

CONSTRUCTION DOCUMENTS

FOR

KILLEARN LAKES TREATY OAK TRAIL DRAINAGE IMPROVEMENTS

PREPARED FOR



**LEON COUNTY
PUBLIC WORKS**
2280 Miccosukee Road
Tallahassee, FL 32308
Ph: 850-606-1500 Fax: 850-606-1501

RECEIVED
Leon County
APR 20 2012
Development Support
& Environmental
Management

GENERAL NOTES

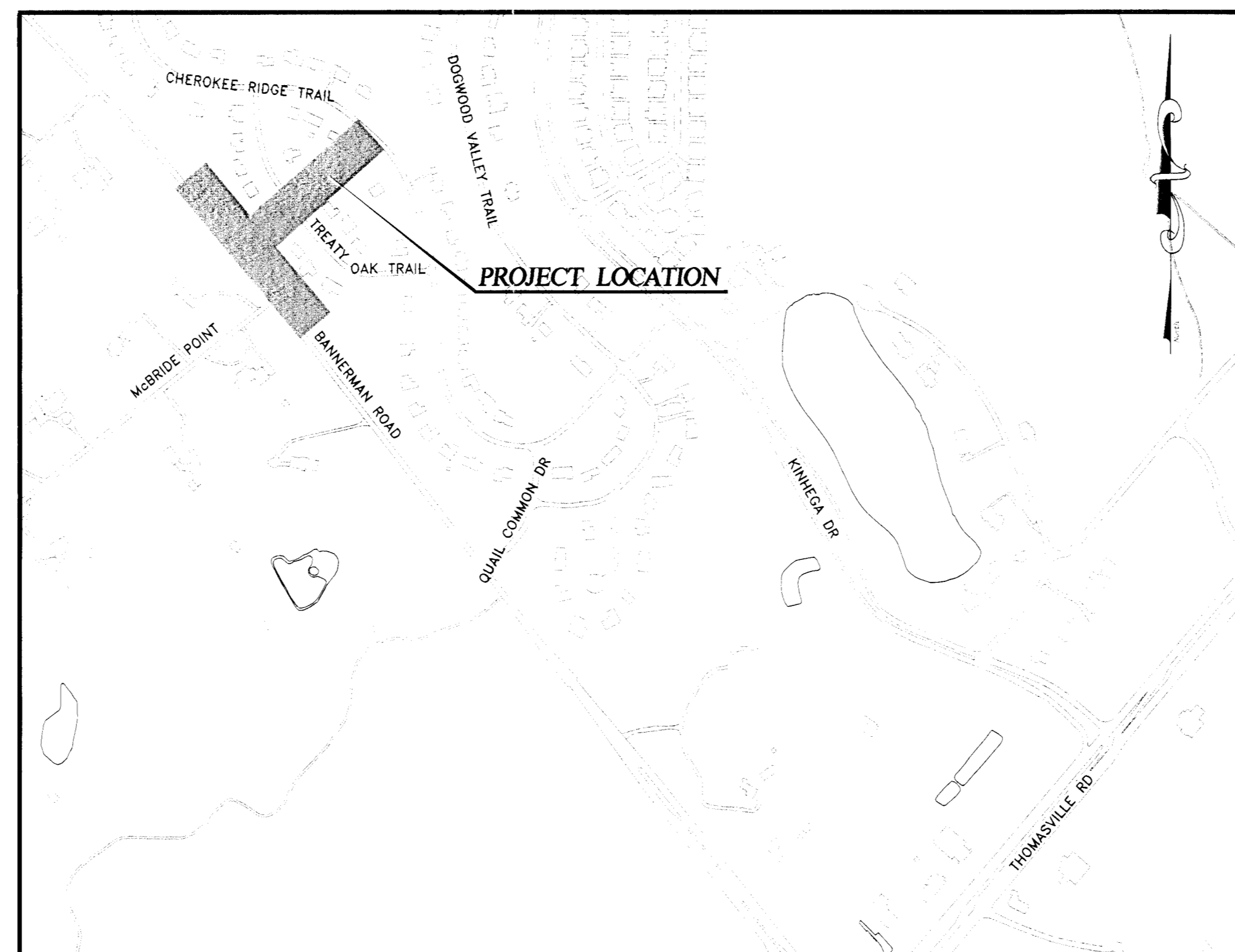
- ELEVATIONS WITHIN THE PROJECT AREA SHOWN ON THESE PLANS ARE BASED ON A FIELD SURVEY BY HSA CONSULTING GROUP INC. DATED SEPTEMBER 28, 2011. ALL OTHER ELEVATIONS BASED OFF LIDAR.
- SURVEY DATUM-NAVD 1988.
- ALL ROADWAY AND DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2010, DIVISIONS II AND III.
- ALL FDOT INDEX NUMBERS REFER TO THE 2010 EDITION OF THE FDOT DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM
- AT THE PRECONSTRUCTION MEETING THE CONTRACTOR SHALL DESIGNATE A REPRESENTATIVE WHO IS CERTIFIED IN EROSION AND SEDIMENTATION CONTROL AND SHALL BE CAPABLE OF BEING REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
- THE CONTRACTOR SHALL DESIGNATE A STORMWATER MANAGEMENT CONTROL OFFICER PRIOR TO THE PRECONSTRUCTION MEETING, AND WILL INFORM THE ENVIRONMENTAL INSPECTOR.
- EXISTING UTILITIES HAVE BEEN LOCATED USING THE BEST AVAILABLE INFORMATION; IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND PROVIDE FOR PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY SUNSHINE ONE CALL (1-800-432-4770), 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF ANY UTILITIES AS MAY BE NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS. UNLESS OTHERWISE STATED, THE COUNTY OR THE UTILITY OWNER WILL BE RESPONSIBLE FOR THE COST OF SAID RELOCATION.
- HORIZONTAL AND VERTICAL CONTROL SHALL BE OBTAINED FROM THE PROJECT SURVEYOR, AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LAYOUT COSTS, MAINTAINING THE CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION, & FOR POST CONSTRUCTION AS-BUILT SURVEY.
- ALL DISTURBED AREAS SHALL BE SODDED. SEE LAP SODDING DETAIL, SHEET 6, DETAIL 7, FOR REQUIREMENTS OF SODDING IN SWALES & AROUND INLETS.
- THE CONTRACTOR SHALL SUBMIT A POST-CONSTRUCTION CERTIFICATION AND REPRODUCIBLE RECORD DRAWINGS (AS-BUILT'S) TO THE ENGINEER PRIOR TO INSPECTION AND ACCEPTANCE. THE RECORD DRAWINGS SHALL BE PREPARED AND CERTIFIED BY A PROFESSIONAL LAND SURVEYOR.
- CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE FOLLOWING PERMITS/ APPROVALS OBTAINED FOR THIS PROJECT.
LEON COUNTY ENVIRONMENTAL MANAGEMENT PERMIT NO. LEM12-00012, PENDING
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT PERMIT NO. 913, ISSUED FEB. 27, 2012
- THE CONTRACTOR SHALL COMPLY WITH THE PERMITS LISTED ABOVE AS WELL AS ALL LOCAL, STATE, AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL ALSO MAINTAIN EROSION CONTROL DEVICES DURING CONSTRUCTION TO PREVENT SEDIMENT FROM LEAVING THE SITE. THE EROSION CONTROL DEVICES SHOWN ON THE DEMOLITION AND EROSION CONTROL PLAN ARE THE MINIMUM REQUIRED AND SHALL BE MAINTAINED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. ADDITIONAL EROSION CONTROLS MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR TO CONTROL SEDIMENTS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL STORMWATER RUNOFF SHALL BE CONTROLLED DURING THE COURSE OF CONSTRUCTION IN SUCH A MANNER AS TO PREVENT DAMAGE OR DETRIMENTAL HARM TO ADJACENT PROPERTY.
- THE CONTRACTOR SHALL NOT SUBSTITUTE ANY ARTICLE, DEVICE, PRODUCT, MATERIAL OR FIXTURE, OR ANY FORM OR TYPE OF CONSTRUCTION, FOR THAT WHICH IS INDICATED IN THE APPROVED PLANS WITHOUT THE EXPRESSED WRITTEN APPROVAL OF THE COUNTY ENGINEER OR THE COUNTY ENGINEER'S DESIGNATED FIELD REPRESENTATIVE.
- AT LEAST FOURTEEN CALENDAR DAYS PRIOR TO THE PRECONSTRUCTION CONFERENCE THE CONTRACTOR SHALL SUBMIT A TENTATIVE BASE CONSTRUCTION SCHEDULE, TRAFFIC CONTROL PLAN, AND STAGING AREA PLAN TO THE ENGINEER AND LEON COUNTY PUBLIC WORKS FOR APPROVAL. NO WORK WILL BEGIN PRIOR TO APPROVAL OF THE CONSTRUCTION SCHEDULE, TRAFFIC PLAN, AND STAGING AREA PLAN. IF THE STAGING AREA PLAN REQUIRES OFF-SITE STAGING THE CONTRACTOR WILL BE REQUIRED TO OBTAIN ANY ADDITIONAL PERMITS THAT MAY BE NEEDED.
- DUE TO THE PROXIMITY OF EXISTING HOMES ADJACENT TO THE WORK AREA, THE CONTRACTOR SHALL NOTIFY AFFECTED PROPERTY OWNERS OF THE PROPOSED WORK SCHEDULE IN ADVANCE OF CONSTRUCTION, AND PERFORM THE WORK IN A MANNER THAT MINIMIZES DISTURBANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT PROPERTIES THAT OCCURS AS A RESULT OF THE ACTIVITIES OF THE CONTRACTOR OR AGENTS THEREOF.
- CONTRACTOR WILL BE RESPONSIBLE FOR PROPERLY DISPOSING OF ANY EXCAVATED MATERIAL OR DEBRIS IN ACCORDANCE WITH COUNTY STANDARDS.
- A DISPOSAL SITE SHALL BE SUBMITTED BY THE CONTRACTOR AT OR PRIOR TO THE PRECONSTRUCTION MEETING, TO BE APPROVED BY THE ENVIRONMENTAL INSPECTOR. NO WORK WILL BEGIN PRIOR TO APPROVAL OF THE DISPOSAL SITE BY THE COUNTY ENGINEER, OR THE COUNTY ENGINEER'S DESIGNATED FIELD REPRESENTATIVE, AND THE ENVIRONMENTAL INSPECTOR.
- A COPY OF THE PERMIT WILL BE KEPT ON SITE, ALSO AN 8" X 11" WEATHER RESISTANT SIGN, INCLUDING THE PERMIT NUMBER SHALL BE PLACED ON THE PROPERTY FACING THE ROAD. THE CONTRACTOR IS REQUIRED TO REVIEW THE COMPLETE PERMIT PRIOR TO CONSTRUCTION COMMENCEMENT.
- LEON COUNTY PUBLIC WORKS OR THEIR DESIGNEE SHALL BE RESPONSIBLE FOR SUBMITTING NOTICE OF CONSTRUCTION COMMENCEMENT AT THE PRE CONSTRUCTION MEETING, MONITORING DURING CONSTRUCTION, AND SUBMITTING AS-BUILT CERTIFICATIONS FOR THE PROJECT ONCE COMPLETED.
- ANTICIPATED START AND END OF CONSTRUCTION DATES ARE APRIL 2012 & DECEMBER 2012, RESPECTIVELY.
- CONTRACTOR SHALL NOT DISTURB PRIVATE PROPERTY, ANY AREA OUTSIDE OF LEON COUNTY RIGHT-OF-WAY, HOME OWNERS ASSOCIATION GREEN SPACE, OR LEON COUNTY DRAINAGE EASEMENTS.**
- CONTRACTOR SHALL PROVIDE A MAINTENANCE OF TRAFFIC PLAN TO BE SUBMITTED TO LEON COUNTY PUBLIC WORKS AND DEVELOPMENT SUPPORT & ENVIRONMENTAL MANAGEMENT PRIOR TO COMMENCING ANY PHASE OF CONSTRUCTION. THE MAINTENANCE OF TRAFFIC PLAN SHALL BE IN ACCORDANCE WITH FDOT INDEX 600, 601, 602, AND 603.

