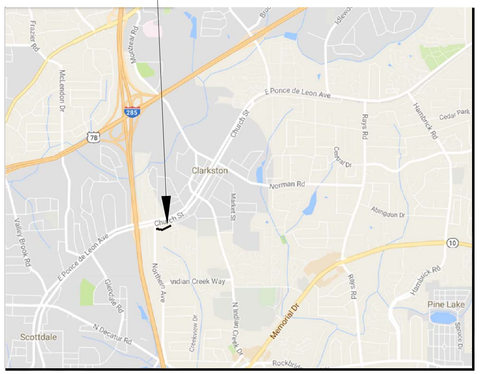
STONE MOUNTAIN PATH - CLARKSTON

3648-3711 CHURCH STREET, CLARKSTON, GEORGIA 30021 **EXHIBIT I**

PROJECT SITE



VICINITY MAP
N.T.S.

ALL WORK TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE DEPARTMENT OF TRANSPORTATION OF GEORGIA, 2016 EDITION, AND AS MODIFIED BY CONTRACT DOCUMENTS.

SURVEY AND COORDINATE DATA

HORIZ. DATUM - GA. STATE PLANE COORDINATE SYSTEM
VERT. DATUM - NAVD 1988
COORDINATE ZONE - GEORGIA WEST
PROJECT UNITS - ENGLISH

PROJECT DESCRIPTION

THE PROJECT FALLS WITHIN LAND LOTS 59 AND 60 IN DISTRICT 18.
THE SITE IS ON CITY EASEMENTS AND CITY PROPERTY.
THIS PROJECT WILL NOT REQUIRE ANY ZONING BUFFERS.
THIS IS A TRAIL PROJECT WHICH IS BEING BUILT ON CITY PROPERTY - THEREFORE THE PROPOSED USE OF THE PROJECT IS CONSISTENT WITH ZONING.
THE LIMITS OF DISTURBANCE IS APPROXIMATELY 0.49 ACRES.

NARRATIVE

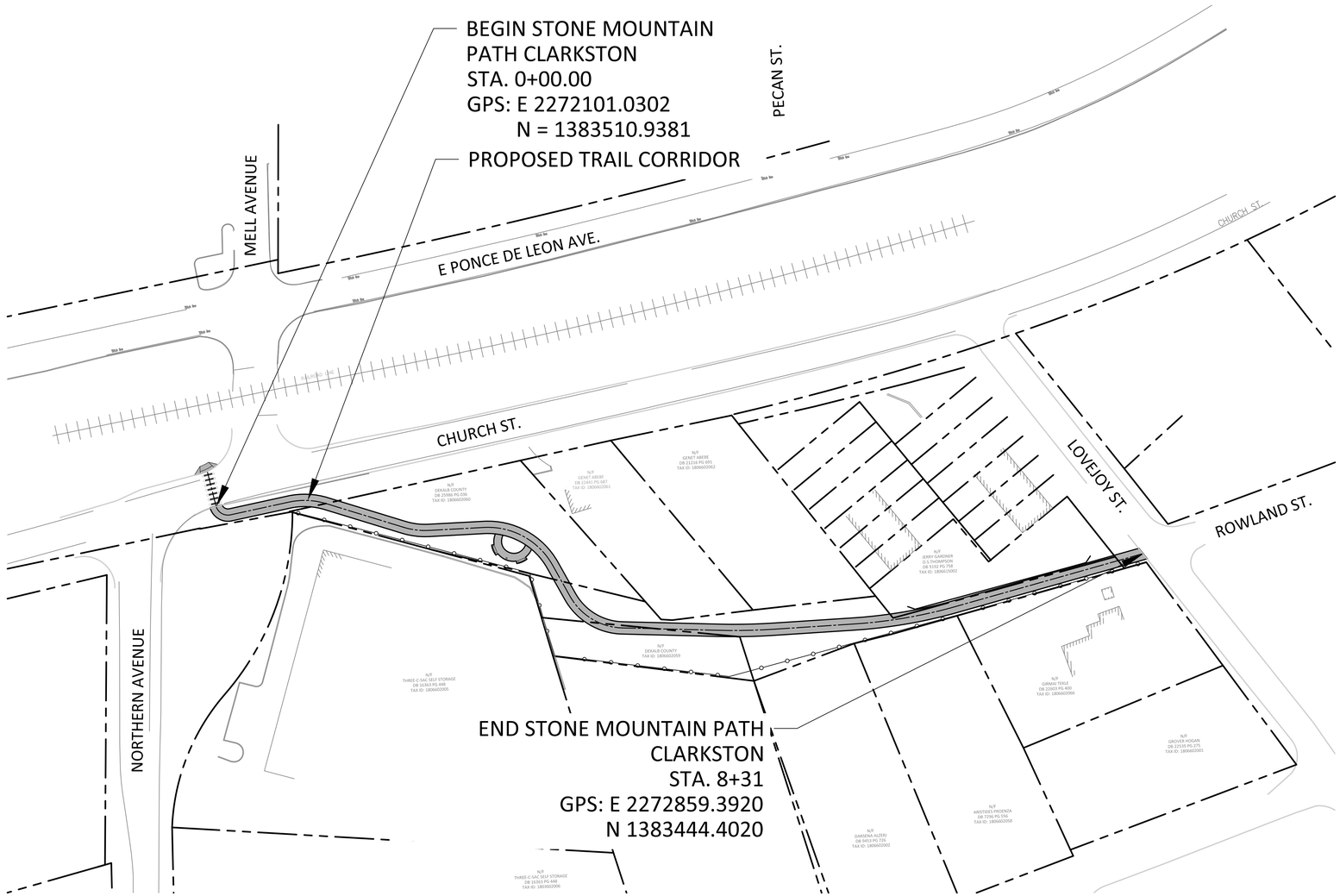
THIS SITE IS A LINEAR CORRIDOR BEGINNING AT THE INTERSECTION OF CHURCH STREET AND MELL AVENUE, ALIGNING THROUGH CITY OWNED PROPERTY AND RIGHT-OF-WAY TO THE INTERSECTION OF LOVEJOY STREET AT ROWLAND STREET.

THE PROJECT LENGTH IS APPROXIMATELY 831 LF WITH A 10'-11' WIDE CONCRETE TRAIL AND TRAIL AMENITIES. ADDITIONAL WORK ASSOCIATED WITH THE PROJECT INCLUDES MINOR DEMOLITION AND CLEARING, EROSION CONTROL, GRADING, STORM DRAINAGE, SIGNAGE AND STRIPING.

OWNER
CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GEORGIA 30021
CONTACT: KEITH BARKER, CITY MANAGER
404-296-6489

CONSTRUCTION MANAGEMENT

PATH FOUNDATION
JONATHAN McCAIG - 24 HOUR CONTACT
GA GSWCC LEVEL 1 CERTIFICATION # 58893
EXP. 08/21/2018
office 404-875-7284 x5 cell 404-433-1900



BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY:
TRANSYSTEMS., (678)244-9733, AND BOUNDARY ZONE, INC., (404)446-8180.
NO FIELD RUN SURVEY WAS CONDUCTED FOR THIS PARTICULAR SITE

ENGINEER'S CERTIFICATION STATEMENT:

With my initials at the line above and my seal and signature below, I Greta G. deMayo, a professional **Engineer, Architect or Landscape Architect** licensed in the **State of Georgia**, hereby certify that I have personally reviewed the attached submittal plans for a land disturbance permit. In my opinion these submittal plans meet all applicable regulations and ordinances of the City of Clarkston and other affected parties may rely on this certification.

Signed: Greta G. deMayo **Georgia Registration # NO. 1051**

Date: August 1, 2017

TRAIL LENGTH 831LF
GROSS LENGTH OF PROJECT 831 LF

TOTAL SITE AREA = 3.8 ACRES
DISTURBED AREA = 0.49 ACRES

GRAPHIC SCALE
50' 0 25' 50' 100' 200'
(IN FEET)
1 inch = 50 feet

INDEX OF SHEETS

STONE MOUNTAIN PATH - CLARKSTON
KAIZEN PROJ # 2016-104
08/14/2017 - REV 1 - ISSUE FOR CONSTRUCTION

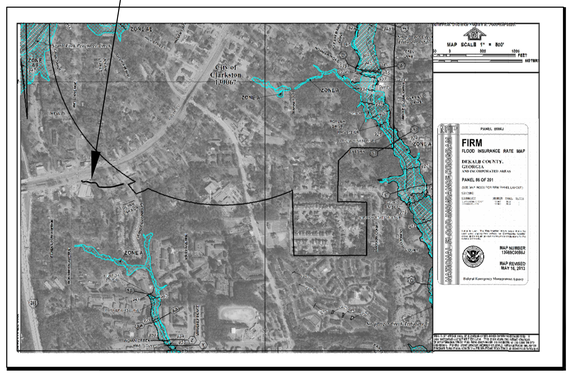
PLANS PREPARED BY:

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

RUSSELL DAVIS & ASSOCIATES, INC.
CIVIL ENGINEERING DESIGN
3469 Lawrenceville Highway, Suite 309
Tucker, Georgia 30084
(678) 935-2200
russdavispe.com

GEORGIA REGISTERED No. 1051 PROFESSIONAL ENGINEER GRETA G. deMAYO 8/1/2017

PROJECT SITE



NOTE:

THE PROJECT IS NOT WITHIN THE FEMA 100 YEAR FLOOD HAZARD ZONE.

SITE DATA

TOTAL SITE AREA = 3.8 ACRES
DISTURBED AREA = 0.49 ACRES

NPDES FEE = 0.49 ACRES X 86.00
(NO FEE IF UNDER 1 ACRE)

LAND LOT: 59, 60 of the 18th District

CONTACTS

PATH FOUNDATION
JONATHAN McCAIG - 24 HOUR CONTACT
GA GSWCC LEVEL 1 CERTIFICATION # 58893
EXP. 08/21/2018
office 404-875-7284 x5 cell 404-433-1900

EROSION & SEDIMENT CONTROL

1. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBANCE ACTIVITIES.

2. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

3. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

4. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES WILL BE INSTALLED IF DEEMED NECESSARY BY THE ON-SITE INSPECTOR.

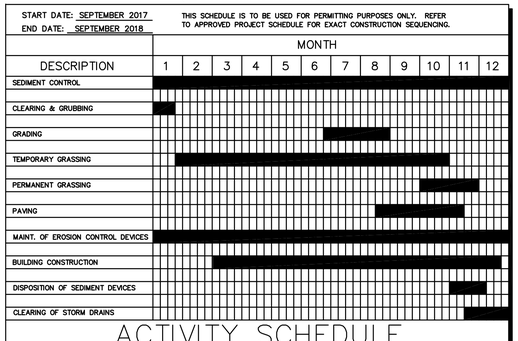
5. EROSION AND SEDIMENT MEASURES AND PRACTICES TO BE INSPECTED DAILY.

6. ALL INSPECTION, MONITORING, AND REPORTING SHALL BE PERFORMED AS REQUIRED BY NPDES PERMIT AND BY PROJECT EROSION, SEDIMENTATION, AND POLLUTION CONTROL NOTES.

(SEE EROSION CONTROL SHEETS FOR EROSION CONTROL CONSTRUCTION SCHEDULE)

START DATE: SEPTEMBER 2017
END DATE: SEPTEMBER 2018

THIS SCHEDULE IS TO BE USED FOR PERMITTING PURPOSES ONLY. REFER TO APPROVED PROJECT SCHEDULE FOR EXACT CONSTRUCTION SEQUENCING.



ACTIVITY SCHEDULE

GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING DIMENSIONS SHOWN HEREON WITH THE ARCHITECTURAL DRAWINGS AND EXISTING BUILDINGS PRIOR TO ANY CONSTRUCTION AND SHALL PROMPTLY NOTIFY THE PROJECT LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.

2. PROPOSED CONTOURS AND SPOT ELEVATIONS REPRESENT FINAL GRADE. PROPOSED GRADE ELEVATIONS SHOWN WITHIN PAVED AREA REPRESENT TOP OF PAVEMENT ELEVATIONS. CONTRACTOR SHALL ALLOW FOR PAVEMENT THICKNESS, TOPSOIL, BASE COURSE, SLABS, ETC. WHEN GRADING TO SUBGRADE ELEVATIONS

3. DIMENSIONS ARE TO FACE OF CURB, CENTER OF STRUCTURE AND CENTER LINE OF COLUMN LINE, UNLESS OTHERWISE NOTED. ANGLES SHOWN ON STORM AND SANITARY SEWER ARE TO CENTER OF PIPE, UNLESS OTHERWISE NOTED.

4. **CALL BEFORE YOU DIG 811.** THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION. BEWARE OF HIDDEN UTILITIES NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITY COMPANIES PRIOR TO EXCAVATION. IF UNCHARTED UTILITIES ARE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT IMMEDIATELY FOR INSTRUCTIONS. ANY DAMAGE OR INTERRUPTION OF EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED PROMPTLY AT THE CONTRACTOR'S EXPENSE.

5. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED DISTURBANCE SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO DISTURBANCE SHALL OCCUR OUTSIDE THE LIMITS INDICATED ON THE DRAWINGS WITHOUT APPROVAL IN WRITING FROM THE PROJECT LANDSCAPE ARCHITECT.

6. THROUGHOUT CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT BARRICADES, LIGHTS, WARNING SIGNS, AND OTHER TRAFFIC CONTROL METHODS ADJACENT TO EXISTING ROADWAYS AND PARKING AREAS AS MAY BE REQUIRED FOR THE PROTECTION AND SAFETY OF THE PUBLIC. ALL TRAFFIC CONTROL MEASURES UTILIZED WITHIN PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL CONSTRUCTION ELEMENTS, WITH SOME FIELD ADJUSTMENTS AS NECESSARY BY THE PROJECT LANDSCAPE ARCHITECT. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THAT TRAIL AND AMENITY CONSTRUCTION COMPLIES WITH AASHTO REQUIREMENTS, PARTICULARLY WITH RESPECT TO TRAIL CROSS-SLOPES AND GRADIENTS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY AND PERMANENT GROUNDWATER CONTROL DURING CONSTRUCTION, AS WELL AS PROVISIONS FOR CONTROLLING SURFACE WATER RUN-OFF, IN ORDER TO PREVENT PONDING IN OPEN EXCAVATIONS AND POTENTIAL UNDERMINING OF PERMANENT CONSTRUCTION FEATURES.

9. EARTHWORK OPERATIONS AND SOIL COMPACTION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND DRAWINGS. PRIOR TO POURING CONCRETE, EARTHWORK SHALL BE CLEAR OF DEBRIS AND MACHINE COMPACTED. CONSTRUCTION ACTIVITIES SHALL BE MONITORED BY A GEOTECHNICAL CONSULTING FIRM APPROVED BY THE OWNER TO VERIFY THAT EARTHWORK, WALL CONSTRUCTION, AND OTHER OPERATIONS CONFORM WITH THE CONTRACT DOCUMENTS. GEOTECHNICAL SERVICES SHALL BE AT THE COST OF THE CONTRACTOR.

10. THE TOPOGRAPHIC SURVEY INFORMATION HAS BEEN PROVIDED BY TRANSYSTEMS., (678)244-9733, AND BOUNDARY ZONE, INC., (404)446-8180, AND IS REFERENCED TO THE GEORGIA STATE PLANE COORDINATE SYSTEM (WEST ZONE). NO FIELD RUN SURVEY WAS CONDUCTED FOR THIS PARTICULAR SITE.

11. DEMOLITION DEBRIS SHALL BECOME PROPERTY OF THE CONTRACTOR AND WASTE SOILS, VEGETATION, AND OTHER DELETERIOUS MATERIALS SHALL BE HAULED OFF-SITE AND BE DISPOSED OF AT AN APPROVED LOCATION IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. BURNING WILL NOT BE ALLOWED ON THIS PROJECT.

12. EROSION CONTROL MEASURES AND OTHER SITE ISSUES SHALL BE INSPECTED REGULARLY BY CONTRACTOR.

13. ON ALL AREAS WHERE ROADWAYS, CONCRETE TRAILS, RETAINING WALLS, OR OTHER STRUCTURES ARE TO BE CONSTRUCTED ON COMPACTED SUBGRADE, FOUNDATION SOILS SHALL BE REVIEWED AND APPROVED BY THE GEOTECHNICAL CONSULTING FIRM PRIOR TO THE PLACEMENT OF CONCRETE, AGGREGATE BASE, OR FILL MATERIALS.

14. CONSTRUCTION ACCESS POINTS ARE APPROXIMATE LOCATIONS AND MUST BE FIELD VERIFIED AND APPROVED BY PROJECT MANAGER.

15. ALL WORK TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE DEPARTMENT OF TRANSPORTATION OF GEORGIA, 2016 EDITION, AND AS MODIFIED BY CONTRACT DOCUMENTS.

16. ALL CONCRETE TO BE USED FOR THE CONSTRUCTION OF TRAILS TO BE CLASS 'A' CONCRETE.

17. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH PATH FOUNDATION, KAIZEN COLLABORATIVE AND CITY OF CLARKSTON PRIOR TO BEGINNING CONSTRUCTION. 1

18. CONTRACTOR TO CONTACT KAIZEN COLLABORATIVE FOR ALL CONSTRUCTION STAKING CAD DATA.

19. CITY TO ISSUE A LAND DISTURBANCE PERMIT UPON APPROVAL OF THE DESIGN PLANS.

20. CITY POINT OF CONTACT IS LARRY KAISER; 404-909-5619; KAISER@CO-INFRA-SERVICES.COM

21. CONSTRUCTION ZONE TRAFFIC CONTROL SIGNAGE PLAN REQUIRED. CONTRACTOR TO COORDINATE WITH CITY OF CLARKSTON TRANSPORTATION / ENGINEERING PRIOR TO CONSTRUCTION. 1

TRAIL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING MINIMUM SLOPES ALONG THE TRAIL. THE SLOPES SHALL NOT EXCEED 5% PERCENT, UNLESS SPECIFICALLY NOTED.

2. THE LAYOUT OF THE TRAIL IS SHOWN IN RELATION TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE LAYOUT WITH OWNER PRIOR TO CONSTRUCTION OF TRAIL.

3. THE CONTRACTOR IS RESPONSIBLE FOR CLEARING OR ALL UNDERSTORY VEGETATION WITHIN 10' FROM CENTERLINE OF TRAIL. CLEARING AREA MAY INCREASE WHERE INVASIVE PLANTS ARE LOCATED.

4. ALL SIGNING & MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.

5. ALL SIGNS TO BE FABRICATED USING DIRECT PRINTING PROCESS. ALL SIGN PANELS TO HAVE BLACK BACKS.

CONSTRUCTION NOTES

1. TRAIL BACKFILL DIRT SHALL BE CLEAN, COHESIVE CLAY OR SANDY CLAY FREE OF DEBRIS, ORGANICS, DELETERIOUS MATERIAL AND ROCKS GREATER THAN 1" DIAMETER.

2. MAX CUT OR FILL SLOPES SHALL BE 3:1 (H:V), UNLESS SPECIFICALLY NOTED.

3. EQUIPMENT AND MATERIALS SHALL BE STORED IN AREAS DESIGNATED BY THE OWNER. CONSTRUCTION AND STORAGE AREAS SHALL BE KEPT NEAT AND CLEAN. TREE SAVE AREAS SHALL NOT BE USED FOR STORAGE OR PARKING. EQUIPMENT AND MATERIAL SHALL NOT BE STORED WITHIN THE DRIP LINE OF TREES.

4. CONTRACTOR TO VERIFY THE ELEVATIONS OF ALL TIE-IN POINTS FOR INSTALLATION OF UTILITIES, CURB & GUTTER AND PAVING.

5. TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE OPTIMUM COMPACTION FOR ANY SOIL CLASSIFICATION AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-180 METHOD "A". BACKFILL MATERIAL SHALL BE CLEAN AND FREE OF ROOTS, ROCK OR DELETERIOUS MATTER. CONTRACTOR SHALL CORRECT ANY DAMAGE TO CURBING OR PAVING CAUSED BY TRENCH SETTLEMENT WHICH OCCURS WITHIN 12 MONTHS OF PROJECT ACCEPTANCE.

6. THE CONTRACTOR SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PROMPTLY UPON DISCOVERY.

7. ALL EXISTING ELECTRICAL BOXES, WATER METER BOXES, AND VALVE BOXES, WHICH ARE TO REMAIN SHALL BE SET FLUSH WITH THE TOP OF THE PROPOSED GRADE.

8. AREAS INTENDED TO SUPPORT PAVEMENT OR NEW FILL SHALL BE PROOF ROLLED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER TO LOCATE WEAK, SOFT OR EXCESSIVELY WET MATERIALS. AREAS WHICH PUMP WHILE PROOF ROLLED SHALL BE UNDERCUT AND BACK-FILLED.

9. CRUSHED STONE AGGREGATE IN PAVEMENT BASE SHALL CONFORM WITH SECTION 815 OF THE STATE OF GEORGIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS. ALL ASPHALT MATERIAL AND PAVING OPERATIONS SHALL MEET APPLICABLE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF TRANSPORTATION.

10. ALL FILL AREAS MUST BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR. A REPORT FROM A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE CONSTRUCTION INSPECTOR FOR ALL FILL AREAS WITHIN THE RIGHT-OF-WAY.

11. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ACROSS DISTURBED AREA AND INTO DRAINAGE FEATURES.

CONSTRUCTION LEGEND

- PROPOSED TRAIL
- PROPOSED STRUCTURAL SLAB BRIDGE CROSSINGS
- PROPOSED CROSSWALK
- L.O.C. — LIMITS OF CONSTRUCTION
- PROPOSED FENCELINE
- EXISTING FENCELINE
- PROPOSED DEMOLITION
- 820 — EXISTING CONTOUR ELEVATION
- 818 — PROPOSED CONTOUR ELEVATION
- EXISTING DIRT ROAD
- PIPE AND CULVERT
- STEEL BOLLARDS
- +875.8 — SPOT ELEVATION
- MATCHLINE - SEE SHEET 06 — SHEET MATCHLINE
- PROPERTY LINE — PROPERTY LINE
- 18TH DISTRICT / 15TH DISTRICT — LAND LOT LINE

LEGEND

1033 CATCH BASIN	WATER VALVE	SILT FENCE
1034 CATCH BASIN	GAS VALVE	TREE PROTECTION FENCE
1019A DROP INLET	HANDICAPPED PARKING	CHAIN LINK FENCE
1011A JUNCTION BOX	TRAFFIC FLOW	EXISTING FENCE
1019A TYPE E CURB INLET	UNDERGROUND POWER	EXISTING CONTOUR
1125 HEADWALL	OVERHEAD POWER	PROPOSED CONTOUR
DRAINAGE SLOPE	UNDERGROUND CABLE	EXISTING CURB & GUTTER
SEWER MANHOLE	OVERHEAD TELEPHONE	PROPOSED CURB & GUTTER
EXISTING FIRE HYDRANT	FIBER OPTIC CABLE	EXISTING SPOT ELEVATION
PROPOSED FIRE HYDRANT	WATER	PROPOSED SPOT ELEVATION
LAMP POST	SANITARY SEWER	
GUY POLE	FORCE MAIN	
UTILITY POLE	GAS	
	STORM DRAIN	

GEORGIA811 Utilities Protection Center, Inc.

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

REVISION	DATE	DESCRIPTION
1	2017-08-14	CITY COMMENTS

KAIZEN PROJECT #	2016-104
PROJECT MANAGER	GGD

STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 1051 LANDSCAPE ARCHITECT SONETA G. deMARO 8/1/2017

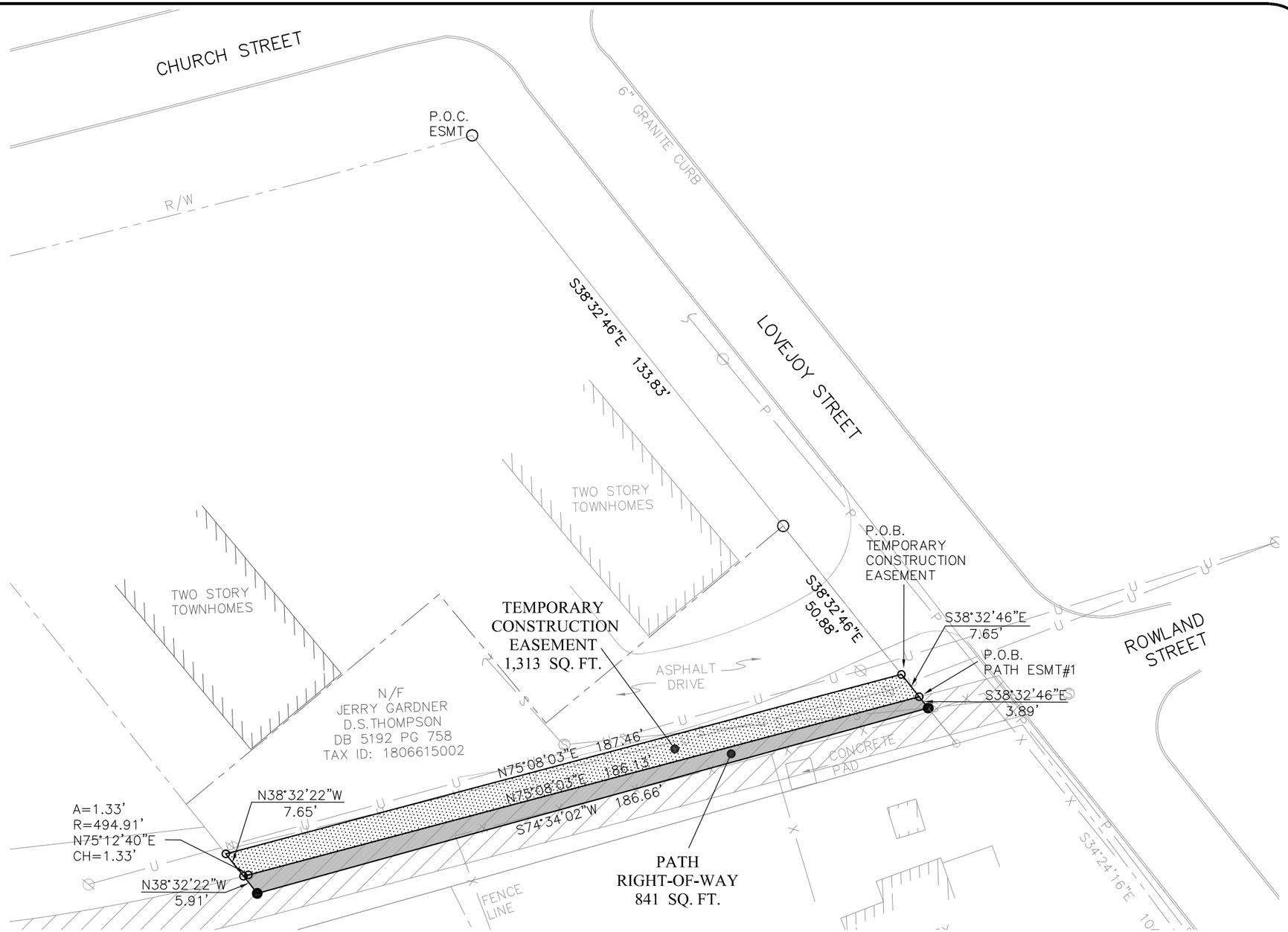
GENERAL NOTES

DATE: AUG 1, 2017

SHEET NAME: **GN-01**

LEGEND:

- PROPERTY CORNER FOUND (AS NOTED)
- 1/2" REBAR WITH CAP SET LSF# 839
- R/W MONUMENT
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- POWER POLE
- LIGHT POLE
- POWER/LIGHT POLE
- GUY WIRE
- POWER METER
- POWER BOX
- A/C UNIT
- MANHOLE
- CLEAN OUT
- CATCH BASIN
- JUNCTION BOX
- OUTFLOW STRUCTURE
- DRAINAGE INLET
- GAS METER
- GAS VALVE
- CABLE BOX
- TELEPHONE BOX
- SIGN
- —W— WATER LINE
- —U— OVERHEAD UTILITY LINE
- —S— SEWER LINE
- —G— GAS LINE
- —C— CABLE LINE
- —T— TELEPHONE LINE
- —X— FENCE LINE
- —920— CONTOUR LINE
- BSL BUILDING SETBACK LINE
- CONC. CONCRETE
- EOP EDGE OF PAVEMENT
- L.L. LAND LOT
- N/F NOW OR FORMERLY
- P/L PROPERTY LINE
- R/W RIGHT-OF-WAY
- D.E. DRAINAGE EASEMENT
- O.H. OVERHANG
- CNT CANTILEVER
- DB DEED BOOK
- PB PLAT BOOK
- PG PAGE
- POB POINT OF BEGINNING
- POC POINT OF COMMENCEMENT



N

W E

S

GRID NORTH
GA. WEST ZONE
NAD 1983

SCALE: 1"=30'

PATH RIGHT-OF-WAY
AND TEMPORARY CONSTRUCTION
EASEMENT EXHIBIT
PREPARED FOR: CITY OF CLARKSTON
TAX PARCEL: 1806615002
LAND LOT 66, 18TH DISTRICT
DEKALB COUNTY, GEORGIA - 06/12/2017

GEORGIA
REGISTERED
No. 2294
LAND SURVEYOR
N. E. BUTTERWORTH

6-12-17
FOR THE FIRM
BOUNDARY ZONE, INC.
LSF #839
NOT VALID WITHOUT
ORIGINAL SIGNATURE

THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT. EASEMENTS AND ENCUMBRANCES MAY EXIST WHICH BENEFIT AND BURDEN THIS PROPERTY.

THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON, PERSONS OR ENTITY NAMED HEREON AND DOES NOT EXTEND TO ANY UNNAMED PERSON WITHOUT A RECERTIFICATION BY THE SURVEYOR NAMING SAID PERSON.

BOUNDARY REFERENCE: PLAT BOOK 9, PAGE 118
FIELDWORK PERFORMED ON 06/09/2017

THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 183,313 FEET.

THIS PLAT HAS BEEN PREPARED USING A TRIMBLE 5603 ROBOTIC TOTAL STATION.

THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A RELATIVE POSITIONAL ACCURACY OF 0.02 FEET.

BOUNDARY ZONE, INC.
LAND SURVEYING SERVICES
LANDSCAPE ARCHITECTURE
LAND PLANNING
SURVEYING LANDSCAPE ARCHITECTURE LAND PLANNING
WWW.BOUNDARYZONE.COM (770) 271-5772 (919) 363-9226

BUFORD
4195 SOUTH LEE STREET, SUITE I
BUFORD, GEORGIA 30518

ATLANTA
235 PEACHTREE STREET NE, SUITE 400
ATLANTA, GEORGIA 30303

MARIETTA
1870 THE EXCHANGE, SUITE 100
MARIETTA, GA 30339

RALEIGH
2205-C CANDUN DRIVE, APEX
NORTH CAROLINA 27523

GRAPHIC SCALE - IN FEET

15 0 30 60

PROJECT
1848201

SHEET
1 OF 1

LEGEND:

- PROPERTY CORNER FOUND (AS NOTED)
- 1/2" REBAR WITH CAP SET LSF# 839
- R/W MONUMENT
- FIRE HYDRANT
- WATER METER
- WATER VALVE
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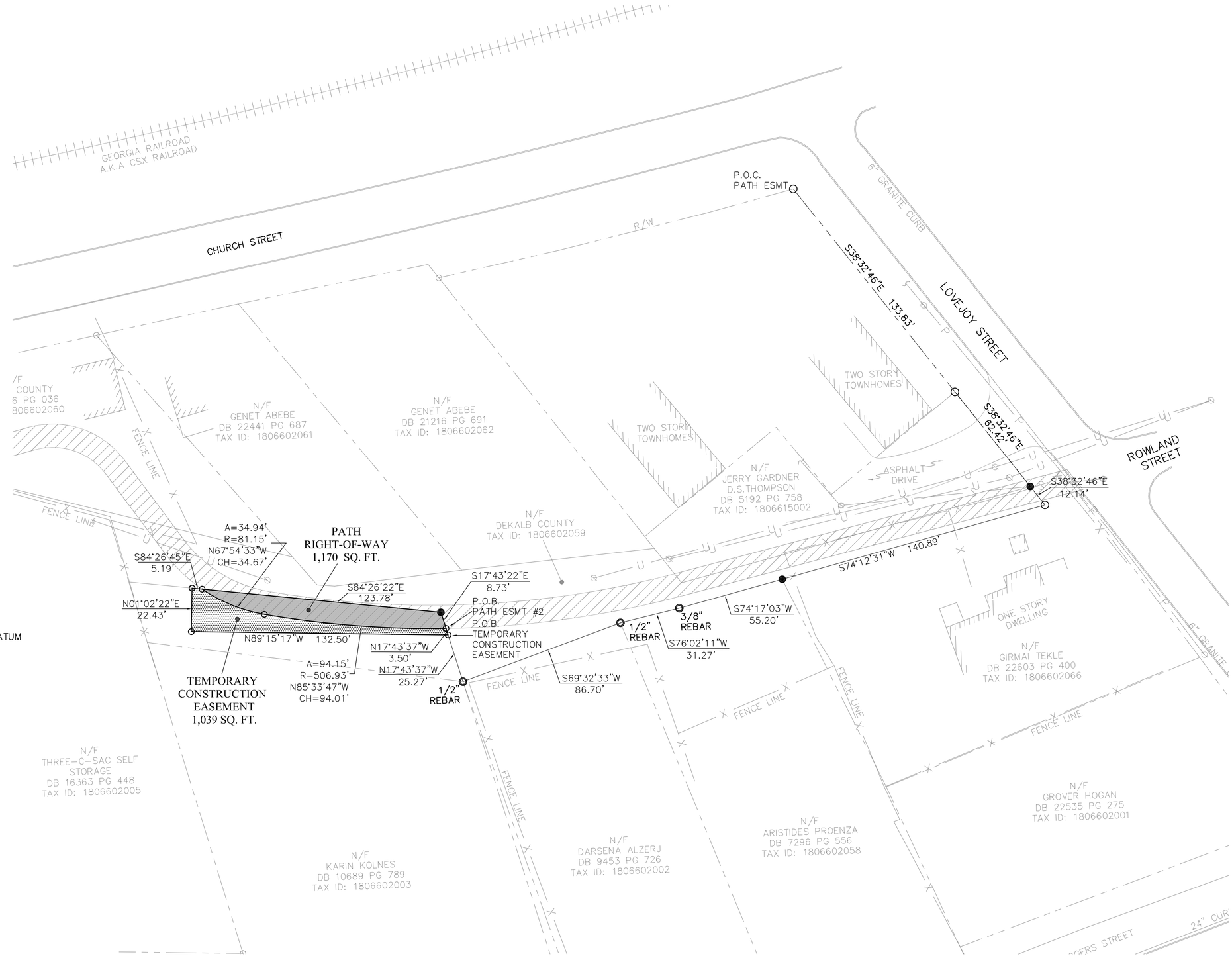
- R/W RIGHT-OF-WAY
- P/L PROPERTY LINE
- OH OVERHANG
- C.B. CATCH BASIN
- CNT CANTILEVER
- H/C HANDICAP
- FFE FINISHED FLOOR ELEVATION
- BFE BASEMENT FLOOR ELEVATION
- GFE GARAGE FLOOR ELEVATION
- DB DEED BOOK
- PB PLAT BOOK
- PG PAGE
- POB POINT OF BEGINNING
- POC POINT OF COMMENCEMENT
- NAD NORTH AMERICAN DATUM
- NAVD NORTH AMERICAN VERTICAL DATUM

- HARDWOOD TREE
- PINE TREE



N

W E

S

GRID NORTH
GA. WEST ZONE
NAD 1983

SCALE: 1" = 40'

PATH RIGHT-OF-WAY AND TEMPORARY CONSTRUCTION EASEMENT EXHIBIT

PREPARED FOR: CITY OF CLARKSTON

TAX PARCEL: 1806602003

LAND LOT 66, 18TH DISTRICT

DEKALB COUNTY, GEORGIA - 06/12/2017

GEORGIA
REGISTERED
No. 2294
LAND SURVEYOR
N. E. BUTTERWORTH

6-12-17

FOR THE FIRM
BOUNDARY ZONE, INC.
LSF #839

NOT VALID WITHOUT
ORIGINAL SIGNATURE

THIS SURVEY WAS MADE WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT. EASEMENTS AND ENCUMBRANCES MAY EXIST WHICH BENEFIT AND BURDEN THIS PROPERTY.

THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON, PERSONS OR ENTITY NAMED HEREON AND DOES NOT EXTEND TO ANY UNNAMED PERSON WITHOUT A RECERTIFICATION BY THE SURVEYOR NAMING SAID PERSON.

BOUNDARY REFERENCE: PLAT BOOK 9, PAGE 118
FIELDWORK PERFORMED ON 06/09/2017

THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 101,738 FEET.

THIS PLAT HAS BEEN PREPARED USING A TRIMBLE 5603 ROBOTIC TOTAL STATION.

THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A RELATIVE POSITIONAL ACCURACY OF 0.02 FEET.

BOUNDARY ZONE, INC. LAND SURVEYING SERVICES
LANDSCAPE ARCHITECTURE
LAND PLANNING
SURVEYING LANDSCAPE ARCHITECTURE LAND PLANNING
WWW.BOUNDARYZONE.COM (770) 271-5772 (919) 363-9226

BUFORD
4195 SOUTH LEE STREET, SUITE I
BUFORD, GEORGIA 30518

ATLANTA
235 PEACHTREE STREET NE, SUITE 400
ATLANTA, GEORGIA 30303

MARIETTA
1870 THE EXCHANGE, SUITE 100
MARIETTA, GA 30339

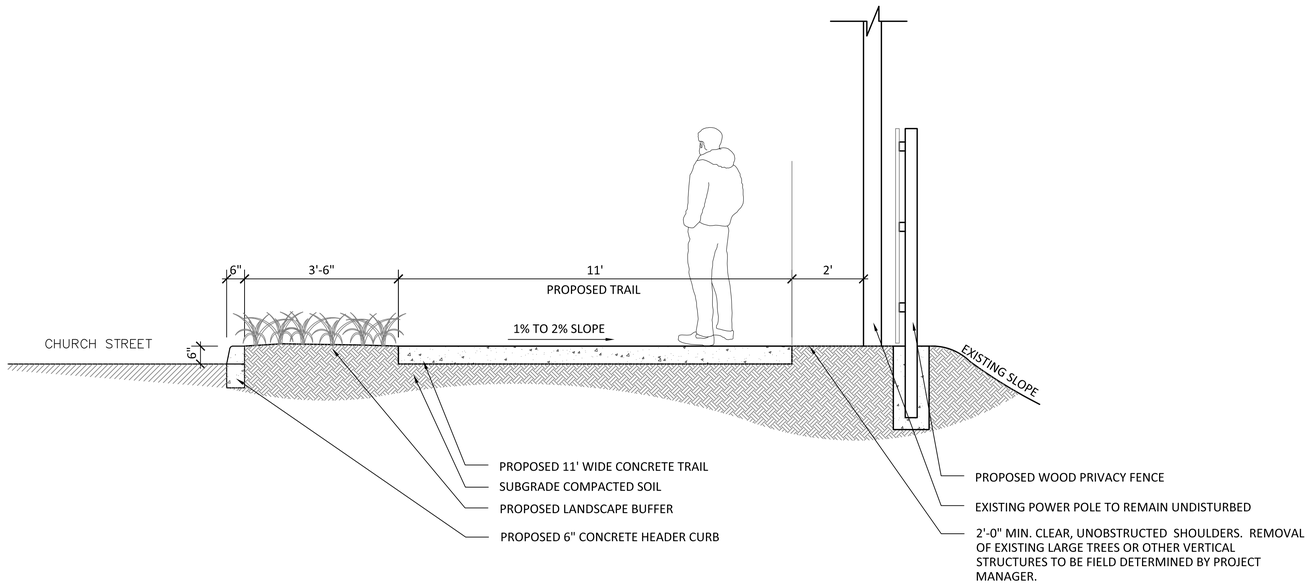
RALEIGH
2205-C CANDUN DRIVE, APEX
NORTH CAROLINA 27523

GRAPHIC SCALE - IN FEET

15 0 30 60

PROJECT
1848201

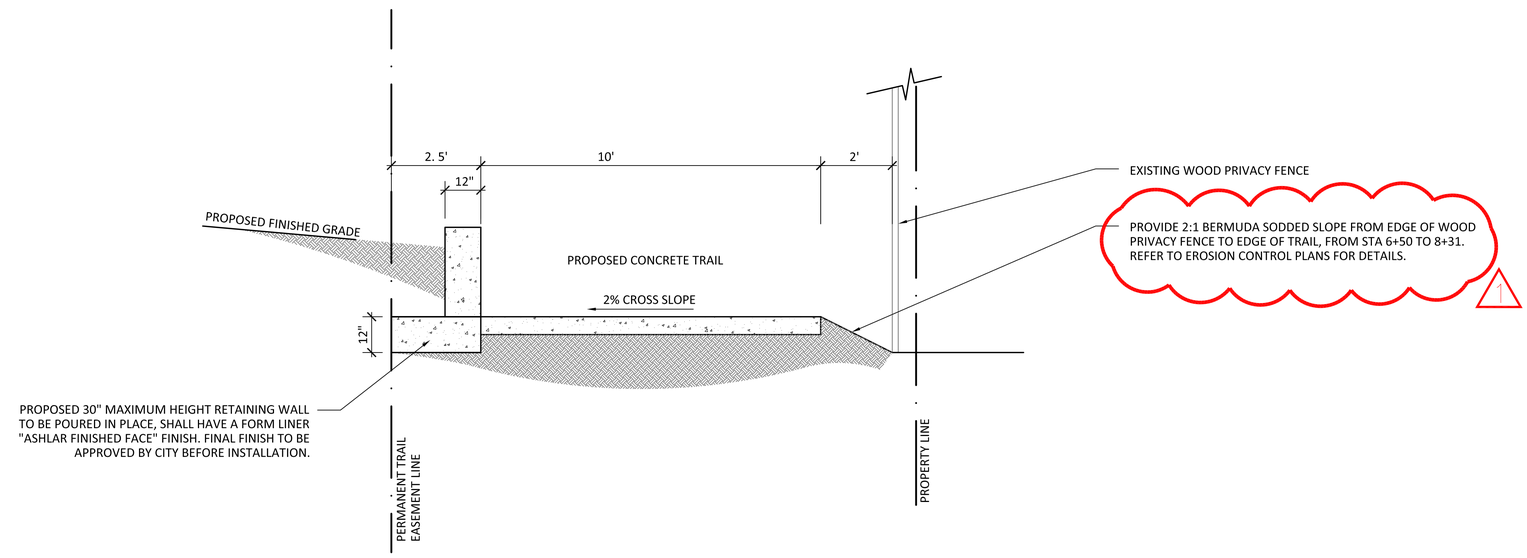
SHEET
1 OF 1



01
TS-01

TYPICAL SECTION

SCALE: 1/2" = 1'0"



02
TS-01

TYPICAL SECTION

SCALE: 1/2" = 1'0"

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

REVISION	DATE	DESCRIPTION
1	2017-08-14	CITY COMMENTS

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

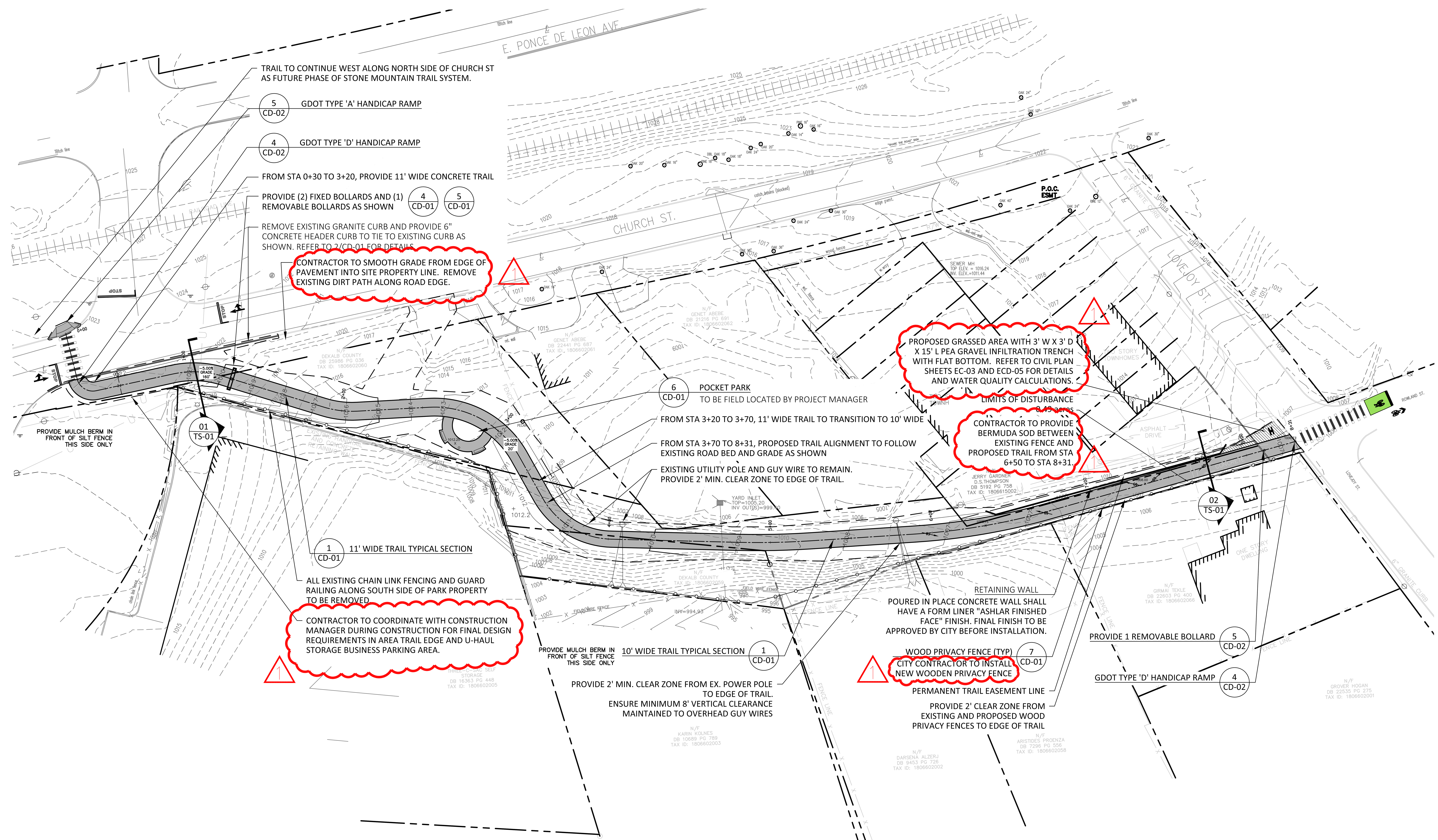
STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 1051 PROFESSIONAL LANDSCAPE ARCHITECT GRETA G. dRMARD
8/1/2017

TYPICAL SECTIONS

SCALE:	1/2" = 1'
DATE:	AUG 1, 2017
SHEET NAME:	TS-01



NOTES:

1. ALL DEMOLITION WASTE SHALL BE DISPOSED OF OFF SITE AT A STATE APPROVED LANDFILL.
2. CONTRACTOR TO REMOVE ALL EXISTING DEBRIS/TRASH IN AREA OF TRAIL CORRIDOR. CONSTRUCTION MANAGER TO APPROVE ALL FINAL REMOVAL AREAS.
3. REFER TO SIGNING AND MARKING PLAN FOR ALL PROPOSED TRAIL SIGNS AND PAVEMENT MARKINGS.
4. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT FOR STAKING DATA FILE PRIOR TO CONSTRUCTION.

GEORGIA811 Utilities Protection Center, Inc.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 feet

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

RUSSELL DAVIS & ASSOCIATES, INC.
CIVIL ENGINEERING DESIGN
3469 Lawrenceville Highway, Suite 309
Tucker, Georgia 30084
(678) 935-2200
russdavispe.com

REVISION	DATE	DESCRIPTION
1	2017-08-14	CITY COMMENTS

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

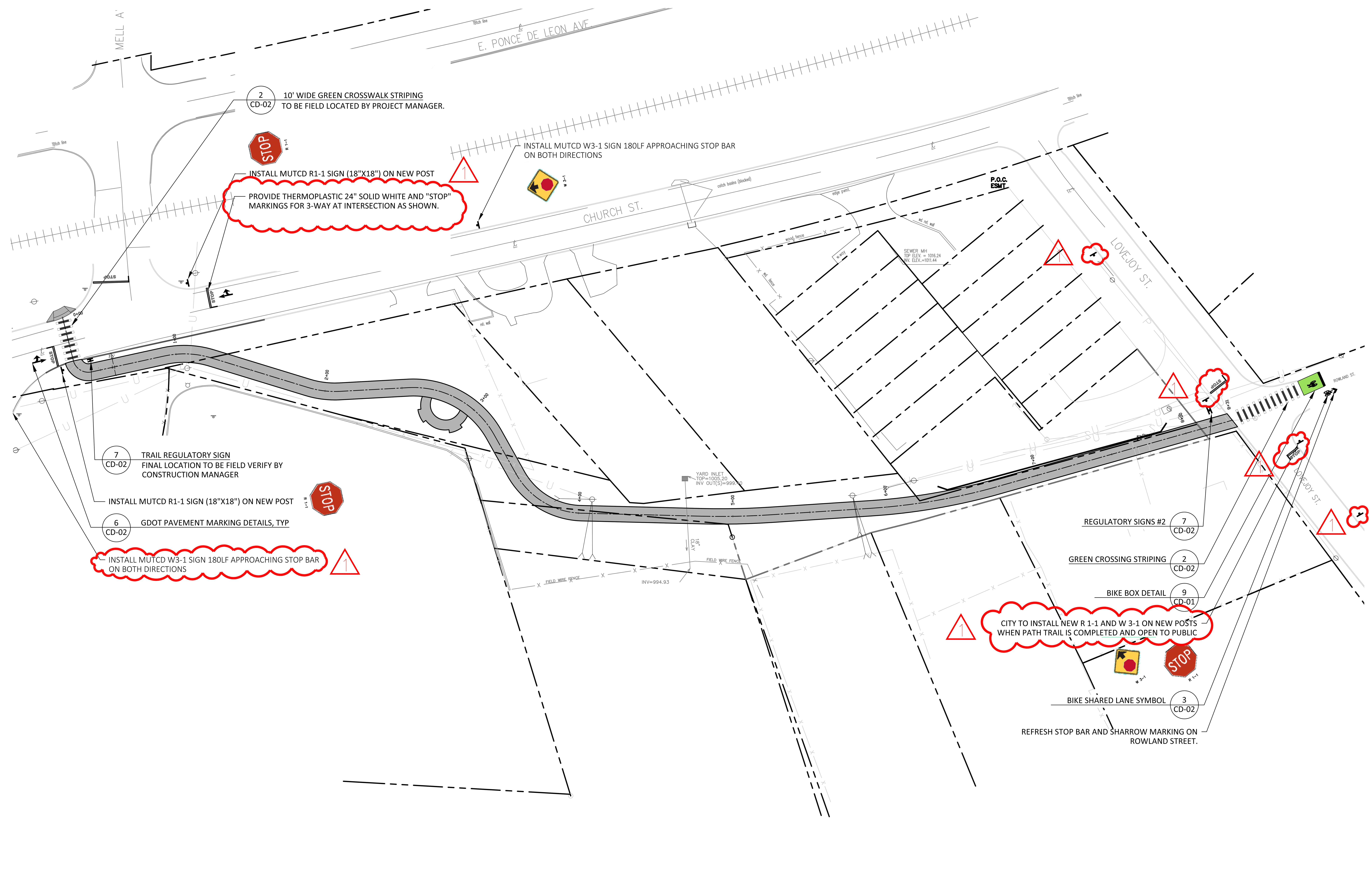
STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 1061 PROFESSIONAL LANDSCAPE ARCHITECT GRETA G. deMAYO 8/1/2017

CONSTRUCTION PLAN

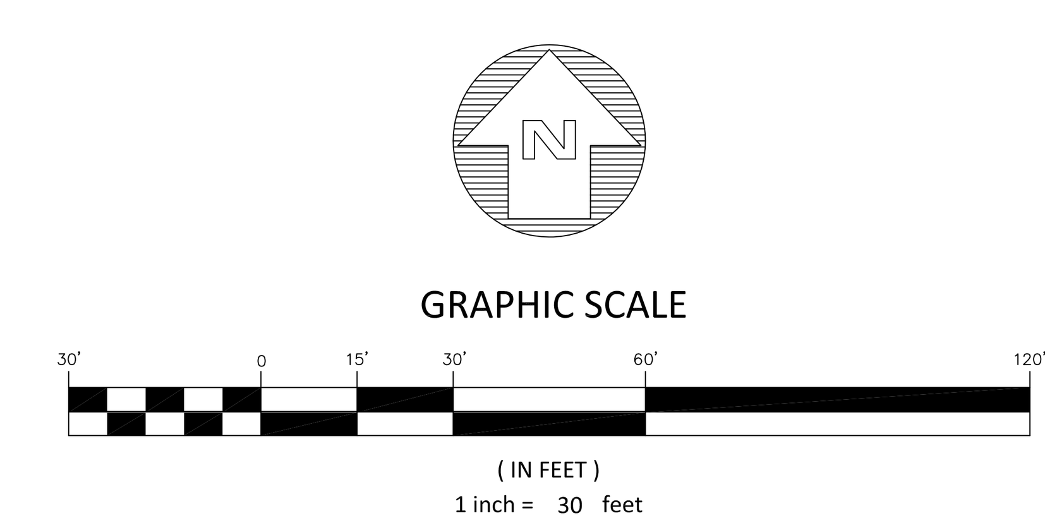
SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	CP-01



NOTES:

ALL PROPOSED STRIPING TO BE "THERMOPLASTIC"

GEORGIA811
Utilities Protection Center, Inc.



KAIZENCOLLABORATIVE

2390 Main Street | Tucker, GA 30084 | 404.239.2521

REVISION	DATE	DESCRIPTION
1	2017-08-14	CITY COMMENTS

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

STONE MOUNTAIN PATH

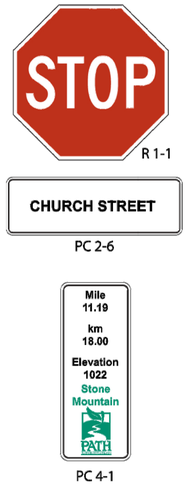
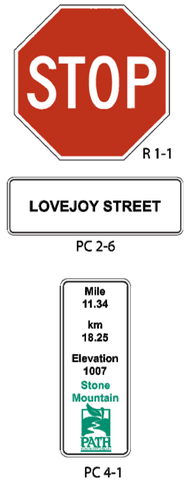
CLARKSTON, GA

GEORGIA REGISTERED No. 1051 PROFESSIONAL LANDSCAPE ARCHITECT GRETA G. deMAYO 8/1/2017

SIGNING AND MARKING PLAN

SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	SM-01

STONE MOUNTAIN PATH - PHASE D - 1 OF 1

 PC 4-1 PC 1-1 R 5-3	 R 1-1 PC 2-6 PC 4-1	 R 1-1 PC 2-6 PC 4-1	 PC 4-1 PC 1-1 R 5-3
Regulatory Sign #1 - Front STA 0+00	Regulatory Sign #1 - Back STA 0+00	Regulatory Sign #2 - Front STA 8+30	Regulatory Sign #2 - Back STA 8+30

Blank Space Left Intentionally

NOTES:

1. ALL SIGNS TO BE FABRICATED USING DIRECT PRINTING PROCESS.

2. ALL SIGN PANELS TO HAVE A BLACK BACK.

GEORGIA811 Utilities Protection Center, Inc.

GRAPHIC SCALE

30' 0 15' 30' 60' 120'

(IN FEET)
1 inch = 30 feet

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

REVISION	DATE	DESCRIPTION

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

STONE MOUNTAIN PATH

CLARKSTON, GA

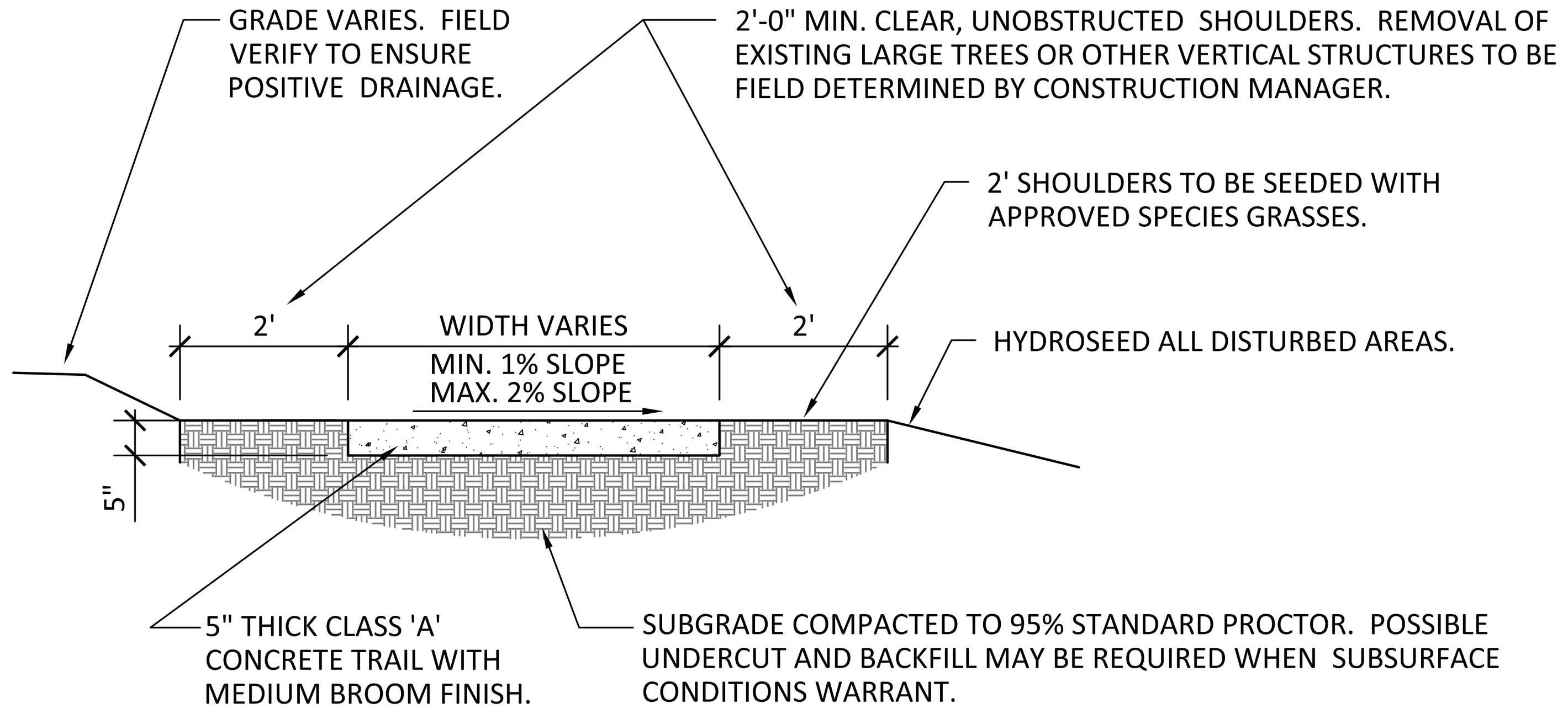
GEORGIA REGISTERED No. 1051 PROFESSIONAL ENGINEER GRETA G. GERARD 8/1/2017

SIGNING AND MARKING SIGN MATRIX

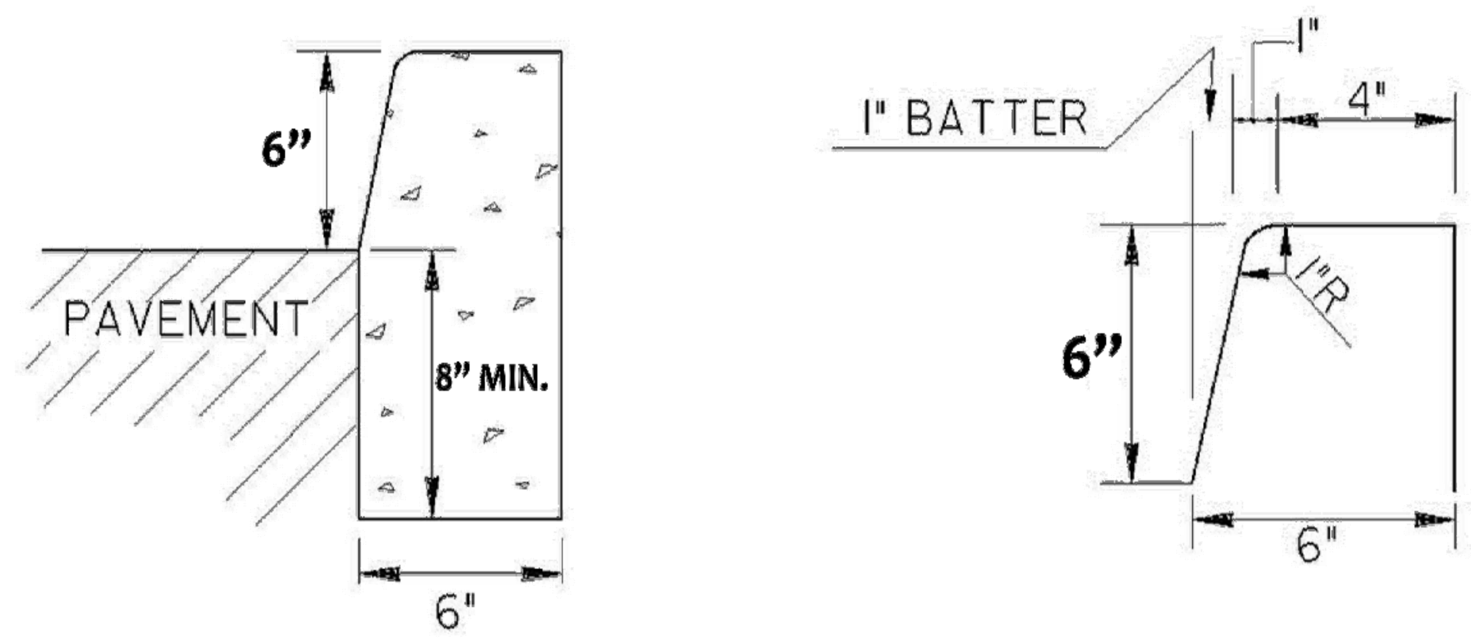
SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	SM-02

NOTES:
1. 4"x10' SKIP YELLOW CENTERLINE STRIPING TO BE INSTALLED ALONG ENTIRE LENGTH OF TRAIL CENTERLINE.

2. CONTRACTOR TO SAW CUT CONTROL JOINT AT LEAST 1/4 DEPTH OF SLAB ACROSS ENTIRE WIDTH OF TRAIL. CONTROL JOINTS TO BE LOCATED THE SAME DISTANCE APART AS THE WIDTH OF TRAIL (I.E. 12' WIDE TRAIL TO HAVE CONTROL JOINTS EVERY 12' ALONG TRAIL). CONTRACTOR REQUIRED TO REMOVE SAW DUST AFTER CUTTING.

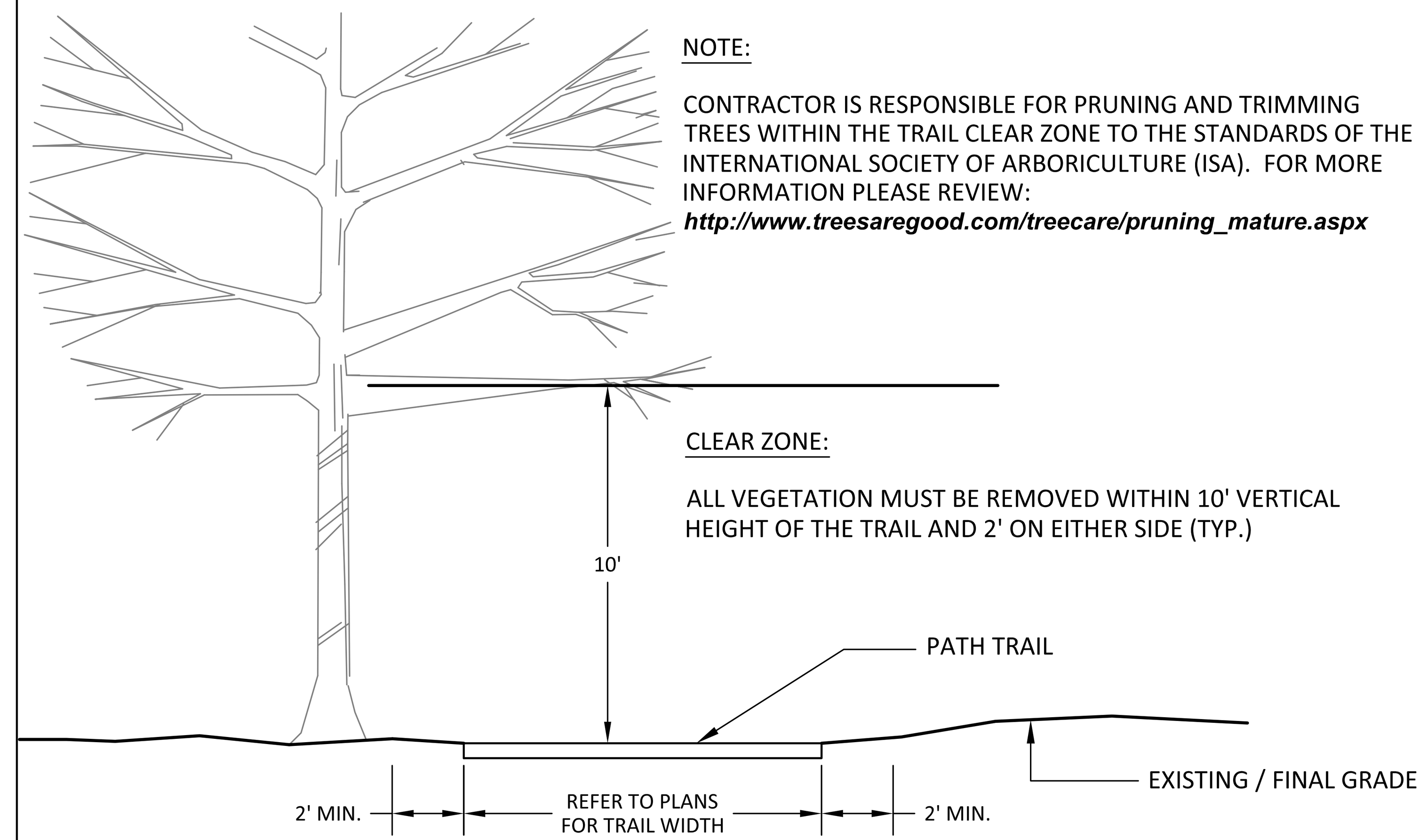


1 CD-01 WALKWAY/TRAIL TYPICAL SECTION
SCALE: 1/2" = 1'-0"

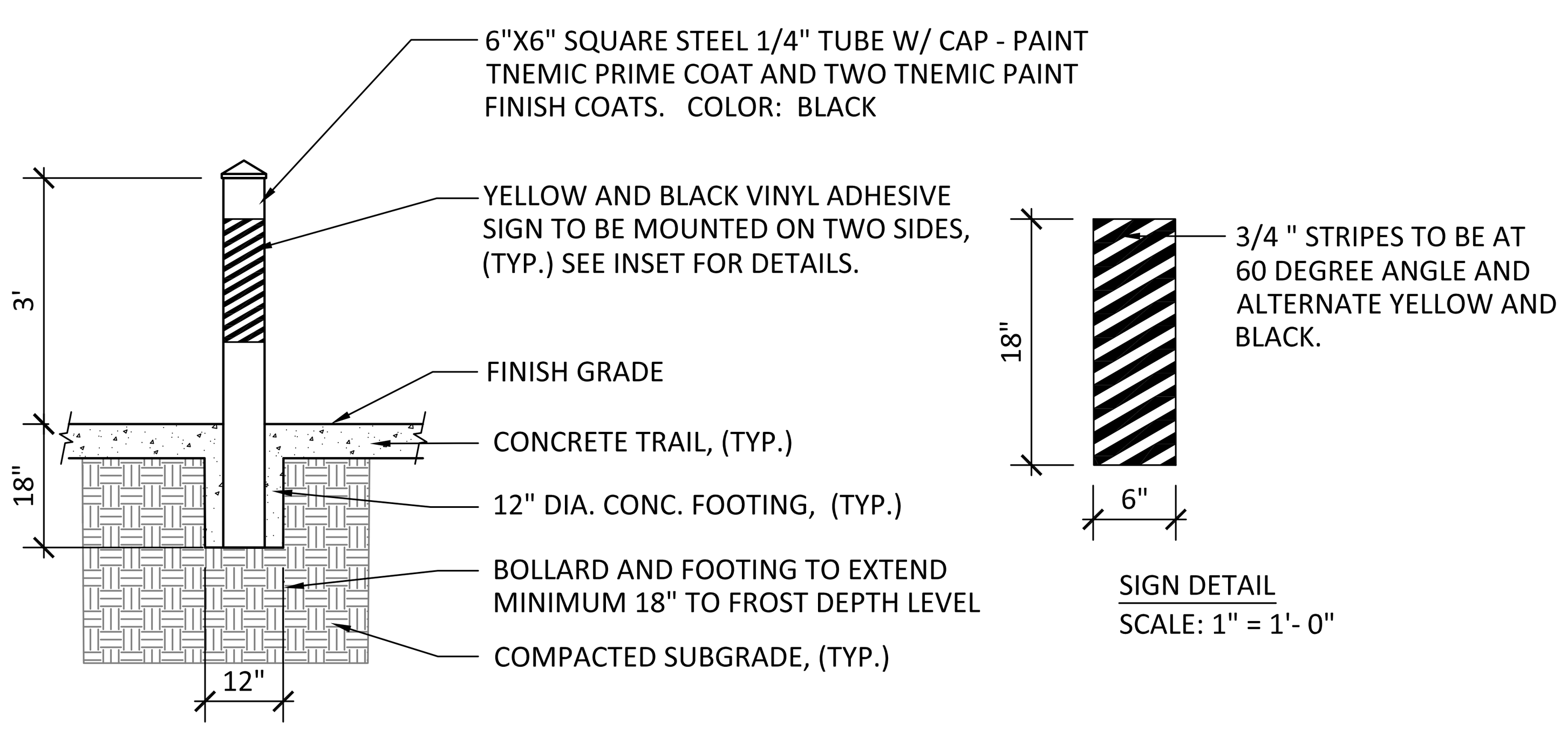


THE DIMENSION MAY BE INCREASED AT CONTRACTOR'S OPTION SO BOTTOM OF HEADER CURB WILL ALIGN WITH BOTTOM OF PAVEMENT TYPICAL SECTION.

2 CD-01 6" CONCRETE HEADER CURB DETAIL
SCALE: 1/2" = 1' -0"



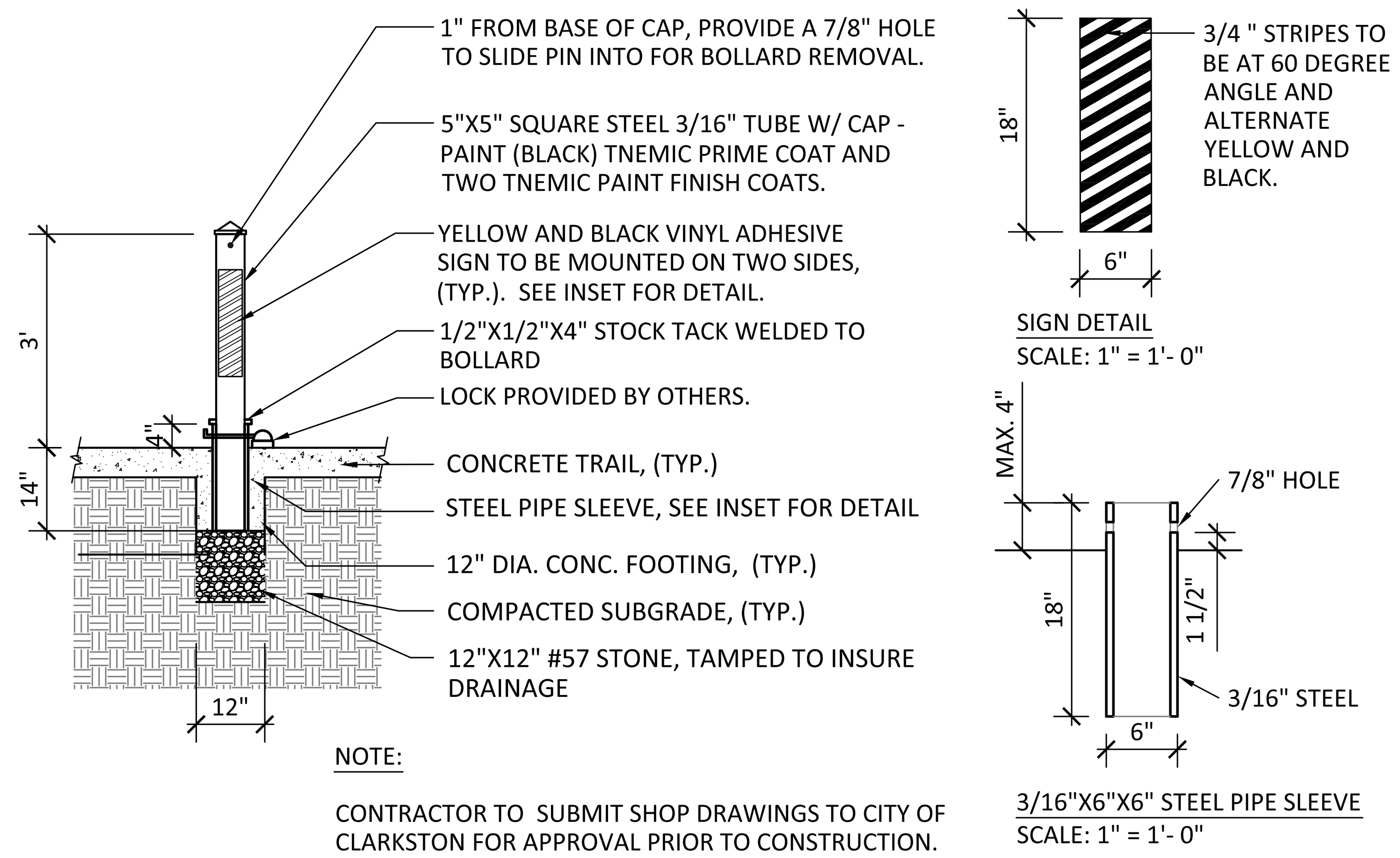
3 CD-01 CLEAR ZONE
SCALE: 1/4" = 1'-0"



NOTE:

CONTRACTOR TO SUBMIT SHOP DRAWINGS TO CITY OF CLARKSTON FOR APPROVAL PRIOR TO CONSTRUCTION.

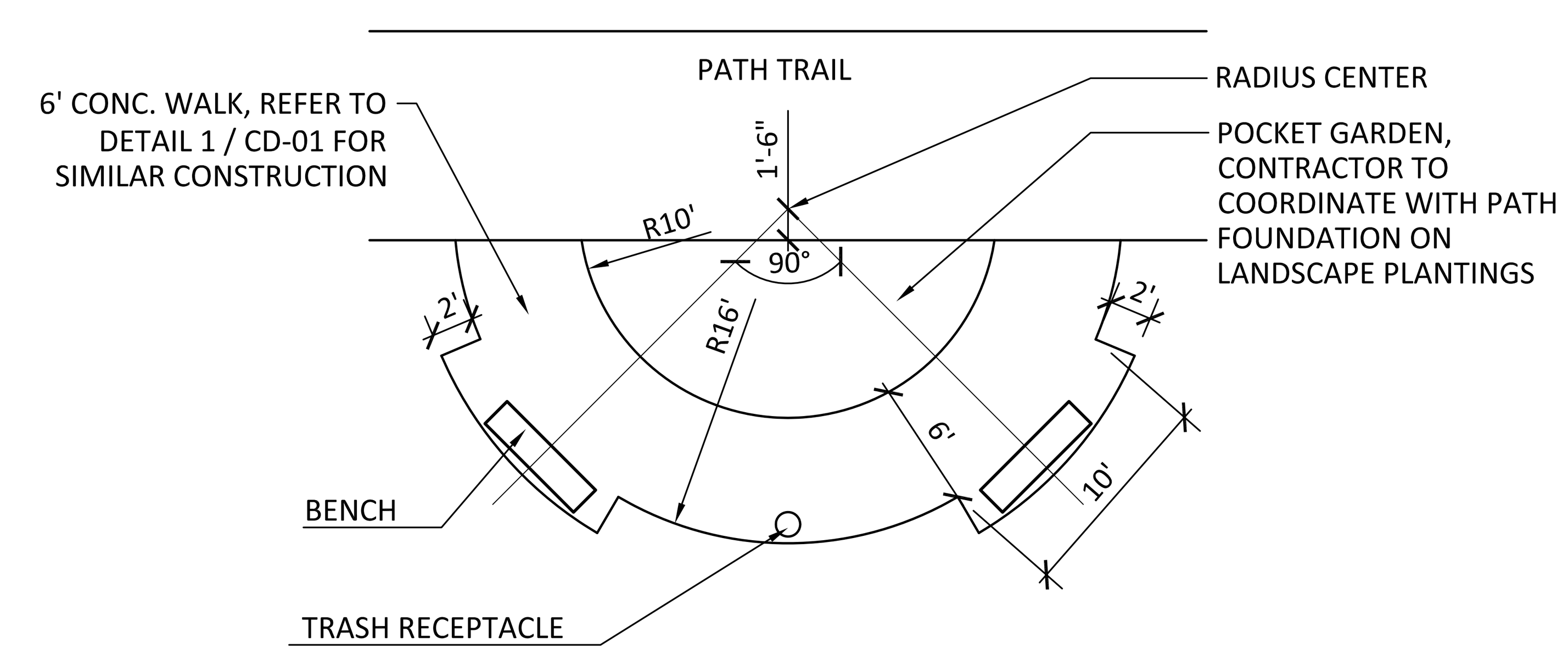
4 CD-01 FIXED STEEL BOLLARD
SCALE: 1/2" = 1'-0"



NOTE:

CONTRACTOR TO SUBMIT SHOP DRAWINGS TO CITY OF CLARKSTON FOR APPROVAL PRIOR TO CONSTRUCTION.

5 CD-01 REMOVABLE STEEL BOLLARD
SCALE: 1/2" = 1'-0"



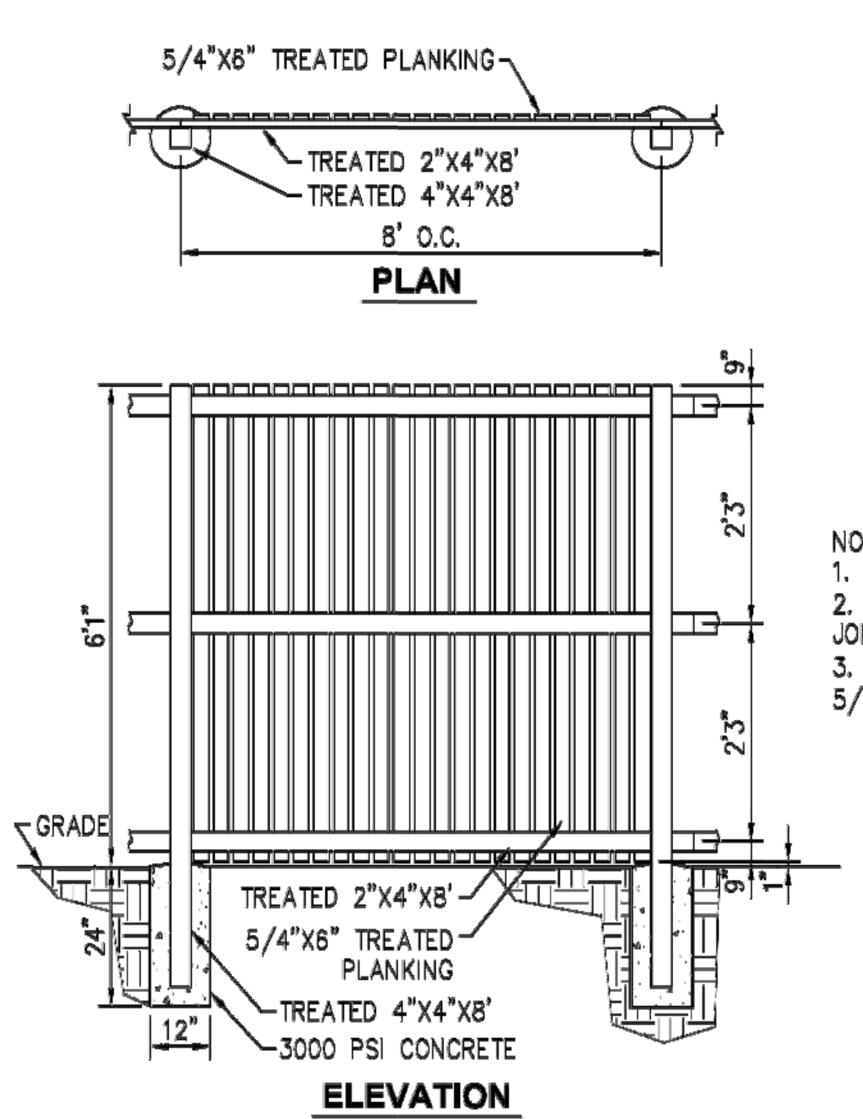
NOTE:

1. ALL PATH REST AREAS TO BE FIELD LOCATED BY PATH FOUNDATION. REFER TO PLANS FOR GENERAL LOCATION.

2. CITY TO PROVIDE MODEL NUMBER AND DETAILS FOR FINAL BENCH AND TRASH RECEPTACLE.

1

6 CD-01 POCKET PARK
SCALE: 1/8" = 1'-0"



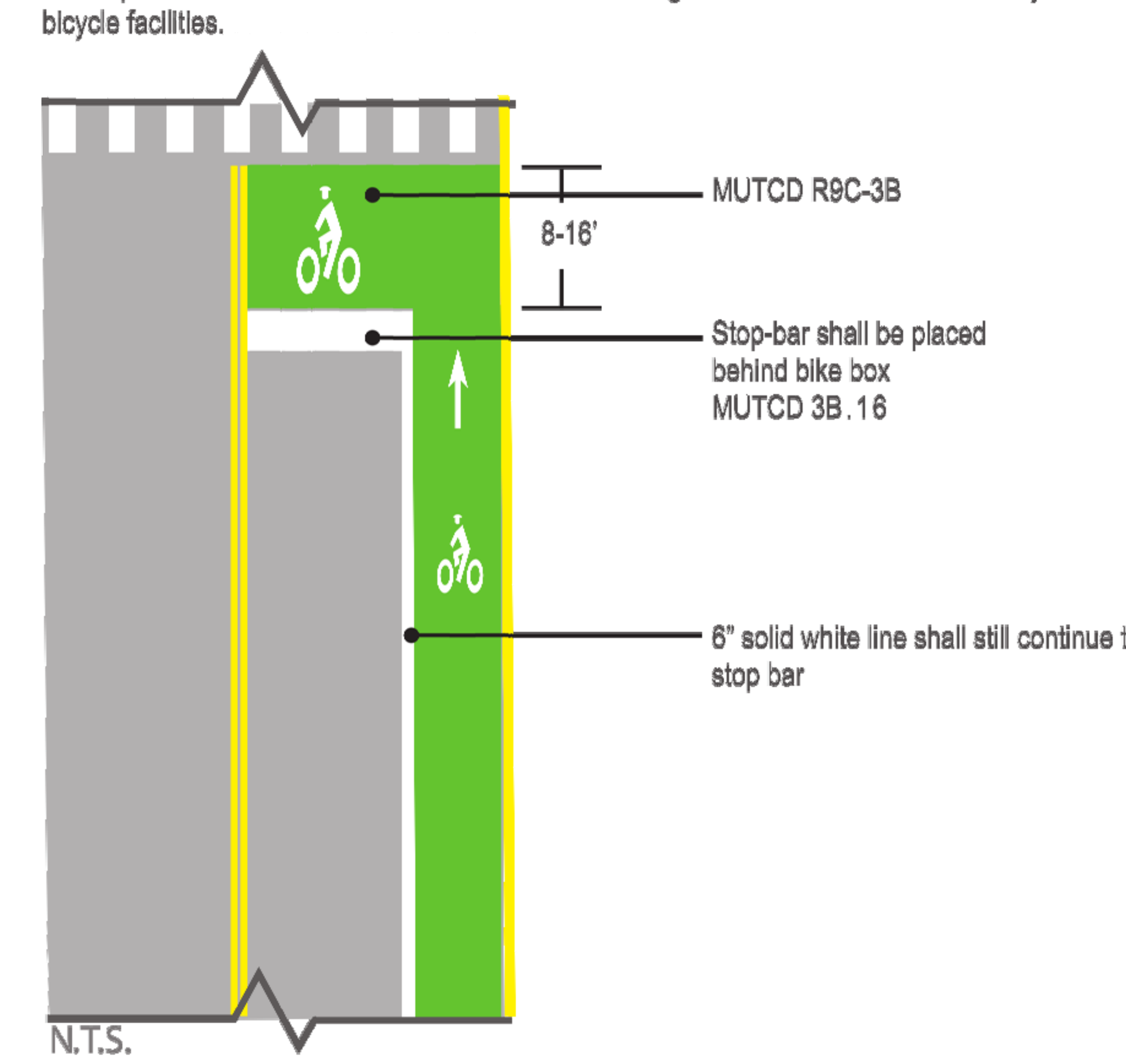
NOTES:
1. ALL FASTERNERS TO BE GALVANIZED
2. USE 3.5" GALVANIZED WOOD SCREWS TO JOIN 2X4 TO 4X4 MEMBER
3. USE 2" GALVANIZED WOOD SCREWS TO JOIN 5/4X6 TO 2X4 MEMBER

7 CD-01 WOOD PRIVACY FENCE
N.T.S.

BLANK SPACE LEFT INTENTIONALLY.

BIKE BOXES

Green paint should be utilized to create bike boxes at signalized intersections where a cyclist can turn left onto other bicycle facilities.



9 CD-01 BIKE BOX DETAIL
N.T.S.

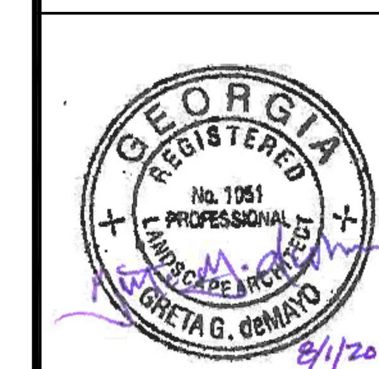
KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

REVISION	DATE	DESCRIPTION
1	2017-08-14	CITY COMMENTS

KAIZEN PROJECT #	2016-104
PROJECT MANAGER	GGD

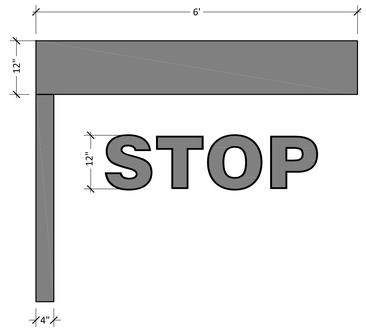
STONE MOUNTAIN PATH

CLARKSTON, GA



CONSTRUCTION DETAILS

SCALE:	VARIES
DATE:	AUG 1, 2017
SHEET NAME:	CD-01



NOTES:

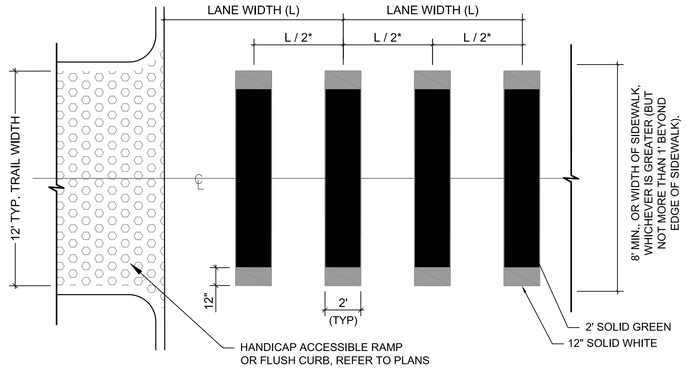
STOP BAR WORD AND STOP BAR SYMBOL SHALL MATCH TRAIL CENTERLINE PAINT COLOR.

1 CD-02 **STOP BAR PAINT**

SCALE: ¾" = 1'-0"

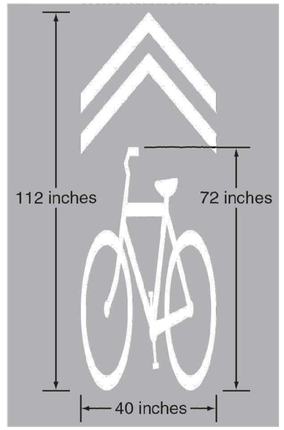
NOTES:
1. ALL COLOR PAVEMENT MARKINGS TO BE ANTI SKID WITH CLEAN CUT EDGES (TYP.). CONFORM TO GDOT STANDARD SPECIFICATIONS FOR INSTALLATION, AND FINISH.
2. USE CASTEK COLOR SAFE, OR APPROVED EQUAL

*USE 5' FOR (L / 2) WHEN LANE WIDTH EXCEEDS 12', OR WHERE LANE LINES HAVE BEEN OMITTED.



2 CD-02 **GREEN CROSSWALK STRIPING**

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



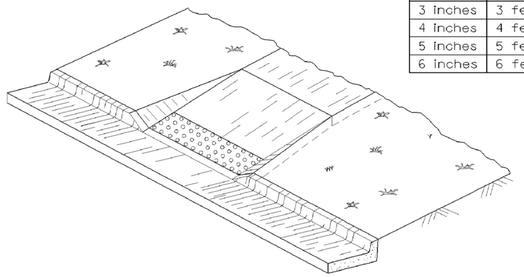
3 CD-02 **BIKE SHARED LANE SYMBOL**

N.T.S.

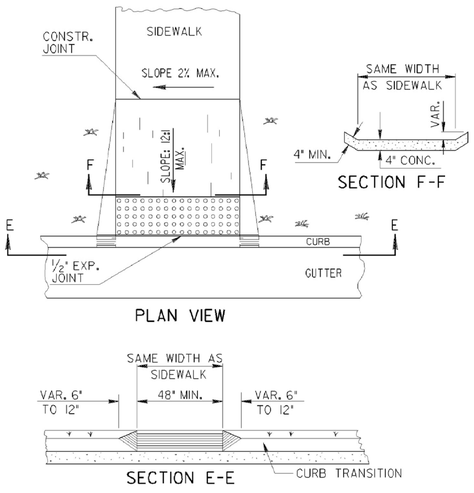
Type D

(Normally used when the sidewalk ties directly into the crosswalk)

LENGHT REQUIRED FOR A 1:12 SLOPE	
DIFFERENCE IN HEIGHT	LENGTH REQUIRED
1 Inch	1 foot
2 Inches	2 feet
3 Inches	3 feet
4 Inches	4 feet
5 Inches	5 feet
6 Inches	6 feet



IN AREAS WHERE THE GUTTER HAS A SLOPE 1" IN 1' END NORMAL GUTTER SLOPE AT A DISTANCE OF 6 TO 10 FEET FROM THE RAMP AND BEGIN TRANSITION TO A FLAT GUTTER SLOPE. NORMAL GUTTER SLOPE SHALL BE RESUMED AT A SIMILAR DISTANCE BEYOND THE RAMP.

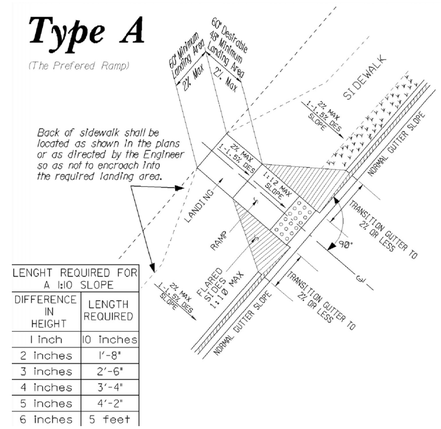


4 CD-02 **GDOT TYPE 'D' HANDICAP RAMP**

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

Type A

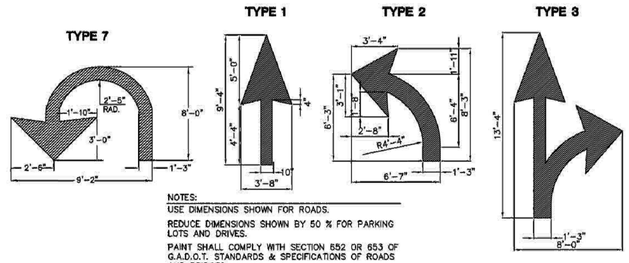
(The Prefered Ramp)



LENGHT REQUIRED FOR A 1:10 SLOPE	
DIFFERENCE IN HEIGHT	LENGTH REQUIRED
1 Inch	10 Inches
2 Inches	1'-8"
3 Inches	2'-6"
4 Inches	3'-4"
5 Inches	4'-2"
6 Inches	5 feet

5 CD-02 **GDOT TYPE 'A' HANDICAP RAMP**

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



NOTES:
USE DIMENSIONS SHOWN FOR ROADS.

REDUCE DIMENSIONS SHOWN BY 50 % FOR PARKING LOTS AND DRIVES.

PAINT SHALL COMPLY WITH SECTION 652 OR 653 OF G.A.D.O.T. STANDARDS & SPECIFICATIONS OF ROADS AND BRIDGES.

PAVEMENT MARKINGS

N.T.S.

6 CD-02 **GDOT PAVEMENT MARKING DETAILS**

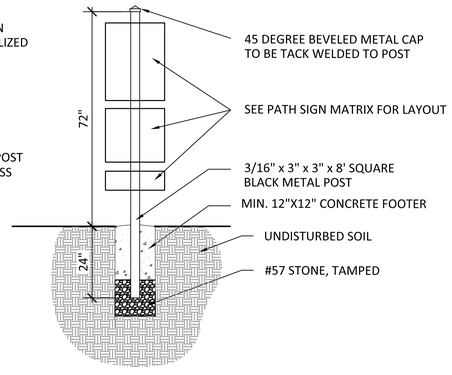
N.T.S.

NOTES:

1. PATH FOUNDATION TO DETERMINE IN FIELD THE APPROPRIATE SIGN TO BE UTILIZED BASED ON FIELD CONDITIONS AND AVAILABLE SPACE FOR SIGNAGE.

2. ALL SIGNS SHALL BE LOCATED WITH 2'-0" CLEAR AREA FROM EDGE OF TRAILWAY TO EDGE OF SIGN.

3. ALL SIGNS TO BE ATTACHED TO SIGNPOST USING 1" LONG, 1/4 DIAMETER, STAINLESS STEEL #14A BUTTON HD TORX SECURITY WOOD SCREW.



7 CD-02 **REGULATORY TRAIL SIGNS**

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

BLANK SPACE LEFT INTENTIONALLY.

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

REVISION	DATE	DESCRIPTION

KAIZEN PROJECT #	2016-104
PROJECT MANAGER	GGD

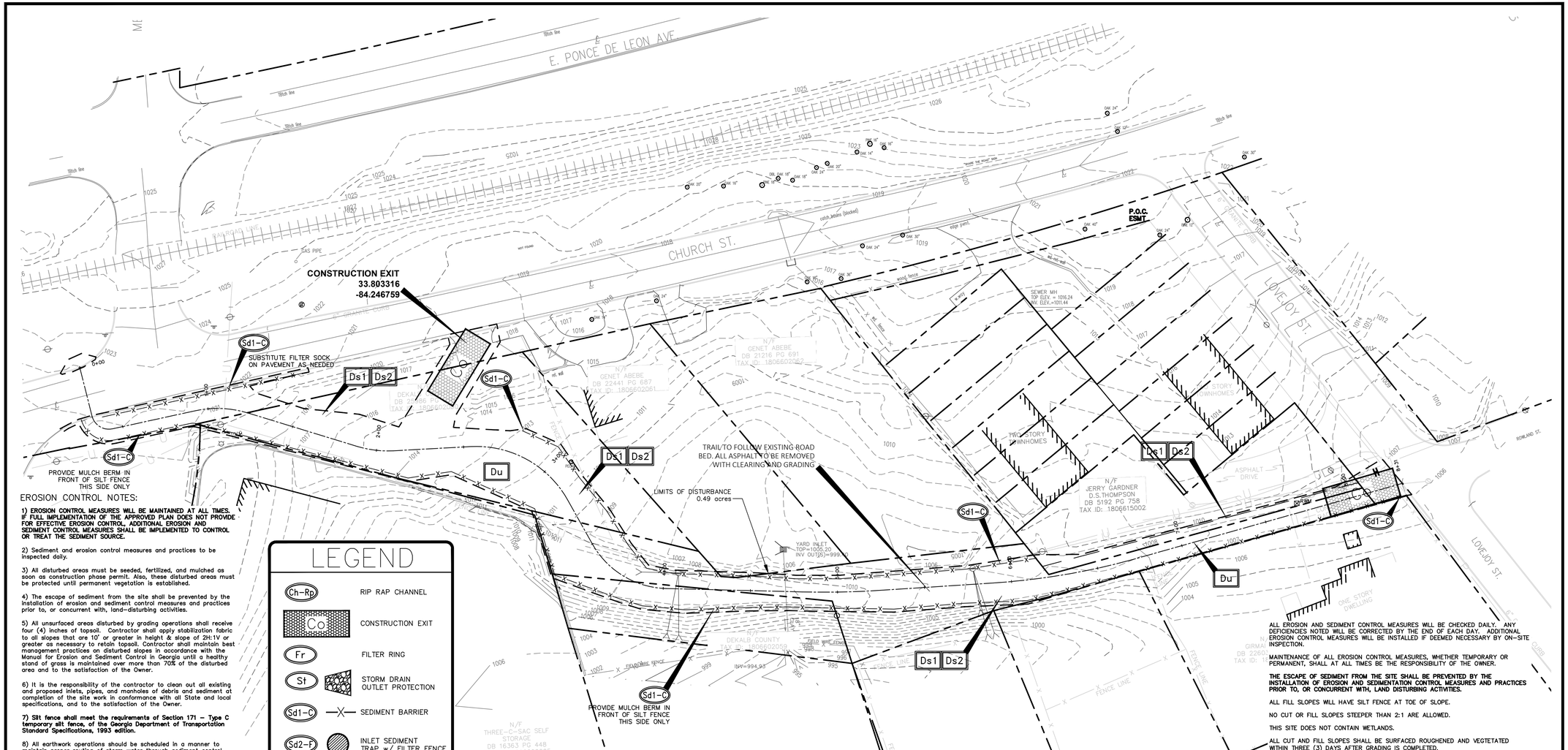
STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 1951 PROFESSIONAL LANDSCAPE ARCHITECT GORETA G. dEMATO 8/1/2017

CONSTRUCTION DETAILS

SCALE:	VARIES
DATE:	AUG 1, 2017
SHEET NAME:	CD-02



EROSION CONTROL NOTES:

1) EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

2) Sediment and erosion control measures and practices to be inspected daily.

3) All disturbed areas must be seeded, fertilized, and mulched as soon as construction phase permit. Also, these disturbed areas must be protected until permanent vegetation is established.

4) The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land-disturbing activities.

5) All unsurfaced areas disturbed by grading operations shall receive four (4) inches of topsoil. Contractor shall apply stabilization fabric to all slopes that are 10' or greater in height & slope of 2H:1V or greater as necessary to retain topsoil. Contractor shall maintain best management practices on disturbed slopes in accordance with the Manual for Erosion and Sediment Control in Georgia until a healthy stand of grass is maintained over more than 70% of the disturbed area and to the satisfaction of the Owner.

6) It is the responsibility of the contractor to clean out all existing and proposed inlets, pipes, and manholes of debris and sediment at completion of the site work in conformance with all State and local specifications, and to the satisfaction of the Owner.

7) Silt fence shall meet the requirements of Section 171 – Type C temporary silt fence, of the Georgia Department of Transportation Standard Specifications, 1993 edition.

8) All earthwork operations should be scheduled in a manner to maintain proper routing of storm water through sediment control devices. If it is necessary to perform construction activities in an order that is not in accordance with the activity schedule on this plan, or the construction schedule will allow for disturbed areas to bypass best management practices, the contractor is to contact the engineer prior to commencement of such activities and implement erosion control devices that will control sediment, at the satisfaction of the engineer and in accordance with the Manual for Erosion and Sediment Control in Georgia.

12) ANY DISTURBED AREA LEFT IDLE FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING; DISTURBED AREAS LEFT IDLE 30 DAYS SHALL BE STABILIZED WITH PERMANENT VEGETATION.

13) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY, AFTER EACH RAIN, AND REPAIRED AS NECESSARY.

14) ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DETERMINED NECESSARY BY ON-SITE INSPECTION.

15) SILT FENCE SHALL MEET THE REQUIREMENTS OF SECTION 171–TYPE C TEMPORARY SILT FENCE, OF THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, 1993 ADDITION, AND BE WIRE REINFORCED.

16) THE PROPERTY OWNER AND CONTRACTOR ARE EQUALLY RESPONSIBLE FOR ALL EROSION CONTROL ACTIVITIES.

17) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES, NOT CLAYTON COUNTY.

18) ALL TEMPORARY AND PERMANENT SEEDING MUST BE PERFORMED AT THE APPROPRIATE SEASON. IN SUCH INSTANCES WHERE THE ESTABLISHMENT OF VEGETATION IS INOPPORTUNE DUE TO SEASON OR DROUGHT, DISTURBED AREAS SHALL BE TEMPORARILY SABILIZED USING 2"–4" OF MULCH (Ds1). ADDITIONAL PLANTINGS WILL BE NECESSARY IF A SUFFICIENT STAND OF GRASS FAILS TO GROW.

19) THE CITY'S DESIGNEE WILL VERIFY ADEQUATE COVER (100% COVER, 70% DENSITY) OF PERMANENT STABILIZATION (Ds3, Ds4).

LEGEND

Ch-Rp	RIP RAP CHANNEL
Co	CONSTRUCTION EXIT
Fr	FILTER RING
St	STORM DRAIN OUTLET PROTECTION
Sd1-C	SEDIMENT BARRIER
Sd2-F	INLET SEDIMENT TRAP w/ FILTER FENCE
Sd2-P	INLET SEDIMENT TRAP "PIGS IN A BLANKET"
Sd3	TEMPORARY SEDIMENT BASIN
Du	DUST CONTROL
Ss	MATTING
Ds1	DISTURBED AREA STABILIZATION WITH MULCH
Ds2	DISTURBED AREA STABILIZATION WITH TEMPORARY SEEDING
Ds3	DISTURBED AREA STABILIZATION WITH PERMANENT SEEDING

START DATE: SEPTEMBER 2017
END DATE: SEPTEMBER 2018

THIS SCHEDULE IS TO BE USED FOR PERMITTING PURPOSES ONLY. REFER TO APPROVED PROJECT SCHEDULE FOR EXACT CONSTRUCTION SEQUENCING.

DESCRIPTION	MONTH 1	2	3	4	5	6	7	8	9	10	11	12
SEDIMENT CONTROL												
CLEARING & GRUBBING												
GRADING / STORM DRAIN INSTALLATION												
TEMPORARY GRASSING												
PERMANENT GRASSING												
TRAIL CONSTRUCTION												
MAINT. OF EROSION CONTROL DEVICES												
REMOVAL OF TEMPORARY BMPs												
CLEARING OF STORM DRAINS												
FINAL CLEAN UP												

ACTIVITY SCHEDULE

NOTE:
SEDIMENT STORAGE IN THE LINEAR PROJECT IS ACCOMPLISHED WITH THE USE OF TYPE C SILT FENCE WITH A MULCH BERM IN FRONT, INSTALLED ALONG THE DOWNHILL SIDE OF THE ENTIRE DISTURBED LENGTH.

SEDIMENT STORAGE REQUIRED: 67 cu.yd. / acre
67 x 0.49 = 33 cu.yd STORAGE

TYPE C FENCE WILL EFFECTIVELY STORE SEDIMENT = ½ acre / 100 L.F. FENCE

0.49 acre / ½ acre = 1.96

1.96 x 100 L.F. FENCE = 196 L.F. REQUIRED

810 L.F. SILT FENCE PROVIDED

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY. ANY DEFICIENCIES NOTED WILL BE CORRECTED BY THE END OF EACH DAY. ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.

MAINTENANCE OF ALL EROSION CONTROL MEASURES, WHETHER TEMPORARY OR PERMANENT, SHALL AT ALL TIMES BE THE RESPONSIBILITY OF THE OWNER.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.

ALL FILL SLOPES WILL HAVE SILT FENCE AT TOE OF SLOPE.

NO CUT OR FILL SLOPES STEEPER THAN 2:1 ARE ALLOWED.

THIS SITE DOES NOT CONTAIN WETLANDS.

ALL CUT AND FILL SLOPES SHALL BE SURFACED ROUGHENED AND VEGTETATED WITHIN THREE (3) DAYS AFTER GRADING IS COMPLETED.

STUMPS AND CONSTRUCTION DEBRIS SHALL BE DEPOSITED IN A PROPERLY PERMITTED LANDFILL.

A DOUBLE ROW OF TYPE C SILT FENCE SHALL BE REQUIRED WHEN PLACED ALONG STATE WATERS AND AT THE TOE OF SLOPES GREATER THAN 10' IN HEIGHT.

THE CLEARING LIMITS WILL BE CLEARLY LOCATED IN THE FIELD. NO CONSTRUCTION ACTIVITY WILL TAKE PLACE OUTSIDE OF THE CLEARING LIMITS.

THIS SITE DOES NOT CONTAIN ANY KNOWN CEMETARIES.

NO VEGETATION OR STRUCTURES EXCEEDING 30" IN HEIGHT SHALL BE LOCATED WITHIN THE SIGHT TRIANGLE EASEMENT. THE EASEMENT SHALL PROVIDE RIGHT OF ENTRY TO THE CITY OF Atlanta FOR THE PURPOSE OF REMOVING ANY OBJECT OR VEGETATION THAT RESTRICTS THE CLEAR SIGHT.

AN UNDISTURBED VEGETATIVE BUFFER MEETING CITY AND STATE REGULATIONS WILL BE PRESERVED ADJACENT TO ALL STREAMS AND LAKES.

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GSWCC
Georgia Soil and Water Conservation Commission
Russell Davis #24598
Expires 12/01/2018

24 hr EMERGENCY CONTACT
JONATHAN McCAIG ~ PATH FOUNDATION
LEVEL 1 CERT #58893 ~ EXP 10/11/2018
office 404-875-7284 x5 cell 404-433-1900

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RUSSELL E. DAVIS, P.E.
GSWCC # 0000024598
EXPIRES: 11/29/2018

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ALL EROSION AND SEDIMENTATION CONTROLS, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO GRADING.

GRAPHIC SCALE
30' 0 15' 30' 60' 120'
(IN FEET)
1 inch = 30 feet

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

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CIVIL ENGINEERING DESIGN
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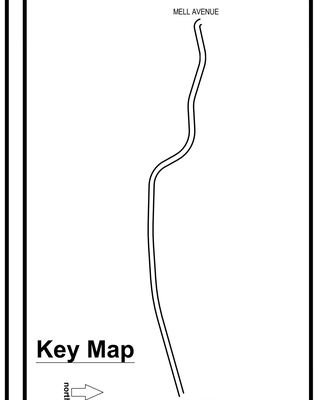
(678) 935-2200
russdavispe.com



Key Map

REVISION	DATE	DESCRIPTION

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

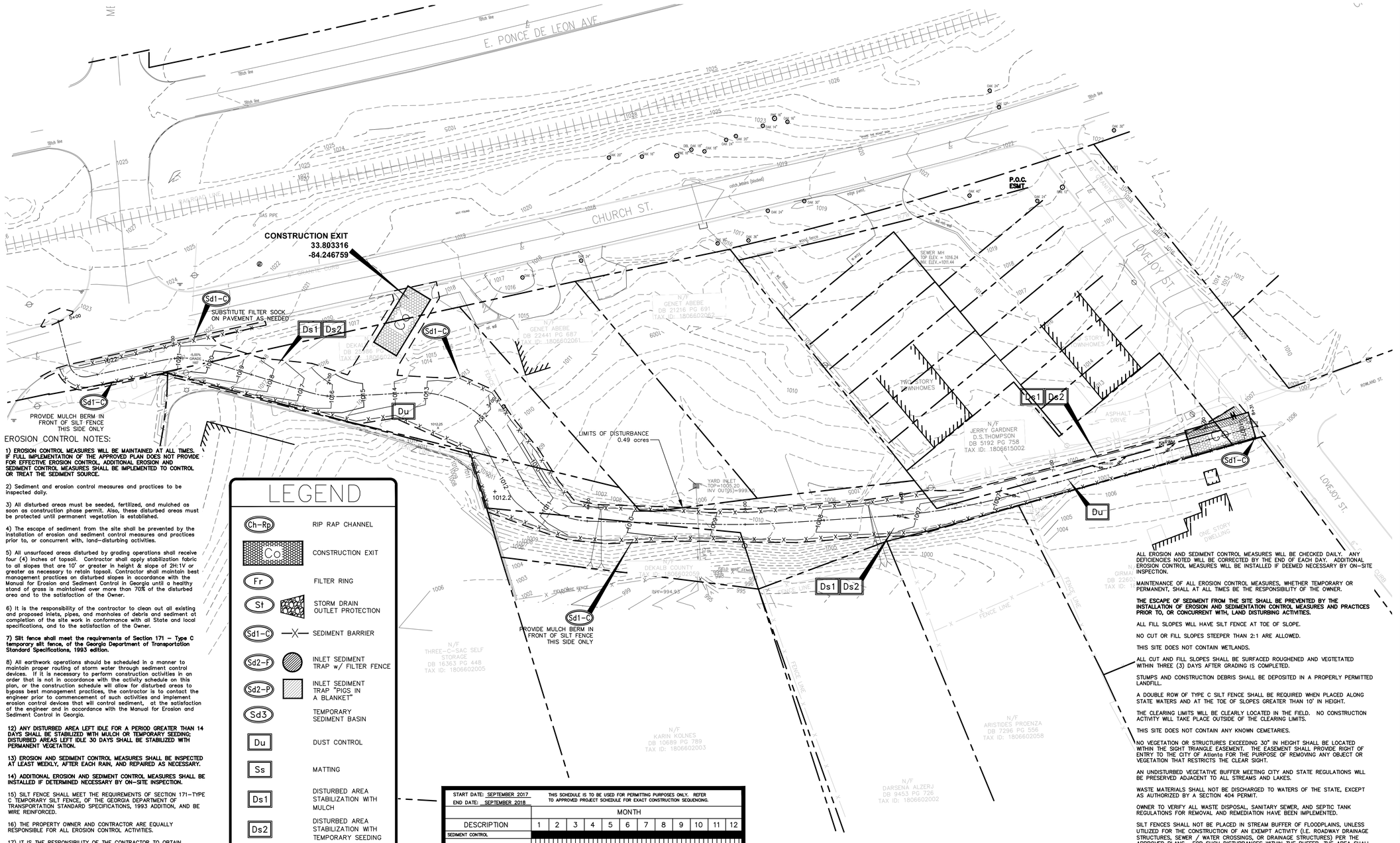
STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 26072 PROFESSIONAL ENGINEER RUSSELL E. DAVIS
07/24/2017

INITIAL PHASE EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN

SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	EC-01



EROSION CONTROL NOTES:

1) EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

2) Sediment and erosion control measures and practices to be inspected daily.

3) All disturbed areas must be seeded, fertilized, and mulched as soon as construction phase permit. Also, these disturbed areas must be protected until permanent vegetation is established.

4) The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land-disturbing activities.

5) All unsurfaced areas disturbed by grading operations shall receive four (4) inches of topsoil. Contractor shall apply stabilization fabric to all slopes that are 10' or greater in height & slope of 2H:1V or greater as necessary to retain topsoil. Contractor shall maintain best management practices on disturbed slopes in accordance with the Manual for Erosion and Sediment Control in Georgia until a healthy stand of grass is maintained over more than 70% of the disturbed area and to the satisfaction of the Owner.

6) It is the responsibility of the contractor to clean out all existing and proposed inlets, pipes, and manholes of debris and sediment at completion of the site work in conformance with all State and local specifications, and to the satisfaction of the Owner.

7) Silt fence shall meet the requirements of Section 171 – Type C temporary silt fence, of the Georgia Department of Transportation Standard Specifications, 1993 edition.

8) All earthwork operations should be scheduled in a manner to maintain proper routing of storm water through sediment control devices. If it is necessary to perform construction activities in an order that is not in accordance with the activity schedule on this plan, or the construction schedule will allow for disturbed areas to bypass best management practices, the contractor is to contact the engineer prior to commencement of such activities and implement erosion control devices that will control sediment, at the satisfaction of the engineer and in accordance with the Manual for Erosion and Sediment Control in Georgia.

12) ANY DISTURBED AREA LEFT IDLE FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING; DISTURBED AREAS LEFT IDLE 30 DAYS SHALL BE STABILIZED WITH PERMANENT VEGETATION.

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LEGEND

Ch–Rp	RIP RAP CHANNEL
Co	CONSTRUCTION EXIT
Fr	FILTER RING
St	STORM DRAIN OUTLET PROTECTION
Sd1–C	SEDIMENT BARRIER
Sd2–F	INLET SEDIMENT TRAP w/ FILTER FENCE
Sd2–P	INLET SEDIMENT TRAP "PIGS IN A BLANKET"
Sd3	TEMPORARY SEDIMENT BASIN
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Ss	MATTING
Ds1	DISTURBED AREA STABILIZATION WITH MULCH
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START DATE: SEPTEMBER 2017
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PERMANENT GRASSING												
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FINAL CLEAN UP												

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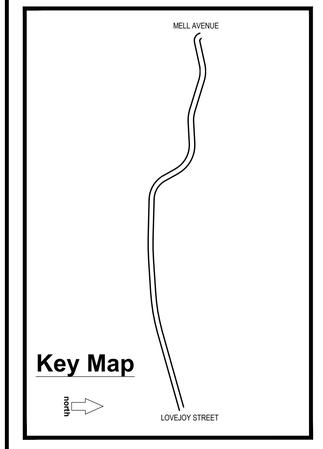


REVISION	DATE	DESCRIPTION

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

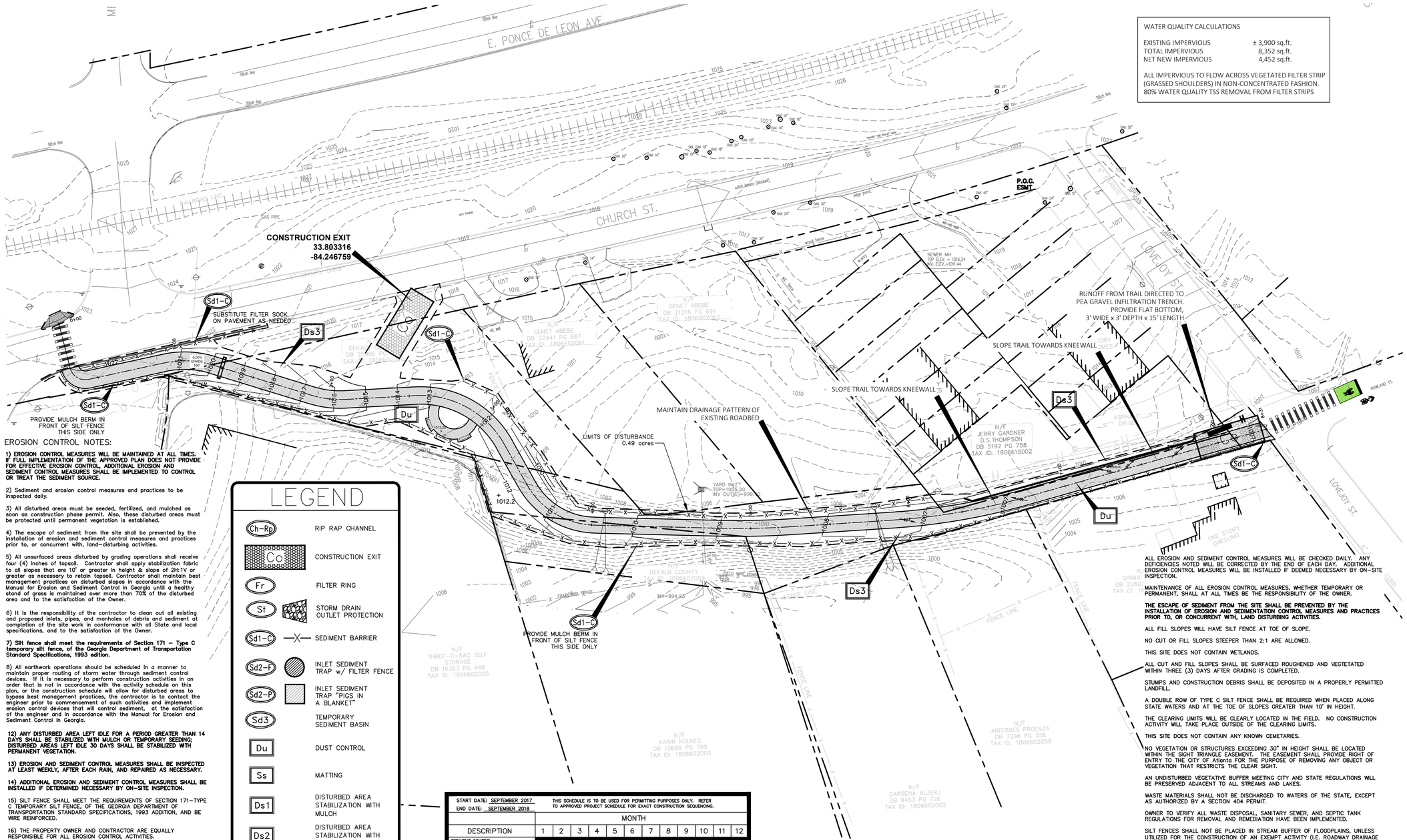
STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 26072 PROFESSIONAL ENGINEER RUSSELL E. DAVIS
09/24/2017

INTERMEDIATE PHASE EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN

SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	EC-02



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START DATE: SEPTEMBER 2017
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FINAL CLEAN UP												

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WATER QUALITY CALCULATIONS

EXISTING IMPERVIOUS	± 3,900 sq.ft.
TOTAL IMPERVIOUS	8,352 sq.ft.
NET NEW IMPERVIOUS	4,452 sq.ft.

ALL IMPERVIOUS TO FLOW ACROSS VEGETATED FILTER STRIP (GRASSED SHOULDERS) IN NON-CONCENTRATED FASHION. 80% WATER QUALITY TSS REMOVAL FROM FILTER STRIPS

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SILT FENCES SHALL NOT BE PLACED IN STREAM BUFFER OF FLOODPLAINS, UNLESS UTILIZED FOR THE CONSTRUCTION OF AN EXEMPT ACTIVITY (I.E. ROADWAY DRAINAGE STRUCTURES, SEWER / WATER CROSSINGS, OR DRAINAGE STRUCTURES) PER THE APPROVED PLANS. FOR SUCH DISTURBANCES WITHIN THE BUFFER, THE AREA SHALL BE IMMEDIATELY STABILIZED USING EROSION CONTROL MATTING AND / OR BLANKETS ONCE THE ACTIVITY IS COMPLETE.

SEDIMENT STORAGE VOLUME @ 67 CY/ACRE MUST BE INSTALLED PRIOR TO ANY OTHER LAND DISTURBANCE ACTIVITY AND IN PLACE UNTIL FINAL STABILIZATION OCCURS.

FOR EACH SITE ON WHICH LAND DISTURBING ACTIVITY OCCURS, EACH ENTITY OR PERSON ACTING AS EITHER A PRIMARY, SECONDARY, OR TERTIARY PERMITTEE, AS DEFINED IN THE STATE GENERAL PERMIT, SHALL HAVE A MINIMUM ONE PERSON WHO IS IN RESPONSIBLE CHARGE OR EROSION AND SEDIMENTATION CONTROL ACTIVITIES ON BEHALF OF SAID ENTITY OR PERSON AND MEETS THE APPLICABLE (LEVEL 1a) EDUCATION OR TRAINING CERTIFICATION REQUIREMENTS (O.C.G.A. 12-7-19(a)(2)

SUBCONTRACTORS INVOLVED WITH LAND DISTURBANCE ACTIVITIES SHALL MEET THE EDUCATION REQUIREMENTS (LEVEL 1) DESCRIBED IN O.C.G.A. 12-7-19.

GRAPHIC SCALE
30' 0 15' 30' 60' 120'
(IN FEET)
1 inch = 30 feet

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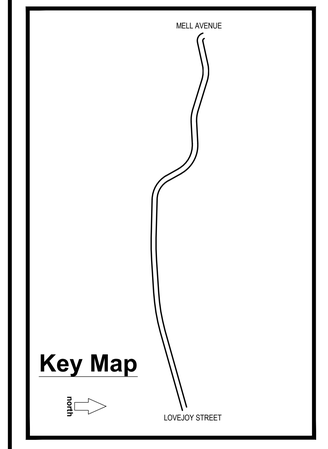


REVISION	DATE	DESCRIPTION
1	08-18-17	CITY COMMENTS

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 26072 PROFESSIONAL ENGINEER RUSSELL E. DAVIS
07/24/2017

FINAL PHASE EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN

SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	EC-03

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Mulch can be used as a singular erosion control device for up to six months, but it shall be applied at the appropriate depth, depending on the material used, anchored, and have a continuous 90% cover or greater of the soil surface. Maintenance shall be required to maintain appropriate depth and 90% cover. Temporary vegetation may be employed instead of mulch if the area will remain undisturbed for less than six months. If an area will remain undisturbed for greater than six months, permanent vegetative techniques shall be employed. Refer to Ds2–Disturbed Area Stabilization (With Temporary Seeding), Ds3–Disturbed Area Stabilization (With Permanent Seeding), and Ds4–Disturbed Area Stabilization (With Sodding).

SPECIFICATIONS

Mulching without Seeding

This standard applies to grades or cleared areas where seedings may not have a suitable growing season to produce an erosion retardant cover, but can be stabilized with a mulch cover.

Site Preparation

1. Grade to permit the use of equipment for applying and anchoring mulch.
2. Install needed erosion control measures as required such as dikes, diversions, berms, terraces and sediment barriers.
3. Loosen compact soil to a minimum depth of 3 inches.

Mulching Materials

Select one of the following materials and apply at the depth indicated:
1. Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil coverage. One advantage of this material is easy application.
2. Wood waste (chips,sawdust or bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be chipped, and applied as mulch. This method of mulching can greatly reduce erosion control costs.
3. Polyethylene film shall be secured over banks or stockpiled soil material for temporary protection. This material can be salvaged and re–used.

Applying Mulch

When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.
1. Dry straw or Hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.
2. If the area will eventual be covered with perennial vegetation, 20–30 pounds of nitrogen per acre in addition to the normal amount shall be applied to offset the uptake of nitrogen caused by the decomposition of the organic mulches.
3. Apply polyethylene film on exposed areas.

Anchoring Mulch

1. Straw or hay mulch can be pressed into the soil with a disk arrow with the disk set straight or with a special "packer disk." Disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough no to cut the mulch but to press it into the soil leaving much of it in an erect position. **STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.** Straw or hay mulch spread with special blower–type equipment may be anchored. Tackifieers, binders and hydraulic mulch with tackifier specifically designed for tacking straw can be substirued for emulsified asphalt. Please refer to specification Tac–Tackifers. Plastic mesh or netting with mesh no larger than one inch by one inch shall be installed according to manufacturer's specifications.

2. Netting of the appropriate size shall be used to anchor wood waste. Openings of the netting shall not be larger than the average size of the wood waste chips.
3. Polyethylene film shall be anchor trenched at the top as well as incrementally as necessary.

DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

(NTS)

Ds1

REQUIREMENT FOR REGULATORY COMPLIANCE

Refer to specification Ds1 – Disturbed Area Stabilization (With Temporary Seeding).

INSTALLATION SPECIFICATIONS

Grading and shaping

Excessive water run–off shall be reduced by properly designed and installed erosion control practices such as closed drains, ditches, dikes, diversions, sediment barriers and others. No shaping or grading is required if slopes can be stabilized by hand–seeded vegetation or if hydraulic seeding equipment is to be used.

Seedbed preparation

When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand–seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall. When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

Lime and fertilizer

Agricultural lime is required unless soil tests indicate otherwise. Apply agricultrual lime at a reate determined by soil test for pH. Quick acting lime shold be incorporated to midify pH during th egermination period. Bio stimulants should also be considered when there is less than 3% organic matter in the soil. Graded areas require lime application. Soils must be tested to determine required amounts of fertilzer and amendments. Fertilizer should be applied before land prepreation and incorporaed with a disk, ripper or chisel. On slopes too steep for, or inaccessible to equipment, fertilizer shall be hydraulically applied, preferably in thefirst pass with seed. and shoume hydraulic mulch, then topped with the remaining required application rate.

Apply agricultural lime at a rate of one ton per acre. Graded areas require lime application. Soils can be tested to determine if fertilizer is needed. On reasonably fertile soils or soil material, fertilizer is not required. For soils with very low fertility, 500 to 700 pounds of 10–10–10 fertilizer or the equivalent per acre (12–16 lbs./1,000 sq. ft.) shall be applied. Fertilizer should be applied before land preparation and incorporated with a disk, ripper or chisel.

Seeding

Select a grass or grass–legume mixture suitable to the area and season of the year. Seed shall be applied uniformly by hand, cyclone seeder, drill, cultipacker–seeder, or hydraulic seeder (slurry including seed and fertilizer). Drill or cultipacker seeders should normally place seed one–quarter to one–half inch deep. Appropriate depth of planting is ten times the seed diameter. Soil should be "raked" lightly to cover seed with soil if seeded by hand. See Table 6–4.1

Mulching

Temporary vegetation can, in most cases, be established without the use of mulch, provided there is little to no erosion poteintial. However, the use of mulch can often accelerate and enchance germination and vegetation establishement. Mulch without seeding should be considered for short term protection. **Refer to Ds1–Disturbed Area Stabilization (With Mulching Only).**

Irrigation

During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will insure germination of the seed. Subsequent applications should be made when needed.

SUGGESTED SEEDBED DEPTHS

SLOPE	SEEDBED DEPTHS
3:1 OR FLATTER	LESS THAN 4" DEPTH
2:1 TO 3:1	1" TO 4" DEPTH
2:1 OR STEEPER	DEPRESSIONS EVERY 6"– 8" HAND DUG, IF NECESSARY

MAINTENANCE

Re–seed areas where an adequate stand of temporary vegetation fails to emerge or where a poor stand exists.

PLANTS, PLANTING RATES AND PLANTING DATES FOR TEMPORARY COVER OF COMPANION CROPS 1/

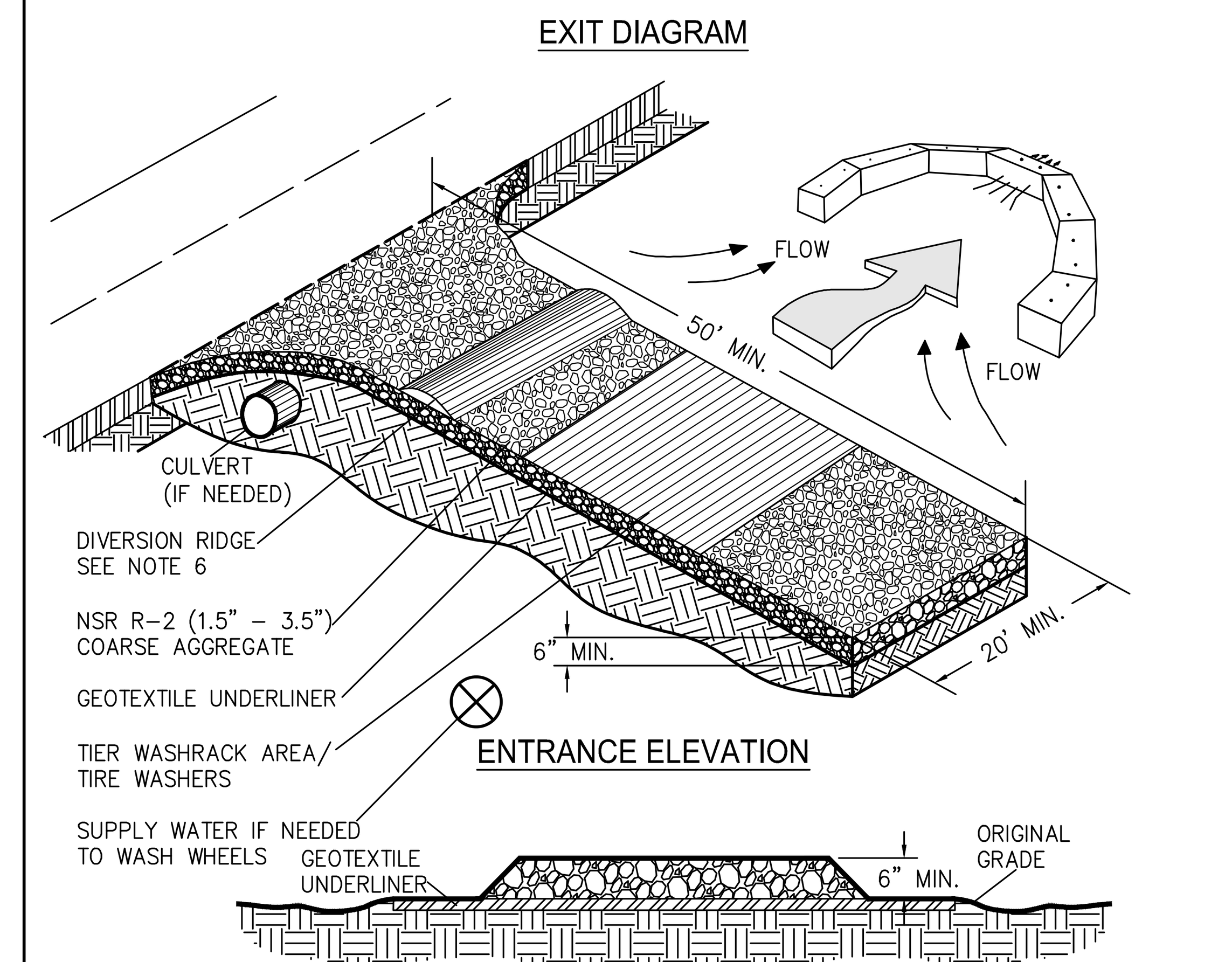
Species	Broadcast Rates 2/ – PLS 3/ Per Acre	Per 1000 sq.ft.	Resource Area 4/	Planting Dates by Resource Areas (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
BARLEY (Hordeum vulgare)			M–L P C		14,000 seed per pound Winterhardy. Use on productive soils.
alone	3 bu. (144 lbs.)	3.3 lb.			
in mixtures	1/2 bu. (24 lbs.)	0.6 lb.			
LESPEDEZA, ANNUAL (Lespedeza striata)			M–L P C		200,000 seed per pound May volunteer for several years. Use innoculant EL.
alone	40 lbs.	0.9 lb.			
in mixtures	10 lbs.	0.2 lb.			
LOVEGRASS, WEEPING (Eragrostis curvula)			M–L P C		1,500,000 seed per pound May last for several years. Mix with Sericea lespedeza.
alone	4 lbs.	0.1 lb.			
in mixtures	2 lbs.	0.05 lb.			
MILLET, BROWNTOP (Panicum fasciculatum)			M–L P C		137,000 seed per pound Quick dense cover. Will provide too much competition in mixtures if seeded at high rates.
alone	40 lbs.	0.9 lb.			
in mixtures	10 lbs.	0.2 lb.			
MILLET, PEARL (Pennesetum glaucum)			M–L P C		88,000 seed per pound Quick dense cover. May reach 5 feet in height. Not recommended for mixtures.
alone	50 lbs.	1.1 lb.			
OATS (Avena sativa)			M–L P C		13,000 seed per pound Use on productive soils. Not as winterhardy as rye or barley.
alone	4 bu. (128 lbs.)	2.9 lb.			
in mixtures	1 bu. (32 lbs.)	0.7 lb.			
RYE (Secale cereale)			M–L P C		18,000 seed per pound Quick cover. Drought tolerant and winterhardy.
alone	3 bu. (168 lbs.)	3.9 lb.			
in mixtures	1/2 bu. (28 lbs.)	0.6 lb.			
RYEGRASS, ANNUAL (Lolium temulentum)			M–L P C		227,000 seed per pound Dense cover. Very competitve and is NOT to be used in mixtures.
alone	40 lbs.	0.9 lb.			
SUDANGRASS (Sorghum sudanese)			M–L P C		55,000 seed per pound Good on drought sites. NOT recommended for mixtures.
alone	60 lbs.	1.4 lb.			
TRITICALE (X–Triticosecale)			C		Use on lower part of Southern Coastal Plain and in Atlantic Coastal Flatwoods only.
alone	3 bu. (144 lbs.)	3.3 lb.			
in mixtures	1/2 bu. (24 lbs.)	0.6 lb.			
WHEAT (Triticum aestivum)			M–L P C		18,000 seed per pound Quick cover. Drought tolerant and winterhardy.
alone	3 bu. (180 lbs.)	4.1 lb.			
in mixtures	1/2 bu. (30 lbs.)	0.7 lb.			

1/ Temporary cover crops are very competitive and will crown out perennials if seeded too heavily.
2/ Reduce seeding rates by 50% when drilled.
3/ PLS is an abbreviation for Pure Live Seed
4/ M–L represents the Mountain; Blue Ridge; and Ridges and Valleys MLRAs
P represents the Southern Piedmont MLRA
C represents Southern Coastal Plain; Sand Hills; Black Lands and Atlantic Coastal Flatwoods MLRA

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

Ds2

CRUSHED STONE CONSTRUCTION EXIT



NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R–2 (1.5"–3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%..
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

Co

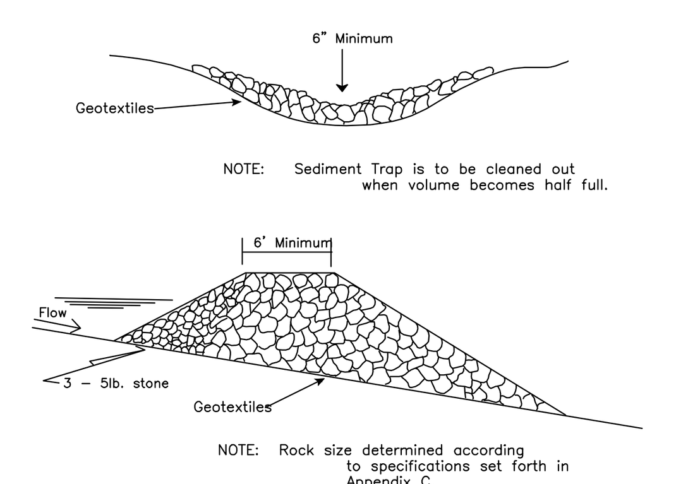


Figure 6–18.1

CONSTRUCTION SPECIFICATIONS
Mechanical or hand placement will be required to insure that the rock dam extends completely across the channel and securely ties into both channel banks. The center of the dam must be no less than six inches lower than the lowest side, to serve as a type of weir. Gabions can be installed to serve as rock filter dams, but should follow recommended sizing and installation specifications. Refer to specification Ga – Gabion.

MAINTENANCE
Rock dams should be removed once disturbed areas have been stabilized. Periodic inspection and required maintenance must be provided. Sediment shall be removed when it reaches a depth of one–half of the original height of the dam.

TABLE C–2
FILTER BEDDING STONE

N.S.A. No.	SQ. INCHES (SQ. OPENING) MAX.	AVG.	MIN.
FS–1	3/8	@30 MESH	@100 MESH
FS–2	2	@ 4	@100 MESH
FS–3	6 1/2	2 1/2	@ 16

1. national stone association
2. at least 50% of the individual stone particles must be equal or larger than this listed size.
3. 85–100% of the individual stone particles may be less than listed size.

TABLE C–1
GRADED RIP–RAP STONES

FLOW VELOCITY (ft./sec.)	N.S.A. No. 1	SIZE INCHES (SQ. OPENING) MAX.	AVG. 2	MIN.	FILTER STONE N.S.A. NO. 1
2.5	R–1	1 1/2	3/4	No.8	FS–1
4.5	R–2	3	1 1/2	1	FS–1
6.5	R–3	6	3	2	FS–2
9.0	R–4	12	6	3	FS–2
11.5	R–5	18	9	5	FS–2
13.0	R–6	24	12	7	FS–3
14.5	R–7	30	15	12	FS–3

1. national stone association
2. at least 50% of the individual stone particles must be equal or larger than this listed size.

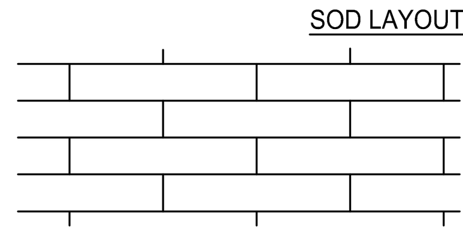
ROCK FILTER DAM

(NTS)

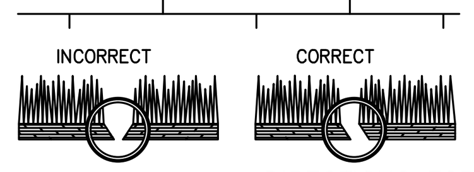
Rd

SOD MAINTENANCE AND INSTALLATION

SOD LAYOUT AND PREPARATION



LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.



BUTTING: ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

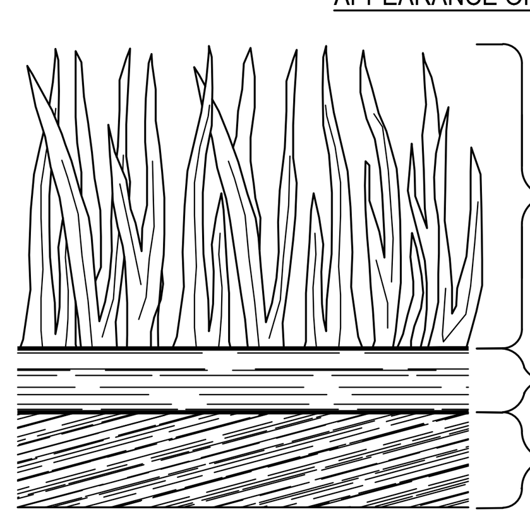
DIRECTIONS FOR INITIAL MAINTENANCE

Step 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL

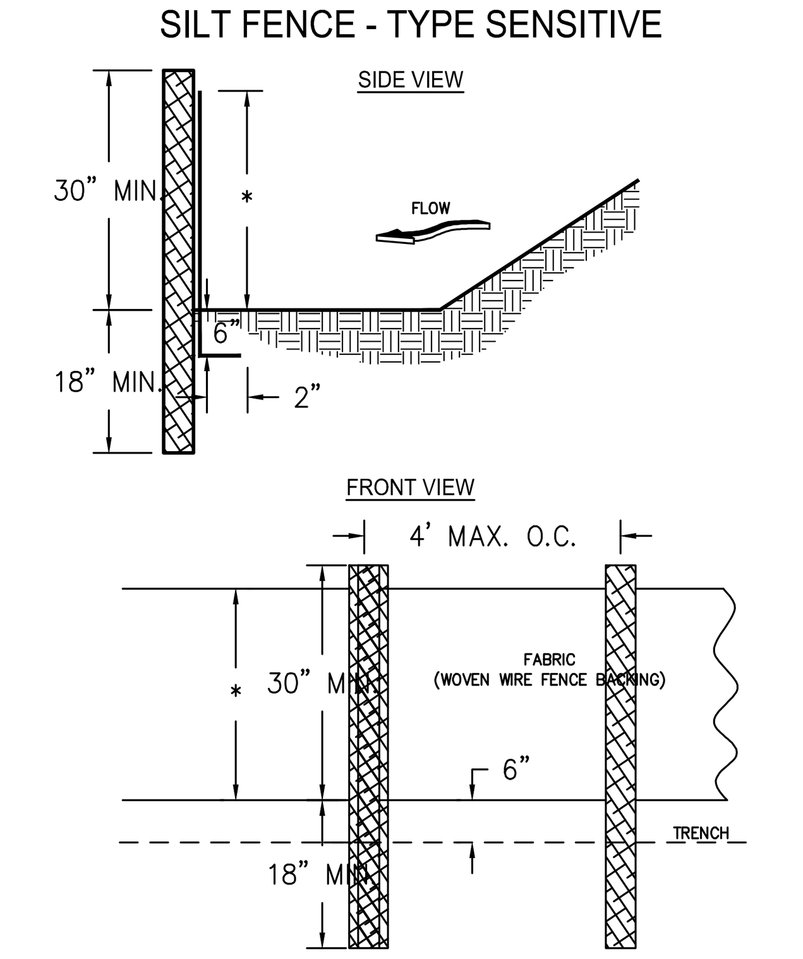
Step 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

Step 3. MOW WHEN THE SOD IS ESTABLISHED –– IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").

APPEARANCE OF GOOD SOD



SILT FENCE - TYPE SENSITIVE

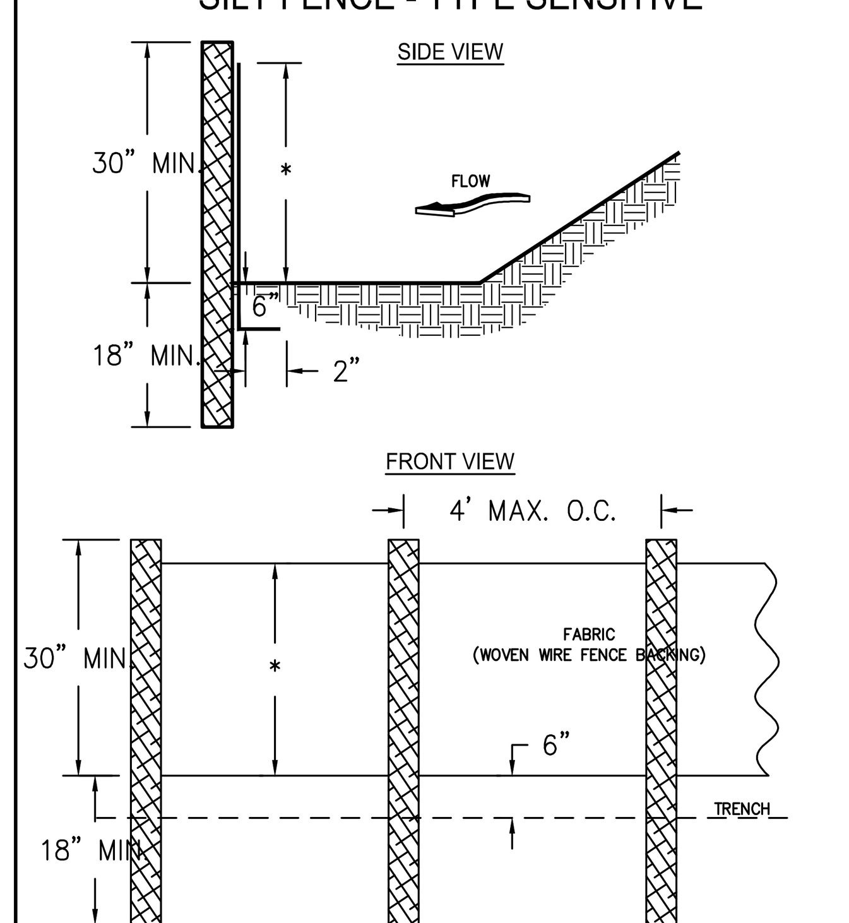


NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

MAINTENANCE
Sediment shall be removed once it has accumulated to one–half the original height of the barrier. Filter fabric shall be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately six months). Temporary sediment barriers shall remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the barrier shall be removed and properly disposed of before the barrier is removed.

Sd1–Ns

SILT FENCE - TYPE SENSITIVE

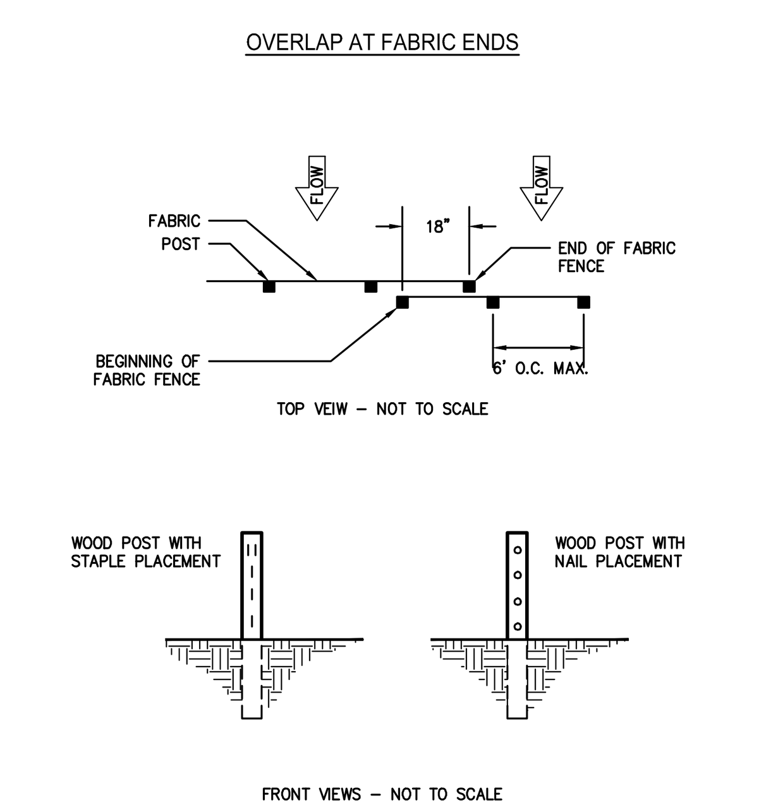


NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

MAINTENANCE
Sediment shall be removed once it has accumulated to one–half the original height of the barrier. Filter fabric shall be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately six months). Temporary sediment barriers shall remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the barrier shall be removed and properly disposed of before the barrier is removed.

Sd1–S

FASTENERS FOR SILT FENCES



NOTES:
1. THE FABRIC AND WIRE SHOULD BE SECURELY FASTENED TO POSTS AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18" OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS FABRIC BARRIER AROUND THE INLET.

UTILITIES PROTECTION CENTER, INC.
Call 811 or toll-free 800-282-7411 throughout Georgia.
Outside Georgia call 770-623-4344 prior to all construction activities.
THE LOCATION OF UTILITIES ARE SHOWN FROM FIELD EVIDENCE.
OTHER UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN.
BEFORE CONSTRUCTION IT IS RECOMMENDED THAT A PRIVATE UTILITY LOCATOR INVESTIGATE ALL UNDERGROUND UTILITIES.

GSWCC
GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Russell Davis #24598
Expires 12/01/2018

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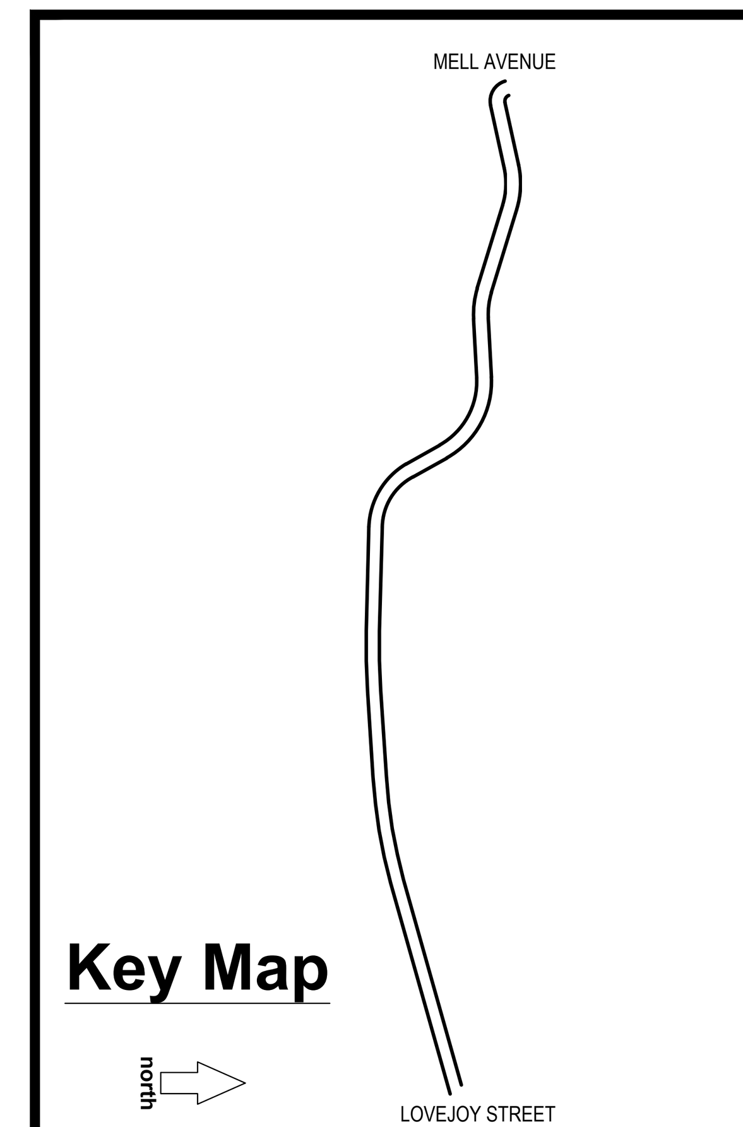
Key Map

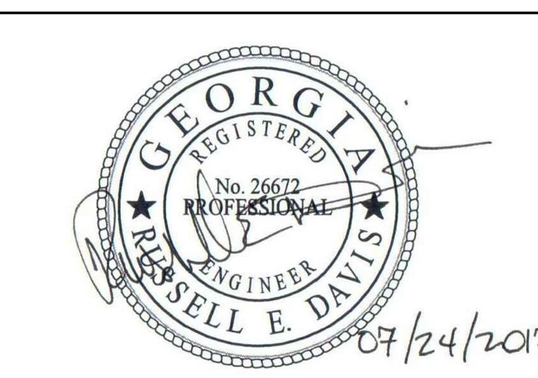


REVISION	DATE	DESCRIPTION

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

STONE MOUNTAIN PATH

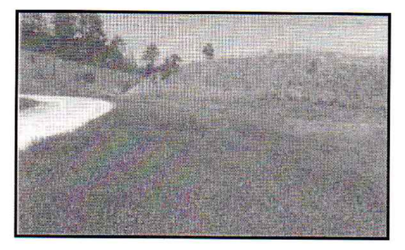
CLARKSTON, GA



CONSTRUCTION DETAILS

SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	ECD-03

Disturbed Area Stabilization (With Permanent Vegetation) Ds3



DEFINITION
The planting of perennial vegetation such as trees, shrubs, vines, grasses, or legumes on exposed areas for final permanent stabilization. Permanent perennial vegetation shall be used to achieve final stabilization.

PURPOSE
- To protect the soil surface from erosion
- To reduce damage from sediment and runoff to down-stream areas
- To improve wildlife habitat and visual resources
- To improve aesthetics

REQUIREMENT FOR REGULATORY COMPLIANCE
This practice shall be applied immediately to rough graded areas that will be undisturbed for longer than six months. This practice or sodding shall be applied immediately to all areas at final grade. **Final Stabilization** means that all soil disturbing activities at the site have been completed, and that for unpaved areas and areas not covered by permanent structures and areas located outside the waste disposal limits of a landfill cell that has been certified by the GA EPD for waste disposal, 100% of the soil surface is uniformlycovered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures.

Permanent vegetation shall consist of, planted trees, shrubs, perennial vines; or a crop of perennial vegetation appropriate for the region, such that within the growing season a 70% coverage by perennial vegetation shall be achieved. Final stabilization applies to each phase of construction. For linear construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use. Until this standard is satisfied and permanent control measures and facilities are operational, interim stabilization measures and temporary erosion and sedimentation control measures shall not be removed.

CONDITIONS
Permanent perennial vegetation is used to provide a protective cover for exposed areas including cuts, fills, dams, and other denuded areas.

PLANNING CONSIDERATIONS
1. Use conventional planting methods where possible.
2. When mixed plantings are done during marginal planting periods, companion crops shall be used.
3. No-till planting is effective when planting is done following a summer or winter annual cover crop. Sericea lespedeza planted no-till into stands of rye is an excellent procedure.
4. Block sod provides immediate cover. It is especially effective in controlling erosion adjacent to concrete flumes and other structures. Refer to Specification **Ds4-Disturbed Area Stabilization (With Sodding)**.
5. Irrigation should be used when the soil is dry or when summer plantings are done.
6. Low maintenance plants, as well as natives, should be used to ensure long-lasting erosion control.
7. Mowing should not be performed during the quail nesting season (May to September).
8. Wildlife plantings should be included in critical area plantings.

loosen the soil to a depth of 4 to 6 inches; alleviate compaction; incorporate lime and fertilizer; smooth and firm the soil; allow for the proper placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a disk is to be used.

2. Tillage may be done with any suitable equipment.
3. Tillage should be done on the contour where feasible.
4. On slopes too steep for the safe operation of tillage equipment, the soil surface shall be pitted or trenched across the slope with appropriate hand tools to provide two places 6 to 8 inches apart in which seed may lodge and germinate. Hydraulic seeding may also be used.

Individual Plants
1. Where individual plants are to be set, the soil shall be prepared by excavating holes, opening furrows, or dibble planting.
2. For nursery stock plants, holes shall be large enough to accommodate roots without crowding.
3. Where pine seedlings are to be planted, subsoil under the row 36 inches deep on the contour four to six months prior to planting. Subsoiling should be done when the soil is dry, preferably in August or September.

Innoculants
All legume seed shall be inoculated with appropriate nitrogen-fixing bacteria. The innoculant shall be a pure culture prepared specifically for the seed species and used within the dates on the container.

A mixing medium recommended by the manufacturer shall be used to bond the innoculant to the seed. For conventional seeding, use twice the amount of innoculant recommended by the manufacturer. For hydraulic seeding, four times the amount of innoculant recommended by the manufacturer shall be used.

All inoculated seed shall be protected from the sun and high temperatures and shall be planted the same day inoculated. No inoculated seed shall remain in the hydroseeder longer than one hour.

Planting
Hydraulic Seeding
Mix the seed (innoculated if needed), fertilizer, and wood cellulose or wood pulp fiber mulch with water and apply in a slurry uniformly over the area to be treated. Apply within one hour after the mixture is made.

Conventional Seeding
Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a culti-packer-seeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with 1/8 to 1/4 inch of soil for small seed and 1/2 to 1 inch for large seed when using a cultipacker or other suitable equipment.

No-Till Seeding
No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.

Individual Plants
Shrubs, vines and sprigs may be planted with appropriate planters or hand tools. Pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding the roots.

Nursery stock plants shall be planted at the same depth or slightly deeper than they grew at the nursery. The tips of vines and sprigs must be at or slightly above the ground surface.

Where individual holes are dug, fertilizer shall be placed in the bottom of the hole, two inches of soil shall be added and the plant shall be set in the hole.

Mulching
Mulch is required for all permanent vegetation applications. Mulch applied to seeded areas shall achieve 75% to 100% soil cover. When selecting a mulch, design professionals should consider the mulch's functional longevity, vegeta-

Wildlife Plantings
Commercially available plants beneficial to wildlife species include the following:

Mast Bearing Trees

Beech, Black Cherry, Blackgum, Chestnut, Chinkapin, Hackberry, Hickory, Honey Locust, Native Oak, Persimmon, Sawtooth Oak and Sweetgum.

All trees that produce nuts or fruits are favored by many game species. Hickory provides nuts used mainly by squirrels and bear.

Shrubs and Small Trees

Bayberry, Bicolor Lespedeza, Crabapple, Dogwood, Huckleberry or Native Blueberry, Mountain Laurel, Native Holly, Red Cedar, Red Mulberry, Sumac, Wax Myrtle, Wild Plum and Blackberry.

Plant in patches without tall trees to develop stable shrub communities. All produce fruits used by many kinds of wildlife, except for lespedeza which produces seeds used by quail and songbirds.

Grasses, Legumes, Vines and Temporary Cover

Bahiagrass, Bermudagrass, Grass-Legume mixtures, Partridge Pea, Annual Lespedeza, Orchardgrass (for mountains), Browntop Millet (for temporary cover), and Native grapes.

Provides herbaceous cover in clearings for a game bird brood-rearing habitat. Appropriate legumes such as vetches, clovers, and lespedezas may be mixed with grass, but they may die out after a few years.

CONSTRUCTION SPECIFICATIONS
Grading and Shaping
Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching and maintenance of the vegetation.

Concentrations of water that will cause excessive

soil erosion shall be diverted to a safe outlet. Diversions and other treatment practices shall conform with the appropriate standards and specifications.

Lime and Fertilizer Rates and Analysis
Agricultural lime is required at the rate of one to two tons per acre unless soil tests indicate otherwise. Graded areas require lime application. If lime is applied within six months of planting permanent perennial vegetation, additional lime is not required. Agricultural lime shall be within the specifications of the Georgia Department of Agriculture.

Lime spread by conventional equipment shall be "ground limestone." Ground limestone is calcitic or dolomitic limestone ground so that 90 percent of the material will pass through a 10-mesh sieve, not less than 50 percent will pass through a 50-mesh sieve and not less than 25 percent will pass through a 100-mesh sieve.

Fast-acting lime spread by hydraulic seeding equipment should be "finely ground limestone" spanning from the 180 micron size to the 5 micron size. Finely ground limestone is calcitic or dolomitic limestone ground so that 95 percent of the material will pass through a 100-mesh sieve.

It is desirable to use dolomitic limestone in the Sand Hills, Southern Coastal Plain and Atlantic Coast Flatwoods MLRAs. (See Figure 6-4.1)

Agricultural lime is generally not required where only trees are planted.

Initial fertilization, nitrogen, topdressing, and maintenance fertilizer requirements for each species or combination of species are listed in Table 6-5.1.

Lime and Fertilizer Application
When *hydraulic seeding* equipment is used, the initial fertilizer shall be mixed with seed, innoculant (if needed), and wood cellulose or wood pulp fiber mulch and applied in a slurry. The innoculant, if needed, shall be mixed with the seed prior to being placed into the hydraulic seeder. The slurry mixture will be agitated during application to keep the ingredients thoroughly mixed. The mixture will be spread uniformly over the area within one hour after being placed in the

tion establishment enhancement, and erosion control effectiveness. Select the mulching material from the following and apply as indicated:

1. *Dry straw* or *dry hay* of good quality and free of weed seeds can be used. Dry straw shall be applied at the rate of 2 tons per acre. Dry hay shall be applied at a rate of 2 1/2 tons per acre.
2. *Wood cellulose mulch* or *wood pulp fiber* shall be used with hydraulic seeding. It shall be applied at the rate of 500 pounds per acre. Dry straw or dry hay shall be applied (at the rate indicated above) after hydraulic seeding.
3. One thousand pounds of *wood cellulose* or *wood pulp fiber*, which includes a tackifier, shall be used with hydraulic seeding on slopes 3/4:1 or steeper.
4. *Sericea Lespedeza* hay containing mature seed shall be applied at a rate of three tons per acre.
5. *Pine straw* or *pine bark* shall be applied at a thickness of 3 inches for bedding purposes. Other suitable materials in sufficient quantity may be used where ornamentals or other ground covers are planted. This is not appropriate for seeded areas.
6. When using temporary erosion control blankets or block sod, mulch is not required.
7. *Bituminous treated roving* may be applied on planted areas, slopes, in ditches or dry waterways to prevent erosion. Bituminous treated roving shall be applied within 24 hours after an area has been planted. Application rates and materials must meet Georgia Department of Transportation specifications.

Wood cellulose and wood pulp fibers shall not contain germination or growth inhibiting factors. They shall be evenly dispersed when agitated in water. The fibers shall contain a dye to allow visual metering and aid in uniform application during seeding.

Applying Mulch
Straw or hay mulch will be spread uniformly within 24 hours after seeding and/or plant-

ing. The mulch may be spread by blower-type spreading equipment, other spreading equipment or by hand. Mulch shall be applied to cover 75% of the soil surface.

Wood cellulose or wood fiber mulch shall be applied uniformly with hydraulic seeding equipment.

Anchoring Mulch
Anchor straw or hay mulch immediately after application by one of the following methods:

1. *Hay and straw* mulch shall be pressed into the soil immediately after the mulch is spread. A special "packer disk"' or disk harrow with the disks set straight may be used. The disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch shall not be plowed into the soil.
2. *Synthetic tackifiers, binders or hydraulic mulch specifically designed to tack straw,* shall be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers shall be mixed and applied according to manufacturer's specifications. All tackifiers, binders or hydraulic mulch specifically designed to tack straw should be verified nontoxic through EPA 2021.0 testing. Refer to **Tackifiers-Tac**
3. *Rye or wheat* can be included with Fall and Winter plantings to stabilize the mulch. They shall be applied at a rate of one-quarter to one-half bushel per acre.
4. *Plastic mesh or netting* with mesh no larger than one inch by one inch may be needed to anchor straw or hay mulch on unstable soils and concentrated flow areas. These materials shall be installed and anchored according to manufacturer's specifications.

Bedding Material
Mulch is used as a bedding material to conserve moisture and control weeds in nurseries, ornamental beds, around shrubs, and on bare areas on lawns.

hydroseeder.

Finely ground limestone can be applied in the mulch slurry or in combination with the top dressing.

When *conventional planting* is to be done, lime and fertilizer shall be applied uniformly in one of the following ways:

1. Apply before land preparation so that it will be mixed with the soil during seedbed preparation.
2. Mix with the soil used to fill the holes, distribute in furrows.
3. Broadcast after steep surfaces are scarified, pitted or trenched.
4. A fertilizer pellet shall be placed at root depth in the closing hole beside each pine tree seedling.

Plant Selection
Refer to Tables 6-4.1, 6-5.2, 6-5.3 and 6-5.4 for approved species. Species not listed shall be approved by the State Resource Conservationist of the Natural Resources Conservation Service before they are used.

Plants shall be selected on the basis of species characteristics, site and soil conditions, planned use and maintenance of the area; time of year of planting, method of planting; and the needs and desires of the land user.

Some perennial species are easily established and can be planted alone. Examples of these are Common Bermuda, Tall Fescue, and Weeping Lovegrass.

Other perennials, such as Bahia Grass and Sericea Lespedeza, are slow to become established and should be planted with another perennial species. The additional species will provide quick cover and ample soil protection until the target perennial species become established. For example, Common seeding combinations are 1) Weeping Lovegrass with Sericea Lespedeza (scarified) and 2) Tall Fescue with Sericea Lespedeza (unscarified).

Plant selection may also include annual companion crops. Annual companion crops should be used only when the perennial species are not planted during their optimum planting period. A common

mixture is Brown Top Millet with Common Bermuda in mid-summer. Care should be taken in selecting companion crop species and seeding rates because annual crops will compete with perennial species for water, nutrients, and growing space. A high seeding rate of the companion crop may prevent the establishment of perennial species.

Ryegrass shall not be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for permanent perennial cover.

Seed Quality
The term "pure live seed" is used to express the quality of seed and is not shown on the label. Pure live seed, PLS, is expressed as a percentage of the seeds that are pure and will germinate. Information on percent germination and purity can be found on seed tags. PLS is determined by multiplying the percent of pure seed with the percent of germination; i.e.,

(PLS = % germination x % purity)

EXAMPLE:

Common Bermuda seed
70% germination, 80% purity

PLS = 70% germination x 80% purity

PLS = 56%

The percent of PLS helps you determine the amount of seed you need. If the seeding rate is 10 pounds PLS and the bulk seed is 56 % PLS, the bulk seeding rate is:

$\frac{\text{10 lbs. PLS/acre}}{\text{56\% PLS}}$ = 17.9 lbs/acre

You would need to plant 17.9 lbs/acre to provide 10 lbs/acre of pure live seed.

Seedbed Preparation
Seedbed preparation may not be required where hydraulic seeding and fertilizing equipment is to be used (but is strongly recommended for any seeding process, when possible). When conventional seeding is to be used, seedbed preparation will be done as follows:

Broadcast plantings

1. Tillage, at a minimum, shall adequately

Material	Depth
Grain straw	4" to 6"
Grass Hay	4" to 6"
Pine needles	3" to 5"
Wood waste	4" to 6"

Irrigation
Irrigation will be applied at a rate that will not cause runoff..

Topdressing
Topdressing will be applied on all temporary and permanent (perennial) species planted alone or in mixtures with other species. Recommended rates of application are listed in Table 6-5.1.

Second Year and Maintenance Fertilization
Second year fertilizer rates and maintenance fertilizer rates are listed in Table 6-5.1.

Lime Maintenance Application
Apply one ton of agricultural lime every 4 to 6 years or as indicated by soil tests. Soil tests can be conducted to determine more accurate requirements. if desired.

Use and Management
Mow Sericea Lespedeza only after frost to ensure that the seeds are mature. Mow between November and March.

Bermudagrass, Bahiagrass and Tall Fescue may be mowed as desired. Maintain at least 6 inches of top growth under any use and management. Moderate use of top growth is beneficial after establishment.

Exclude traffic until the plants are well established. Because of the quail nesting season, mowing should not take place between May and September.

FERTILZER REQUIREMENTS

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
1. Cool season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50-100 lbs./ac. 1/ 2/ - 30
2. Cool season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	0-50 lbs./ac. 1/ - -
3. Ground covers	First Second Maintenance	10-10-10 10-10-10 10-10-10	1300 lbs./ac. 3/ 1300 lbs./ac. 3/ 1100 lbs./ac.	- - -
4. Pine seedlings	First	20-10-5	one 21-gram pellet per seedling placed in the closing hole	-
5. Shrub Lespedeza	First Maintenance	0-10-10 0-10-10	700 lbs./ac. 700 lbs./ac.	-
6. Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.	30 lbs./ac. 5/
7. Warm season grasse	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 800 lbs./ac. 400 lbs./ac.	50 -100 bs./ac. 2/ 6/ 50 -100 bs./ac. 2/ 6/ 30 lbs./ac. 5/
8. Warm season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50 lbs./ac. 6/ - -

1/ Apply in spring flollowing seeding.
2/ Apply in split applications when high rates are used.
3/ Apply in 3 split applications.
4/ Apply when plants are pruned.
5/ Apply to grass species only.
6/ Apply when plants grow to a height of 2 to 4 inches.

PLANTS, PLANTING RATES AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Per 1000 sq.ft.	Resource Area 3/	Planting Dates by Resource Areas — Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
BAHIA, PENSACOLA (Paspalum notatum)			P C		166,000 seed per pound. