOCATION OF PLANT MATERIAL AS NECESSARY TO AVOID DAMAGE TO ALL EXISTING UNDERGROUND UTILITIES AND/OR EXISTING ABOVE GROUND ELEMENTS. ALL CHANGES REQUIRED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.
3.) SHRUB AND GROUND COVER PLANTINGS ARE SHOWN AS MASS PLANTING BEDS. PLANTS SHALL BE PLACED ON A TRIANGULAR SPACING CONFIGURATION (STAGGERED SPACING). PLANT CENTER-TO-CENTER DIMENSIONS (O.C.) ARE LISTED ON THE PLANT LIST.
4.) PROVIDE A MINIMUM VERTICAL CLEARANCE ON ALL TREES OF 8.5' ABOVE THE SIDEWALK/CART PATHS.
5.) PROVIDE A MINIMUM HORIZONTAL OFFSET DISTANCE OF 2.5' FROM THE BACK OF CURB TO THE FUTURE MAXIMUM TRUNK DIAMETER OF PLANTED TREES.
6.) ALL SHRUB BEDLINE AREA DEFINITIONS TO BE DETAILED IN THE FIELD WITH THE LANDSCAPE ARCHITECT. UNAPPROVED BEDLINES WILL BE REJECTED AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMEDY ALL DAMAGES AND MODIFICATIONS REQUIRED TO BRING THE AREAS TO SPECIFICATIONS.

TRANSPLANTING:

1.) APPROPRIATE CARE MUST BE TAKEN DURING TRANSPLANTING TO PREVENT CHAIN MARKS, GIRDLING OR BARK SLIPPAGE. TREES THAT ARE DAMAGED DURING THE TRANSPLANTING PROCESS WILL NOT BE ACCEPTED.

PLANTING:

1.) ALL PLANT MATERIAL SHALL BE INSTALLED IN A SOUND, WORKMANLIKE MANNER AND ACCORDING TO ACCEPTED GOOD PLANTING PROCEDURES WITH THE QUALITY OF PLANT MATERIALS AS HEREIN DESCRIBED. ALL ELEMENTS OF LANDSCAPING SHALL BE INSTALLED SO AS TO MEET ALL APPLICABLE ORDINANCES AND CODE REQUIREMENTS.
2.) CONTRACTOR SHALL ENSURE DRAINAGE AND PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION OF PLANT MATERIAL. CONTRACTOR SHALL FILL ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE THAT PROPER DRAINAGE AND PERCOLATION IS AVAILABLE. CORRECT IF REQUIRED TO ENSURE PERCOLATION. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ALL PLANTS LOST DUE TO INADEQUATE DRAINAGE CONDITIONS.
3.) TREES GROWN IN GROW BAGS OR GROW BAG TYPE MATERIAL MUST HAVE THE GROW BAG REMOVED ENTIRELY PRIOR TO PLANTING.
4.) BALLED AND BURLAPPED OR ANY BASKETED MATERIAL SHALL HAVE THE TOP ONE HALF (1/2) OF THE BURLAP AROUND THE BASE OF THE TRUNK CUT AND PULLED BACK. DO NOT REMOVE BURLAP. WIRE CAGES, STRAPS, ETC. MUST BE CUT AND REMOVED PRIOR TO INSTALLATION.
5.) CONTRACTOR TO REPLACE REJECTED PLANT MATERIAL WITHIN ONE WEEK (5 BUSINESS DAYS) OF NOTICE.
6.) CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, PLANT LIST, GENERAL NOTES AND THE PLANTING SPECIFICATIONS FOR COMPLETE LANDSCAPE PLANTING INSTRUCTIONS. NOTIFY LANDSCAPE ARCHITECT OF ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION OR INSTALLATION.
7.) THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, PLANT LIST, GENERAL NOTES AND THE PROJECT MANUAL AND/OR SPECIFICATIONS FOR FURTHER AND COMPLETE LANDSCAPE PLANTING INSTRUCTIONS.
8.) THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL PLANTING WORK WITH IRRIGATION WORK. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HAND WATERING AS REQUIRED BY OWNER'S REPRESENTATIVE TO SUPPLEMENT IRRIGATION WATERING AND/OR RAINFALL. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR HAND WATERING IN ALL PLANTING AREAS, REGARDLESS OF THE STATUS OF EXISTING OR PROPOSED IRRIGATION.
9.) THE LANDSCAPE CONTRACTOR SHALL RE-GRADE ALL AREAS DISTURBED BY PLANT REMOVAL, RELOCATION, AND/OR INSTALLATION WORK. THE LANDSCAPE CONTRACTOR SHALL REPLACE (BY EQUAL SIZE AND QUALITY) ANY AND ALL EXISTING PLANT MATERIAL DISTURBED OR DAMAGED BY PLANT REMOVAL, RELOCATION, AND/OR INSTALLATION WORK.
10.) GUYING / STAKING PRACTICES SHALL NOT PERMIT NAILS, SCREWS, WIRES ETC. , TO PENETRATE OUTER SURFACE OF TREES, PINES, OR PALMS. TREES, PINES, OR PALMS REJECTED DUE TO THIS PRACTICE SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.
11.) ALL WOODEN STAKES, BOARDS, BRACES AND BATTENS SHALL BE PAINTED/SOLID STAINED DARK GREEN PRIOR TO THEIR USE. TOUCH UP ALL EXPOSED CUTS IN THE FIELD WITHOUT MARRING OR MARKING PLANT MATERIALS.
12.) THE CONTRACTOR SHALL MULCH ALL NEW PLANT MATERIAL THROUGHOUT AND COMPLETELY TO A 3 INCH MINIMUM DEPTH WITH CLEAN, WEED FREE, CLASS A, MULCH, OR ROCK MULCH AS SPECIFIED IN THE PLANT LEGEND.
13.) THE CONTRACTOR IS RESPONSIBLE FOR COMPLETE MAINTENANCE OF ALL PLANTING AREAS (INCLUDING WATERING, SPRAYING, MULCHING, MOWING, FERTILIZING, ETC.) THROUGH THE COURSE OF THE PROJECT AND THROUGHOUT A 90 DAY ESTABLISHMENT PERIOD FOLLOWING NOTICE OF SUBSTANTIAL COMPLETION BY THE OWNER. THE PROJECT WILL NOT BE ACCEPTED OR DEEMED SUBSTANTIALLY COMPLETE BY ZONES OR PHASES (UNLESS OTHERWISE NOTED ON THE PLANS.)

SOIL PREPARATION AND SOIL MIX:

1.) THE CONTRACTOR SHALL BEAR ALL COSTS OF TESTING OF SOILS, AMENDMENTS, ETC., ASSOCIATED WITH THE WORK AND INCLUDED IN THE SPECIFICATIONS. PRIOR TO COMMENCEMENT OF THE LANDSCAPE PLANTING WORK, THE CONTRACTOR SHALL PROVIDE COMPLETE SOIL TESTS FOR THE INSTALLATION AREA.
   A.) APPLY ROUNDUP (MANUFACTURED BY MONSANTO CORP.) OR APPROVED HERBICIDE EQUAL ACCORDING TO MANUFACTURER'S RATE AND SPECIFICATION WITHIN LIMITS OF ALL AREAS TO BE PLANTED. PROTECT EXISTING PLANTS TO REMAIN FROM OVER SPRAY OR SPRAY WITHIN ROOT ZONE. CONTRACTOR TO ENSURE TOTAL WEED ERADICATION.
   B.) BEFORE REPLACING TOPSOIL, RAKE SUBSOIL SURFACE CLEAR OF STONES (1 INCH DIAMETER AND LARGER), DEBRIS, RUBBISH, DELETERIOUS MATERIALS AND ALL REMAINING CONSTRUCTION DEBRIS TO A DEPTH OF 6". CONTAMINATED SOILS SHALL BE REMOVED AND REPLACED TO THEIR FULL DEPTHS AND EXTENTS.
   C.) ESTABLISH OR REESTABLISH ROUGH GRADES INSURING POSITIVE FLOWS AND AESTHETIC LANDFORM SHAPES SHOWN IN THE GRADING PLANS. SCARIFY SUBSOIL TO A DEPTH OF 3 INCHES ONCE ROUGH GRADE HAS BEEN ESTABLISHED.
   D.) CONTRACTOR TO APPLY "RONSTAR" OR APPROVED PRE-EMERGENT HERBICIDE IN ACCORDANCE WITH MANUFACTURER'S RATE AND SPECIFICATIONS.
   E.) PLANTING SOIL MIX FOR TREES, SHRUBS, AND GROUND COVERS SHALL CONSIST OF A THOROUGHLY BLENDED MIXTURE OF:
      1.) TREES
      70% CLEAN D.O.T. SAND
      30% APPROVED TOPSOIL MIX
      2.) PALMS
      90% CLEAN D.O.T. SAND
      10% APPROVED TOPSOIL MIX
      3.) SHRUBS, AND GROUND COVERS
      80% CLEAN D.O.T. SAND
      20% APPROVED TOPSOIL MIX
      4.) TOPSOIL
      30% APPROVED FLORIDA TOPSOIL
      10% APPROVED FLORIDA PEAT
      60% APPROVED SAND
      PEAT: FEDERAL SPECIFICATIONS Q-P-166
      TYPE 1, CLASS B, SPHAGNUM MOSS.

   CONTRACTOR TO SUBMIT LABORATORY SOIL TESTS AND ANALYSIS RECOMMENDATIONS FOR ORNAMENTAL LANDSCAPE USE OF ALL SOIL MIXTURES AND NO LESS THAN 4 TESTS OF EXISTING SOILS IN ANY ONE AREA FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT.
   F.) TOPSOIL MIX SHALL BE FREE OF DELETERIOUS MATERIALS THAT WOULD BE HARMFUL TO PLANT GROWTH, SHALL BE FREE OF NEMATODES, SHALL BE OF UNIFORM QUALITY AND SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5 (AS DETERMINED IN ACCORDANCE WITH ASTM E70). PEAT SHALL BE STERILIZED TO MAKE FREE OF ALL VIABLE NUT GRASS AND OTHER UNDESIRABLE WEEDS.
   G.) TOPSOIL SHALL BE NATURAL, FERTILE, AGRICULTURAL SOIL CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHALL BE OF UNIFORM COMPOSITION THROUGHOUT, WITH ADMIXTURE OF SUBSOIL. IT SHALL BE FREE OF STONES, LUMPS, LIVE PLANTS AND THEIR ROOTS, STICKS, CLAY, SILTS AND OTHER EXTRANEOUS MATTER. SPREAD TOPSOIL MIXTURE TO MINIMUM DEPTH OF 4 INCHES THROUGHOUT ALL AREAS AND 6 INCHES IN ALL SHRUB AND GROUND COVER BEDS. REMOVE ALL ROCKS AND OTHER OBJECTS OVER 1 INCH IN DIAMETER.
   H.) SMOOTH ALL PREPARED SOIL MIXES TO WITHIN 4 INCHES BELOW TOP OF SURROUNDING PAVEMENT EDGES. CONTRACTOR TO PROVIDE SMOOTH AND UNIFORM DEPTH OF TOPSOIL MIXTURE TO A MINIMUM 12 INCHES BELOW GRADE IN AREAS TO BE SODDED.

   FINISH GRADE ALL PREPARED TOPSOIL AREAS TO A SMOOTH, EVEN SURFACE ENSURING A MINIMUM 3% POSITIVE DRAINAGE AWAY FROM STRUCTURES AND ELIMINATE ANY LOW AREAS WHICH MAY COLLECT WATER.

   TOPSOIL SHALL NOT BE EXTREMELY ACIDIC OR ALKALINE, NOR CONTAIN TOXIC SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. THE PH SHALL BE CORRECTED PRIOR TO DELIVERY IN THE RANGE OF 6.5 TO 7.5, OR AS APPROVED BY LANDSCAPE ARCHITECT. IF NECESSARY AFTER PLACEMENT THE CONTRACTOR SHALL APPLY APPROPRIATE APPROVED SOIL ADDITIVES ADJUSTING SOIL PH TO ENSURE A PH RANGE OF 6.5 TO 7.5.
2.) INITIAL INSTALLATION FERTILIZATION
   ALL SHRUB AND GROUND COVER PLANTINGS SHALL RECEIVE AN APPROVED SLOW RELEASE FERTILIZER. ALL TREE PLANTINGS SHALL RECEIVE AN APPROVED MYCORRHIZA ADDITIVE.

   PALMS
   13-3-13 PLUS MINOR ELEMENTS - SLOW RELEASE
   1/2 LB. FERTILIZER PER 1/2 INCH CALIPER

   SHRUBS AND GROUND COVERS
   8-10-10 PLUS MINOR ELEMENTS - SLOW RELEASE
   1/2 LB. FERTILIZER PER 1/2 INCH CALIPER

   TREES
   8-6-6 PLUS MINOR ELEMENTS - SLOW RELEASE
   1/2 LB. FERTILIZER PER 1/2 INCH CALIPER

   TURF
   16-4-8 PLUS MINOR ELEMENTS - SLOW RELEASE
   1 LB. FERTILIZER PER 1000 SF.

   ×THE COST FOR LANDSCAPE FERTILIZER AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE PER PLANT PRICE.

SUBSTANTIAL COMPLETION

1. CONTRACTOR TO REQUEST INSPECTION OF PROJECT IN WRITING. IF ALL WORK IS SATISFACTORY AND COMPLETE IN ACCORDANCE WITH CONDITIONS OF CONTRACT DOCUMENTS, THEN THE OWNER AND LANDSCAPE ARCHITECT SHALL DECLARE SUBSTANTIALLY COMPLETE. SUBSTANTIAL COMPLETION CONSTITUTES THE BEGINNING OF THE GUARANTEE PERIOD AND THE 90 DAY ESTABLISHMENT PERIOD OF MAINTENANCE.
2. LANDSCAPE CONTRACTOR TO GUARANTEE PLANT MATERIAL FOR A ONE (1) YEAR PERIOD FOLLOWING DATE OF SUBSTANTIAL COMPLETION. PRIOR TO ISSUING SUBSTANTIAL COMPLETION NOTICE THE CONTRACTOR SHALL SUBMIT TO THE OWNER THREE (3) COPIES OF AS BUILT PLANS/DOCUMENTS AND THREE (3) COPIES OF AN ANNUALIZED MAINTENANCE AND OPERATION MANUAL DETAILING ALL SCHEDULES, NURSERY PRACTICES, WATERING REQUIREMENTS, FERTILIZATION, TRIMMING, ETC., FOR ALL PLANT MATERIALS AND PLANT AREAS OF THE PROJECT.
3. MAINTENANCE PERIOD - THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR COMPLETE MAINTENANCE OF ALL PLANTING AREAS (INCLUDING WATERING, SPRAYING, MULCHING, MOWING, FERTILIZING, ETC.) THROUGH THE COURSE OF THE PROJECT AND THROUGHOUT A 90 DAY ESTABLISHMENT PERIOD AFTER SUBSTANTIAL COMPLETION NOTICE BY THE OWNER. THE PROJECT WILL NOT BE ACCEPTED OR DEEMED SUBSTANTIALLY COMPLETE BY ZONES OR PHASES UNLESS OTHERWISE NOTED ON THE PLANS.

PLANT MATERIAL:

1.) CONTRACTOR IS TO SUBMIT TO THE LANDSCAPE ARCHITECT THE GROWER'S AND/OR STATE INSPECTION CERTIFICATE FOR PLANT MATERIAL TWO (2) WEEKS BEFORE COMMENCEMENT OF WORK, IF APPLICABLE (SEE SUBMITTAL FORM).
2.) ALL PLANT MATERIAL SHALL BE PROTECTED DURING TRANSPORT AND DELIVERY TO JOB SITE WITH SHADE CLOTH OR OTHER ACCEPTABLE MEANS OF WINDBURN PREVENTION.
3.) CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTS MEETING SPECIFICATION AS NOTED PRIOR TO INSTALLATION. CONTRACTOR SHALL IMMEDIATELY REMOVE ALL PLANT MATERIAL FROM THE PROJECT THAT DOES NOT CONFORM TO SPECIFICATIONS.
4.) LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES OF PLANT MATERIAL FROM THE PLANT LEGEND TO THE DRAWINGS. QUANTITIES FROM DRAWINGS SHALL GOVERN UNLESS OTHERWISE NOTED.
5.) ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASES. ALL PLANT MATERIAL SHALL BE IN FULL AND STRICT ACCORDANCE TO FLORIDA NO. 1 GRADE, ACCORDING TO THE "GRADES AND STANDARDS FOR NURSERY PLANTS", PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. PLANT MATERIALS IN SOME INSTANCES SHALL EXCEED NO. 1 GRADE, IN ORDER TO MEET THE MINIMUM REQUIREMENTS OF THIS PROJECT. ALL PALMS TO BE SUN GROWN.
6.) ALL SIZES SHOWN FOR PLANT MATERIAL ON THE PLAN ARE TO BE CONSIDERED MINIMUM. ALL PLANT MATERIAL MUST MEET OR EXCEED THESE MINIMUM REQUIREMENTS FOR BOTH HEIGHT AND SPREAD. ANY OTHER REQUIREMENTS FOR SPECIFIC SHAPE OR EFFECT AS NOTED ON THE PLAN SHALL ALSO BE REQUIRED FOR ACCEPTANCE. ALL TREES TO BE SINGLE TRUNKED, UNLESS OTHERWISE NOTED ON PLANS.
7.) ANY SUBSTITUTIONS IN SIZE, QUANTITY, AND/OR PLANT MATERIAL MUST BE APPROVED BY THE LANDSCAPE ARCHITECT. ALL PLANTS WILL BE SUBJECT TO APPROVAL BY LANDSCAPE ARCHITECT BEFORE PLANTING CAN BEGIN.
8.) ALL TREES MUST BE STRAIGHT TRUNKED, FULL HEADED, AND MEET ALL REQUIREMENTS SPECIFIED, UNLESS OTHERWISE NOTED.
9.) ANY TREE WITH A TRUNK FORMED "V" SHAPE CROTCH WILL BE REJECTED.
10.) CANOPY TREES OF ALL SIZES ARE TO BE SELECTIVELY PRUNED AFTER PLANTING TO REMOVE INNER TWIGGY GROWTH, OPEN-UP THE CENTER AND EXPOSE MAJOR BRANCHES.
11.) ALL ROOTBALLS SHALL CONFORM TO THE SIZE STANDARDS SET FORTH IN "AMERICAN STANDARDS FOR NURSERY STOCK".
12.) SUBSTITUTION OF FIELD GROWN TREES FOR TREES THAT ARE SPECIFIED AS CONTAINER GROWN WILL NOT BE PERMITTED UNLESS OTHERWISE APPROVED BY LANDSCAPE ARCHITECT.
   * ALL SPECIFICATIONS WILL STILL APPLY TO APPROVED B&B MATERIAL
13.) ALL PLANT MATERIAL SHALL BE MAINTAINED AT OR ABOVE THE SPECIFIED CONDITIONS THROUGH SUBSTANTIAL COMPLETION AND THE END OF THE ESTABLISHMENT PERIOD. DECLINE IN CONDITION OF PLANT MATERIAL DURING INSTALLATION, AND THE MAINTENANCE PERIOD, SHALL BE GROUNDS FOR REJECTION AND REPLACEMENT AT CONTRACTOR'S EXPENSE.
14.) ALL SOD SHALL BE 100% SOLID SOD, 99% FREE OF NOXIOUS WEEDS, WITH A 2" THICKNESS OF ROOTS CAPABLE OF HOLDING SAND. SOD SHALL BE FRESHLY-CUT WITHIN TWENTY-FOUR (24) HOURS OF LAYING, LAID WITH TIGHTLY-BUTTED JOINTS, AND ROLLED. HAND RAKING SHALL BE DONE AS NECESSARY TO ENSURE PROPER EVEN GRADES AND CLEAR SURFACES FOR SOD.
15.) MINIMUM THREE-INCH (3") THICK LAYER OF MULCH SHALL BE PLACED AROUND ALL NEW PLANT MATERIAL AND BARE GROUND THAT WILL NOT BE COVERED BY EXISTING VEGETATION, SOD, GRAVEL, PAVEMENT OR ANY OTHER GROUND COVER TREATMENT.
16.) ALL PLANTING BED AREAS TO HAVE 6" OF DARK, FRIABLE TOP SOIL OR BED MIXED CHURNED INTO EXISTING SOIL.
17.) NEW PLANT MATERIAL TO BE INSTALLED WILL BE FIELD ADJUSTED TO ACCOMMODATE EXISTING PLANT MATERIAL SUCH AS OVERHEAD CANOPY TREES, UNDERSTORY TREES AND SHRUBS OR GROUND COVER. THIS WILL INSURE EXISTING PLANT MATERIAL TO REMAIN IN ITS NATURAL STATE. THEREFORE, NO EXISTING PLANT MATERIAL WILL BE ALTERED BY REMOVING, CUTTING, TRIMMING OR DESTROYING IN ORDER TO INSTALL NEW PLANT MATERIAL.
18.) ALL LANDSCAPED AREAS TO BE IRRIGATED WITH A FULLY AUTOMATED IRRIGATION SYSTEM (UNLESS OTHERWISE NOTED).
19.) ALL TREES SHALL BE LOCATED AT LEAST SIX FEET AWAY FROM THE FLOWLINE OF PERIMETER PROPERTY SWALES AND PROPOSED STORMWATER INLETS.

ALLIGATOR LAKE - LANDSCAPE SCHEDULE

TREES

QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	SPACING	NATIVE
1	Ligustrum japonicum	Japanese Privet	6' OA Ht., 7' sprd., Full, multi-stem	as shown	N
5	Myrica cerifera	Wax Myrtle	4' OA, 10G	as shown	Y
1	Taxodium distichum	Bald Cypress	8'-10'H x 3'-4'S, 2"Cal, 25G	as shown	Y
2	Callophyllum inophyllum	Beautyleaf	8'-10' Ht., 3' sprd., 1 1/2" Cal, 25 G	as shown	N
2	Conocarpus erectus	Green Buttonwood	10'-12'H x 4'-5'S, 2"Cal, 25G	as shown	Y
1	Coccoloba uvifera	Sea Grape	10'-12'H x 4'-5'S, 2"Cal, 25G	as shown	Y

PALMS

QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	SPACING	NATIVE
7	Sabal palmetto	Cabbage Palm	10'-16'CT, 18"Min Cal, Staggered Heights, Slick	as shown	Y

GROUNDCOVERS

QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	SPACING	NATIVE
31	Lirope mascuri	Evergreen Giant Liriope	18"H x 15"S, 3G. 18" OC	18" on center	N
290	Ficus microcarpa 'Green Island'	Green Island Ficus	18"H x 18"S, 3G. 2' OC	24" on center	N

SHRUBS

QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	SPACING	NATIVE
75	Dietes vegeta	White African Iris	18"H x 12"S, 1G	36" on center	N
3	Chrysobalanus icaco 'Red Tip'	Red Tip Cocoplum	24"H x 18"S, 3G	36" on center	Y
28	Clusia rosea	Pitch Apple	24"H x 18"S, 3G	36" on center	Y
83	Iris hexagona	Southern Iris	15"H x 12"S, 1G	36" on center	N
24	Canna flaccida	Yellow Canna Lily	24"H x 15"S, 3G	36" on center	Y
69	Sagittaria lancifolia	Duck Potato	15"H x 12"S, 1G	36" on center	Y
139	Helianthus debilis 'Dune Supreme'	Beach/Dune Sunflower	8"H x 10"S, 1G	24" on center	Y
33	Schefflera arboricola 'Trinette'	Variegated Schefflera	24" OA Ht., full, 3G	36" on center	N
10	Philodendron 'Selloum'	Selloum Philodendron	24"H x 18"S.7G	as shown	N
5	Crinum americanum	String Lily	24"H x 18"S.7G	as shown	Y

GRASSES

QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	SPACING	NATIVE
133	Muhlenbergia capillaris	Pink Muhly Grass	24" OA Ht., 3G	36" on center	Y
33	Spartina bakeri	Sand Cordgrass	24"H x 18"S, 3G	36" on center	Y

MISC

QTY	DESCRIPTION	COMMON NAME	SPECIFICATION	SPACING	NATIVE
1,500	SF Mulch	Cocoa Brown Mulch	clean bags, 3" minimum depth	NA	NA
tbd	Root Barrier				

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ENHANCED LANDSCAPE PLANS FOR
ALLIGATOR LAKE PARK
CLIENT: CITY OF NAPLES
LANDSCAPE NOTES & SPECIFICATIONS

PLAN REVISIONS

REV00 <<75% PROGRESS REVIEW>> 4/7/2021

△	05/07/21	REVISED PER CLIENT COMMENTS
△	05/17/21	REVISED PER CLIENT COMMENTS
△	08/16/21	90% REVIEW & REVISED PER CLIENT COMMENTS

NOT TO SCALE

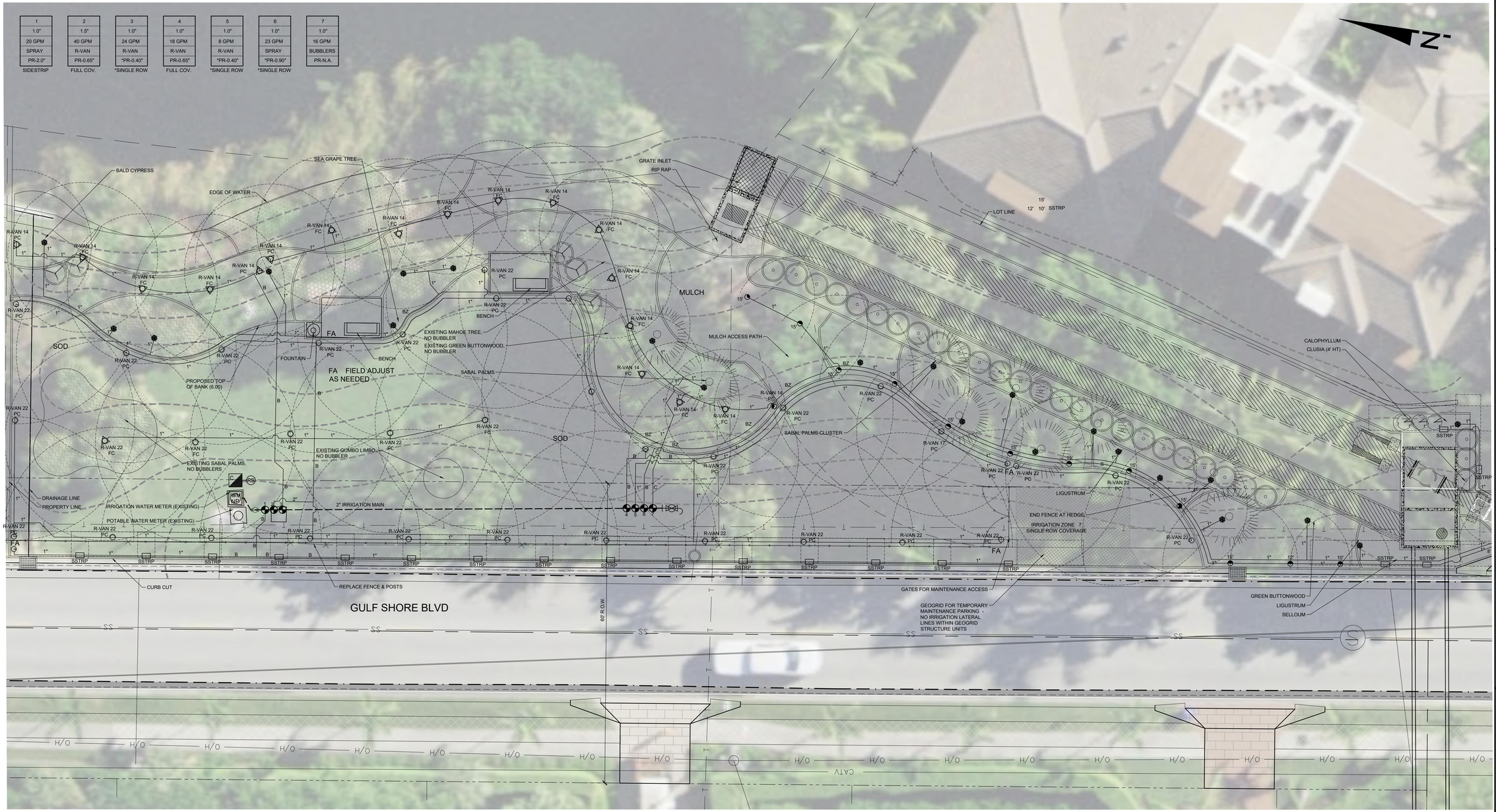
FLORIDA CERTIFICATE OF AUTHORIZATION #LC26000385

SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

SHEET : LP601

1	2	3	4	5	6	7
1.0"	1.5"	1.0"	1.0"	1.0"	1.0"	1.0"
20 GPM	40 GPM	24 GPM	18 GPM	8 GPM	23 GPM	16 GPM
SPRAY	R-VAN	R-VAN	R-VAN	R-VAN	SPRAY	BUBBLERS
PR-2.0"	PR-0.65"	*PR-0.40"	PR-0.65"	*PR-0.40"	*PR-0.90"	PR-N.A.
SIDESTRIP	FULL COV.	*SINGLE ROW	FULL COV.	*SINGLE ROW	*SINGLE ROW	



GENERAL IRRIGATION NOTES

- PIPING AND OTHER IRRIGATION SYSTEM ELEMENTS ARE SHOWN GOING THROUGH VEGETATION, ON PAVED OR OTHER NON-LANDSCAPE DESIGNATED SURFACES/AREAS FOR GRAPHIC CLARITY ONLY. ACTUAL LOCATION SHALL BE WITHIN LANDSCAPE DESIGNATED AREAS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- THE PROPOSED IRRIGATION SYSTEM'S WATER SOURCE SHALL BE A CONNECTION TO THE EXISTING IRRIGATION WATER METER. AT THE TIME OF DESIGN THE SIZE OF THE IRRIGATION WATER METER WAS NOT KNOWN. IT IS ASSUMED THAT IT IS A 1" WATER METER, CAPABLE OF PROVIDING A FLOW UP TO 40± GPM @ 60± PSI. THE IRRIGATION CONTRACTOR, GENERAL CONTRACTOR & OWNER SHALL COORDINATE AND CONFIRM THE SIZE OF THE IRRIGATION WATER METER.
- AT THE TIME OF DESIGN THE LOCATION OF THE EXISTING IRRIGATION CONTROLLER WAS NOT KNOWN, AND IF THE EXISTING CONTROLLER HAD ENOUGH OPEN STATIONS TO ACCOMMODATE THE PROPOSED SEVEN (7) IRRIGATION ZONES. THE DESIGN BEING PRESENTED SHOWS A PROPOSED CONTROLLER IN THE EVENT THAT THE EXISTING CONTROLLER DOES NOT HAVE ENOUGH OPEN STATIONS TO ACCOMODATE THE PROPOSED ZONES. THE PROPOSED CONTROLLER'S LOCATION MAY CHANGE TO A LOCATION THAT IS MORE ACCESSIBLE/CONVENIENT TO ELECTRIC SERVICE AVAILABILITY. THE GENERAL CONTRACTOR SHALL PROVIDE PROVIDE ELECTRIC SERVICE SUITABLE FOR THE CONTROLLER IN ACCORDANCE TO THE CONTROLLER'S MANUFACTURER LATEST SPECIFICATIONS.
- CONTROL WIRES SHALL BE AWG 16 GAUGE SOLID COPPER INSULATED CONTROL WIRE SUITABLE FOR DIRECT BURIAL APPLICATIONS. PROVIDE AN ADDITIONAL GROUND AND ACTIVE WIRE AT THE LAST ZONE CONTROL VALVE. THE CONTROL WIRE CONNECTORS SHALL BE DBR/DBY CONNECTORS SUITABLE FOR IRRIGATION APPLICATIONS. THE CONTROL WIRE COLORS SHALL BE: WHITE, GROUND; RED, ACTIVE; BLUE/GREEN SPARE; OR IN ACCORDANCE TO THE CITY OF NAPLES IRRIGATION STANDARDS.
- THE PROPOSED IRRIGATION SYSTEM ELEMENTS PROVIDED BY THE IRRIGATION CONTRACTOR SHALL MEET THE STANDARDS/CRITERIA FOR THE CITY OF NAPLES. APPROVED IRRIGATION EQUIPMENT MANUFACTURER, MODELS AND SIZES. ELEMENTS SUBSTITUTIONS AS WELL AS FIELD ADJUSTMENTS MUST BE APPROVED BY THE CITY OF NAPLES IRRIGATION SYSTEMS MANAGER.

GENERAL IRRIGATION NOTES

- PROVIDE: BUBBLERS AS DIRECTED FOR PROPOSED AND/OR RELOCATED TREES/PALMS, EXCEPT FOR EXISTING TREES/ PALMS NOT RELOCATED. ONE BUBBLER PER TREE/PALM. DO NOT INSTALL THE HYDRANT NEXT TO THE TRUNK. REFER TO THE BUBBLER INSTALLATION DETAILS & REFERENCE FOR BUBBLER NOZZLE FLOW SELECTION.
- REFER TO THE CORRESPONDING HYDRANTS' INSTALLATION DETAILS AND NOTES UNDER THE LI500 & LI600 SERIES SHEETS.
- PIPE SIZES ARE NOT SHOWN AT ALL SECTIONS DUE TO LIMITED ROOM FOR LABELING. ASSUME 1" LATERAL LINES AT ALL SECTIONS DOWNSTREAM OF 1-1/4" (LABELED AS B OR BZ). SMALLEST PIPE SIZE ALLOWED IS 1", CLASS 200 PVC.
- TREE/PALM BUBBLER ZONE VALVES AND PIPING ARE OVERSIZED TO ALLOW FOR FUTURE TREES/PALMS BUBBLER(S) INCORPORATION, OR BUBBLER NOZZLE CHANGE(S).
- THE IRRIGATION CONTRACTOR SHALL PROVIDE SUITABLE GRADING (INCLUDING STRUCTURES) AS NEEDED TO CREATE A SUITABLE/SMOOTH TRANSITION BETWEEN EXISTING GRADE AND PROPOSED GRADE(S) AT AREAS AFFECTED BY THE PROPOSED IRRIGATION SYSTEM INSTALLATION. COORDINATE W/ LANDSCAPE & GENERAL CONTRACTORS.
- IRRIGATION CONTRACTOR MAY PROVIDE FIELD ADJUSTMENTS AS NEEDED AT AREAS WHERE THEY ARE REQUIRED BUT WERE NOT KNOWN AT THE TIME OF DESIGN. ALL FIELD ADJUSTMENTS MUST BE PRESENTED TO THE LANDSCAPE ARCHITECT FOR REVIEW, RECORDING AND APPROVAL.
- NO IRRIGATION LATERAL LINES INSTALLATION, OR TRENCHING WITHIN GEOGRID AREA. TRENCHING ADJACENT TO IT SHALL BE AT A DISTANCECONSIDERED SAFE BY THE MANUFACTURER (GEOGRID).

REFERENCE IRRIGATION LEGEND

SYMBOL	DESCRIPTION
IWM NP	IRRIGATION WATER SOURCE: CONNECTION TO AN EXISTING IRRIGATION WATER METER. THE ASSUMED SIZE OF THE EXISTING IRRIGATION WATER METER IS 1", AND IT SHALL BE CAPABLE OF PROVIDING A FLOW OF 40± GPM @ 55± PSI. FIELD ADJUST PROPOSED MAIN LNE CONNECTION TO AVOID CONFLICT W/ OTHER EXISTING PIPING.
C RS	IRRIGATION CONTROLLER & RAIN SENSOR: RAINBIRD ESP-LXME SERIES IRRIGATION CONTROLLER WITH CONCRETE BANJO PEDESTAL FOR MOUNTING & RAINBIRD WIRELESS RAIN SENSOR. REFER TO PLAN AND SPECIFICATIONS LEGEND FOR SPECIFIC ELEMENTS' INFORMATION.
2" MAIN	IRRIGATION MAIN: 2" CLASS 200 PVC MAIN W/ SCH 80 PVC FITTINGS, PANTONE PURPLE 522C, 24"± DEPTH.
1", B, BZ, C & D	IRRIGATION LATERAL LINES: CLASS 200 PVC IRRIGATION LATERAL LINE PIPING W/ SCH 40 PVC FITTINGS, PANTONE PURPLE 522C, 12"± DEPTH. SIZE KEYS: B 1-1/4" LATERAL LINE; BZ 1-1/4" TREE BUBBLERS PRIMARY LATERAL LINE; C 1-1/2" LATERAL LINE.
	IRRIGATION MAIN ISOLATION VALVE: 2" SCH 80 PVC W/ SOLVENT WELD CONNECTIONS ISOLATION VALVE. INCLUDE VALVE BOX, CORRUGATED PLASTIC SLEEVE. REFER TO ASSEMBLY DETAIL.
	IRRIGATION MAIN SINGLE PVC VALVE BLOW-OFF ASSEMBLY: 2" SCH 80 PVC VALVE, SOLVENT WELD CONNECTIONS, WITHIN A 12" RECTANGULAR BOX. INCLUDE VALVE BOX, CORRUGATED PLASTIC SLEEVE. REFER TO ASSEMBLY DETAIL.

REFERENCE IRRIGATION LEGEND

SYMBOL	DESCRIPTION
	IRRIGATION ZONE CONTROL VALVES: 1-1/2" & 1" ELECTRICC SOLENOID ZONE CONROL VALVE.
R-VAN XXID	PROPOSED SPRAY 12" POP-UP SPRAY HEAD W/ MP ROTATOR NOZZLE
R-VAN XXID	PROPOSED SPRAY 6" POP-UP SPRAY HEAD W/ MP ROTATOR NOZZLE
R-VAN XXID	PROPOSED SPRAY SHRUB RISER W/ MP ROTATOR NOZZLE
15 SSTRP	PROPOSED SPRAY 12" POP-UP SPRAY HEAD W/ SPRAY NOZZLE
15 SSTRP	PROPOSED SPRAY 6" POP-UP SPRAY HEAD W/ SPRAY NOZZLE
BZ	PROPOSED TREE/PALM BUBBLER SUPPLEMENTAL IRRIGATION BUBBLER.
7	CONTROLLER, VALVE/CONTROLLER STATION NUMBER
1.0"	ZONE CONTROL VALVE SIZE
30 GPM	ZONE'S ESTIMATED FLOW DEMAND
SPRAY	ZONE'S HYDRANT TYPE APPLICATION
PR 1.50^	ESTIMATED APPLICATION RATE, ESTIMATED IN INCHES PER HOUR

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ENHANCED LANDSCAPE PLANS FOR ALLIGATOR LAKE PARK

CLIENT: CITY OF NAPLES

IRRIGATION PLAN

PLAN REVISIONS

REV/09	04/07/21	<-75% PROGRESS REVIEW-> 4/7/2021
1	05/07/21	REVISED PER CLIENT COMMENTS
2	05/17/21	REVISED PER CLIENT COMMENTS
3	08/16/21	90% REVIEW & REVISED PER CLIENT COMMENTS

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SCALE IN FEET

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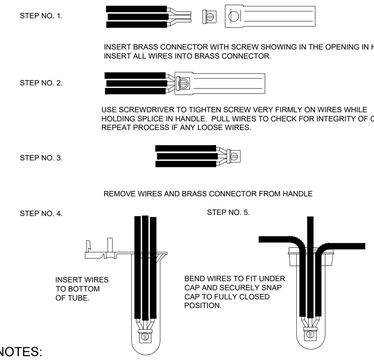
SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

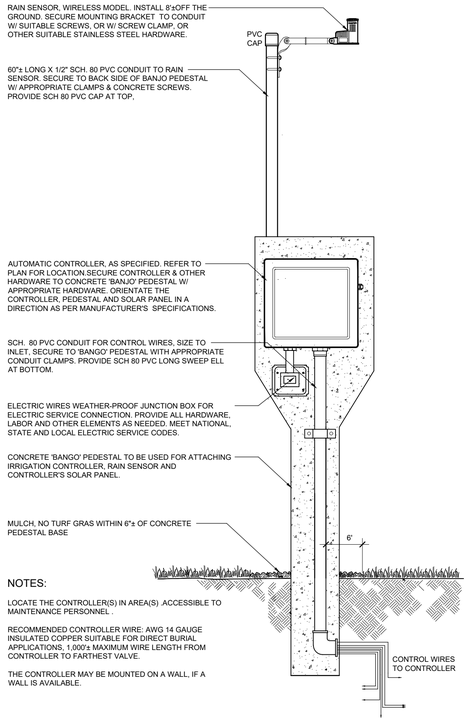
SHEET : LI101



NOTES:

- TURN OFF POWER BEFORE INSTALLING OR REMOVING CONNECTOR.
- ALL ELECTRICAL WORK SHOULD BE DONE ACCORDING TO MANUFACTURER SPECIFICATIONS AND ALSO APPROPRIATE ELECTRICAL CODES.

1 24-VOLT WIRE CONNECTION DETAIL
SCALE: N.T.S.



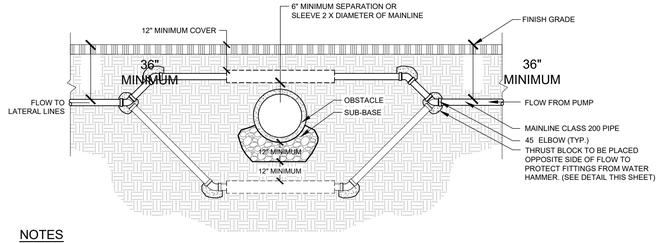
NOTES:

LOCATE THE CONTROLLER(S) IN AREA(S) ACCESSIBLE TO MAINTENANCE PERSONNEL .

RECOMMENDED CONTROLLER WIRE: AWG 14 GAUGE INSULATED COPPER SUITABLE FOR DIRECT BURIAL APPLICATIONS. 1,000'± MAXIMUM WIRE LENGTH FROM CONTROLLER TO FARTHEST VALVE.

THE CONTROLLER MAY BE MOUNTED ON A WALL, IF A WALL IS AVAILABLE.

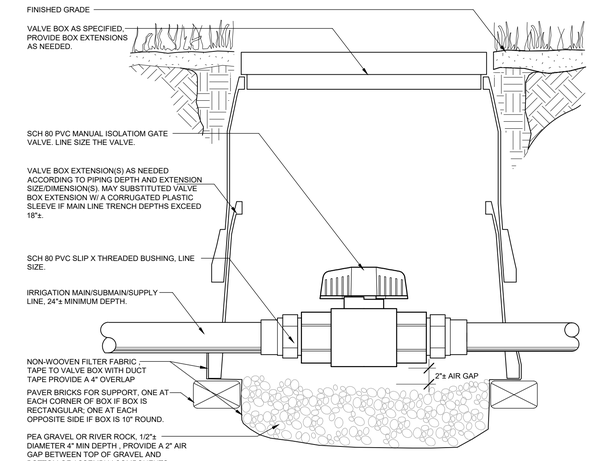
2 D.C. WALL MOUNT CONTROLLER ON BANJO PEDESTAL
SCALE: N.T.S.



NOTES

1.) THIS DETAIL REPRESENTS TWO OPTIONS:
OPTION 1: INSTALLATION ABOVE THE OBSTACLE WHERE A MIN 12" OF COVER CAN BE ACHIEVED.
OPTION 2: INSTALLATION BELOW THE OBSTACLE WHERE A MIN 12" OF COVER CAN NOT BE ACHIEVED.
2.) BORE SHOT AND SLEEVE IS NECESSARY ONLY WHEN RCP IS 36" OR LARGER.
3.) THRUST BLOCKS HAVE BEEN INDICATED ON THE DETAIL ABOVE; HOWEVER, RESTRAINT FITTINGS ARE ACCEPTABLE AND SHOULD BE USED WHEN POSSIBLE.

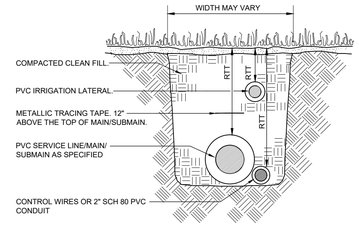
3 MAINLINE / LATERAL OBSTACLE CROSSING
SCALE: N.T.S.



VALVE BOX SIZES :

- 3/4" - 1-1/4" GATE VALVES IN 10" ROUND VALVE BOX .
- 1-1/2" - 3" GATE VALVES IN 12" RECTANGULAR VALVE BOX .

4 PVC ISOLATION VALVE SHALLOW DEPTH INST. DETAIL
SCALE: N.T.S.



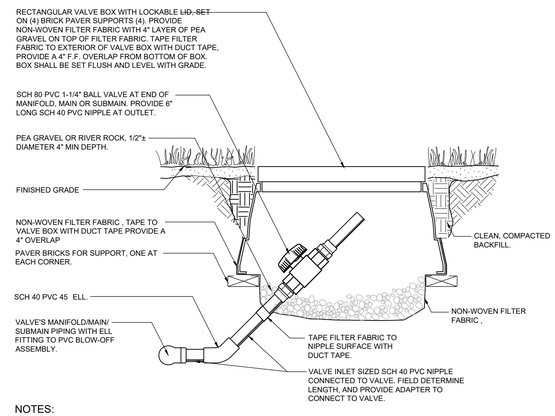
RTT REFER TO TABLE BELOW

IRRIGATION LINES MINIMUM BURIAL DEPTH TABLE					
PIPE SIZE	SERVICE LINE	MAIN	SUBMAIN	LARGE LATERAL	STANDARD LATERAL
3/4"					12"±
1"					12"±
1-1/4"		24"±	24"±		12"±
1-1/2"		24"±	24"±		12"±
2"		24"±	24"±		12"±
2-1/2"		36"±	36"±	18"±	18"±
3"		36"±	36"±	18"±	18"±
4"	42"±	42"±	42"±	18"±	
6"	42"±	42"±			
8"	48"±	48"±			
10"	48"±	48"±			
12"	48"±	48"±			

NOTES:

- METALLIC TRACING TAPE MUST BE INSTALLED 12" ABOVE THE IRRIGATION SERVICE/MAIN/SUBMAIN LINE.
- DEPTH MEASUREMENTS ARE TO BE DONE FROM FLUSH GRADE TO TOP OF PIPE.
- PROVIDE A 6" MINIMUM VERTICAL SEPARATION BETWEEN SERVICE/MAIN/SUBMAIN LINE(S) AND LATERAL LINE(S).
- CONTROL WIRES CONDUIT SHALL BE PLACED BESIDES/SLIGHTLY UNDERNEATH THE IRRIGATION SERVICE/MAINSUBMAIN LINE.
- IRRIGATION CONTROL WIRE(S) CONDUIT DEPTH, 40"± MINIMUM; SERVICE/MAIN LINE(S) 36"±;LATERAL LINES, 12"± MINIMUM.
- CONTROL WIRE(S) CONDUIT TO BE INTERCONNECTED TO CONTROL WIRE(S) SLEEVE W/ A PVC COUPLING.

5 IRRIGATION LINES BURIAL DEPTHS GUIDE LINES
SCALE: N.T.S.



NOTES:

- IRRIGATION CONTRACTOR SHALL FIELD DETERMINE THE TYPE OF VALVES' ASSEMBLY MANIFOLD/MAIN/SUBMAIN FITTING SUITABLE FOR PROVIDING A P.O.C. TO THE BLOW-OFF ASSEMBLY.ASSEMBLY.
- ALL BACKFILL SOIL SHALL BE CLEAN AND COMPACTED, FREE OF ROCKS AND DEBRIS.
- LOCATE & ALIGN THE VALVE SO THAT THE OUTLET & ITS NIPPLE ARE NOT CROWDING THE VALVE BOX'S WALL FOR DISCHARGE/FLUSHING EASE.
- TOP OF VALVE BOX SHALL BE INSTALLED ABOUT .5"± ABOVE FINISH GRADE SO THAT BOX'S TOP OF LID IS FLUSH W/ SOD.

6 IRRIGATION PVC BALL VALVE BLOW-OFF DETAIL
SCALE: N.T.S.

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CIVIL ENGINEERING & LAND DEVELOPMENT CONSULTANTS
28100 BONITA GRANDE DRIVE - SUITE 305 BONITA SPRINGS, FL 34135
P: 239-405-7777 F: 239-405-7899 EMAIL: info@waldropengineering.com

ENHANCED LANDSCAPE PLANS FOR

ALLIGATOR LAKE PARK

CLIENT: CITY OF NAPLES

IRRIGATION DETAILS

PLAN REVISIONS		
REV'00 - <15% PROGRESS REVIEW>		4/7/2021
03/07/21	REVISED PER CLIENT COMMENTS	
03/17/21	REVISED PER CLIENT COMMENTS	
08/16/21	90% REVIEW & REVISED PER CLIENT COMMENTS	

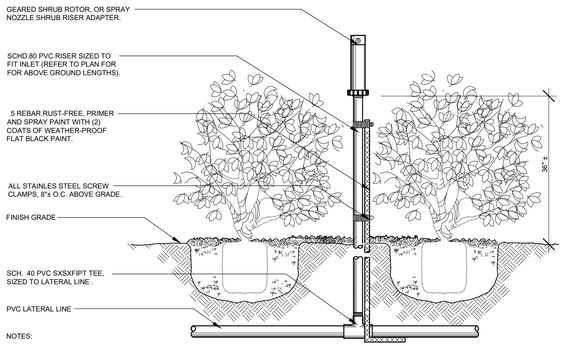
NOT TO SCALE

FLORIDA CERTIFICATE OF AUTHORIZATION #LC26000385

SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

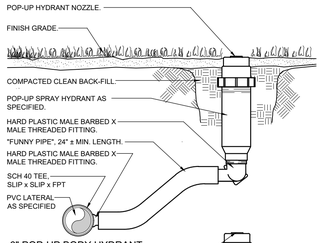
SHEET : LI501



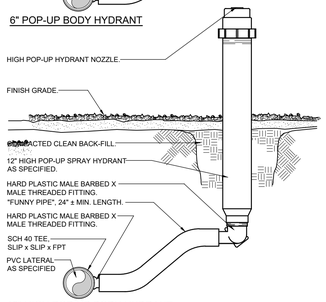
NOTES:

- PROVIDE ADDITIONAL COUPLINGS AND RISER EXTENSIONS TO CLEAR TALL SHRUBS .REFER TO PLAN FOR RISER LENGTHS ,
- OMIT REBAR FOR SPRAY NOZZLE AND LOW FLOW DEMAND ROTOR APPLICATIONS,
- RISER UNITS SHALL NOT OCCUR AT LOCATIONS ADJACENT OR WITHIN PEDESTRIAN OR VEHICULAR CIRCULATION PATHS, OR HIGHLY VISIBLE TO NEARBY PASSERS.

7 SHRUB RISER MOUNT ROTOR/SPRAY DETAIL
SCALE: N.T.S.



6" POP-UP BODY HYDRANT



12" HIGH POP-UP BODY HYDRANT

NOTES:

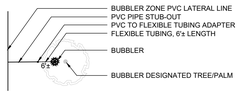
DO NOT OPERATE AT HIGH PRESSURE LEVELS. ADJUST THE ZONE CONTROL VALVE PRESSURE REGULATOR DIAL DOWN TO AN OPERATING PRESSURE LEVEL RECOMMENDED BY THE NOZZLE'S MANUFACTURER.

AT TURF AREAS AND OTHER LANDSCAPE AREAS ADJACENT TO SIDEWALKS AND OTHER PAVED SURFACES WHERE PEOPLE CAN WALK THROUGH THE TOP OF THE HYDRANT SHALL BE INSTALLED ABOUT .25"± ABOVE FINISH GRADE, BUT NOT OVER THE TURF GRASS' ROOT MASS.

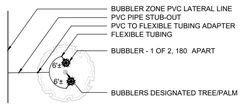
AT PLANTING AREAS NOT ADJACENT TO SIDEWALKS AND OTHER PAVED SURFACES WHERE PEOPLE CAN WALK THROUGH THE TOP HALF OF THE HYDRANT'S BODY MAY BE INSTALLED EXPOSED ABOVE FINISH GRADE AS LONG AS THE HYDRANT'S COVERAGE CAN HYDRATE EFFICIENTLY THE TARGETED VEGETATION.

8 POP-UP BODY HYDRANTS DETAIL
SCALE: N.T.S.

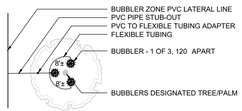
MEDIUM TO LARGE TREE/PALM (6'-18'+ HT.):
- PROVIDE ONE (1) BUBBLER PER TREE/PALM;
- SET THE BUBBLER AT THE EDGE OF THE ROOTBALL;
- FLEXIBLE TUBING SECTION LENGTH FROM PVC PIPING TO BUBBLER SHALL HAVE A MINIMUM LENGTH OF 6'±.



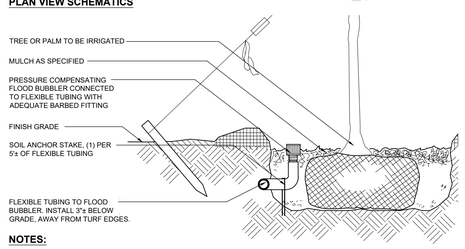
LARGE SPECIMEN TREE/PALM (>20'-25' HT.):
- PROVIDE TWO (2) BUBBLERS PER TREE/PALM;
- SET THE BUBBLERS 180 ± APART AT THE EDGE OF THE ROOTBALL;
- FLEXIBLE TUBING SECTION LENGTHS FROM TUBING ADAPTER TO BUBBLER SHALL HAVE A MINIMUM LENGTH OF 6'±.



EXTRA-LARGE SPECIMEN TREE/PALM (>25'+ HT.):
- PROVIDE THREE (3) BUBBLERS PER TREE/PALM;
- SET THE BUBBLERS 120 ± APART AT THE EDGE OF THE ROOTBALL;
- FLEXIBLE TUBING SECTION LENGTHS FROM TUBING ADAPTER TO BUBBLER SHALL HAVE A MINIMUM LENGTH OF 8'±.



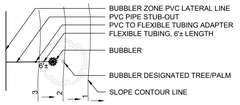
PLAN VIEW SCHEMATICS



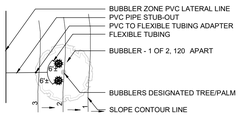
NOTES:
- REFER TO PLAN OR BUBBLER LEGEND FOR BUBBLER QUANTITIES & NOZZLE SIZE PER TREE/PALM.
- BUBBLER(S) IS/ARE TO BE INSTALLED ADJACENT TO ROOTBALL PERIMETER. DO NOT INSTALL BUBBLER(S) ON TOP OF THE ROOTBALL OR NEXT TO TRUNK; INSTALL AT EDGE OF THE ROOTBALL.
- ON SLOPING GROUNDS, INSTALL BUBBLER(S) DIRECTLY UPHILL FROM THE TREE/PALM ROOTBALL.

9 TREES/PALMS BUBBLER INSTALLATION DETAIL
SCALE: N.T.S.

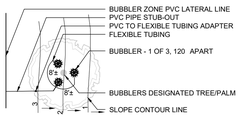
MEDIUM TO LARGE TREE/PALM (6'-18'+ HT.) ON SLOPING GROUND:
- PROVIDE ONE (1) BUBBLER PER TREE/PALM;
- SET THE BUBBLER AT THE EDGE OF THE ROOTBALL DIRECTLY UPHILL FROM THE TREE/PAL, LINED UP W/ THE TREE'S/PALM'S TRUNK;
- FLEXIBLE TUBING SECTION LENGTH FROM PVC PIPING TO BUBBLER SHALL HAVE A MINIMUM LENGTH OF 6'±.



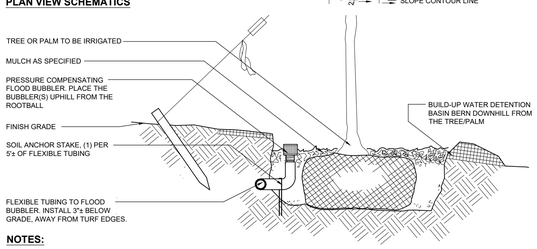
LARGE SPECIMEN TREE/PALM (>20'-25' HT.) ON SLOPING GROUND:
- PROVIDE TWO (2) BUBBLERS PER TREE/PALM;
- SET THE BUBBLERS 120 ± APART AT THE UPHILL EDGE OF THE ROOTBALL;
- FLEXIBLE TUBING SECTION LENGTHS FROM TUBING ADAPTER TO BUBBLER SHALL HAVE A MINIMUM LENGTH OF 6'±.



EXTRA-LARGE SPECIMEN TREE/PALM (>25'+ HT.) ON SLOPING GROUND:
- PROVIDE THREE (3) BUBBLERS PER TREE/PALM;
- SET THE BUBBLERS 120 ± APART AT THE EDGE OF THE ROOTBALL;
- USE THREE (3) BUBBLERS IF THE SLOPE IS MILD, LIKE LESS THAN10%; USE TWO BUBBLERS (ELUMINATE THE LOWEST ELEVATION BUBBLER IF THE SLOPE EXCEEDS A 10% INCLINATION). REFER TO SCHEDULING AND BUBBLERS' FLOW SELECTION NOTES.
- FLEXIBLE TUBING SECTION LENGTHS FROM TUBING ADAPTER TO BUBBLER SHALL HAVE A MINIMUM LENGTH OF 8'±.



PLAN VIEW SCHEMATICS



NOTES:
- REFER TO PLAN OR BUBBLER LEGEND FOR BUBBLER QUANTITIES & NOZZLE SIZE PER TREE/PALM.
- BUBBLER(S) IS/ARE TO BE INSTALLED ADJACENT TO ROOTBALL PERIMETER. DO NOT INSTALL BUBBLER(S) ON TOP OF THE ROOTBALL OR NEXT TO TRUNK; INSTALL AT EDGE OF THE ROOTBALL.
- ON SLOPING GROUNDS, INSTALL BUBBLER(S) DIRECTLY UPHILL FROM THE TREE/PALM ROOTBALL.

10 TREES/PALMS ON SLOPE BUBBLER INSTALLATION
SCALE: N.T.S.

BUBBLER NOZZLES' SIZE &QUANTITIES REFERENCE TABLE

TREE/PALM DESCRIPTION	BUBBLER NOZZLE SIZE & QUANTITIES	RECOMMENDED APPLICATION
SPECIMEN CANOPY TREE/CLUSTER PALM: 30'± HGHT. TREE, OR 25'± HGHT. HEAVY CLUSTER PALM • TREES W/ >30' ± HEIGHT X 20'+ SPREAD, • PALMS: RECLINATA PALMS, >25' HEIGHT, 10+ FULLY DEVELOPED TRUNKS W/ HEAVY HEADS	(3) 2 GPM BUBBLERS PER SPECIMEN TREE/PALM	TWO NIGHTS PER WEEK, THIRTY MINUTES PER NIGHT
EXTRA-LARGE CANOPY TREE/ PALM: 25'± HGHT. TREE, OR 25'± HGHT. HEAVY OR CLUSTER PALM • TREES W/ >25' ± HEIGHT X 18'+ SPREAD, • PALMS: PAUROTIS, COCONUT, ROYAL, BISMARK PALMS >25'+ HEIGHT, FULLY DEVELOPED TRUNKS W/ HEAVY HEADS	(2) 2 GPM BUBBLERS PER EXTRA-LARGE TREE/PALM	TWO NIGHTS PER WEEK, THIRTY MINUTES PER NIGHT
LARGE CANOPY TREE/ PALM: 20'± HGHT. TREE, OR 20'± HGHT. HEAVY OR CLUSTER PALM • TREES W/ >20' ± HEIGHT X 16'+ SPREAD, • PALMS: PAUROTIS, COCONUT, ROYAL, BISMARK PALMS >20'+ HEIGHT, 80% DEVELOPED TRUNKS W/ HEAVY HEADS	(1) 2 GPM BUBBLER PER LARGE TREE/PALM	TWO NIGHTS PER WEEK, THIRTY MINUTES PER NIGHT
INTERMEDIATE CANOPY TREE/ PALM: 15'± HGHT. TREE, OR 15'± HGHT. AND/OR CLUSTER PALM • DROUGHT TOLERANT TREES W/ >15' ± HEIGHT X 12'+ SPREAD, • PALMS: SMALLER PAUROTIS, COCONUT, ROYAL, BISMARK PALMS 15'+ HEIGHT, 65% DEVELOPED TRUNKS W/ DENSE HEADS	(1) 1 GPM BUBBLER PER INTERMEDIATE TREE/PALM	TWO NIGHTS PER WEEK, THIRTY MINUTES PER NIGHT
SMALL-INTERMEDIATE CANOPY TREE/ PALM: 12'± HGHT. TREE, OR CERTAIN PALMS LISTED • DROUGHT TOLERANT TREES W/ >12' ± HEIGHT • PALMS: LARGE CONTAINER GROWN COCONUT, ROYAL, BISMARK, FOXTAIL, QUEEN, PIGMY DATE, MONTGOMERY, ALEXANDER PALMS, OR FIELD GROWN/COLLECTED SABAL PALMS, AND LARGE THRINAX PALMS	(1). 5 GPM BUBBLER PER SMALL-INTERMEDIATE TREE/PALM	TWO NIGHTS PER WEEK, THIRTY MINUTES PER NIGHT
SMALL CANOPY AND/OR DROUGHT TOLERANT TREE/ PALM: 10'± HGHT. TREE, OR CERTAIN PALMS LISTED • DROUGHT TOLERANT TREES W/ <10' ± HEIGHT • PALMS: INTERMEDIATE SIZE THRINAX PALMS; LICUALA, LADY AND OTHER DWARF OR HIGH DROUGHT TOLERANCE PALMS	(1). 5 GPM BUBBLER PER SMALL-INTERMEDIATE TREE/PALM	TWO NIGHTS PER WEEK, THIRTY MINUTES PER NIGHT

NOTES:

A. THE TREE/PALM SIZES AS WELL AS SPECIES LISTED ABOVE ARE ADDRESSED FOR REFERENCE PURPOSES ONLY TO PROVIDE A REASONABLE IDEA OF THE BUBBLER(S) DISCHARGE FLOW RATE(S) AND QUANTITY/IES THAT ARE LIKELY TO BE NECESSARY FOR PROPERLY HYDRATING THE TREES AND PALMS DESIGNATED TO HAVE BUBBLER HYDRANTS PROVIDED.

B. THE IRRIGATION, LANDSCAPE, LANDSCAPE MAINTENANCE CONTRACTORS, AND IRRIGATION SYSTEM MANAGER SHALL BE RESPONSIBLE FOR MONITORING THE TREES/PALMS DEVELOPMENT, AND COORDINATING AMONGST THEMSELVES TO PROVIDE ADJUSTMENTS NECESSARY SO THAT THE TREES/PALMS ARE PROPERLY HYDRATED TAKING INTO CONSIDERATION FACTORS INVOLVED SUCH AS MICROCLIMATE(S), SOIL CONDITIONS, AND SEASONAL WEATHER CHANGES.

C. THE USE OF ADJUSTABLE AS WELL AS NON-PRESSURE COMPENSATING BUBBLER HYDRANTS IS NOT PERMITTED, AND IT IS HIGHLY DISCOURAGED. HYDRATION WATER DISCHARGE ADJUSTMENTS MAY BE DONE IN THE FORMS OF ADDING AN ADDITIONAL BUBBLER FOR LARGER TREES/PALMS, OR INCREASING THE RUN TIME IF NEEDED.

D. THE IRRIGATION CONTRACTOR SHALL PROVIDE A SUFFICIENT AMOUNT OF FLEXIBLE TUBING SO THAT THE BUBBLER HYDRANT(S) CAN BE MOVED AROUND THE ROOTBALL'S PERIMETER AS IT GROWS AND EXPANDS.

E. THE TREE/PALM HYDRATION CYCLES RUN TIME SHALL NOT BE CONTINUOUS. THE CYCLES SHALL BE BROKEN UP INTO 5-MINUTES MULTIPLE START TIMES. FOR EXAMPLE: 30 MINUTES CYCLE SHALL BE BROKEN DOWN INTO SIX 5-MINUTES START TIMES.

F. FOR TRANSPLANTED/RELOCATED TREES/PALMS HYDRATION SCHEDULING DURING ESTABLISHMENT PERIOD REFER TO THE SPECIFIC DEDICATED NOTES.

11 TREES/PALMS BUBBLER INSTALLATION GUIDELINES
SCALE: N.T.S.

WALDROP ENGINEERING
CIVIL ENGINEERING & LAND DEVELOPMENT CONSULTANTS
25100 BONITA GRANDE DRIVE - SUITE 305 BONITA SPRINGS, FL 34135
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ENHANCED LANDSCAPE PLANS FOR

ALLIGATOR LAKE PARK

CLIENT: CITY OF NAPLES

IRRIGATION DETAILS

PLAN REVISIONS	REVIXI <=75% PROGRESS REVIEW>> 4/7/2021
06/07/21	REVISED PER CLIENT COMMENTS
06/17/21	REVISED PER CLIENT COMMENTS
07/20/21	REVISED PER CLIENT COMMENTS

NOT TO SCALE

FLORIDA CERTIFICATE OF AUTHORIZATION #LC26000385

SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

SHEET : LI502

IRRIGATION NOTES:

GENERAL CONTENT:

A. GENERAL NOTES

1. THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ANY AND ALL DEVIATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR OWNERS. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT GIVEN TO THE REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.

2. THE IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS, IRRIGATION SYSTEM SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. CONTRACTOR SHALL COMPLY WITH ALL PREVAILING LOCAL CODES, ORDINANCES AND REGULATIONS.

3. CHECK AND VERIFY ALL SITE CONDITIONS, INCLUDING SERVICE UTILITY LOCATIONS, PRIOR TO TRENCHING OR DIGGING. COORDINATE ALL IRRIGATION SYSTEM CONSTRUCTION WITH EXISTING AND/OR NEW PLANTINGS TO AVOID CONFLICT OR INTERFERENCE WITH LOCATION OF PIPING, SLEEVING, CABLES AND SERVICE UTILITIES.THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. IRRIGATION SYSTEM IS TO BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER FOR ANY CONFLICT WITH LANDSCAPE INSTALLATION OR ANY OTHER SITE CONSTRUCTION OR EXISTING CONDITIONS. ALL COMPONENTS THAT ARE NOT CONTAINED WITHIN THE SPECIFIC AREAS SHOWN ON THE DRAWINGS WILL NOT BE ACCEPTED. ALL PIPING AND OTHER COMPONENTS ARE TO REMAIN WITHIN THE PROPERTY OF THE OWNER.

4. PIPING AND/OR OTHER ELEMENTS MAY BE SHOWN ON PAVED SURFACES OR OTHER NON-LANDSCAPE DESIGNATED AREAS OR OUTSIDE OF THE PROJECT'S BOUNDARIES FOR GRAPHIC COMMUNICATION CLARITY ONLY. ACTUAL LOCATION SHALL BE WITHIN THE PROJECT'S LANDSCAPE DESIGNATED AREAS.

5. PIPING MAY BE SHOWN GOING THROUGH EXISTING AND/OR PROPOSED VEGETATION FOR GRAPHIC COMMUNICATION FOR CLARITY ONLY. FIELD ADJUST THE ROUTING AS NEEDED IN ORDER TO CLEAR THE VEGETATION WITHOUT CONFLICT SO THAT THE PIPING CAN REACH THE INTENDED TARGETED AREA OR ELEMENT.

6. WHERE EXISTING OR NEW TREES, LIGHT STANDARDS, SIGNS, ELECTRONIC CONTROLLERS AND/OR OTHER OBJECTS ARE AN OBSTRUCTION TO AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED WITHIN REASON AS NECESSARY TO OBTAIN PROPER COVERAGE WITHOUT DAMAGING THE OBSTRUCTION. LANDSCAPE ARCHITECT OR ITS REPRESENTATIVE SHALL DETERMINE WHETHER OBSTRUCTION OCCURS OR NOT.

7. COMPONENT SPACINGS ARE MAXIMUM. DO NOT EXCEED SPACINGS SHOWN OR NOTED ON THE PLANS. COMPONENT SPACINGS MAY BE ADJUSTED TO ACCOMMODATE CHANGES IN TERRAIN AND PLANTING LAYOUT AS LONG AS THE MODIFIED SPACINGS DO NOT EXCEED THE SPACINGS SHOWN IN THE PLANS. UNLESS SHOWN OTHERWISE, IRRIGATION CONTRACTOR SHALL PROVIDE 100% COVERAGE THAT MEETS THE TARGETED DISTRIBUTION UNIFORMITY LEVEL(S).

8. ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE INSTALLED AS DETAILED ON THE PLANS. IF THE DRAWINGS DO NOT THOROUGHLY DESCRIBE THE TECHNIQUES TO BE USED, THE INSTALLER SHALL FOLLOW THE INSTALLATION METHODS/INSTRUCTIONS RECOMMENDED BY THEIR MANUFACTURER.

9. IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS, CONTROLLER AND OTHER DEVICES TO OBTAIN SPECIFIED OPERATING CHARACTERISTICS, INCLUDING COVERAGE, OPERATING PRESSURE, FLOW RATES AND OPERATION TIME, AS INDICATED ON THE DRAWINGS AND ON THE IRRIGATION SYSTEM SPECIFICATIONS. ADJUST ALL SPRINKLERS TO AVOID OVERTHROW OF WATER ONTO BUILDINGS, ROADWAYS, SIDEWALKS OR EXISTING NATIVE VEGETATION.

10. CONTRACTOR TO PROVIDE INSTALLATION SHOP DRAWINGS AND MANUFACTURER PRODUCT INFORMATION FOR ALL IRRIGATION COMPONENTS. ALL INSTALLATIONS SHALL BE AS RECOMENDED BY MANUFACTURERS. THE QUANTITIES SHOWN IN THE LEGENDS AND SYMBOL SHEETS SHALL NOT BE USED FOR BIDDING PURPOSES. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING A COMPREHENSIVE TAKE-OFF OF MATERIALS TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED ON THE PLANS AND DRAWINGS.

11. ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN, DEBRIS-FREE SUITABLE SOIL MATERIALS. CLEAN SAND SHALL BE USED FOR BEDDING MATERIAL IF PARENT SOIL CANNOT BE ADEQUATELY RID OF ROCK AND OTHER EXTRANEOUS DEBRIS. PULLING PIPE SHALL BE PROHIBITED.

12. ALL SOLVENT WELDING SHALL BE PRECEDED BY PRIMING OF THE FITTINGS AND PIPE AS RECOMMENDED BY THE MANUFACTURER. THE USE OF FAST-SETTING SOLVENT WELD COMPOUND ON MAIN OR SUBMAIN PIPING GREATER THAN 2.5" IS PROHIBITED. SLOWER SETTING SOLVENT WELD COMPOUND SHALL BE USED.

B. IRRIGATION WATER SOURCE

1. THE IRRIGATION WATER SOURCE SHALL BE AS SPECIFIED UNLESS THAT THE IRRIGATION WATER SOURCE IS NOT AVAILABLE OR IT IS NOT SUITABLE FOR REASON(S) UNKNOWN TO THE IRRIGATION DESIGNER OR LANDSCAPE ARCHITECT OR PROJECT MANAGER.

2. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND TESTING THE IRRIGATION WATER SOURCE TO MAKE SURE THAT IT IS CAPABLE OF PROVIDING THE PROPOSED SYSTEM'S REQUIRED OPERATING PRESSURE & PEAK WATER FLOW

C. IRRIGATION MAIN/SUBMAIN PIPING

1. ALL IRRIGATION MAIN(S) & SUBMAIN(S) 3" AND/OR LARGER SHALL BE 1120-1220 CLASS 200 PVC GASKET BELL-END PIPE. ALL IRRIGATION MAIN(S) & SUBMAIN(S) 2.5" AND/OR SMALLER SHALL BE 1120-1220 CLASS 200 PVC SOLVENT WELD BELL-END JOINT PIPE.

2. FOR ALL IRRIGATION MAIN(S) & SUBMAIN(S) 3" AND LARGER FITTINGS SHALL BE D.I.P. W/ GASKET. MECHANICAL JOINT RESTRAINING HARDWARE SHALL BE PROVIDED AND USED BY THE IRRIGATION CONTRACTOR FOR APPLICATIONS IN WHICH HIGH OPERATING PRESSURE, WATER FLOWS AND SIGNIFICANT PRESSURE SURGE POTENTIAL OCCUR.

3. FOR ALL IRRIGATION MAIN(S) & SUBMAIN(S) 3" AND LARGER FITTINGS SHALL HAVE THRUST BLOCKS AT POINTS SUBJECT TO PRESSURE SURGE IMPACT, OR HAVE SUITABLE/ADEQUATE RESTRAINING HARDWARE WHETHER SPECIFIED OR NOT.

4. FOR ALL IRRIGATION MAIN(S) & SUBMAIN(S) 2.5" AND SMALLER FITTINGS SHALL BE: SCH 80 PVC FOR SERVICE TEES AND OTHER THREADED FITTINGS; SCH 40 PVC FOR NON-THREADED FITTINGS.

5. HYDROSTATIC PRESSURE TESTING FOR IRRIGATION MAINS/SUBMAINS SHALL BE DONE ONLY AFTER ALL MAIN/SUBMAIN VALVES (INCLUDING ZONE CONTROL VALVES) AND OTHER MAIN/SUBMAIN ELEMENTS ARE FULLY ATTACHED. HYDROSTATIC PRESSURE TESTING MUST BE WITNESSED AND DOCUMENTED.

6. THE DEPTH OF ALL LINES SHALL BE AS SPECIFIED PER PLANS AND DETAILS. MEASUREMENTS SHALL BE FROM TOP OF PIPE(S) TO FINISH GRADE. CONTRACTOR WILL BE RESPONSIBLE FOR RETRENCHING AND RELAYING ANY PIPE NOT MEETING SPECIFIED DEPTH(S).

7. ALL MAINLINES WILL BE INSTALLED WITH A TRACING TAPE LABELED " NON-POTABLE IRRIGATION MAIN ".

8. ELECTRONIC TRACKING/LOCATING BALLS SHALL BE INSTALLED/PROVIDED 12"± ABOVE THE PIPING AT ALL POINTS WHERE PIPING DIRECTION CHANGES AND/OR STUB-OUTS OCCUR.

9. ALL PIPING STUB-OUTS FOR FUTURE ZONE EXPANSIONS SHALL HAVE THE END CAPPED, AND BE LOCATED USING A 6" VALVE BOX OR AN ELECTRONIC TRACKING/LOCATING BALL.

D. IRRIGATION LATERALS & GENERAL PVC PIPING GUIDE LINES

1. ALL IRRIGATION LATERAL LINES PIPING SHALL BE 1120-1220 CLASS 200 PVC SOLVENT WELD BELL-END JOINT PIPE.

2. ALL IRRIGATION MAIN(S)/SUBMAIN(S) & LATERAL LINES PIPING CUTS SHALL BE SQUARE, CLEAN AND WITHOUT ANY BURRS. ALL PVC PIPE TO BE SOLVENT WELD JOINED AND SHALL BE PRIMED WITH A PRIMER SUITABLE FOR THE SOLVENT WELD COMPOUND TO BE USED. THE PRIMER AND SOLVENT WELD COMPOUND SHALL BE APPLIED IN A NEAT, CLEAN FASHION, AVOIDING EXCESSIVE AMOUNTS OF PRIMER AND SOLVENT WELD COMPOUND.

3. ALL IRRIGATION LATERAL LINES PIPING 2.5" AND LARGER SHALL BE INSTALLED AT A MINIMUM TRENCH DEPTH OF 18"±. ALL IRRIGATION LATERAL LINES PIPING 2" AND SMALLER SHALL BE INSTALLED AT A MINIMUM TRENCH DEPTH OF 12"±.

4. THE DEPTH OF ALL LATERAL LINES SHALL BE MEASURED FROM TOP OF PIPE(S) TO FINISH GRADE. CONTRACTOR WILL BE RESPONSIBLE FOR RETRENCHING AND RELAYING ANY PIPE NOT MEETING SPECIFIED DEPTH(S).

5. ALL PVC PIPING MAIN(S)/SUBMAIN(S)/LATERAL(S) AND/OR OTHER PIPING SHALL BE PANTONE PURPLE 522C FOR IRRIGATION WATER USE ID EASE WHETHER THE WATER FROM THE SOURCE IS OR IS NOT EFFLUENT WATER.

E. IRRIGATION SLEEVES - HDPE DIRECTIONAL BORES

1. ALL IRRIGATION SLEEVES UNDER PAVED SURFACES NOT SCHEDULED FOR IMPROVEMENTS OPENING OR REFURBISHMENT SHALL BE: CLASS 200 EXTRAMOLECULAR STRENGTH SDR 11 HDPE CASINGS FOR WATER PIPES; CLASS 200 EXTRAMOLECULAR STRENGTH SDR 13.5 HDPE CASINGS FOR CONTROL WIRES. THE CASINGS SHALL BE INSTALLED DIRECTIONAL BORE DRILLING TECHNOLOGY.

2. FOR WATER LINES, THE DB CASING SHALL BE TWO TIMES LARGER THAN THE PIPE WITHIN. FOR LARGER OR MULTIPLE LINES (SMALLER DIAMETER), THE BORE'S INTERIOR DIAMETER SHALL BE LARGE ENOUGH TO FIT THE JOINT BELL END(S) OF THE PIPE(S) WITHIN.

3. DIRECTIONAL BORE DRILLING INSTALLED CLASS 200 SDR 11 HDPE CASINGS MAY BE USED AS AN IRRIGATION MAIN OR SUBMAIN TO CROSS A PAVED SURFACE AS LONG AS THE DB CASING MATCHES THE IRRIGATION MAIN/SUBMAIN SIZE, AND PVC TO HDPE MECHANICAL JOINT COUPLINGS WITH TRANSITIONAL GASKETS ARE USED TO CONNECT TO THE PVC INTERCONNECTING POINTS.

4. DIRECTIONAL BORES FOR CONTROL WIRES SHALL BE CLASS 200 EXTRAMOLECULAR STRENGTH HDPE 13.5 2" CASINGS (FOR 30 OR LESS 14 GAUGE WIRES); 3" (31 TO 60± 14 GAUGE WIRES).

F. IRRIGATION SLEEVES - PVC CASINGS & GENERAL SLEEVES GUIDE LINES

1. ALL IRRIGATION SLEEVES UNDER UNPAVED OR PAVED SURFACES SCHEDULED FOR IMPROVEMENTS SHALL BE: SCH 80 PVC FOR SLEEVES 6" AND LARGER; SCH 40 PVC FOR SLEEVES 4" AND SMALLER.

2. FOR CROSSINGS WITH LENGTHS LESS THAN 20' LONG USE AN ENTIRE PVC SECTION. FOR CROSSINGS WITH LENGTHS GREATER THAN 20' USE JOINED SECTIONS, WATER-PROOF SOLVENT WELD THE JOINT UNION.

3. IRRIGATION SLEEVE/CASING/BORE END SECTIONS SHALL EXTEND: 4'± BEYOND THE EDGE OF THE PAVED DRIVEWAYS W/ CURBING; 7'± PAVED DRIVEWAYS WITH NO CURBING; 1.5'± SIDEWALKS.

4. ELECTRONIC TRACKING/LOCATING BALLS SHALL BE INSTALLED/PROVIDED 12"± ABOVE: EACH END OF THE SLEEVE(S) AT DRIVEWAY & WIDE (>8'±) SIDEWALK CROSSINGS; EACH END OF CONTROL (OR OTHER USE) WIRES SLEEVE - ALL CROSSINGS.

5. ALL IRRIGATION SLEEVE CROSSINGS SHALL BE DOCUMENTED STATING: SIZE(S) OF SLEEVE(S); TYPE(S) OF SLEEVE(S); USE(S) OF SLEEVE(S); LENGTH OF SLEEVE(S); DEPTH(S) OF SLEEVE(S). THE PARTY INSTALLING THE SLEEVES SHALL VERIFY THE INSTALLATION AND SIGN THE SLEEVES LOG.

6. THE IRRIGATION CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR THE LOCATION OF SLEEVE CROSSINGS WHETHER SHOWN OR NOT.

7. ALL IRRIGATION CONTROL AND ELECTRICAL WIRES SHALL HAVE EXCLUSIVE/DEDICATED SLEEVES. AT NO TIME WILL WIRING SHARE THE SAME SLEEVE WITH MAIN(S), SUBMAIN(S) OR OTHER PIPING.

8. THESE DRAWINGS HAVE BEEN PREPARED UTILIZING OTHER'S DATA. WHERE PROPOSED SLEEVING IS EITHER INADEQUATE OR NOT POSSIBLE, THE CONTRACTOR SHALL PROVIDE A UNIT COST FOR PROVIDING THE SLEEVING AND/OR BORING NECESSARY TO EXECUTE THE WORK. UNIT PRICES SHALL ALSO INCLUDE NECESSARY DIRECTIONAL BORES, WHERE AND AS APPLICABLE.

IRRIGATION NOTES:

GENERAL CONTENT:

G. IRRIGATION ISOLATION VALVES

1. IRRIGATION ISOLATION VALVES 2" AND LARGER SHALL: HAVE A PRESSURE RATING OF 200 PSI OR GREATER; HAVE A BODY CONSTRUCTED WITH CAST IRON; BE EPOXY COATED; HAVE FLANGED CONNECTIONS; HAVE A NON-RISING STEM WITH A SQUARE NUT MECHANISM.

2. IRRIGATION ISOLATION VALVES 1-1/2" AND SMALLER SHALL: HAVE A PRESSURE RATING OF 200 PSI OR GREATER; HAVE A BODY CONSTRUCTED WITH BRASS; HAVE THREADED CONNECTIONS; HAVE A NON-RISING STEM AND WHEEL TURN HANDLE.

3. IRRIGATION ISOLATION VALVES LOCATED AT LOCATIONS WHERE SALT INTRUSION WITHIN THE SOILS MAY BE PRESENT SHALL BE SCH 80 PVC, SOLVENT WELD CONNECTIONS.

4. ALL ISOLATION VALVES INSTALLED ALONG THE IRRIGATION MAIN OR SUBMAIN SHALL BE INSTALLED WITHIN A VALVE BOX (12" RECTANGULAR FOR 2" AND LARGER VALVES; 10" ROUND FOR 1-1/2" AND SMALLER VALVES). IRRIGATION CONTRACTOR SHALL PROVIDE VALVE BOX EXTENSIONS WHEN NECESSARY. EXTENSIONS MAY BE COMPOSED OF VALVE BOX EXTENSIONS, OR MADE WITH BLACK PLASTIC CORRUGATED PIPE. REFER TO CORRESPONDING DETAIL(S).

H. IRRIGATION QUICK COUPLING VALVES

1. IRRIGATION QUICK COUPLING VALVES SHALL: BE CONSTRUCTED OF BRASS; HAVE AN ACME THREADED MECHANISM; HAVE A LOCKABLE COVER LID.

2. IRRIGATION QUICK COUPLING VALVES SHALL HAVE A MATCHING KEY WITH A SWIVEL EL. THE IRRIGATION CONTRACTOR SHALL PROVIDE ONE KEY PER FOUR QUICK COUPLING VALVES.

3. IRRIGATION QUICK COUPLING VALVES SHALL BE INSTALLED WITHIN A 10" ROUND BOX. THE VALVE SHALL BE CENTERED WITHIN THE CENTER OF THE BOX.

I. IRRIGATION CONTROL SYSTEM - CONTROLLER(S)

1. ALL CONTROLLER(S) (EACH IF APPLICABLE) WILL BE INSTALLED AT LOCATIONS DESIGNATED BY THE IRRIGATION DESIGNER. IN THE EVENT THAT NO DESIGNATED LOCATIONS OCCUR, OR THE LOCATIONS DESIGNATED ARE IN CONFLICT, THE IRRIGATION CONTRACTOR SHALL DETERMINE AND FIELD LOCATE ALL CONTROLLER(S) AND RAIN SENSOR(S) LOCATION(S). THE LOCATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL OF THE IRRIGATION DESIGNER OR LANDSCAPE ARCHITECT PRIOR TO PROCEEDING WITH THE INSTALLATION.

2. THE CONTROLLER(S) SHALL BE LOCATED AT LOCATION(S) ACCESSIBLE TO MAINTENANCE PERSONNEL.

3. THE CONTROLLER SHALL HAVE 120V DEDICATED ELECTRIC SERVICE PROVIDED TO THE CONTROLLER IN CONDUIT. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING MATERAILS AND LABOR NECESSARY TO BE PROVIDED FOR THE SERVICE.

4. ALL CONTROLLER(S) (EACH IF APPLICABLE) WILL BE GROUNDED USING THREE EIGHT FOOT (8') COPPER CLAD RODS WITH 6 SOLID COPPER WIRE. COPPER CLAMPS WILL BE USED TO ATTACH THE WIRE TO THE RODS. IF ANOTHER CONTROLLER IS UTILIZED, AN EARTH GROUND OF FIVE (5) OHMS OR LESS SHALL BE OBTAINED ON THE GROUNDING EQUIPMENT. CONTROL EQUIPMENT GROUNDING SHALL BE IN ACCORDANCE TO THE MANUFACTURER'S LATEST SPECIFICATIONS.

5. CONTROL WIRE SHALL BE AWG SOLID COPPER INSULATED WIRE SUITABLE FOR DIRECT BURIAL APPLICATIONS. THE SIZE OF THE WIRE SHALL BE AS SPECIFIED OR AWG 14 GAUGE GROUND AND COMMON IF THE DISTANCE BETWEEN THE CONTROLLER AND THE FARTHEST VALVE IS LESS THAN 2,000'±, OR AWG 12 GAUGE GROUND AND AWG 14 GAUGE ACTIVE IS THE DISTANCE BETWEEN THE CONTROLLER AND FARTHEST VALVE IS LESS THAN 2,600±.

6. CONTROL WIRE COLORS SHALL BE: WHITE FOR GROUND; WHITE W/ COLOR STRIPE FOR GROUND SPARE; RED FOR ACTIVE; GREEN AND/OR BLUE FOR SPARE; YELLOW AND/OR ORANGE FOR SPECIAL USES SUCH AS MASTER VALVE OR SENSOR(S).

7. ALL CONTROL WIRE CONNECTIONS SHALL BE DONE USING DBY/DBR WIRE CONNECTORS. CONTROL WIRES WITHIN VALVE BOXES SHALL BE NEATLY CURLED IN 1" CURLS, OR FOLDED AND SECURED WITH PLASTIC TIES.

8. ALL CONTROLLER(S) (EACH IF APPLICABLE) WILL HAVE A RAIN SENSOR AND BY-PASS SWITCH INSTALLED TO MEET STATE AND LOCAL CODES. RAIN SENSORS AND BY-PASS SWITCHES ALSO WILL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S GUIDELINES.

9. RAIN SENSORS & MINI-WEATHER STATIONS (WIND SENSOR) SHALL BE INSTALLED IN OPEN AREAS CLEAR OF IRRIGATION COVERAGE, VEGETATION AND/OR STRUCTURAL INTERFERENCE.

J. IRRIGATION CONTROL SYSTEM - DECODERS

1. THE IRRIGATION CONTROLLER SHALL BE SUITABLE FOR TWO-WIRE DECODER CONTROL TECHNOLOGY. THE DECODERS SHALL BE MANUFACTURED BY THE IRRIGATION CONTROLLER MANUFACTURER.

2. THE DECODERS TWO-WIRE CONTROL WIRE SHALL BE MANUFACTURED BY THE CONTROLLER & DECODERS MANUFACTURER, OR A MANUFACTURER APPROVED EQUAL. THE WIRE'S LENGTH TO THE FARTHEST VALVE/DECODER SHALL NOT EXCEED THE MANUFACTURER'S RECOMMENDED LENGTH.

3. WHERE POSSIBLE, PRACTICAL AND FEASIBLE ZONE CONTROL VALVES SHALL BE MANIFOLDED TOGETHER NEAR THE MANAGING DECODER. VALVES LOCATED WITHIN 140'± FROM A MANAGING DECODER LOCATION SHALL HAVE THE SOLENOID WIRED TO THE DECODER (FOR ACTIVATION) USING AWG 14 GAUGE SOLID COPPER INSULATED WIRE. THE WIRES' COLOR SHALL MATCH THE SUBJECT DECODER'S CORRESPONDING WIRES COLOR.

4. THE DECODERS SHALL BE GROUNDED IN ACCORDANCE TO THE MANUFACTURER'S LATEST GROUNDING SPECIFICATIONS.

5. THE IRRIGATION CONTRACTOR SHALL HAVE ON SITE AT ALL TIMES SUITABLE DECODER PROGRAMING EQUIPMENT.

6. BIDDING CONTRACTORS MUST BE CERTIFIED IN DECODER CONTROL SYSTEMS INSTALLATION, SERVICE AND MANAGEMENT.

7. THE DECODERS' INSTALLATION SHALL BE IN ACCORDANCE TO THE DECODERS' MANUFACTURER LATEST SPECIFICATIONS.

8. THE SYSTEM'S ZONE CONTROL VALVES SHALL BE MANUFACTURED BY THE DECODER CONTROL SYSTEM MANUFACTURER.

L. IRRIGATION ZONE CONTROL VALVES

1. THE ZONE CONTROL VALVES SHALL BE MANUFACTURED BY THE IRRIGATION CONTROLLER MANUFACTURER.

2. THE ZONE CONTROL VALVES SHALL HAVE INTERNAL AUTOMATED CLEANING MECHANISMS WITHIN, AND DIAL TYPE PRESSURE REGULATORS.

3. THE ZONE CONTROL VALVE'S PRESSURE REGULATOR SETTINGS SHALL BE: LARGE TURF AREA ROTOR HEADS, (50'-70' SPACINGS) 70± PSI; INTERMEDIATE RANGE ROTOR HEADS, 50± PSI; SHORT RANGE ROTORS HEAD, 40± PSI; SPRAY HEADS, BUBBLERS & DRIP HYDRANTS, 30± PSI.

4. THE ZONE CONTROL VALVES SHALL BE NEATLY INSTALLED (CENTERED) WITHIN A VALVE BOX. THE ZONE CONTROL VALVES VALVE BOX SIZES SHALL BE: 10" ROUND VALVE BOX FOR SINGLE 1" VALVES WITH NO ISOLATION VALVE AT INLET; 12" RECTANGULAR VALVE BOX FOR SINGLE 1.5" AND 2" VALVES; 12" RECTANGULAR VALVE BOX FOR SINGLE 1" VALVES WITH ISOLATION VALVE AT INLET; JUMBO VALVE BOX FOR SINGLE 1.5" & 2" VALVES W/ ISOLATION VALVES AT INLET. DO NOT INSTALL MULTIPLE (TWO OR MORE) 1.5" OR 2" VALVES WITHIN A VALVE BOX. MULTIPLE (THREE - MAXIMUM) 1" VALVES MAY BE INSTALLED WITHIN A JUMBO VALVE BOX.

5. PROVIDE NON-WOOVEN FILTER FABRIC AND A 4"± LAYER OF GRAVEL (PEA GRAVEL OR <3/4") AT EACH VALVE BOX. ATTACH THE FILTER FABRIC TO THE EXTERIOR OF THE VALVE BOX'S BOTTOM WITH DUCT TAPE. EXCAVATE THE SOIL AT THE BOTTOM OF THE BOX'S AREA SO THAT A 2" AIR GAP CAN OCCUR BETWEEN THE TOP OF GRAVEL AND THE BOTTOM OF THE BOX. PROVIDE PAVER BRICKS (FOUR PER RECTANGULAR/JUMBO BOXES - ONE AT EACH CORNER, TWO FOR 10" ROUND BOXES - ONE PER SIDE OPPOSITE OF EACH OTHER) FOR VALVE BOX STABILITY.

6. PROVIDE ID (YELLOW) AND WARNING PLASTIC TAGS MANUFACTURED BY CHRISTY INDUSTRIES. PROVIDE MANUFACTURER PROVIDED NUMBERS, OR NEATLY WRITE THE CORRESPONDING VALVE NUMBER ON THE ID TAG.

7. WHERE POSSIBLE AND PRACTICAL LOCATE AND INSTALL THE ZONE CONTROL VALVES AND BOXES WITHIN LOW GROWING PLANTING BEDLINE AREAS IN A FASHION THAT THE OUTLINE OF THE PLANTING BEDLINE IS NOT INTERRUPTED BY THE VALVE BOX.

8. DO NOT INSTALL ZONE CONTROL VALVES/VALVE BOXES WITHIN: SWALES, AND/OR THE BOTTOM OF LOW AREAS; 20' FROM THE MAIN TRUNK OF LARGE CANOPY TREES/PALMS; MINIMUM 12' FROM THE MAIN TRUNK OF MEDIUM/SMALL TREES/PALMS; MINIMUM 7'± FROM EDGE OF DRIVEWAYS; MINIMUM 5'± FROM THE EDGE OF SIDEWALKS, MASONRY WALLS OR BUILDING FOUNDATIONS.

M. IRRIGATION VALVE BOXES - GENERAL GUIDE LINES

1. THE VALVE BOXES SHALL BE AS SPECIFIED. IF A MANUFACTURER AND MODEL ARE NOT SPECIFIED THE IRRIGATION CONTRACTOR SHALL PROVIDE VALVE BOXES USING THE FOLLOWING CRITERIA.

2. THE VALVE BOXES SHALL BE OF SUITABLE SIZE AND MATERIAL APPROPRIATE FOR THE INTENDED USE. THE VALVE BOX LIDS SHALL HAVE A RIBBED REINFORCED BACKING, AND BE LOCKABLE. THE LID SHALL BE PANTONE PURPLE 522C.

3. BRICK PAVERS SHALL BE PROVIDED IN THE FOLLOWING FASHION: ONE PAVER PER SIDE (OPPOSITE OF EACH OTHER); ONE BRICK PER CORNER FOR RECTANGULAR, SQUARE AND JUMBO BOXES.

4. THE BOTTOM OF THE BOXES SHALL BE LINED WITH NON-WOVEN FILTER FABRIC (NWFF) TO KEEP SOILS, SILTS AND DEBRIS FROM ENCROACHING INTO THE BOX. THE NWFF SHALL BE ATTACHED TO THE BOX WITH CONTINUOUS BANDS OF DUCT TAPE WRAPPED AROUND THE ENTIRE PERIMETER OF THE BOX. THE NWFF SHALL HAVE OPENINGS ONLY FOR THE PIPING TO GO THROUGH (SNUG). THE EDGE OF THE NWFF SHALL BE SECURED TO THE PIPING WITH DUCT TAPE.

5. PROVIDE A 4"± LAYER OF GRAVEL (PEA GRAVEL OR <3/4") AT THE BOTTOM OF THE INTERIOR OF EACH VALVE BOX. EXCAVATE THE SOIL AT THE BOTTOM OF THE BOX'S PIT DEEP ENOUGH FOR THE LAYER OF GRAVEL CAN FIT WITHIN THE DEEPER EXCAVATED AREA SO THAT A 2" AIR GAP CAN OCCUR BETWEEN THE TOP OF GRAVEL AND THE BOTTOM OF THE BOX.

6. FOR DEEP EXCAVATION/INSTALLATION APPLICATIONS PROVIDE VALVE BOX EXTENSIONS AS NEEDED. THE EXTENSIONS SHALL BE AS RECOMMENDED/SPECIFIED BY THE VALVE BOX MANUFACTURER. PLASTIC CORRUGATED PIPE (NO HOLES) CAN BE CONSIDERED AN ACCEPTABLE EXTENSION FOR ROUND BOXES AS LONG AS THE MATERIAL HAS A REASONABLE LEVEL OF RIGIDNESS.

M. IRRIGATION - LARGE TURF AREAS/ATHLETIC FIELD ROTOR HEADS

1. THE ROTOR HEAD MANUFACTURER AND MODEL SHALL BE AS SPECIFIED.

2. THE ROTOR HEAD NOZZLE SELECTION SHALL BE AS SHOWN PER PLAN. REFER TO THE PLAN FOR NOZZLE SELECTION AND COVERAGE PATTERN SETTINGS/ADJUSTMENTS.

3. PROVIDE AN INLET SIZED SCH 80 PVC PRE-MANUFACTURED SWING JOINT ASSEMBLY PER ROTOR HEAD TO CONNECT TO THE CORRESPONDING LATERAL LINE.

4. PROVIDE INSTALLATION, ADJUSTMENTS AND MAINTENANCE (AS NEEDED) IN ACCORDANCE TO THE MANUFACTURER SPECIFICATIONS.

N. IRRIGATION - INTERMEDIATE/SMALL AREAS ROTOR HEADS

1. THE ROTOR HEAD MANUFACTURER AND MODEL SHALL BE AS SPECIFIED.

2. THE ROTOR HEAD NOZZLE SELECTION SHALL BE AS SHOWN PER PLAN. REFER TO THE PLAN FOR NOZZLE SELECTION AND COVERAGE PATTERN SETTINGS/ADJUSTMENTS.

3. PROVIDE AN INLET SIZED PREMANUFACTURED RIGID PLASTIC SWING JOINT ASSEMBLY (HUNTER 712SJ - .75"X12" SWING JOINT) PER ROTOR HEAD TO CONNECT TO THE CORRESPONDING LATERAL LINE FOR HIGH FLOW NOZZLE & OPERATING PRESSURE ROTOR HEADS NOTED IN PLAN. FOR OTHER SMALLER AREA LOWER FLOW DEMAND/OPERATING PRESSURE ROTOR HEADS SHALL BE CONNECTED TO LATERAL LINE PIPING USING FUNNY PIPE AND HARD PLASTIC FITTINGS.

4. PROVIDE INSTALLATION, ADJUSTMENTS AND MAINTENANCE (AS NEEDED) IN ACCORDANCE TO THE MANUFACTURER SPECIFICATIONS.

IRRIGATION NOTES:

GENERAL CONTENT:

O. IRRIGATION - SPRAY HEADS

1. THE SPRAY HEAD MANUFACTURER AND MODEL SHALL BE AS SPECIFIED.

2. THE SPRAY HEAD NOZZLE SELECTION SHALL BE AS SHOWN PER PLAN. REFER TO THE PLAN FOR NOZZLE SELECTION AND COVERAGE PATTERN SETTINGS/ADJUSTMENTS.

3. PROVIDE INSTALLATION, ADJUSTMENTS AND MAINTENANCE (AS NEEDED) IN ACCORDANCE TO THE MANUFACTURER SPECIFICATIONS.

P. IRRIGATION - TREE/PALM SUPPLEMENTAL WATERING BUBBLERS

1. THE BUBBLER MANUFACTURER AND MODEL SHALL BE AS SPECIFIED. THE BUBBLERS SHALL BE SET VOLUME WATER DISCHARGE PRESSURE COMPENSATING FLOOD TYPE BUBBLERS. THE INSTALLATION/USE OF ADJUSTABLE BUBBLERS IS NOT ALLOWED.

2. THE BUBBLER NOZZLE SELECTION SHALL BE AS SHOWN PER PLAN/NOTE(S)/BUBBLER SELECTION TABLE.

3. PROVIDE INSTALLATION, ADJUSTMENTS AND MAINTENANCE (AS NEEDED) IN ACCORDANCE TO THE MANUFACTURER SPECIFICATIONS.

R. IRRIGATION - DRIP IRRIGATION

1. THE DRIP IRRIGATION FILTER ASSEMBLY SHALL BE AS SPECIFIED AND INSTALLED AT THE LOCATION(S) SHOWN. THE IRRIGATION CONTRACTOR SHALL CONSTRUCT A DRIP IRRIGATION FILTER DISCHARGE SUMP AS SPECIFIED.

2. DRIP IRRIGATION INLINE TUBING (DIIT) SHALL BE USED AS THE PRIMARY MEANS TO PROVIDE WATER TO THE TARGETED PLANT MATERIAL. FOR GENERAL GROUND/LARGER PLANTER APPLICATIONS THE DIIT SHALL BE .5" FLEXIBLE POLYETHYLENE TUBING WITH FACTORY INSTALLED .92 GPH EMITTERS INSTALLED ON 12" SPACINGS. PLANTING POTS/URN APPLICATIONS THE DIIT SHALL BE .25" FLEXIBLE POLYETHYLENE MICRO-TUBING WITH FACTORY INSTALLED .25 GPH EMITTERS INSTALLED ON 6" SPACINGS.

3. PROVIDE SOIL TUBING ANCHOR STAKES AT A RATE OF ONE STAKE PER FIVE FEET OF INLINE TUBING. NO SOIL ANCHOR STAKES FOR MICRO-TUBING.

4. ALL INLINE TUBING AND MICRO-TUBING INTERCONNECTING FITTINGS SHALL BE MANUFACTURED BY THE TUBING MANUFACTURER..

5. THE INLINE TUBING (LARGER) SHALL BE LAID-OUT IN STRAIGHT ROWS BETWEEN ROWS OF PLANTINGS, PARALLEL TO THE PLANTING AREA(S) BOUNDARY/IES . WAVING THE TUBING IN AND OUT, IN BETWEEN PLANTS IS PROHIBITED. THE INLINE TUBING SECTIONS SHALL BE INSTALLED ON 24± SPACINGS. THE SPACINGS MAY VARY AT SMALL ODD SHAPED AREAS. THE MICRO-TUBING SHALL BE INSTALLED FOLLOWING THE PLANTING BOWL/URN'S PERIMETER OUTLINE, WITHIN 3"± FROM THE EDGE. IF A SECOND ROW/SECTION OF TUBING IS REQUIRED IT SHALL BE INSTALLED 8"± APART, PARALLEL TO THE FIRST SECTION.

6. DO NOT EXCEED THE TUBING & MICRO-TUBING MANUFACTURER'S LENGTH LIMITS. INLINE TUBING, 200'; MICRO-TUBING, 10'.

7. CONNECTIONS TO PVC POINTS OF CONNECTION SHALL BE MADE AS ILLUSTRATED IN THE PVC HEADER POINT OF CONNECTION.

8. PROVIDE (1) AUTOMATIC LINE FLUSH VALVE PER 15 GPM OF ZONE'S FLOW, OR AT DEAD END SECTIONS, OR OTHER LOCATIONS SHOWN.

9. PROVIDE (1) AIR VACUUM RELIEF VALVE (AVRFV) PER 6 GPM OF ZONE'S FLOW, THE AVRV LOCATIONS MAY NOT BE SHOWN IN THE PLAN BUT SHOULD BE INSTALLED THROUGHOUT THE ZONE, ESPECIALLY AT THE HIGHER ELEVATION AREAS. INSTALLATION SHALL BE IN ACCORDANCE TO THE MANUFACTURER SPECIFICATIONS.

10. PROVIDE HIGH FLOW EMISSION MODULES TO PROVIDE SUPPLEMENTAL WATER FOR PLANTINGS THAT REQUIRE MORE WATER. PROVIDE: (1) .25"X24"± LONG MICRO-TUBING (BLANK) SECTION; (1) .25" MICRO-TUBING SOIL STAKE; (1) .25" MICRO-TUBING DIFFUSER BUG CAP PER SUPPLEMENTAL WATER HIGH FLOW EMISSION MODULE.

11. POTS AND/OR PLANTERS SHALL BE IRRIGATED VIA SUBSURFACE DRIP IRRIGATION, OR DIRECT EMISSION DRIP IRRIGATION AS DIRECTED PER PLAN, OR IN A FASHION THAT PROVIDES A WATER APPLICATION EQUAL OR NO GREATER THAN 1.0"± PER HOUR. DRIP IRRIGATION INLINE TUBING TO BE USED SHALL BE SUITABLE FOR THE SIZE OF THE POT(S)/PLANTER(S).

12. THE DRIP IRRIGATION APPLICATIONS FOR POTS AND PLANTERS SHALL BE IN DEDICATED ZONES, NOT MIXED W/ OTHER PLANTS AND/OR IRRIGATION APPLICATION METHODS AND MEDIA.

S. IRRIGATION - SPECIFICATIONS & DOCUMENTS

1. THE IRRIGATION CONTRACTOR'S STAFF SHALL HAVE A COPY OF THE PLAN SET FOR REFERENCE ON SITE AT ALL TIMES.

2. ALL SYSTEM ELEMENTS SHALL BE INSTALLED, USED AND MAINTAINED IN ACCORDANCE TO THE MANUFACTURER SPECIFICATIONS.

3. THE CONTRACTOR SHALL ACKNOWLEDGE THAT CONSTRUCTION DOCUMENTS (PLANS) AND WRITTEN SPECIFICATIONS ARE PART OF THESE CONTRACT DOCUMENTS AND SHALL BE RESPONSIBLE FOR THE THOROUGH REVIEW AND ADHERENCE THERETO. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT IN A TIMELY MANNER PRIOR TO THE COMMENCEMENT OF WORK.

4. THE CONTRACT DOCUMENTS (DRAWINGS & SPECIFICATIONS) TAKE PRECEDENCE OVER ASSUMED INDUSTRY STANDARDS.

T. WARRANTY

1. THE IRRIGATION CONTRACTOR SHALL FURNISH A WRITTEN WARRANTY, STATING THAT ALL WORK INCLUDED UNDER THIS CONTRACTSHALL BE WARRANTED AGAINST ALL DEFECTS AND MALFUNCTION OF WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF COMPLETION AND FINAL ACCEPTANCE OF THIS PROJECT.

2. THE IRRIGATION CONTRACTOR FURTHER AGREES THAT HE/SHE WILL AT HIS/HER OWN EXPENSE REPAIR AND/OR REPLACE ALL SUCH DEFECTIVE WORK AND MATERIALS AND ALL OTHER WORK DAMAGED THEREBY IN WHICH BECOMES DEFECTIVE DURING THE TERM OF THE GUARANTY-WARRANTY IN AN EXPEDIENT MANNER.

3. THE OWNER RESERVES THE RIGHT TO MAKE EMERGENCY REPAIRS WITHOUT RELIEVING THE IRRIGATION CONTRACTOR'S GUARANTY OBLIGATION. IN THE EVENT THAT THE IRRIGATION CONTRACTOR DOES NOT RESPOND TO THE OWNER'S REQUEST FOR REPAIRS WITHIN FORTY-EIGHT (48) HOURS, THE OWNER MAY MAKE SUCH REPAIRS AS HE/SHE DEEMS NECESSARY, AT THE FULL EXPENSE OF THE IRRIGATION CONTRACTOR.

4. ANY SETTLING OF BACKFILLED TRENCHES WHICH MAY OCCUR DURING THE GUARANTY-WARRANTY PERIOD SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER, INCLUDING THE COMPLETE RESTORATION OF ALL DAMAGED PLANTINGS, SOD, PAVING AND/OR OTHER IMPROVEMENT(S) OF ANY KIND.

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ENHANCED LANDSCAPE PLANS FOR

ALLIGATOR LAKE PARK

CLIENT: CITY OF NAPLES

IRRIGATION NOTES, & SPECIFICATIONS

PLAN REVISIONS

REV00 <<75% PROGRESS REVIEW>> 4/7/2021

△	05/07/21	REVISED PER CLIENT COMMENTS
△	05/17/21	REVISED PER CLIENT COMMENTS
△	08/16/21	90% REVIEW & REVISED PER CLIENT COMMENTS

NOT TO SCALE

FLORIDA CERTIFICATE OF AUTHORIZATION #LC26000385

SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

SHEET : LI601

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IRRIGATION APPLICATION CONTROL PARAMETERS

Site & System Information Data

- ESTIMATED EVAPOTRANSPIRATION RATE: 7.2" PER MONTH AT PEAK TIME OF THE YEAR (MAY).
- CROPS TO IRRIGATE: INTERMEDIATE WATER CONSUMPTION TURF GRASS (FLORATAM SOD), LOW WATER CONSUMPTION (XERIC) SHRUBS, GROUND COVERS, TREES AND PALMS.
- TARGETED SYSTEM UNIFORMITY LEVEL: SPRAY & MULTI-STREAM ROTATING NOZZLE HYDRANTS, 70%±; BUBBLER IRRIGATION HYDRANTS, 95%± - BASED ON APPLICATION MODELING STUDIES PERFORMED.
- REQUIRED WEEKLY APPLICATION RATE AT PEAK TIME OF THE YEAR: TURF GRASS, 1.35"± PER WEEK; SHRUBS, GROUND COVER PLANTINGS, TREES * PALMS, 1.0"± PER WEEK.
- REQUIRED FLOW DEMAND: 40± GPM, INCLUDING A 10% FLOW VARIANCE FACTOR.
- RECOMMENDED OPERATING SCHEDULE: 2 NIGHTS PER WEEK, 8+/- HOURS PER NIGHT, BUBBLER IRRIGATION ZONES ARE EXEMPT FROM PHASES ONE THROUGH FOUR WATERING. RESTRICTIONS.
  THE IRRIGATION MANAGER MAY USE DIFFERENT PROGRAMS TO ACTIVATE SIMULTANEOUSLY DIFFERENT ZONES AS LONGAS THE SIMULTANEOUS ACTIVATION DOES NOT EXCEED WATER METER'S CAPACITY;
- ESTIMATED SYSTEM APPLICATION RATES:
  SPRAY HEAD HYDRANTS W/ R-VAN XX SERIES NOZZLE HYDRANTS - TURF GRASS ZONES (FULL COVERAGE), 0.65"± PER HOUR;
  SPRAY HEAD HYDRANTS W/ R-VAN XX SERIES MULTI-STREAM ROTATING NOZZLES, - PLANTING AREA, (SINGLE ROW COVERAGE), 0.40"± PER HOUR.
  SPRAY HEAD HYDRANTS W/ STANDARD SPRAY NOZZLES, 1.5"± PER HOUR IN FOR FULL COVERAGE LAYOUTS, 1.0"± PER HOUR FOR SINGLE ROW COVERAGE LAYOUTS;
  SPRAY HEAD HYDRANTS W/ SIDESTRIP SPRAY NOZZLES, 2.0"± PER HOUR IN STANDARD SINGLE ROW COVERAGE LAYOUTS;
  TREE/PALM BUBBLER HYDRANTS, VARIES DEPENDING ON CROP FACTORS.
- RECOMMENDED RUN TIMES (BASED PER NIGHT OF OPERATION):
  - ◇ ROTOR HEADS AT FLORATAM SOD AREAS, 90± MINUTES PER NIGHT, - NOT APPLICABLE;
  - ◇ ROTOR HEADS AT SHRUBS AND GROUND COVER PLANTING AREAS, - NOT APPLICABLE;
  - ◇ SPRAY HEADS W/ R-VAN ROTARY NOZZLES AT FLORATAM TURF AREAS, 60± MINUTES PER NIGHT;
  - ◇ SPRAY HEADS W/ R-VAN ROTARY NOZZLES AT SHRUBS AND GROUND COVER PLANTING AREAS, 75± MINUTES PER NIGHT;
  - ◇ SPRAY HEADS WITH STANDARD SPRAY NOZZLES IN SINGLE ROW COVERAGE LAYOUT AT PLANTING AREAS, 30 MINUTES PER NIGHT;
  - ◇ SPRAY HEADS WITH SIDESTRIP SPRAY NOZZLES IN STANDARD SINGLE ROW COVERAGE LAYOUT AT FLORATAM TURF AREAS, 20 MINUTES PER NIGHT;
  - ◇ SUPLEMENTAL HYDRATION TREE/PALM BUBBLER ZONES, 30 MINUTES PER NIGHT.
- DIRECT EMISSION BUBBLER HYDRANTS ARE IRRIGATION WATERING WINDOW RESTRICTION EXEMPT. THE TREE/PALM SUPPLEMENTAL WATER ZONES MAY OPERATE AT ANY DAY OR TIME.
- ALL ZONES SHALL BE DESIGNATED TO HAVE AN ENTIRE IRRIGATION CYCLE DIVIDED INTO SIX MULTIPLE START TIMES.

IRRIGATION SYSTEM SEASONAL WATER BUDGETING FEATURE ADJUSTING TABLE

January	February	March	April	May	June	July	August	September	October	November	December
48%	57%	84%	94%	100%	96%	91%	88%	74%	67%	52%	44%

THE SEASONAL ADJUSTMENTS SCHEDULING TABLE SHOWN ABOVE IS BASED ON HISTORICAL ETo RATES. IT ASSUMES THAT SYSTEM WILL HAVE ADEQUATE MAINTENANCE WITH NO ALTERATIONS TO THE ZONES DESIGNED BY WALDROP ENGINEERING AND THAT PLANT MATERIAL SELECTION WILL BE AS SPECIFIED BY THE LANDSCAPE ARCHITECT. NOZZLE SELECTION FOR HUNTER ROTOR HEADS WAS ADJUSTED WITH THE OBJECTIVE OF PROVIDING SIMILAR APPLICATION RATES WHETHER USING FULL COVERAGE OR SINGLE ROW COVERAGE. FOR APPLICATION RATE COMPATABILITY AND SCHEDULING EASE. SCHEDULE IS BASED ON HISTORICAL ETo RATE FOR THE MONTH OF MAY (HIGHEST DEMAND). SET WATER BUDGETING FEATURE AT 100% FOR MAY AND PROVIDE MONTHLY ADJUSTMENTS AS SHOWN OR AS NEEDED.

IRRIGATION LEGEND

Symbol	Description	Estimated Quantity
IWM NP	IRRIGATION WATER SOURCE: CONNECTION TO AN EXISTING IRRIGATION WATER METER. THE ASSUMED SIZE OF THE EXISTING IRRIGATION WATER METER IS 1", AND IT SHALL BE CAPABLE OF PROVIDING A FLOW OF 40± GPM @ 55± PSI. FIELD ADJUST PROPOSED MAIN LNE CONNECTION TO AVOID CONFLICT W/ OTHER EXISTING PIPING.	1
C RS	IRRIGATION CONTROLLER & RAIN SENSOR: RAINBIRD ESP-LXME SERIES IRRIGATION CONTROLLER WITH: CONCRETE BANJO PEDESTAL FOR MOUNTING & RAINBIRD WIRELESS RAIN SENSOR. REFER TO PLAN AND SPECIFICATIONS LEGEND FOR SPECIFIC ELEMENTS' INFORMATION.	1
NO SYMBOL	IRRIGATION CONTROL WIRE: AWG SIZE AS PER PLAN SOLID COPPER INSULATED CONTROL WIRE SUITABLE FOR DIRECT BURIAL APPLICATIONS. REFER TO PLAN FOR SIZE/GAUGE.	1 L.S.
NO SYMBOL	ELECTRIC SERVICE FOR CONTROLLER: DEDICATED 120V SINGLE PHASE ELECTRIC SERVICE TO CONTROLLER. INCLUDE MATERIALS, LABOR , SERVICE & OTHER FEES INVOLVED.	1 L.S.
	IRRIGATION MAIN: 1120/1220 2" CLASS 200 PVC SOLVENT WELD JOINT PIPE, PANTONE PURPLE 522C, W/ SCH 80 PVC SERVICE TEES AND OTHER INTERCONNECTING FITTINGS. 24"± MINIMUM DEPTH.	85 L.F.±
	IRRIGATION LATERAL LINES: 1120/1220 CLASS 200 PVC SOLVENT WELD PIPE, PANTONE PURPLE 522C, W/ SCH 40 PVC INTERCONNECTING FITTINGS. 12"± MINIMUM DEPTH.	TBD
	IRRIGATION MAIN ISOLATION VALVE: 2" SCH 80 PVC W/ SOLVENT WELD CONNECTIONS ISOLATION VALVE. INCLUDE VALVE BOX, CORRUGATED PLASTIC SLEEVE, GRAVEL & FILTER FABRIC. REFER TO ASSEMBLY DETAIL.	1
	IRRIGATION MAIN SINGLE PVC VALVE BLOW-OFF ASSEMBLY: 2" SCH 80 PVC VALVE, SOLVENT WELD CONNECTIONS, WITHIN A 12" RECTANGULAR BOX. INCLUDE VALVE BOX, CORRUGATED PLASTIC SLEEVE, FILTER FABRIC & GRAVEL. REFER TO ASSEMBLY DETAIL.	1
	1.5" ELECTRIC SOLENOID ZONE CONTROL VALVE: RAINBIRD , P150-PESB, PESB SCRUBBER SERIES 1.5" ELECTRIC VALVE W/ SUITABLE SOLENOID, SELF CLEANING SCRUBBER FEATURE, AND EZReg 5-100 PSI PRESSURE REGULATOR. INCLUDE YELLOW (ID) AND PURPLE (WARNING) PLASTIC TAGS BY CHRISTIE INDUSTRIES. REFER TO CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	1
	1.0" ELECTRIC SOLENOID ZONE CONTROL VALVE: RAINBIRD , P100-PESB, PESB SCRUBBER SERIES 1" ELECTRIC VALVE W/ SUITABLE SOLENOID, SELF CLEANING SCRUBBER FEATURE, AND EZReg 5-100 PSI PRESSURE REGULATOR. INCLUDE YELLOW (ID) AND PURPLE (WARNING) PLASTIC TAGS BY CHRISTIE INDUSTRIES. REFER TO CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	6
	12" POP-UP SPRAY HEAD W/ MS ROTATING NOZZLE: RAINBIRD 1812-12P-R-VANXX, 1800 SERIES 12" HIGH POP-UP MODEL SPRAY HEAD W/ R-VAN SERIES MULTI-STREAM ROTATING NOZZLES. REFER TO PLAN FOR NOZZLE COVERAGE RANGE AND PATTER, AND CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	1
	6" POP-UP SPRAY HEAD W/ MS ROTATING NOZZLE: RAINBIRD 1806-6P-R-VANXX, 1800 SERIES 6" POP-UP MODEL SPRAY HEAD W/ R-VAN SERIES MULTI-STREAM ROTATING NOZZLES. REFER TO PLAN FOR NOZZLE COVERAGE RANGE AND PATTER, AND CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	34
	SHRUB RISER SPRAY HEAD W/ MS ROTATING NOZZLE: RAINBIRD 1800-SR-R-VANXX, 1800 SERIES SHRUB RISER MODEL SPRAY NOZZLE ADAPTER W/ R-VAN SERIES MULTI-STREAM ROTATING NOZZLE MOUNTED ON A .5"X60" SCH 80 PVC RISER. REFER TO PLAN FOR NOZZLE COVERAGE RANGE AND PATTER, AND CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	18
	12" POP-UP SPRAY HEAD W/ STANDARD NOZZLE: RAINBIRD 1812-12P, 1800 SERIES 12" HIGH POP-UP MODEL SPRAY HEAD W/ STANDARD SPRAY NOZZLES. REFER TO PLAN FOR NOZZLE COVERAGE RANGE AND PATTER, AND CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	14
SSTRIP	6" POP-UP SPRAY HEAD W/ STANDARD NOZZLE: RAINBIRD 1806-12P, 1800 SERIES 6" HIGH POP-UP MODEL SPRAY HEAD W/ STANDARD SPRAY NOZZLES. REFER TO PLAN FOR NOZZLE COVERAGE RANGE AND PATTER, AND CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	19
	TREE/PALM SUPPLEMENTAL WATERING BUBBLER HYDRANT: RAINBIRD 1800-, 1800 SERIES SHRUB RISER NOZZLE ADAPTER W/ 1400 SERIES PRESSURE COMPENSATING FLOOD TYPE BUBBLER NOZZLES. REFER TO TREE/PALM BUBBLER DETAILS FOR BUBBLER NOZZLE INSTALLATION, SELECTION, AND CORRESPONDING DETAIL FOR MATERIAL LIST AND ASSEMBLY SPECIFICATIONS.	21
TBD	TO BE DETERMINED BY CONTRACTOR PRIOR TO SUBMITTING BIDS.	

2	STREET INITIALS, CONTROLLER ID, ZONE CONTROL VALVE/CONTROLLER STATION NUMBER
1.5"	ZONE CONTROL VALVE SIZE
40 GPM	ZONE'S CALCULATED FLOW DEMAND
R-VAN	IRRIGATION APPLICATION METHOD NOZZLE IMPLEMENTED
PR-0.65"	IRRIGATION APPLICATION CALCULATED APPLICATION RATE

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ENHANCED LANDSCAPE PLANS FOR

ALLIGATOR LAKE PARK

CLIENT: CITY OF NAPLES

IRRIGATION LEGEND & APPLICATION PARAMETERS PLAN

PLAN REVISIONS — REV/20 <=75% PROGRESS REVIEW>> 4/7/2021

1	05/07/21	REVISED PER CLIENT COMMENTS
2	05/17/21	REVISED PER CLIENT COMMENTS
3	07/20/21	REVISED PER CLIENT COMMENTS

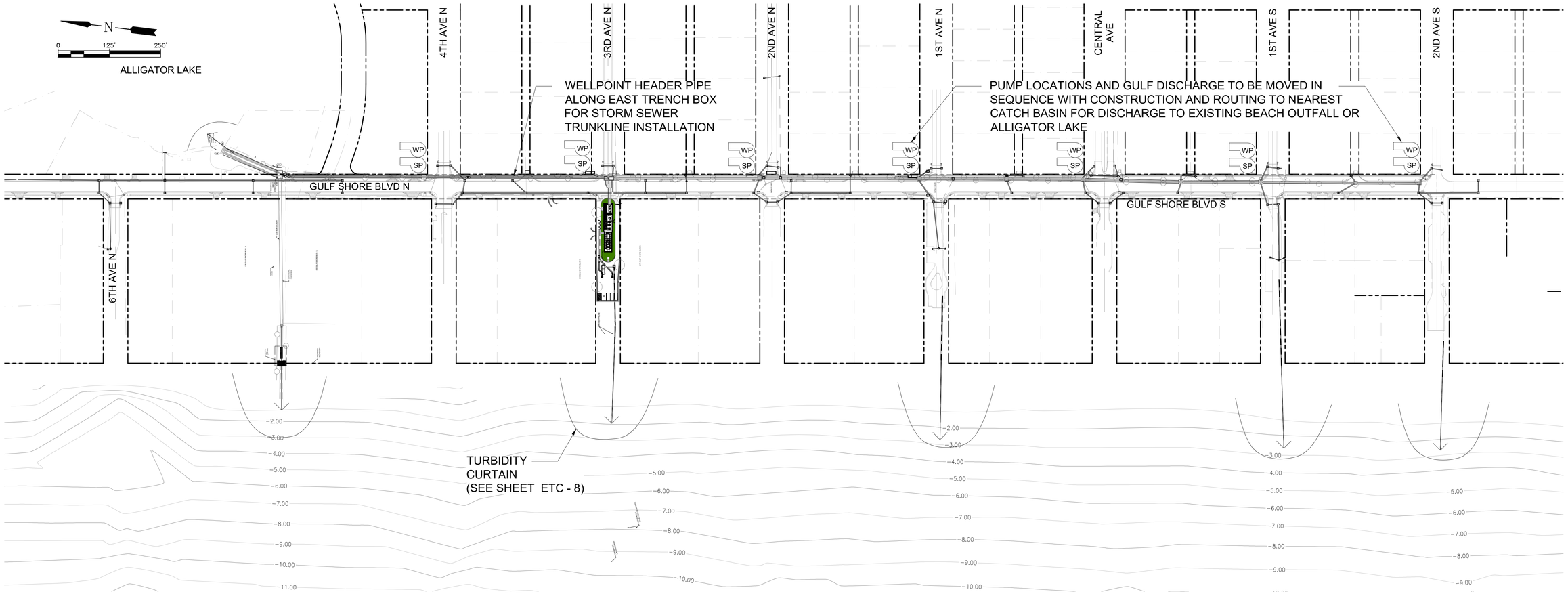
NOT TO SCALE

FLORIDA CERTIFICATE OF AUTHORIZATION #LC26000385

SABRINA McCABE, P.L.A., LEED AP
FL LICENSE NO. LA6667231

SET NUMBER: 1209-301-01

SHEET : LI602



DESCRIPTION OF DEWATERING ACTIVITIES:
The work requiring dewatering consists of excavating the required trenches and laying the pipe therein; backfilling the trenches; and the construction area(s) of the below grade concrete drainage structures.

DEWATERING TECHNIQUE:
Dewatering Technique: Well Point (>2 ft drawdown) and Sump Pumping (≤2 ft drawdown or small confined areas)

METHOD OF EFFLUENT DISCHARGE:
Through a settling tank, to the existing stormwater system with discharge to the Gulf of Mexico (via existing beach outfalls) and/or Alligator Lake. The Contractor shall regulate the volume of dewatering effluent as necessary to match the available discharge capacity of the approved discharge points.

DEWATERING BMPS:
1. Work in a manner to minimize turbidity in the dewatering effluent at all times.
2. Use of settling tanks prior to return discharge.
3. Use of turbidity curtains at return discharge points.

GENERAL NOTES:
4. This drawing represents the general contractor's potential means and methods and shall be used for obtaining applicable agency approvals for groundwater dewatering. No other purpose implied. The Contractor remains solely responsibility for means and methods including site dewatering and shall independently prepare a dewatering plan by a licensed professional prior to the commencement of construction. Should the Contractor's proposed dewatering methodology and equipment deviate significantly from this Plan, the Contractor shall submit an update to SFWMD prior to the commencement of Construction to modify the Water Use permit.
5. Dewatering activities shall adhere to the conditions and provisions outlined in the associated permits and approvals issued for this project.
6. Excavation and dewatering in the immediate vicinity of existing structures and utilities may require specific foundation reinforcement and/or soil improvements in order to protect the integrity of existing structures and provide a safe working environment. The contractor shall consult a licensed structural engineer regarding approved design for means and methods of protecting existing structures and roadways.
7. Design for shoring and slope stabilization design is not included herein. The contractor is responsible for consulting with a licensed structural and/or geotechnical engineer and complying with all applicable OSHA requirements and the trench safety act.
8. Seasonal and weather variations should be expected. Dewatering shall cease during a major storm or rain event.

LEGEND

SILT FENCE, FDOT INDEX 102	WP WELLPOINT PUMP
INLET PROTECTION SYSTEM, FDOT INDEX 102	SP SUMP PUMP
INLET PROTECTION SYSTEM, FDOT INDEX 102	EXISTING STORM SEWER
APPROXIMATE LIMITS OF TEMPORARY EXCAVATION	EXISTING DRAINAGE STRUCTURE
TEMPORARY VERTICAL SHEETING/BRACING	EXISTING DRAINAGE STRUCTURE
WP WELLPOINT PUMP	DISCHARGE
SP SUMP PUMP	

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD
ISSUED 90% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	22.04.15
ISSUED 75% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	21.05.13

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Client/Project
CITY OF NAPLES
735 8th St S
NAPLES, FL.
Naples Beach Restoration & Water Quality Improvement Project

File Name: 16-329_Naples Outfalls_60-90% Drawings_DW&EC-Plan.dwg

JAW	SMT	KME	21.06.01
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Title
OVERALL DEWATERING PLAN

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	1	0

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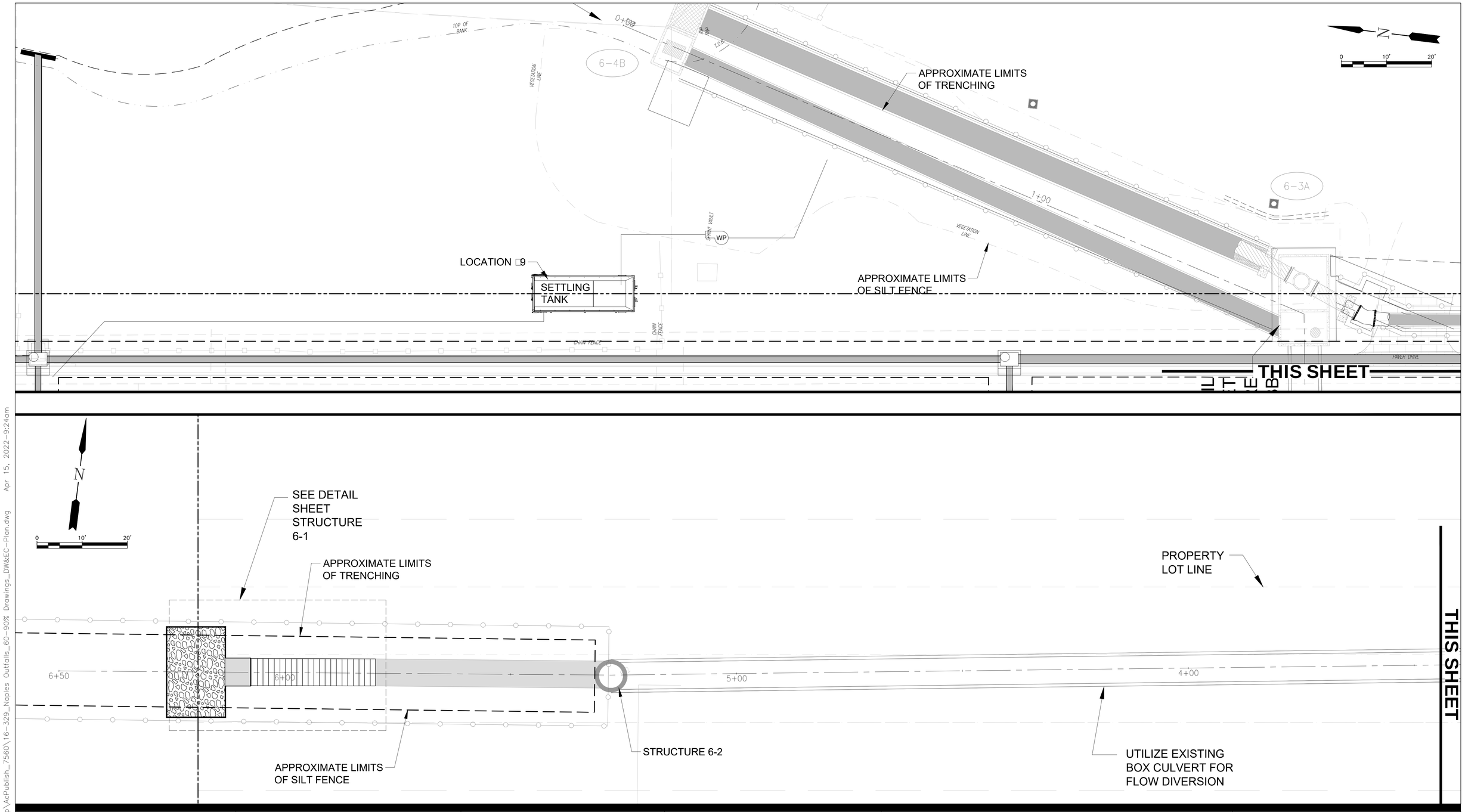

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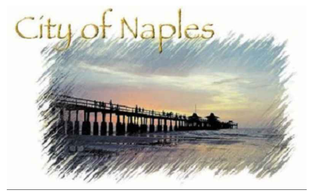

Title
DEWATERING & ETC PLANS
SYSTEM OVERFLOW STATIONS 0+00 - 1+50
SYSTEM OVERFLOW STATIONS 4+00 - 6+50

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	2	0

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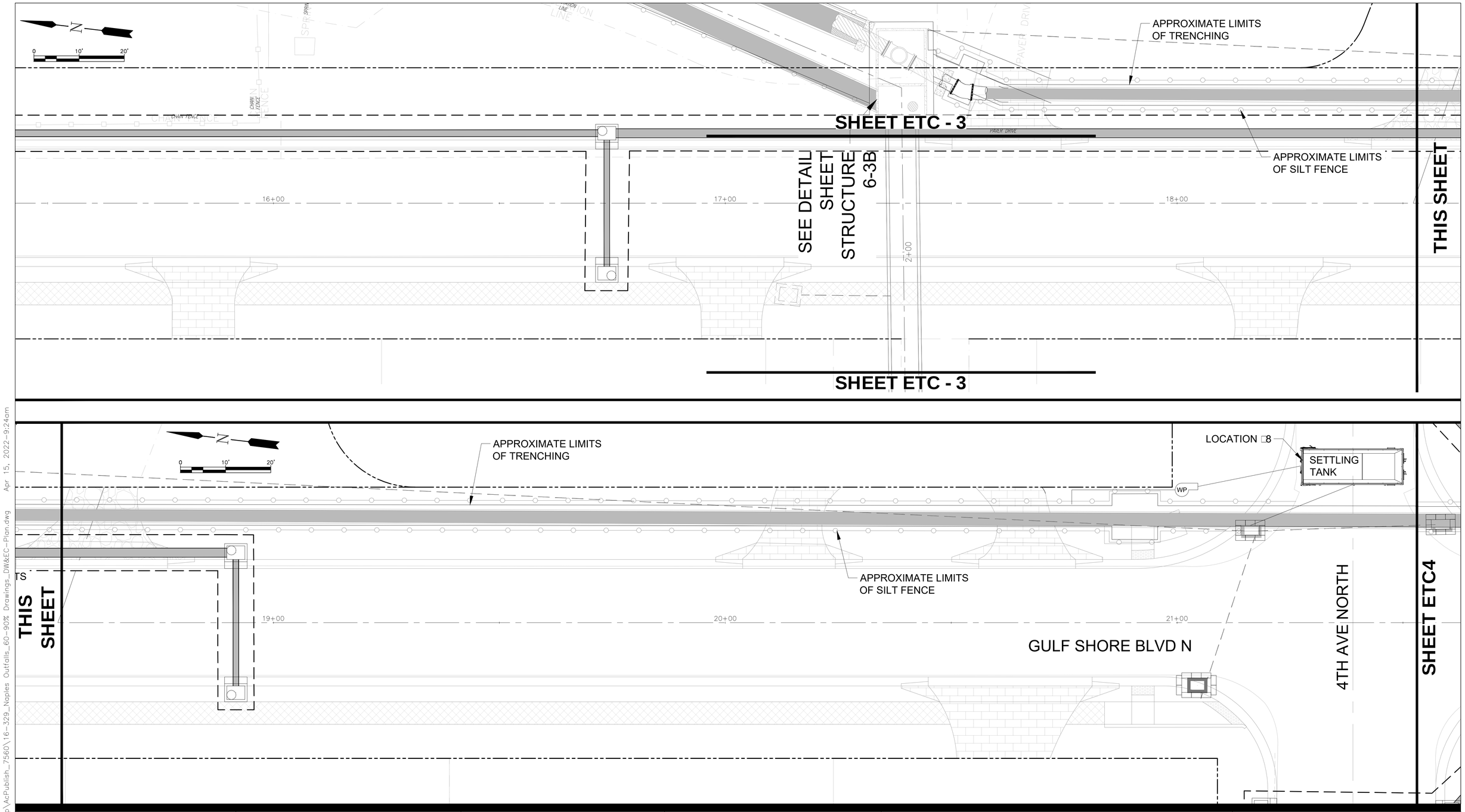

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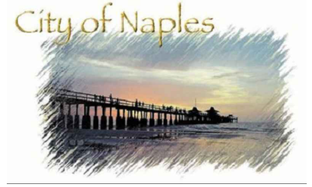

Title
DEWATERING & ETC PLANS
TRUNKLINE STATIONS 15+50 - 18+50
TRUNKLINE STATIONS 18+50 - 21+50

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	3	0

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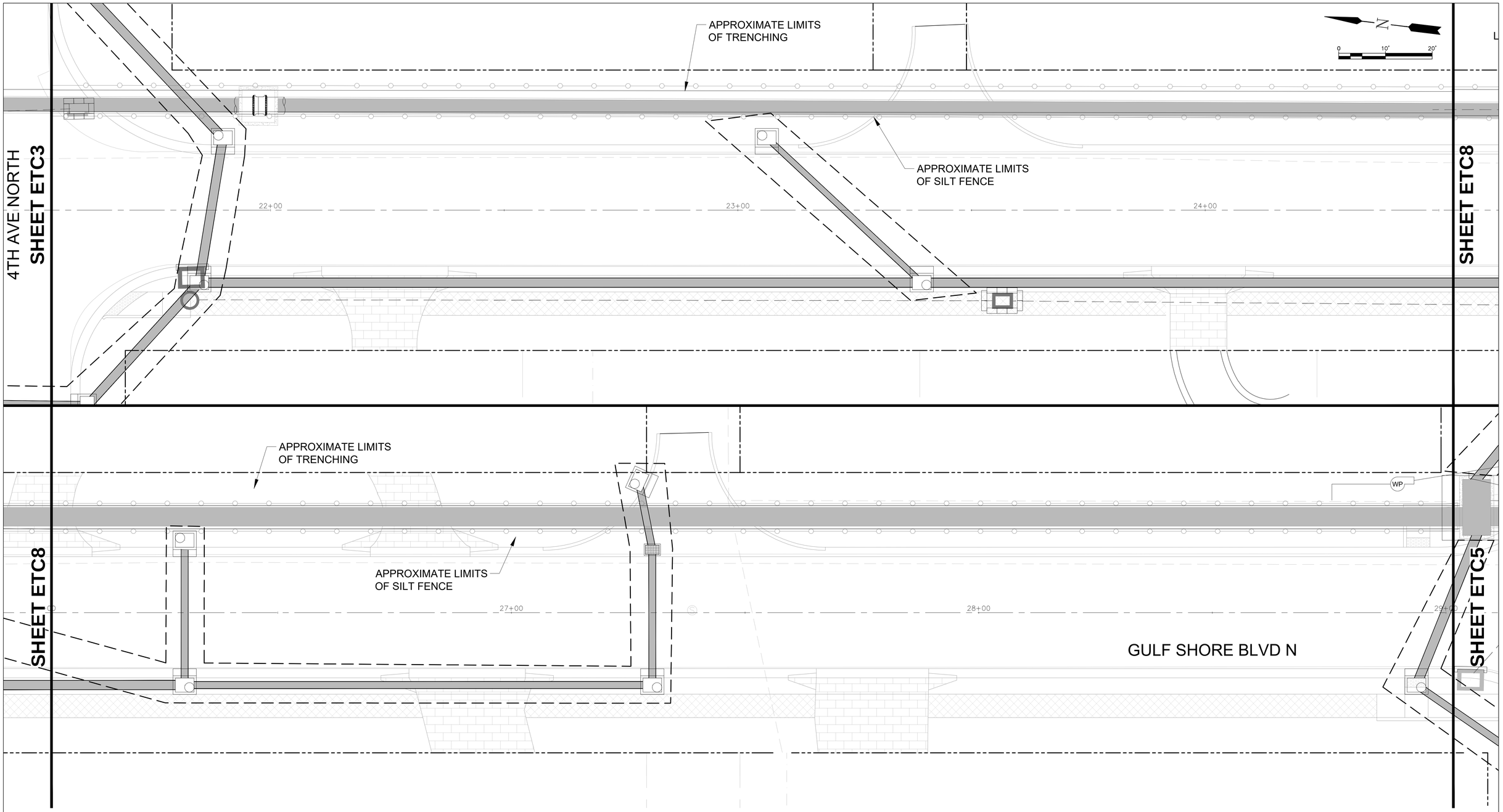

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JAW	SMT	KME	21.06.01

Title
DEWATERING & ETC PLANS
TRUNKLINE STATIONS 21+50 - 24+50
TRUNKLINE STATIONS 26+00 - 29+00

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	4	0

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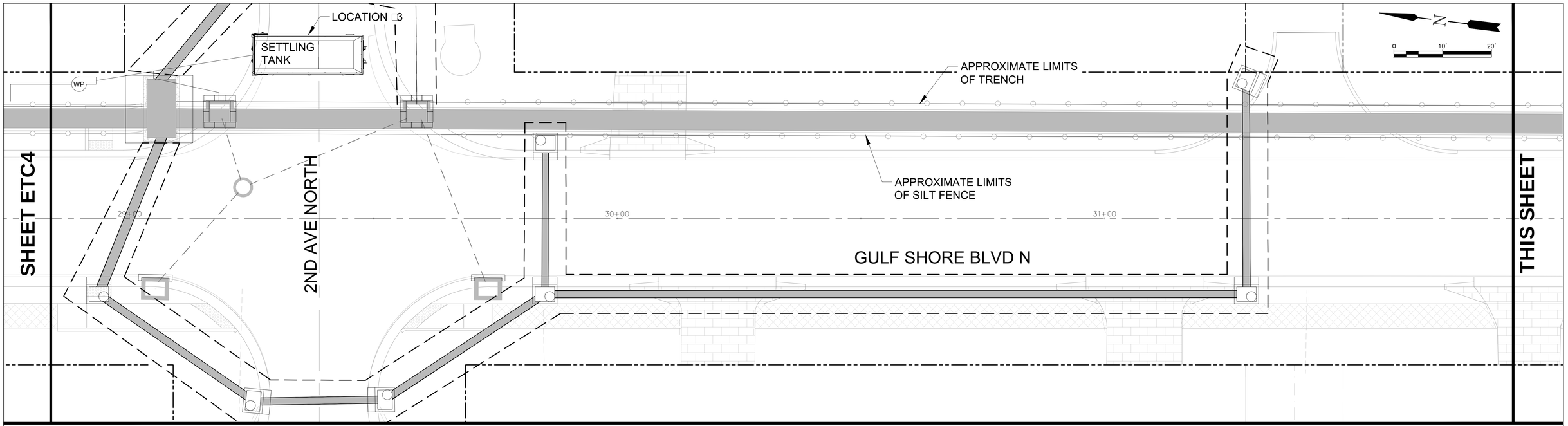

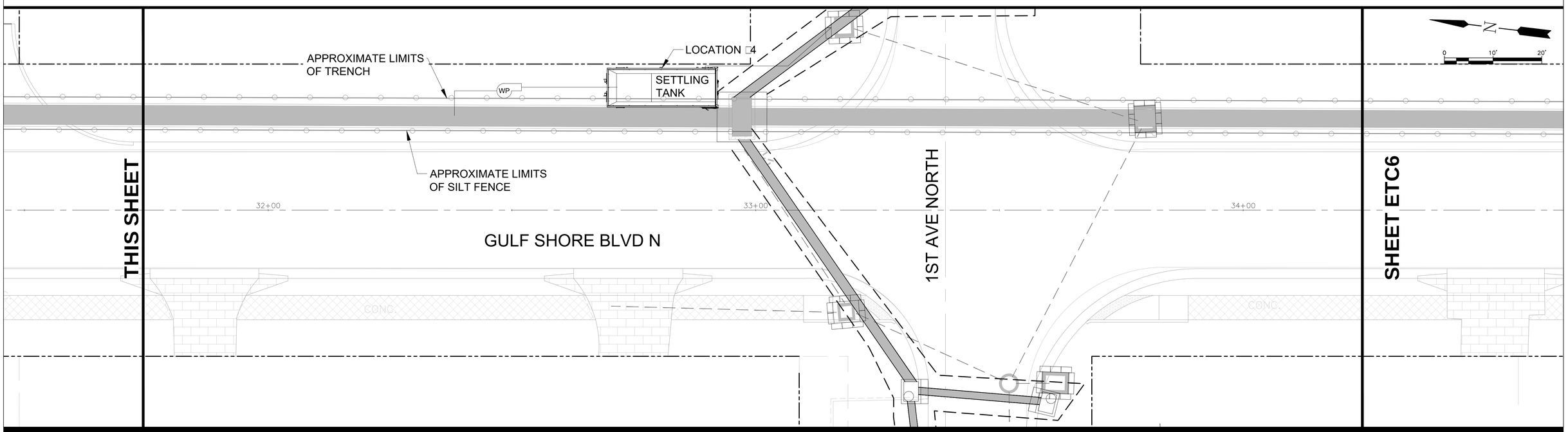

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ISSUED 75% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	21.05.13

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7201 Delainey Court
Sarasota, FL 32420
www.ericksonconsultingengineers.com

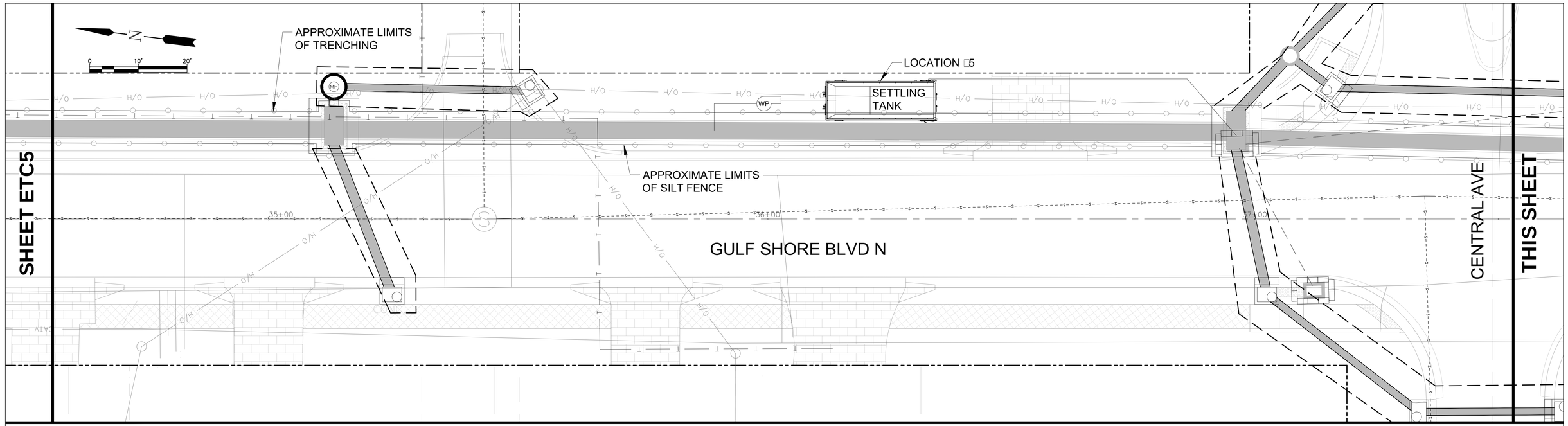
Client/Project
CITY OF NAPLES
735 8th St S
NAPLES, FL.
Naples Beach Restoration & Water Quality Improvement Project

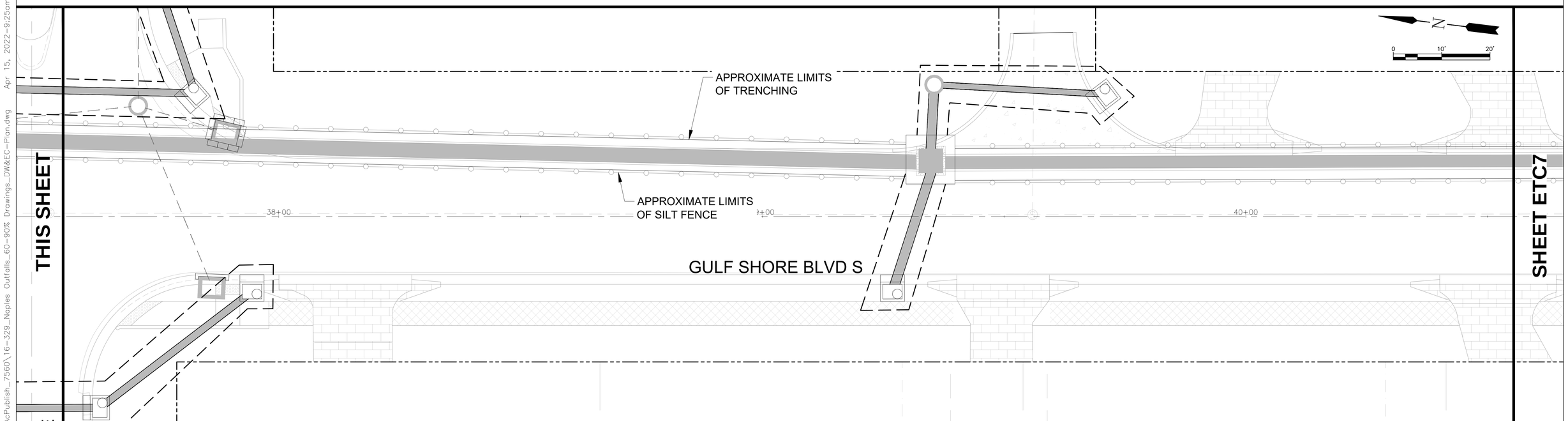
File Name: 16-329_Naples Outfalls_60-90% Drawings_DW&EC-Plan.dwg

JAW	SMT	KME	21.06.01
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Title
DEWATERING & ETC PLANS
TRUNKLINE STATIONS 28+50 - 31+50
TRUNKLINE STATIONS 31+50 - 34+50

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	5	0





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Revision	By	Appd.	YY.MM.DD

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Client/Project
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735 8th St S
NAPLES, FL.
Naples Beach Restoration
& Water Quality
Improvement Project

File Name:
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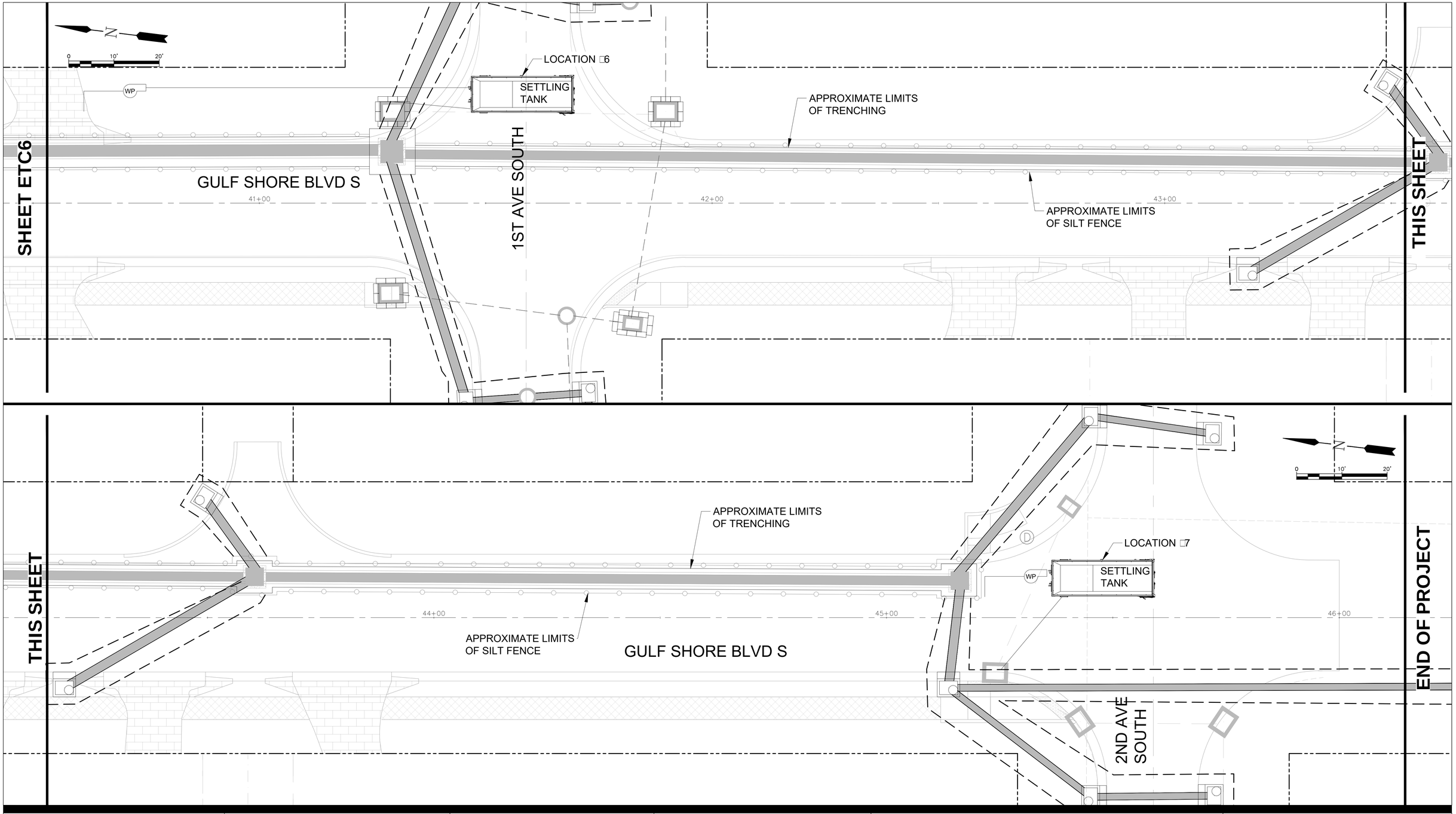
Title
DEWATERING & ETC PLANS
TRUNKLINE STATIONS 34+50 - 37+50
TRUNKLINE STATIONS 35+50 - 41+50

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	6	0



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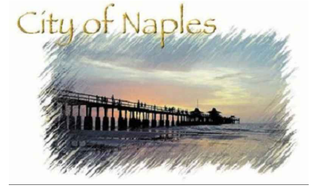

Title
DEWATERING & ETC PLANS
TRUNKLINE STATIONS 37+50 - 40+50
TRUNKLINE STATIONS 40+50 - 43+50

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	7	0

NOTES:

1. Pump locations and gulf discharge to be moved in sequence with construction with routing to nearest catch basin for discharge to existing beach outfall or Alligator Lake.
2. Wellpoint header pipe to run along east trench box for storm sewer trunkline installation.
3. Actual locations of settling tanks, pumps and limits of excavation to be proposed by the Contractor and approved by the Engineer and City.

N

0 10' 20'

325 GULF SHORE BLVD N

SHEET ETC4

LOCATION 2

WP

SETTLING TANK

GULF SHORE BLVD N

25+00

LOCATION 1

SETTLING TANK

SP

ELEVATED ELECTRIC CONTROL PANEL

PUMP STATION

SCREENING CHAMBER

2+00

0+00

SP

26+00

SHEET ETC4

275 GULF SHORE BLVD N

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Client/Project

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Naples Beach Restoration & Water Quality Improvement Project

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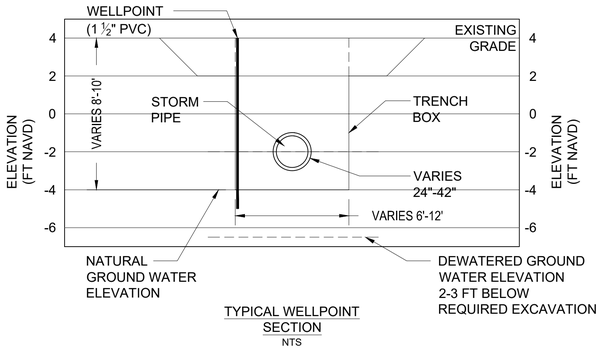
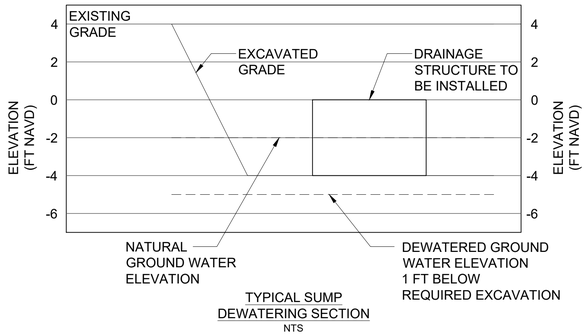
Title

DEWATERING & ETC PLANS
PUMP STATION

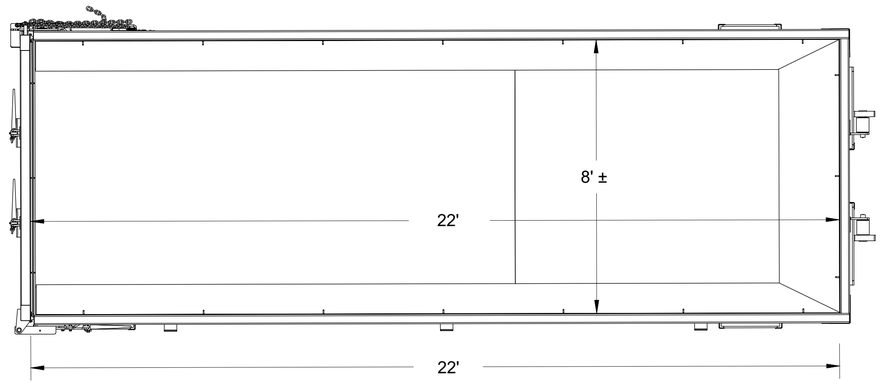
Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	8	0



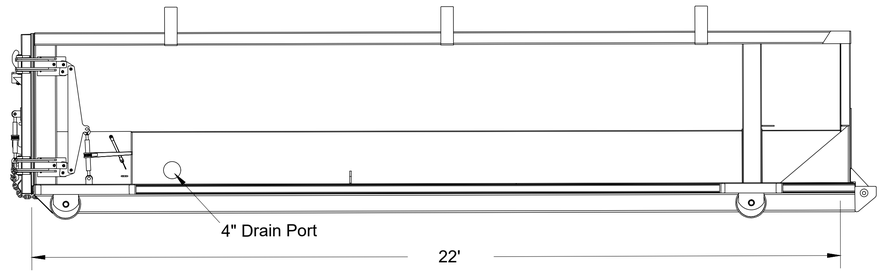
TYPICAL WELLPOINT
SECTION
NTS



TYPICAL SUMP
DEWATERING SECTION
NTS



Top View



Side View

Note:
Contractor shall use filter fabric or mesh basket liner as needed to meet state water quality standards.

TYPICAL 25 C.Y. SETTLING TANK
NTS

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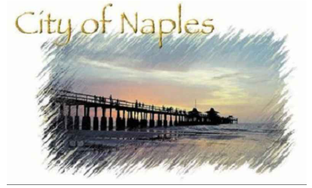

Title
DEWATERING
DETAILS

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	9	0

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

KARYN M ERICKSON, PE, AGENT/ENGINEER-OF RECORD

CHRISTIN L. PERKINSON, PE, QA/QC

PROJECT NAME AND LOCATION:
NAPLES BEACH RESTORATION & WATER QUALITY IMPROVEMENT PROJECT
GULF SHORE BLVD BETWEEN 6TH AVE N AND 2ND AVE S
(RIGHT-OF-WAY)
SECTION 33/4, TOWNSHIP 49S, RANGE 25E
LATITUDE 26° 8'54" LONGITUDE 81° 48' 25"

SITE MAPS:
CONSTRUCTION DRAWINGS PROVIDE THE INFORMATION REQUIRED BY THE SITE MAPS.

NATURE OF THE SOIL DISTURBING ACTIVITIES:
EXCAVATION OF TRENCHES AND LAYING STORMWATER PIPE THEREIN, BACKFILLING OF TRENCHES; EXCAVATION AND INSTALLATION OF CONCRETE DRAINAGE STRUCTURES; REMOVAL OF EXISTING BEACH OUTFALLS; EXCAVATION AND INSTALLATION OF UNDERGROUND PUMP STATION; REMOVAL OF ASPHALT PAVEMENT IN SELECT PORTIONS OF GULF SHORE BLVD INTERSECTIONS DURING CONSTRUCTION, WITH PAVEMENT RESTORATION AND LANDSCAPING.

SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:
THE PROJECT'S SOIL DISTURBANCE WILL OCCUR AS A RESULT OF EXCAVATIONS TO INSTALL THE STORM SEWER SYSTEM AND STRUCTURES. ANY CONTAMINATED MATERIALS FOUND ON SITE WILL BE REMOVED AND TRANSPORTED TO AN APPROVED SITE. THE CONTRACTOR WILL PROVIDE A DETAILED SEQUENCE OF CONSTRUCTION FOR ALL ACTIVITIES. THE GENERAL SEQUENCE FOR EROSION CONTROLS AND BMPs (BY SEGMENT/PHASE OF WORK) IS PROVIDED BELOW. PERIMETER CONTROLS SHALL ONLY BE REMOVED AS EACH SEGMENT OF WORK IS DEEMED COMPLETE AS VERIFIED BY THE ENGINEER.

1. CLEARING AND GRUBBING, EARTHWORK, INSTALL EROSION CONTROLS AND BMPS.
2. EXCAVATION AND STORM SEWER SYSTEM REPLACEMENT / PUMP STATION INSTALLATION.
3. ROADWAY RECONSTRUCTION, INCLUDING CURBS AND GUTTERS, PAVEMENT, DRIVEWAYS AND LANDSCAPING
4. REMOVE EROSION CONTROLS.

TOTAL AREA OF THE SITE: 256.42 ACRES

TOTAL AREA OF THE SITE TO BE DISTURBED: 4.81 ACRES

A SITE BORING WAS CONDUCTED TO A DEPTH OF 101 FT BELOW EXISTING GRADE. SUBSURFACE SOILS GENERALLY CONSIST OF POORLY GRADED SAND (SP), SANDY SILT (ML), SILTY SAND (SM) TO A DEPTH OF 35 FT BELOW EXISTING GRADE. WEATHERED AND/OR FRACTURED LIMESTONE (WLS) AND LIMESTONE (LS) WAS ENCOUNTERED BETWEEN 35 FT AND 101 FT BELOW EXISTING GRADE.

PERMITS

IN AN EFFORT TO ENSURE COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.

C.O.E. DREDGE/FILL PERMIT	# SAJ-2018-03052
SFWMD ERP PERMIT	# 180706-667
SFWMD WATER USE PERMIT	# 181002-20
FDEP CCCL PERMIT	# CO-1063
FDEP MS4 NPDES PERMIT	# FL04E080
CITY OF NAPLES CCSL PERMIT	#
CITY OF NAPLES BLDG PERMIT	#

ESTIMATE THE DRAINAGE AREA SIZE FOR EACH DISCHARGE POINT:

OUTFALL #6	164.03 ACRES
OUTFALL #7	21.98 ACRES
OUTFALL #8	30.32 ACRES
OUTFALL #9	5.64 ACRES
OUTFALL #10	8.57 ACRES

LATITUDE AND LONGITUDE OF EACH DISCHARGE POINT AND IDENTIFY THE RECEIVING WATER OR MS4 FOR EACH *DISCHARGE* POINT:

OUTFALL #6	LATITUDE 26° 9'05"LONGITUDE 81° 48'33"
OUTFALL #7	LATITUDE 26° 8'57"LONGITUDE 81° 48'32"
OUTFALL #8	LATITUDE 26° 8'49"LONGITUDE 81° 48'31"
OUTFALL #9	LATITUDE 26° 8'41"LONGITUDE 81° 48'30"
OUTFALL #10	LATITUDE 26° 8'37"LONGITUDE 81° 48'30"

EXISTING STORMWATER IS DISCHARGED TO THE GULF OF MEXICO THROUGH TEN BEACH OUTFALLS LOCATED BETWEEN THE NAPLES BEACH HOTEL AND GOLF CLUB & 2ND AVE S. CITY OF NAPLES MS4 NPDES PERMIT ID FL04E080

GENERAL:
THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES (BMPS) AND MEASURES THAT WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE FOR EACH ACTIVITY IDENTIFIED IN THE INTENDED SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES SECTION. ALL CONTROLS ARE CONSISTENT WITH PERFORMANCE STANDARDS FOR EROSION AND SEDIMENT CONTROL AND STORMWATER TREATMENT SET FORTH IN S. 62-40.432, F.A.C., THE APPLICABLE STORMWATER OR ENVIRONMENTAL RESOURCE PERMITTING REQUIREMENTS OF THE DEPARTMENT OR A WATER MANAGEMENT DISTRICT, AND THE GUIDELINES CONTAINED IN THE FLORIDA DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT (DEP, 1988) AND ANY SUBSEQUENT AMENDMENTS. THE CONSTRUCTION PLANS HAVE BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS AS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTOR'S REQUIREMENTS" FOR ADDITIONAL DETAIL.

CONTRACTOR'S REQUIREMENTS :
THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENT OUTLINED HEREIN AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION, THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS. THE EROSION CONTROLS AND BMPS DESCRIBED HEREIN MAY REQUIRE MODIFICATION BY THE CONTRACTOR BASED ON THE SELECTED MEANS AND METHODS OF CONSTRUCTION.

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

EROSION AND SEDIMENT CONTROLS STABILIZATION PRACTICES:

1. STRAW BALE BARRIER: STRAW BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   - 1.A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   - 1.B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   - 1.C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
   - 1.D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF STRAW BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO INSURE AGAINST WASHOUT.
2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   - 2.A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   - 2.B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.
4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT -FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL RE-CONCENTRATE AFTER RELEASE.
5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
8. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 30 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.
9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.
10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA (S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.
11. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.
14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AT MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

STRUCTURAL CONTROLS:

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY.
2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP IS USUALLY INSTALLED IN A DRAINAGE WAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA WITH THE FOLLOWING LIMITATIONS.
   - 2.A. THE SEDIMENT TRAP MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE.
3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE VELOCITY OF FLOW AT DESIGN CAPACITY OF THE OUTLET WILL EXCEED THE PERMISSIBLE VELOCITY OF THE RECEIVING CHANNEL OR AREA.
4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASIN. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE 3,600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS:
WASTE DISPOSAL:

WASTE MATERIALS

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

HAZARDOUS WASTE

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

SANITARY WASTE

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

OFF-SITE VEHICLE TRACKING

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

INVENTORY FOR POLLUTION PREVENTION PLAN:

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

CONCRETE	ASPHALT	TAR
FERTILIZERS	PAINTS	WOOD
MASONRY BLOCKS	CLEANING SOLVENTS	METAL
PETROLEUM BASED PRODUCTS		

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

GOOD HOUSEKEEPING:

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

HAZARDOUS PRODUCTS:

1. THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.
2. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE-SEALABLE.
3. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
4. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND/OR STATE RECOMMENDED METHOD FOR PROPER DISPOSAL WILL BE FOLLOWED.
5. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND/OR STATE RECOMMENDED METHOD FOR PROPER DISPOSAL WILL BE FOLLOWED.

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

PETROLEUM PRODUCTS

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

FERTILIZERS

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

PAINTS

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

CONCRETE TRUCKS

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

SPILL CONTROL, PREVENTION AND CLEANUP PRACTICES:

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

- MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (I.E. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.
- THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILLS IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
- THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

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

NON-STORMWATER DISCHARGERS:
IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:
WATER FROM WATER LINE FLUSHING.
PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).
ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

CONTRACTOR'S CERTIFICATION:
"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER."

BUSINESS NAME & ADDRESS	RESPONSIBLE PARTY	RESPONSIBILITIES
TBD	TBD	GENERAL CONTRACTOR
TBD	TBD	SUB-CONTRACTOR RESPONSIBILITIES TBD
TBD	TBD	SUB-CONTRACTOR RESPONSIBILITIES TBD
TBD	TBD	SUB-CONTRACTOR RESPONSIBILITIES TBD
TBD	TBD	SUB-CONTRACTOR RESPONSIBILITIES TBD

SIGNATURE: _____

SIGNATURE: _____

SIGNATURE: _____

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SIGNATURE: _____

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ISSUED 90% DESIGN DRAWINGS TO CITY (PRELIM REVIEW)	KME	APPROVED	22.04.15
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JAW	SMT	KME	21.06.01
Dwn.	Chkd.	Dsgn.	YY.MM.DD

Title
STORMWATER POLLUTION PREVENTION PLAN

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	10	0

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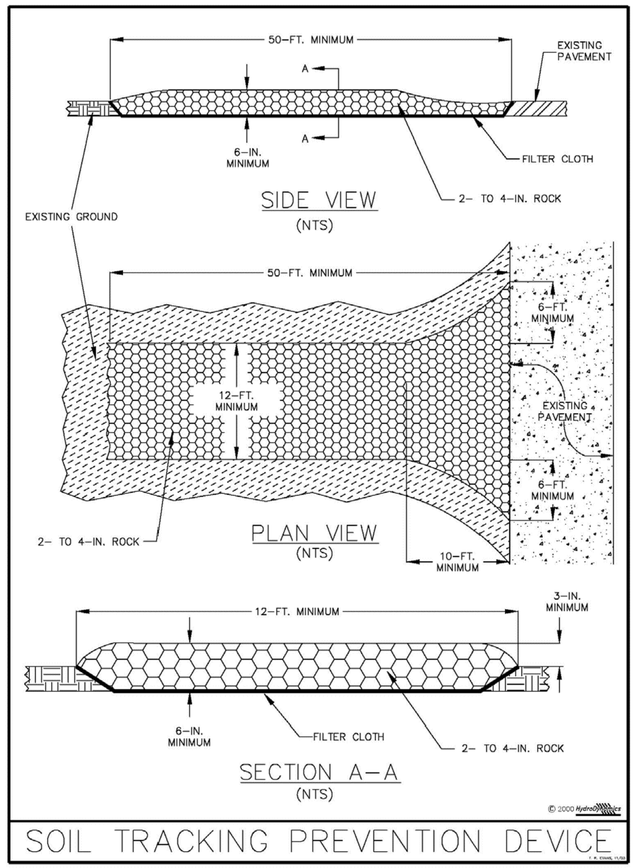
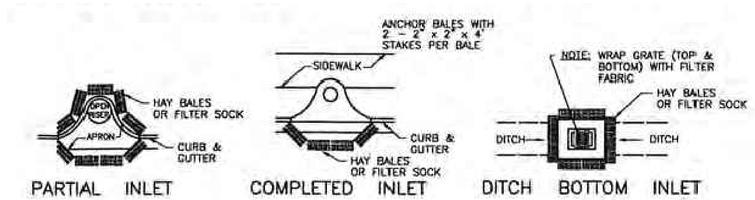
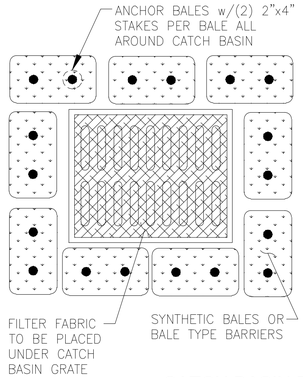




PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

N.T.S.



NOTES:

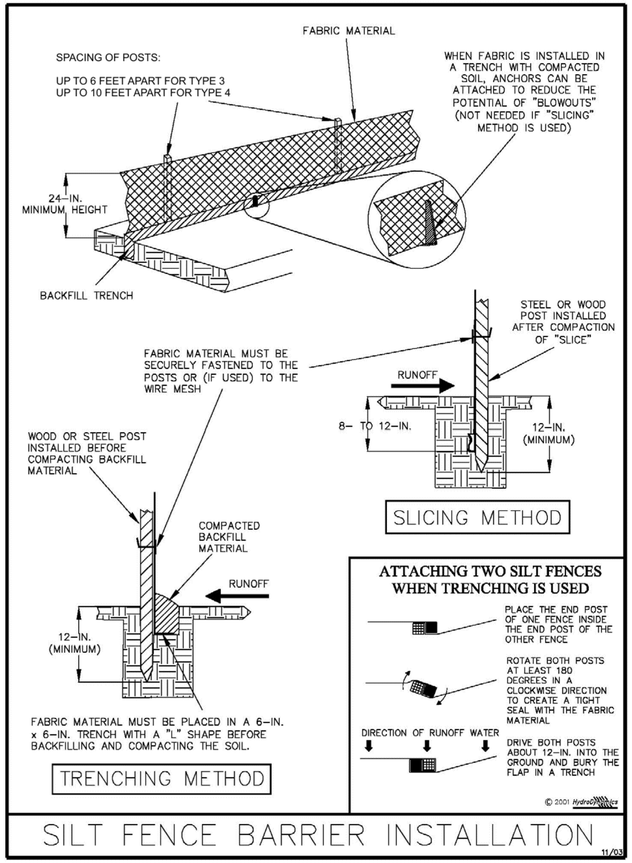
1. BALES SHOULD BE ANCHORED w/2–1"x2" (OR 1" DIA.)x4' WOOD STAKES. STAKES OF OTHER MATERIAL OR SHAPE PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY ENGINEER. STAKES OTHER THAN WOOD SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
2. RAILS AND POSTS SHALL BE 2"x4" WOOD. OTHER MATERIALS PROVIDING EQUIVALENT STRENGTH MAY BE USED IF APPROVED BY ENGINEER.
3. ADJACENT BALES SHALL BE BUTTED FIRMLY TOGETHER.
4. WHERE USED IN CONJUNCTION w/SILT FENCE, BALES SHALL BE PLACED ON THE UPSTREAM SIDE OF THE FENCE.

CATCH BASIN PROTECTION DETAIL

N.T.S.

NOTES:

1. THE CONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS (INCLUDING CROSSING CULVERT) AND RESTORE GRADES (INCLUDING ROADSIDE SWALES) TO PRE-CONSTRUCTION ELEVATIONS; SOD ALL BARE EARTH SURFACES; REPAIR ANY DAMAGE TO THE ASPHALT ENTRANCE DRIVE.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
3. THE CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION ENTRANCE TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT AS REQUIRED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL TO AND FROM THE CONSTRUCTION SITE SHALL BE COVERED WITH A TARPAULIN.
4. THE CONTRACTOR SHALL CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT AND SHALL USE WATER, STRAW MULCH, OR OTHER SUITABLE MATERIAL AS REQUIRED.
5. AT A MINIMUM, SILT FENCES, OR EQUIVALENT SEDIMENT CONTROLS ARE REQUIRED FOR ALL SIDE SLOPE AND DOWN SLOPE BOUNDARIES OF THE CONSTRUCTION AREA.
6. THE CONTRACTOR SHALL ERECT SILT FENCE, STAKED HAY BALES, STAKED TURBIDITY BARRIERS, AND FLOATING TURBIDITY BARRIERS PRIOR TO COMMENCEMENT OF EXCAVATION/GRADING ACTIVITY. FLOATING TURBIDITY BARRIERS MAY BE DEPLOYED IN SECTIONS AROUND ACTIVE CONSTRUCTION AND MOVED AS APPROPRIATE AS CONSTRUCTION AND RESTORATION IS COMPLETED.
7. REQUIRED EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED AND MAINTAINED AS REQUIRED THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT.
8. ALL EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH DISTRICT AND NPDES PERMIT REQUIREMENTS THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL DEVICES WEEKLY AND WITHIN 4 HOURS AFTER EACH RAINFALL EVENT OF 0.5 INCHES OR MORE. ALL MAINTENANCE SHALL BE PREFORMED WITHIN 24 HOURS OF INSPECTION.
9. ALL PRACTICABLE AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT MATERIAL TO INLETS, WETLANDS AND OFFSITE AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RESTORATION EFFORTS THAT MAY BE REQUIRED.
10. EROSION AND SEDIMENT CONTROL DEVICES (SILT FENCE, TURBIDITY BARRIERS, ETC.) ARE DEPICTED IN APPROXIMATE LOCATIONS AND SHALL BE ADJUSTED AS NECESSARY WITH THE APPROVAL OF THE DISTRICT REPRESENTATIVE.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF ALL EROSION AND SEDIMENT CONTROL DEVICES AT THE COMPLETION OF THE PROJECT.
12. ALL EXCAVATION AND ACCESS TO AND FROM THE CONSTRUCTION AREAS SHALL BE WITHIN THE LIMITS OF THE PROJECT AREA.



NOTES FOR ABOVE BMPS:

1. REMOVE ACCUMULATED SEDIMENT FROM BEHIND ROCK BARRIERS WHEN IT IS WITHIN 6-IN OF THE TOP OF THE ROCK.
2. REMOVE ACCUMULATED SEDIMENT FROM BEHIND ROCK BARRIERS WHEN IT IS OVER 24-IN DEEP.
3. REMOVE ROCK BARRIER, POSTS, AND WIRE ONCE EROSION CONTROL PRACTICES ARE INSTALLED.
4. REMOVE SILT FENCE FABRIC AND POSTS ONCE EROSION CONTROL PRACTICES ARE INSTALLED.

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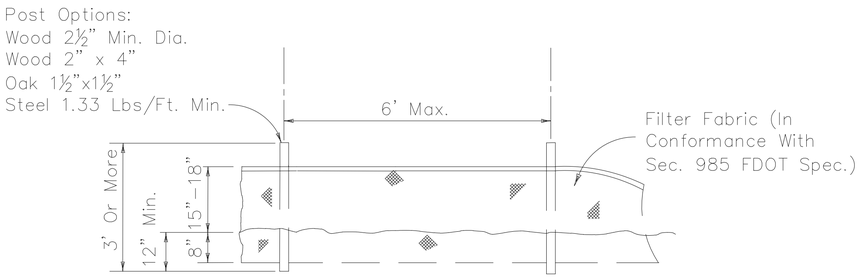
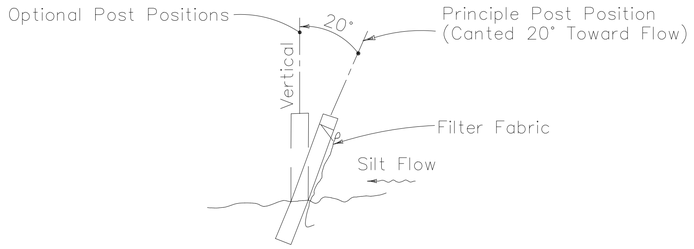
JAW	SMT	KME	21.06.01

Title
EROSION & TURBIDITY CONTROL DETAILS

Project No.	Scale	
20-380	AS NOTED	
Drawing No.	Sheet	Revision
ETC	11	0



ELEVATION



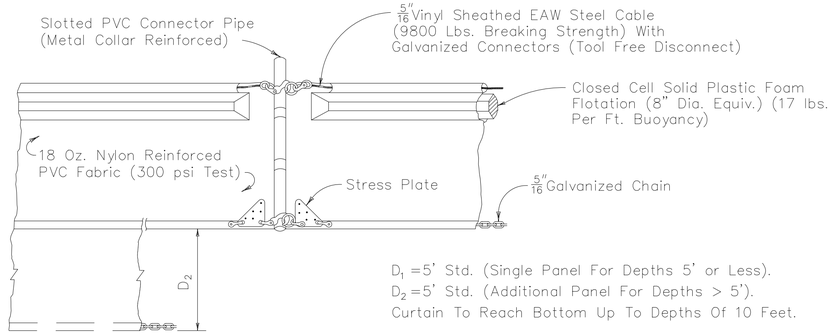
SECTION

Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

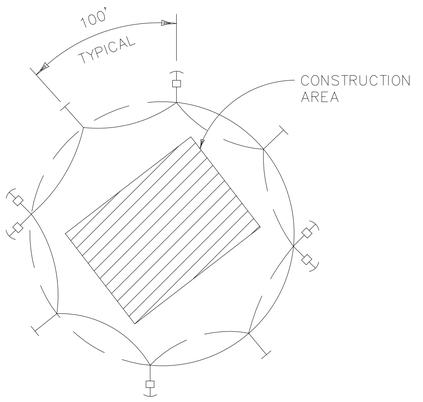
TYPE III SILT FENCE
FDOT INDEX 102

NOTES:

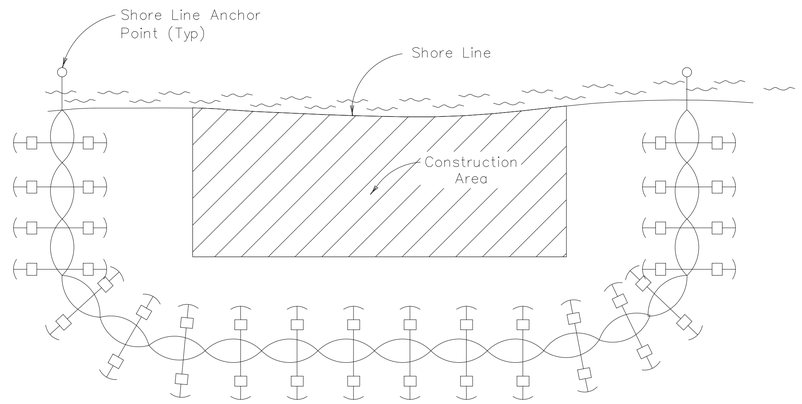
1. TYPE III SILT FENCE TO BE USED AT MOST LOCATIONS. WHERE USED IN DITCHES, THE SPACING FOR TYPE III SILT FENCE SHALL BE IN ACCORDANCE WITH CHART 1, SHEET 1, FDOT INDEX 102.
2. DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
3. 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.



TYPE II
FLOATING TURBIDITY BARRIERS



OFFSHORE DETAIL



SHORELINE DETAIL

GENERAL NOTES:

1. TURBIDITY BARRIERS TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. TYPE II FLOATING TURBIDITY BARRIERS DURING DEWATERING AND OUTFALL STRUCTURE INSTALATION.
3. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
4. DEPLOYMENT OF BARRIERS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
5. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.

LEGEND

- Construction Area
- Mooring Buoy w/Anchor
- Anchor
- Barrier Movement Due To Current Action

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