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1
EXISTING CONDITIONS	2
DEMOLITION AND EROSION CONTROL PLAN	3
PLAN AND PROFILES	4-5
CONSTRUCTION DETAILS	6

CONSTRUCTION SEQUENCE

- CONTRACTOR SHALL POST THE PERMITS IN A CONSPICUOUS WEATHER PROOF PLACE.
- CONTRACTOR SHALL OBTAIN A NPDES PERMIT AND MAINTAIN PERMIT COVERAGE UNTIL SITE IS FULLY STABILIZED. CONTRACTOR SHALL PROVIDE A COPY OF THE PERMIT TO THE ENGINEER OF RECORD (E.O.R.) & THE LEON COUNTY PUBLIC WORKS PROJECT MANAGER PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL STAKE AND FLAG LIMITS OF ACTIVITY WITH FENCING, BARRICADE, OR SIMILAR (FOR REVIEW BY LEON COUNTY'S ENVIRONMENTAL INSPECTOR) PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES, AND PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.
- BEFORE ANY CONSTRUCTION ACTIVITY BEGINS ON THE SITE, CONTRACTOR SHALL SCHEDULE THE PRE-CONSTRUCTION CONFERENCE, TO BE HELD ONSITE, BETWEEN THE ENVIRONMENTAL INSPECTOR AND THE CONTRACTOR'S REPRESENTATIVE. THE FOLLOWING ATTENDEES SHALL BE INVITED TO THE PRE-CONSTRUCTION CONFERENCE: LEON COUNTY PUBLIC WORKS, ENGINEER OF RECORD, LEON COUNTY ENVIRONMENTAL INSPECTOR, & TALQUIN ELECTRIC COOPERATIVE REPRESENTATIVE.
- CONTRACTOR SHALL HAVE A CERTIFIED ARBORIST PERFORM MITIGATION IN ACCORDANCE WITH PERMIT REQUIREMENTS AND AS NOTED ON SHEET #3.
- CONTRACTOR SHALL INSTALL ALL REQUIRED TREE PROTECTION & EROSION CONTROL DEVICES (SILT FENCES, SILT BARRIERS, ETC.) AS SHOWN ON THE PLANS OR AS REQUIRED BY LEON COUNTY'S ENVIRONMENTAL INSPECTOR. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENVIRONMENTAL INSPECTOR, OF THE INSTALLATION OF TREE PROTECTION & EROSION CONTROL DEVICES, PRIOR TO PROCEEDING. EROSION CONTROL DEVICES SHALL BE MAINTAINED/ADDED AS CONSTRUCTION PROGRESSES.
- CONTRACTOR SHALL VERIFY PROPOSED IMPROVEMENTS ARE NOT IN CONFLICT WITH EXISTING SITE IMPROVEMENTS.
- CONTRACTOR SHALL REMOVE ANY EXISTING IMPROVEMENTS IN CONFLICT WITH THE PROPOSED IMPROVEMENTS AND AS SHOWN TO BE REMOVED ON THESE PLANS.
- CONTRACTOR SHALL CLEAR AND GRUB THE SITE.
- CONSTRUCT SITE IMPROVEMENTS AS SHOWN ON THE PLANS.
- STABILIZE ALL DISTURBED AREAS, IN ACCORDANCE WITH GENERAL NOTE #9.
- CONTRACTOR SHALL COORDINATE FINAL CLOSE-OUT OF THE PROJECT WITH LEON COUNTY'S PUBLIC WORKS DEPARTMENT, THE ENGINEER OF RECORD, TALQUIN ELECTRIC COOPERATIVE REPRESENTATIVE, LEON COUNTY'S DEPARTMENT OF DEVELOPMENT SUPPORT & ENVIRONMENTAL MANAGEMENT (DSEM), AND NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT. RECORD DRAWINGS SHALL BE SUBMITTED TO LEON COUNTY'S DSEM'S INSPECTOR, AT LEAST TWO WEEKS PRIOR TO REQUESTING A FINAL INSPECTION.
- EROSION CONTROL DEVICES SHALL NOT BE REMOVED UNTIL AFTER THE SITE HAS BEEN STABILIZED AND REMOVAL HAS BEEN APPROVED BY THE LEON COUNTY DSEM INSPECTOR. CONTRACTOR SHALL COMPLY WITH THE EROSION CONTROL PLAN.



LOCATION MAP
N.T.S.

PREPARED BY:

ATKINS

2639 N. Monroe St. Building C - Tallahassee, Florida 32303 - 850.575.1800
FBPR Certificate of Authorization No. 24

APRIL 19, 2012

SURVEYOR OF RECORD:

John M. Pulice, PLS
HSA Consulting Group, Inc.
1648 Metropolitan Circle, Suite A
Tallahassee FL, 32308
Phone: 850.309.7510

ENGINEER OF RECORD:

ATKINS
CHARLES E. HARGRAVES, P.E.
P.E. NO. 56944

APPLICANT'S COPY

DATE: 4/23/12

APPROVED: [Signature]

PERMIT # LEM12-00012

DATE: 4/23/12

Special Conditions Exist For This Permit. Refer to Exhibits:

See Attachment A

[Signature]

[Signature]

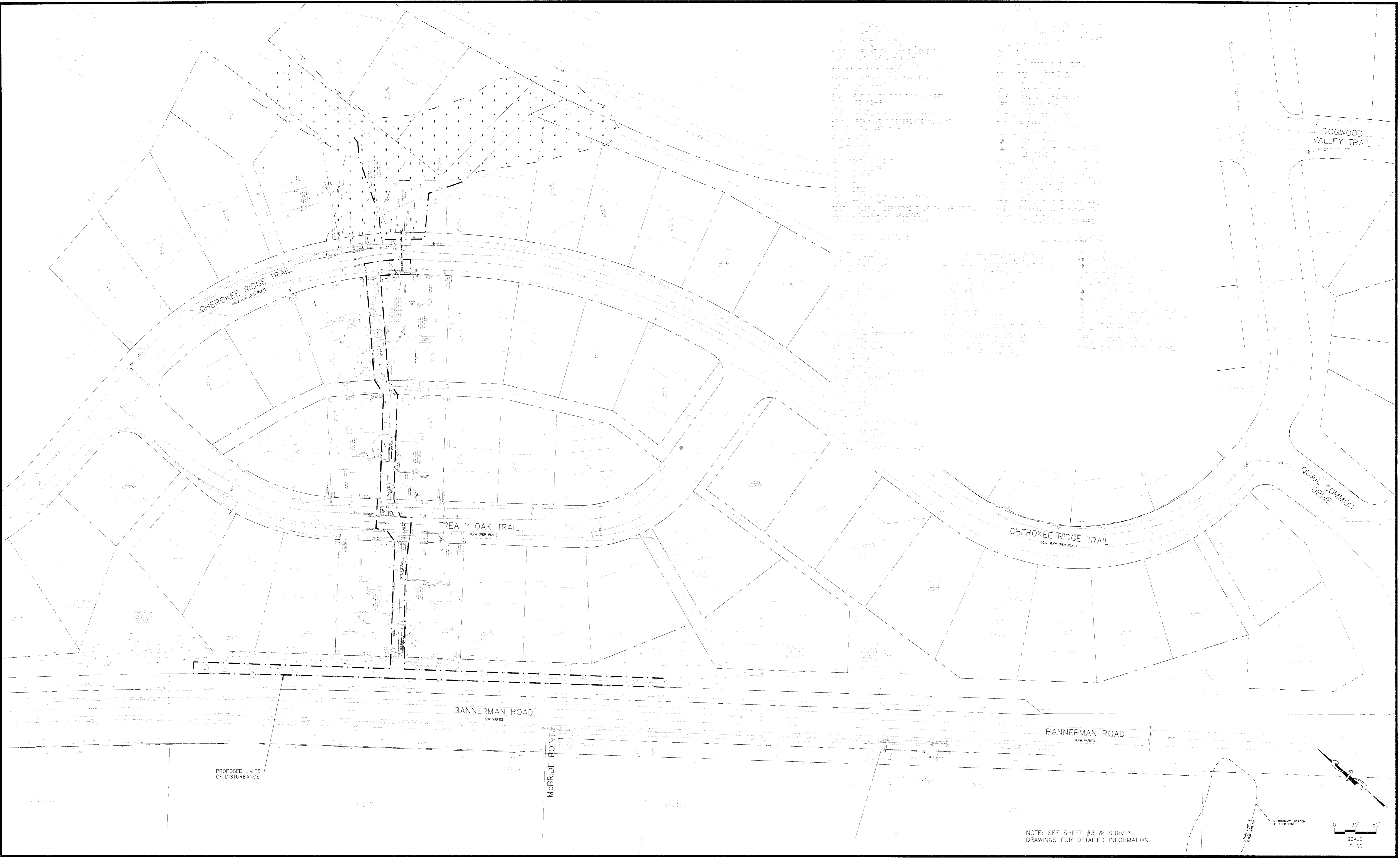
CHARLES E. HARGRAVES
P.E. NO. 56944

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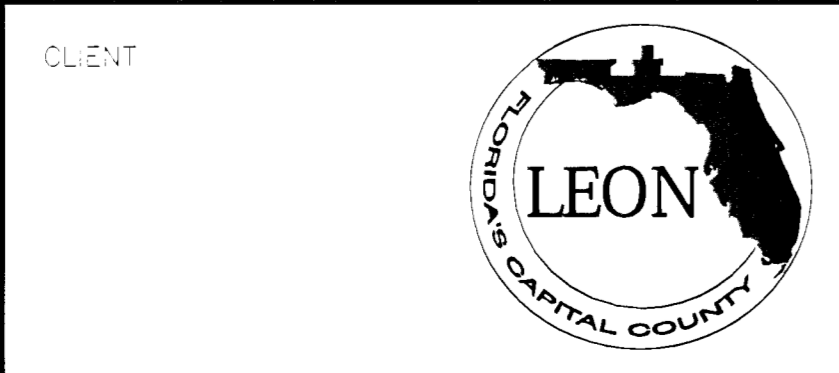
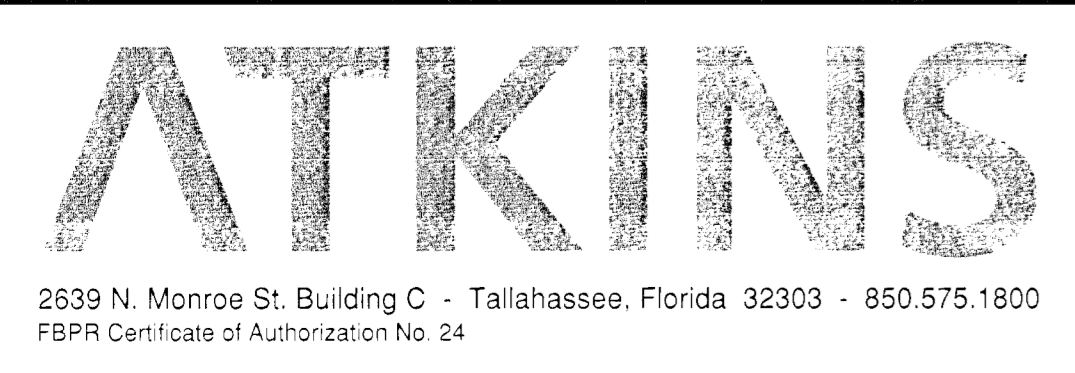
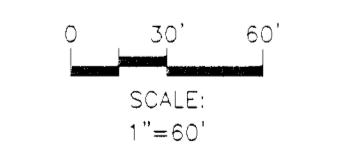
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100024145
KL TREATY OAK STORMWATER

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NOTE: SEE SHEET #3 & SURVEY DRAWINGS FOR DETAILED INFORMATION.



PROJECT
**KILLEARN LAKES
TREATY OAK TRAIL
DRAINAGE IMPROVEMENTS**

TASK
EXISTING CONDITIONS

ORIGINAL	APRIL 19, 2012
REVISIONS:	
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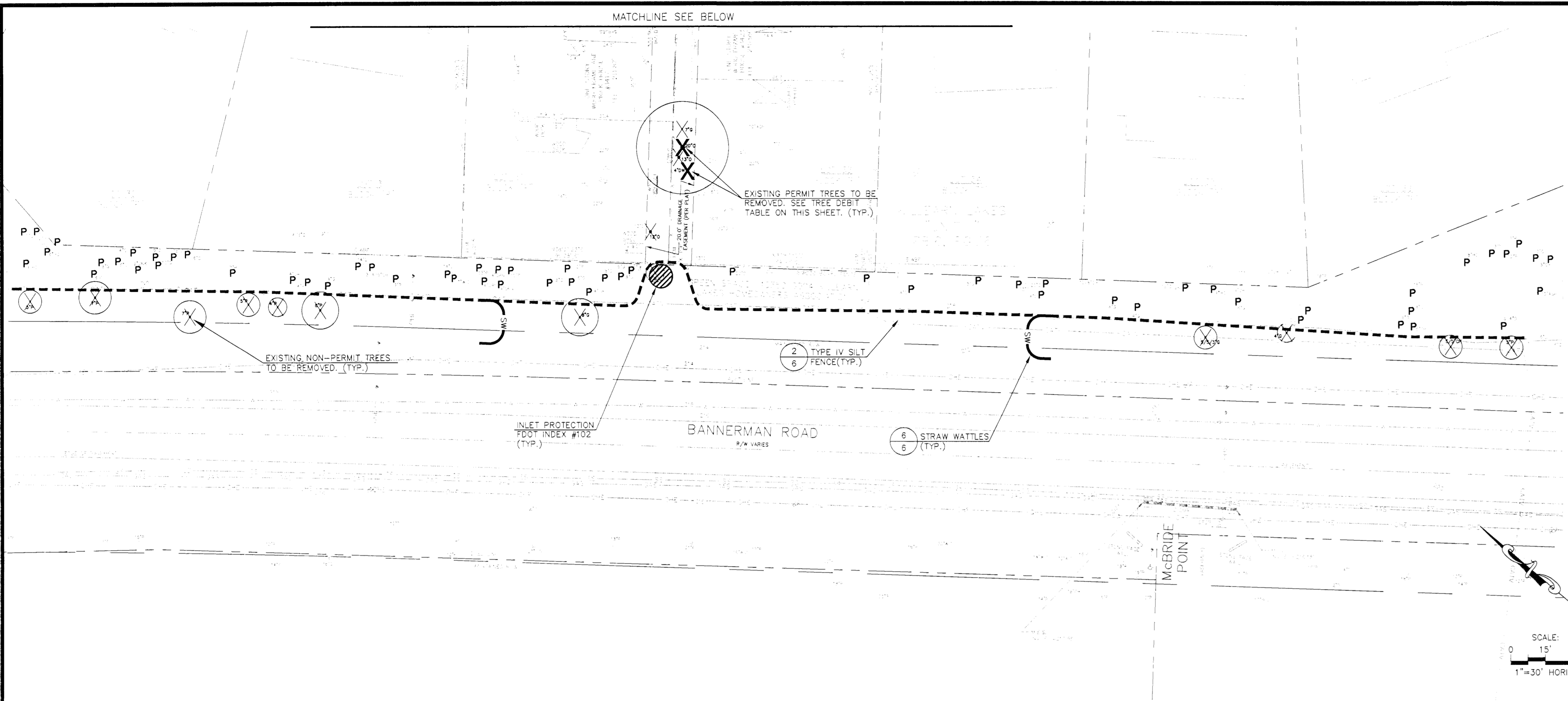
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CHARLES E. HARBAVES
P.E. No. 15944

Signature Date

JOB NO. 100024145
DRAWN MR/WD
DESIGNED CH
CHECKED CH
CC WKL
SHEET 2

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LEGEND

- P EXISTING TREES TO REMAIN
- P EXISTING TREES TO BE PRESERVED
- M TREES IMPACTED BY CONSTRUCTION TO BE MITIGATED BY ARBORIST
- X EXISTING PERMIT TREES TO BE REMOVED
- X EXISTING NON-PERMIT TREES TO BE REMOVED
- STAKED TYPE IV SILT FENCE WITH HAY BALES
- TREE PROTECTION BARRICADE
- SW 8" STRAW WATTLES
- ⊗ INLET PROTECTION (FOOT INDEX #102)

NOTE: STRAW WATTLES SHALL NOT CONTAIN PLASTIC NETTING OR OTHER NON-BIODEGRADABLE MATERIALS.

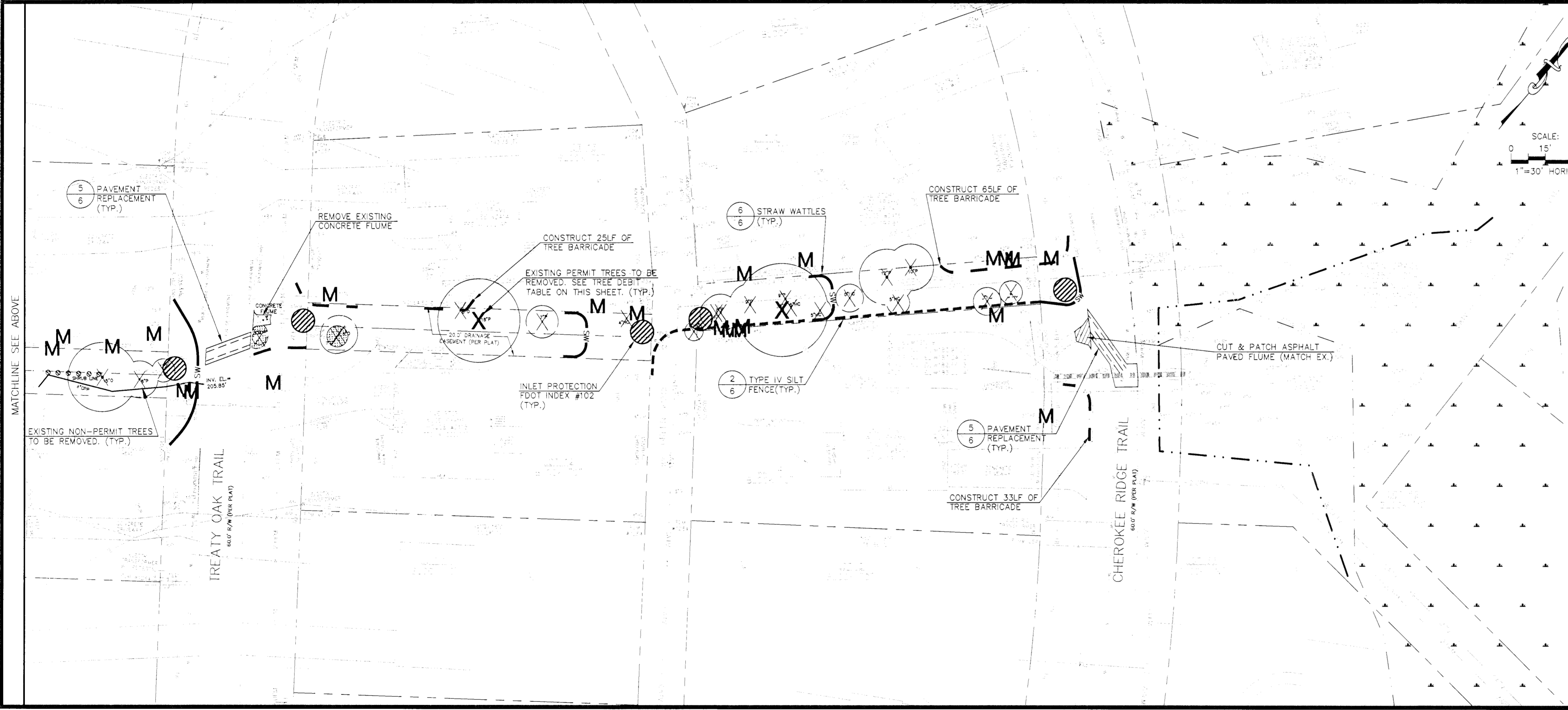
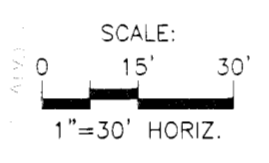
TREE REMOVAL TABLE

DBH (INCHES)	COMMON NAME	DEBITS
20"	OAK	8
20"	PINE	8
18"	PINE	6
4"	DOGWOOD	2
TOTAL		24

TREE PRESERVATION TABLE

DBH (INCHES)	QUANTITY	CREDITS
20"	1	8
18"	1	6
16"	1	6
14"	2	12
13"	3	18
12"	3	12
11"	1	4
10"	4	16
9"	2	8
8"	6	24
7"	3	12
6"	9	18
5"	8	16
4"	17	34
TOTAL		194

- MITIGATION WILL BE PERFORMED WITHIN THE EASEMENTS, GREEN SPACE, OR RIGHT-OF-WAY. CONTRACTOR WILL NOT IMPACT PRIVATE PROPERTY WITHOUT PRIOR WRITTEN PERMISSION FROM THE LAND OWNER.
- THE CONTRACTOR WILL FOLLOW THE ARBORICULTURAL MITIGATION PLAN DESCRIBED BELOW. FOR ALL PERMIT TREES IN THE RIGHT OF WAY, EASEMENT, AND ALL POTENTIALLY IMPACTED TREES, IF THE TREES ARE DAMAGED, THEN THE DEBITS WILL BE ADDED TO THE 24 DEBITS INCURRED BY THE PROPOSED TREE REMOVALS, AND SHALL BE REPLACED BY LEON COUNTY PUBLIC WORKS BY PLANTING EQUIVALENT CREDITS AND/OR PAYING INTO THE TREE BANK FUND.



ARBORICULTURAL MITIGATION PLAN:

SITE MONITORING
All tree protection procedures and activities shall be monitored and approved throughout the construction period by a Certified Arborist.

SOIL TESTING
The Critical Protection Zone (CPZ) of the designated trees shall be soil tested for existing nutrient content to determine the necessity of fertilizer application and recommended percentages and rates. The soil samples shall be taken within the CPZ; multiple samples shall be taken if locations of obvious change in soil texture and color exist within the CPZ. Samples shall be submitted to IFAS Extension Soil Testing Laboratory or approved soil testing service for analysis and recommendations.

Percolation tests shall be performed within the CPZ of each designated tree (or as deemed necessary by the Arborist) to determine the necessity of soil aeration. Multiple samples shall be taken if locations of obvious change in soil texture and color exist within the CPZ.

The Certified Arborist shall be responsible for all soil testing. Submittals of samples shall be made to the Owner's Agent and the Landscape Architect for review.

WATERING
All protected trees shall be watered as necessary to deliver a minimum rate equivalent to 1" of rainfall per week. Application rate shall be dependent upon soil type and weather conditions. A tensiometer shall be required for verification of application rates. Care shall be taken to prevent water from soaking the base of trees and root collars. Irrigation shall commence as far in advance as possible to development activity and shall continue through the completion of the project. All watering shall be under the direction and supervision of the Certified Arborist.

ROOT PRUNING
Root pruning shall occur prior to site grading, earthwork, excavation or any other activity which may damage the roots of a tree proposed for mitigation in all areas of demolition or new construction requiring removal of existing roots: i.e. excavation, construction of footings, retaining walls, curbs paving and base. Roots shall be cut with a mechanical trenching device to a minimum depth of 18" followed immediately by a clean-cut hand pruning of all roots of greater than 2" diameter. Root pruning shall occur in advance of site clearing or excavation or construction. All exposed pruned or cut roots shall be covered immediately with topsoil, mulch or other organic medium. When it is not possible to back fill within an hour (in sun) or two hours (in shade) the exposed roots shall be covered with burlap and the burlap kept moist until back filling occurs.

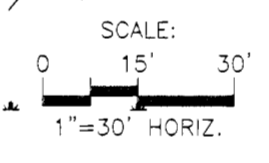
PRUNING
Pruning shall be performed by a Certified Arborist in accordance with the ANSI A300 standards as directed on site by the Landscape Architect or determined by the Certified Arborist. Pruning and crown thinning shall be done to all dead and diseased limbs that harbor decay and all heavy concentrations of moss and vines shall be removed that compete with crown foliage. All branch removal for the clearance or raising of larger limbs for traffic or structures shall be done by the Certified Arborist. All limbs larger than 6" diameter that are proposed to be cut shall first be approved by the Certified Arborist and work performed by the Certified Arborist.

Removal of competing understory trees, shrubs and vines shall be done by the Certified Arborist. Any propagules of exotic invasive plants shall be removed from the site and destroyed in a manner that prevents the spread of invasive infestation.

SOIL AERATION
Soil aeration shall be performed by the Certified Arborist upon his recommendation based on results of percolation tests within the CPZ. If required, use a 1 1/2" - 2" diameter soil auger to drill holes to a depth of 12" every 24" apart, starting three feet from the trunk collar outward to five feet past the drip line of the tree. The entire area within the CPZ of the tree should be aerated.

MULCHING
Mulching shall be used throughout the project within the CPZ of the protected trees to the greatest extent possible. A 2-3" layer of mulch, preferably wood chips, shall be placed over the entire CPZ of the protected tree. Where heavy construction traffic will be located within a portion of the CPZ, a layer of 4-6" of wood chips, covered with 1/2" plywood placed over the mulch shall be placed down to lessen soil compaction and damage to the tree roots.

FERTILIZING
Fertilizing and pH adjustment should be in response to the soil test. Fertilize with a complete fertilizer, containing at least 5% nitrogen in organic form, including minor elements. Apply in the spring at a rate recommended by soil testing service. Fertilizer proposed for soil injection and/or liquid fertilization should be in a ratio of elements as determined by soil tests and the Certified Arborist as well as application method. Water soil immediately after initial application of fertilizer at a rate equivalent to 1" of rainfall.



ATKINS
2639 N. Monroe St. Building C - Tallahassee, Florida 32303 - 850.575.1800
FBPR Certificate of Authorization No. 24

CLIENT

LEON COUNTY
FLORIDA

PROJECT

**KILLEARN LAKES
TREATY OAK TRAIL
DRAINAGE IMPROVEMENTS**

TASK

**DEMOLITION AND
EROSION CONTROL PLAN**

ORIGINAL: APRIL 19, 2012

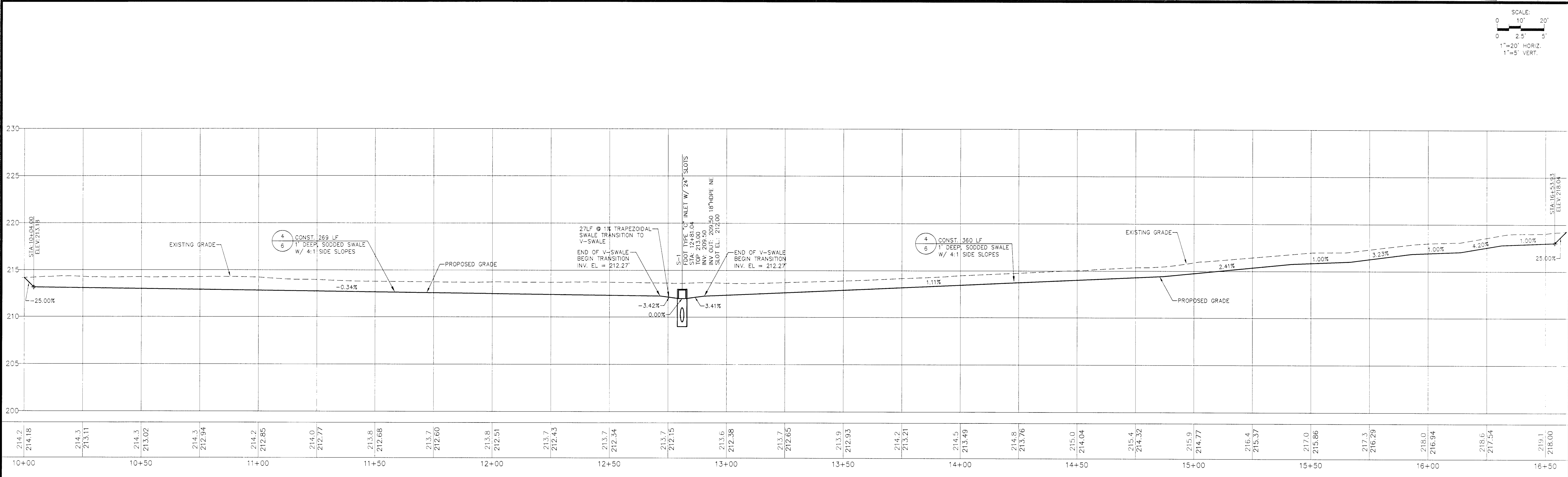
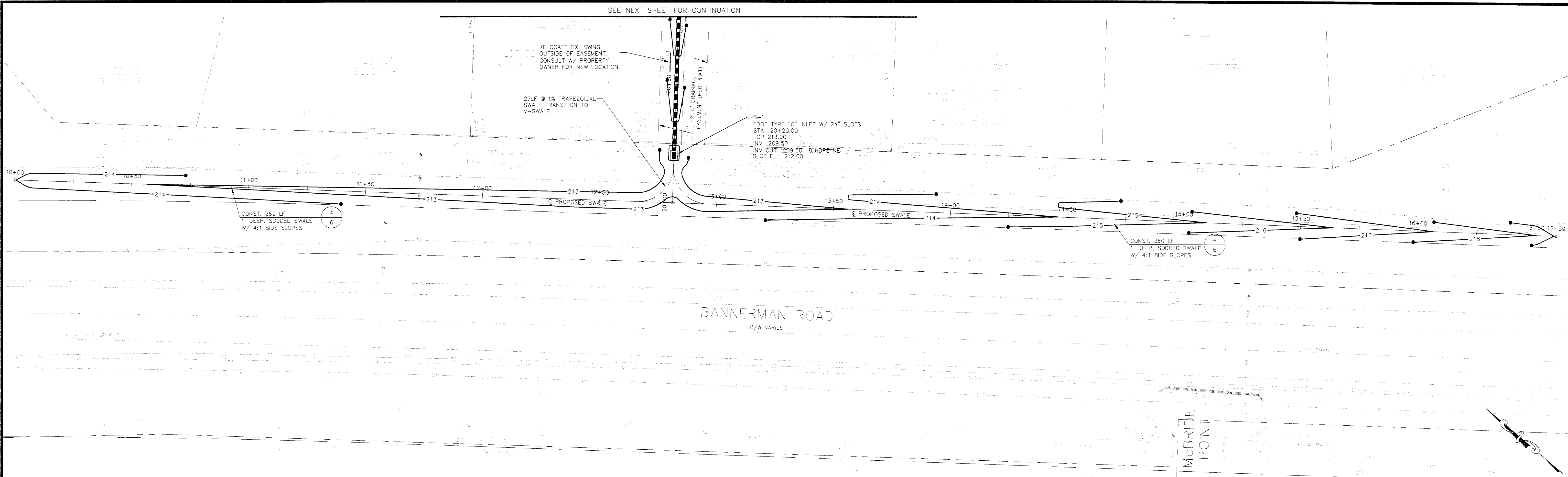
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CHARLES E. HARGRAVES
Signature: _____ Date: _____

NOT VALID UNLESS SIGNED AND SEALED


JOB NO. 100024145
DRAWN: VR/MD
DESIGNED: C-
CHECKED: C-
QC: WKJ

SHEET 3



SCALE:
 0 10' 20'
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 1"=20' HORIZ.
 1"=5' VERT.

ATKINS
 2639 N. Monroe St. Building C - Tallahassee, Florida 32303 - 850.575.1800
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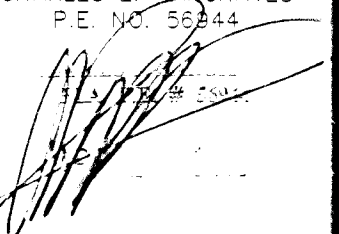
CLIENT

 LEON
 FLORIDA'S CAPITAL COUNTY

PROJECT
**KILLEARN LAKES
 TREATY OAK TRAIL
 DRAINAGE IMPROVEMENTS**

TASK
**BANNERMAN RD.
 PLAN AND PROFILE**

ORIGINAL: APRIL 19, 2012

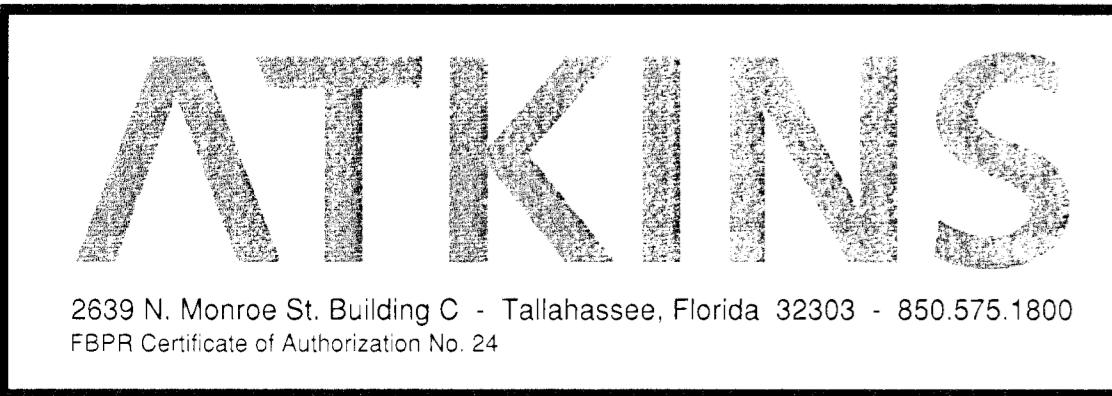
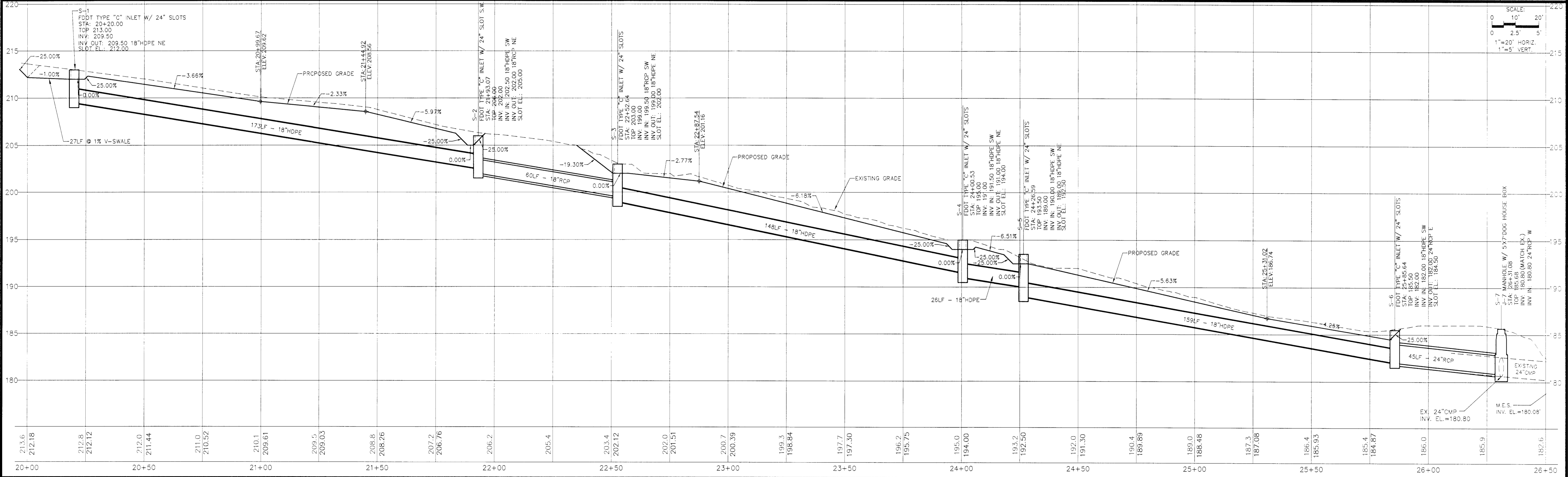
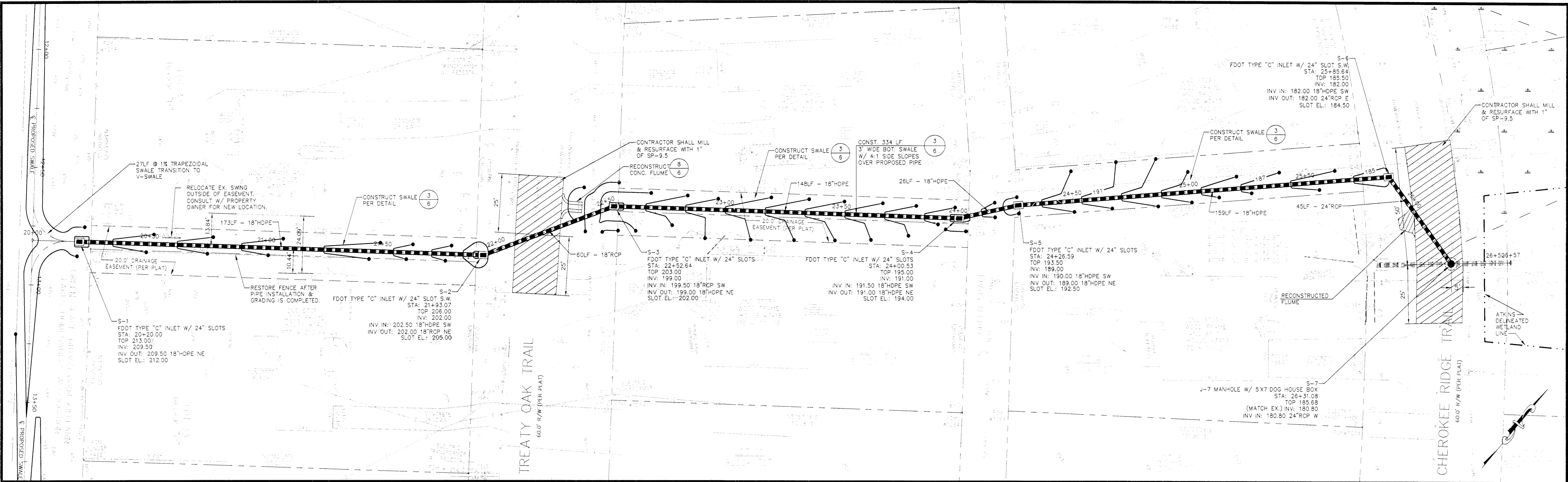
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CHARLES E. HARGRAVES
 PE No. 58244

 Signature: _____ Date: _____
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 DRAWN: MR/AD
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PROJECT
**KILLEARN LAKES
 TREATY OAK TRAIL
 DRAINAGE IMPROVEMENTS**

TASK
**DRAINAGE EASEMENT
 PLAN AND PROFILE**

ORIGINAL: APRIL 19, 2012

REVISIONS:

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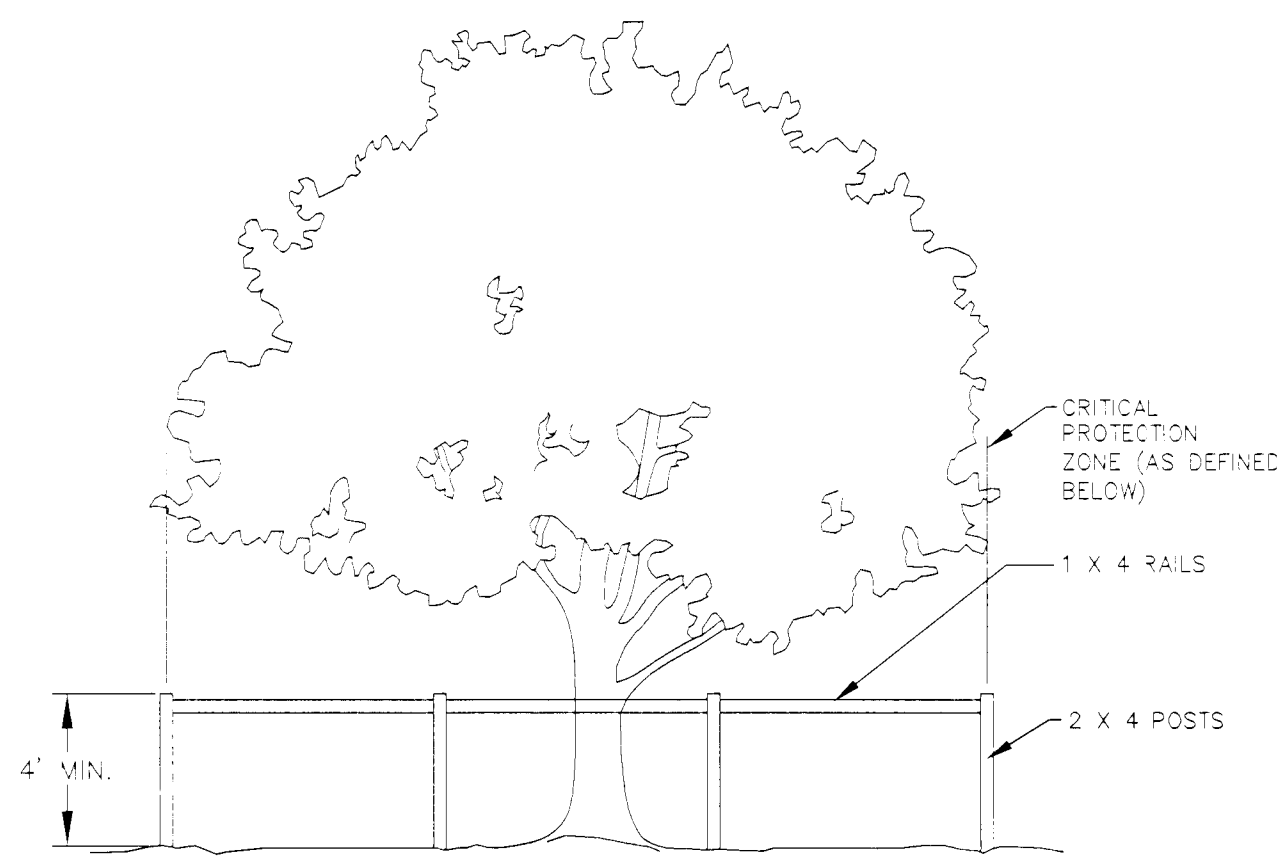
CHARLES E. PAROARAVES
 P.E. NO. 39944
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Signature

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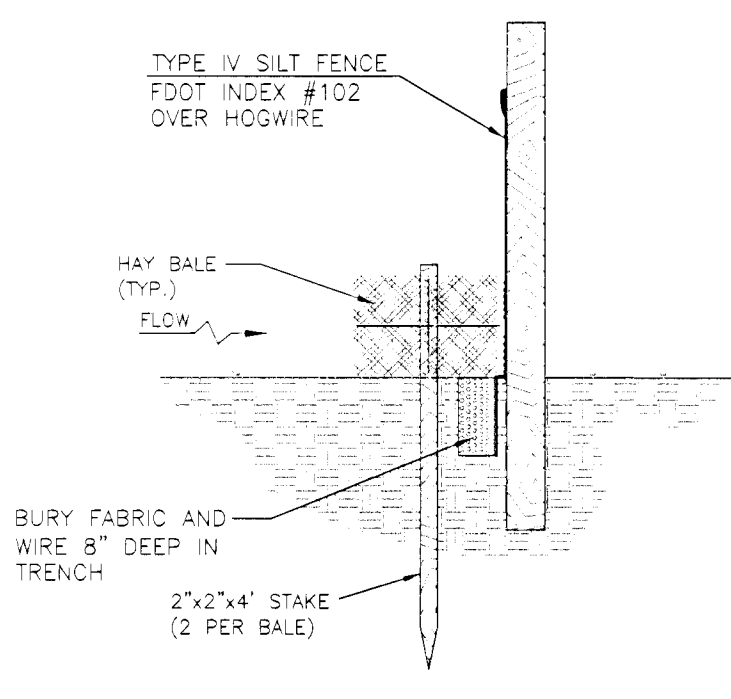
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 DESIGNED: CH
 CHECKED: CH
 QC: WK

SHEET 5



NOTES:
 THE TREE PROTECTION BARRICADE IS TO PREVENT DISTURBANCE OF THE CRITICAL PROTECTION ZONE (CPZ). THE CPZ IS THAT AREA SURROUNDING A TREE WITH A CIRCLE DESCRIBED BY A RADIUS OF ONE FOOT FOR EACH INCH OF THE TREE'S DIAMETER AT BREAST HEIGHT. ANY ACTIVITY THAT ENDOUCHES WITHIN THE CPZ OF ANY TREE WILL REQUIRE DEBITS OR AN ARBORICULTURAL MITIGATION PLAN.
 THE AREA WITHIN BARRICADE IS NOT TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT.

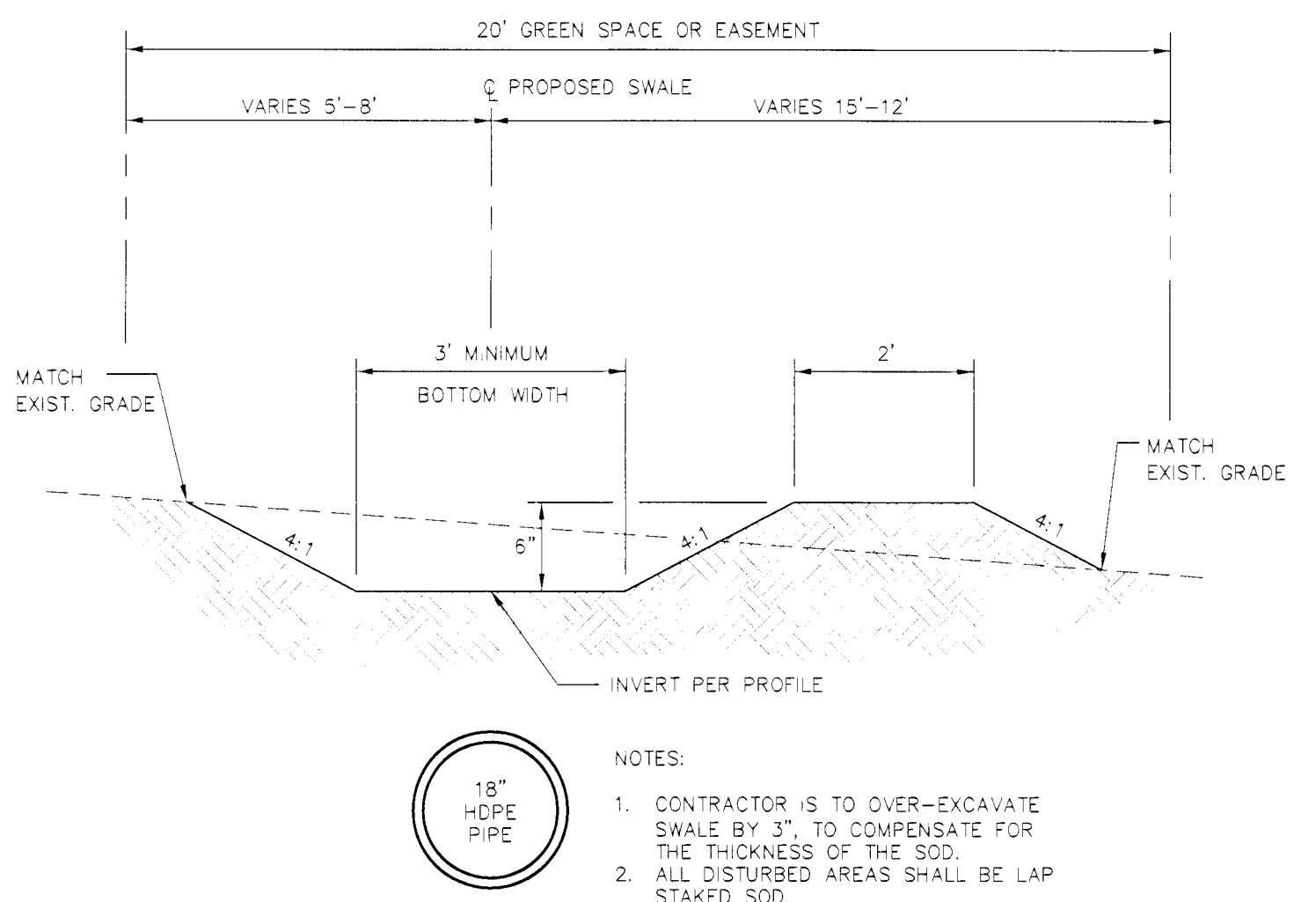
1 TREE PROTECTION BARRICADE
 NTS



MAINTENANCE NOTES:
 1. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
 2. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
 3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT; THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
 4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEED.
 5. NO TRENCHING SHALL OCCUR WITHIN THE CRITICAL PROTECTION ZONE OF ANY PROTECTED OR DESIRABLE TREE.

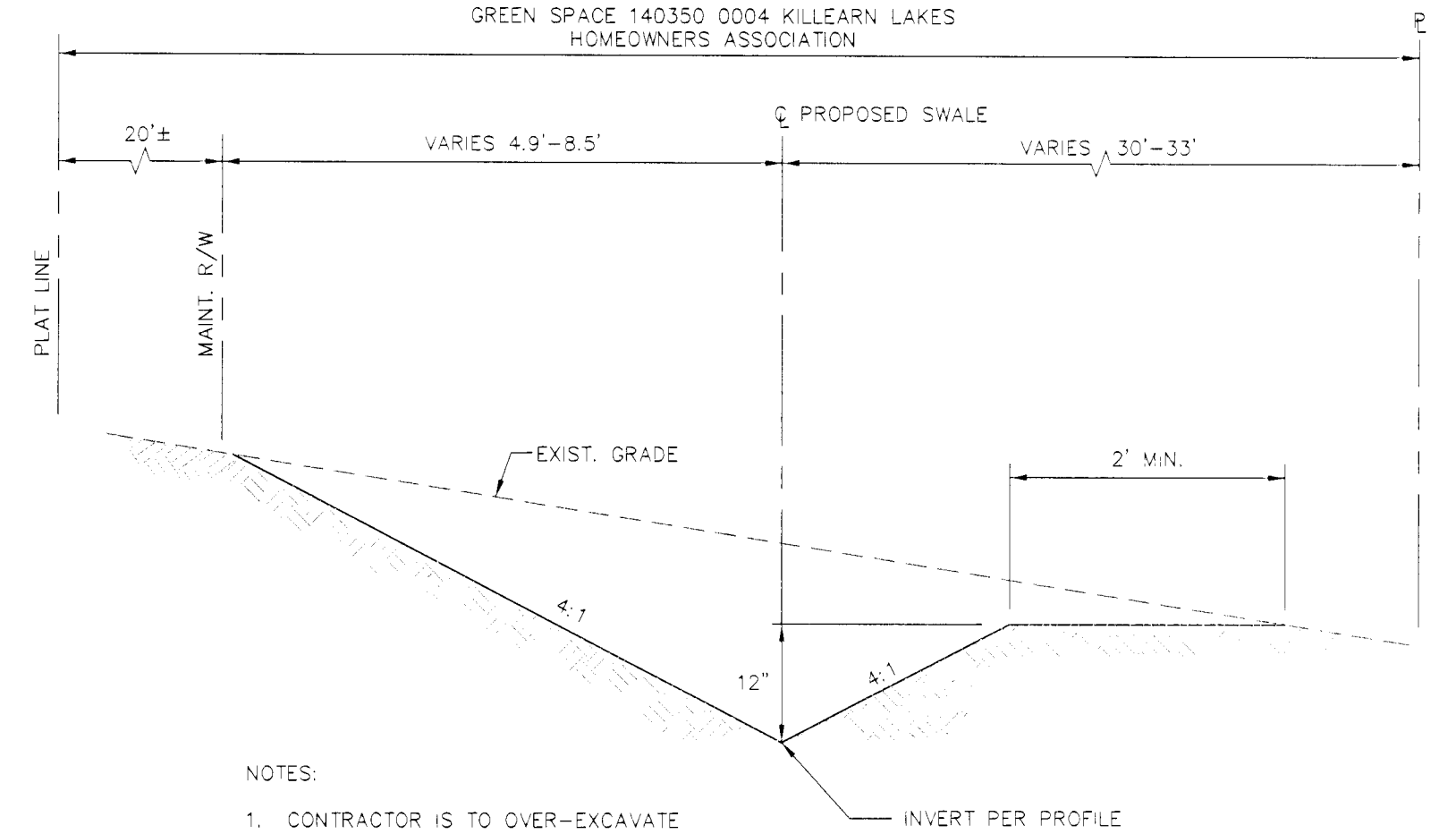
2 STAKED TYPE IV SILT FENCE WITH HAY BALES
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SHEET FLOW APPLICATION: SILT FENCE
GENERAL NOTES:
 1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
 2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED AS DESCRIBED IN ITEM NO. 8 BELOW.
 3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES. WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
 4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. TRENCHING SHALL NOT BE ALLOWED WITHIN THE CPZ OF TREES TO REMAIN.
 5. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
 6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
 7. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
 8. WHEN ATTACHING TWO SILT FENCES TOGETHER, PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS AT LEAST 180 DEGREES ON A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FILTER FABRIC. DRIVE BOTH POSTS INTO THE GROUND AND BURY THE FLAP.
 9. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
 10. WHEN USED TO CONTROL SEDIMENTS FROM A STEEP SLOPE, SILT FENCES SHOULD BE PLACED AWAY FROM THE TOE OF THE SLOPE FOR INCREASED HOLDING CAPACITY.
 11. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.



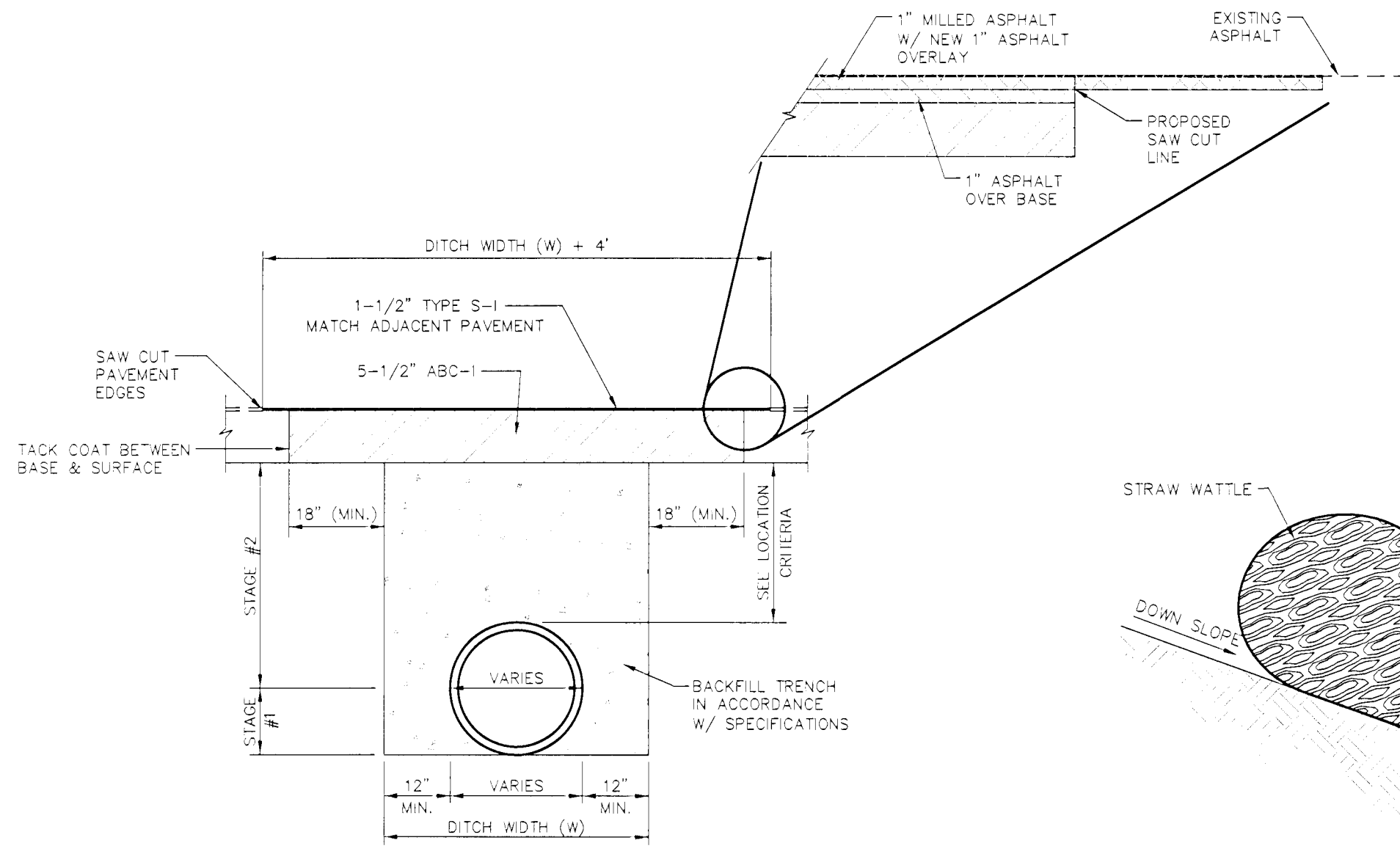
NOTES:
 1. CONTRACTOR IS TO OVER-EXCAVATE SWALE BY 3" TO COMPENSATE FOR THE THICKNESS OF THE SOD.
 2. ALL DISTURBED AREAS SHALL BE LAP STAKED SOD.

3 SWALE WITH PIPE
 NTS



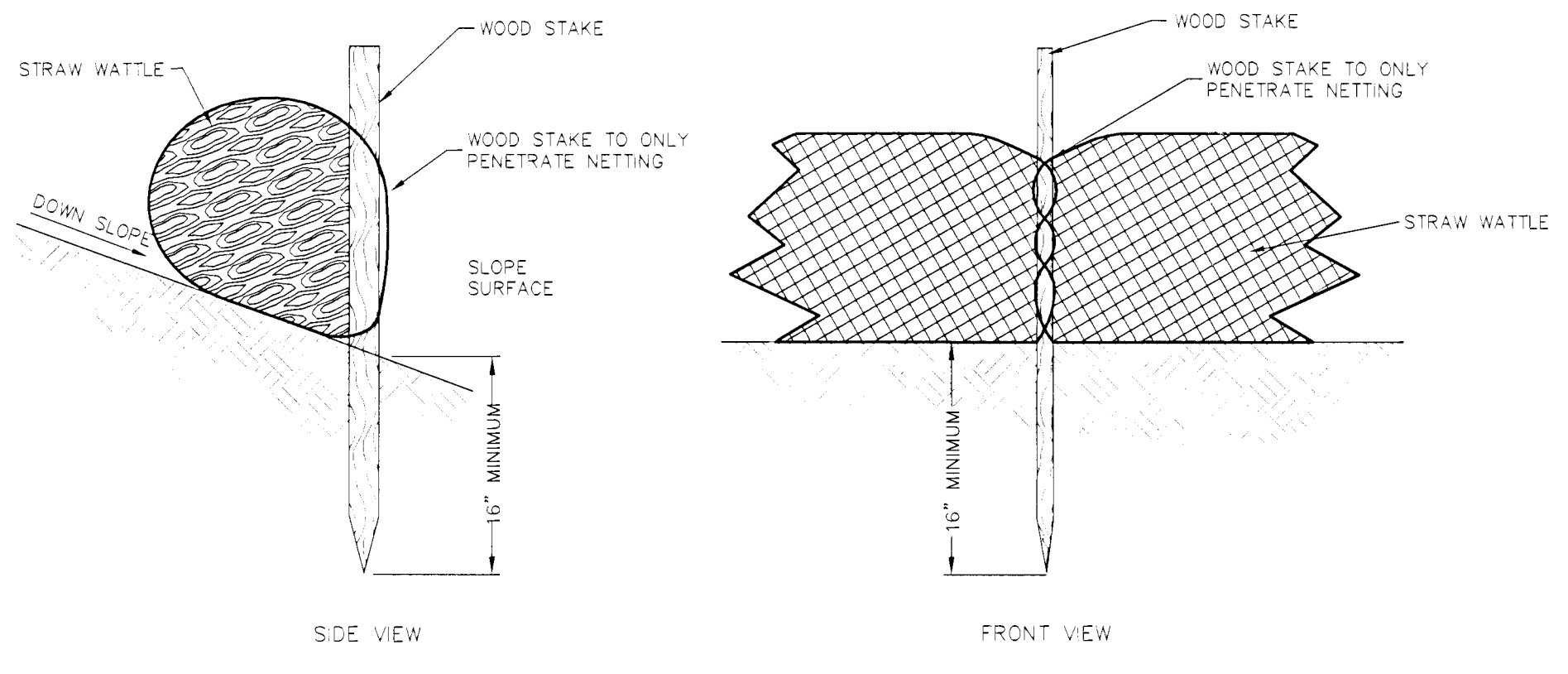
NOTES:
 1. CONTRACTOR IS TO OVER-EXCAVATE SWALE BY 3" TO COMPENSATE FOR THE THICKNESS OF THE SOD.
 2. ALL DISTURBED AREAS SHALL BE LAP STAKED SOD.

4 SODDED SWALE
 NTS



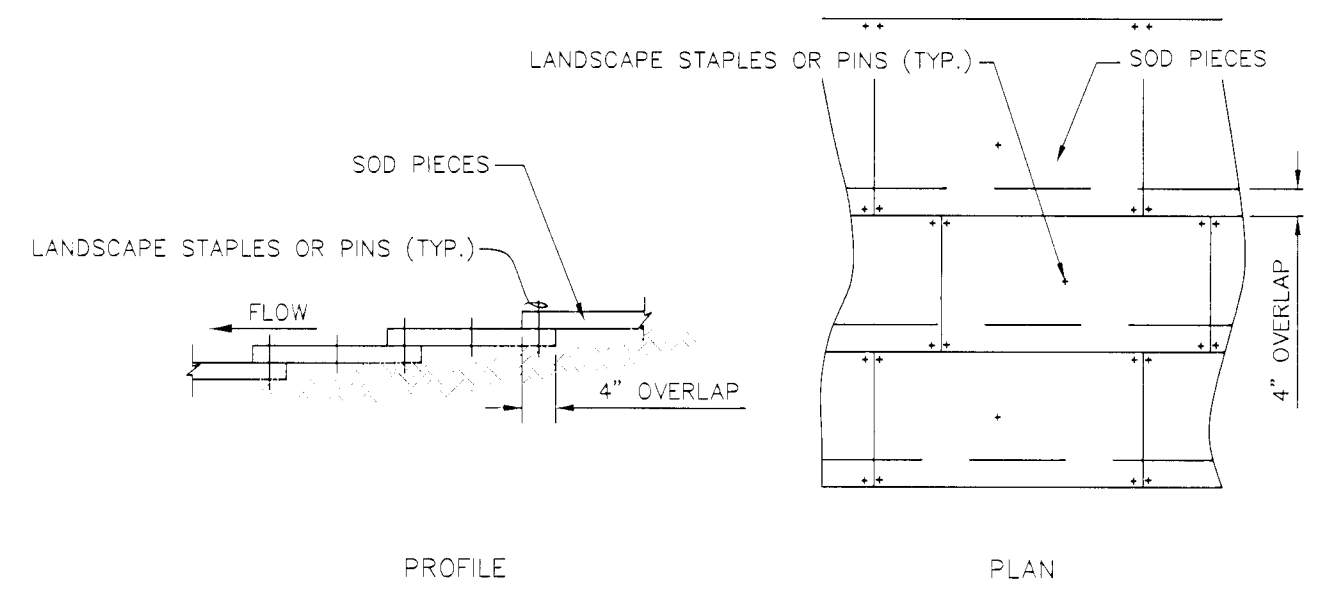
DENSITY PROCEDURES:
 THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 6" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
STAGE #1:
 THE CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING REQUIRED.
STAGE #2:
 THE CONTRACTOR SHALL OBTAIN A WELL-COMPACTED BED AND FILL ALONG THE SIDES OF THE PIPE AND TO A POINT INDICATING THE TOP OF SUB-GRADE MATERIAL.

5 PAVEMENT REPLACEMENT FOR PIPE INSTALLATION & PIPE REMOVAL
 NTS



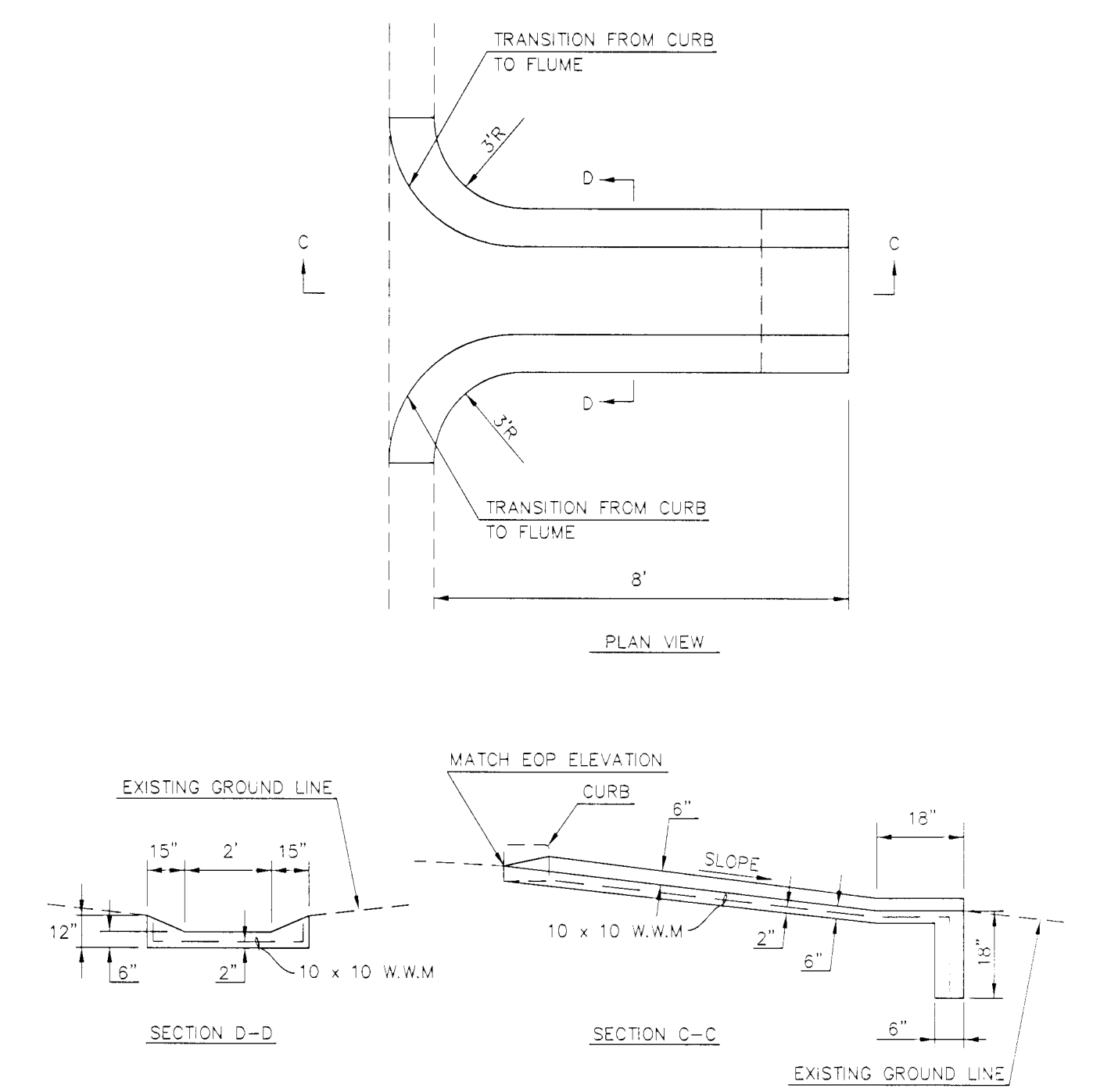
NOTES:
 1. CONTRACTOR SHALL USE A 1 1/8" X 1 1/8" X 48" WOODEN STAKE FOR STAKING SYNTHETIC WATTLES.
 2. STRAW WATTLES SHALL NOT CONTAIN PLASTIC NETTING OR OTHER NON-BIODEGRADABLE MATERIALS.

6 STRAW WATTLE DETAIL
 NTS



NOTES:
 SOD TO BE ROLLED, LAPPED, PINNED, STAGGERED JOINTS

7 LAP SODDING DETAIL
 NTS



8 CONCRETE FLUME DETAIL
 NTS



PROJECT:
 KILLEARN LAKES
 TREATY OAK TRAIL
 DRAINAGE IMPROVEMENTS

TASK:
 CONSTRUCTION DETAILS

ORIGINAL	APRIL 19, 2012
REVISIONS:	
1	
2	
3	
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CHARLES R. THORNTON
 P.E. NO. 56944
 # 56944
 Signature: _____ Date: _____
 NOT VALID UNLESS SIGNED AND SEALED

JOB NO. 100024145
 DRAWN: MR/WJ
 DESIGNED: CH
 CHECKED: CH
 QC: WKJ

SHEET 6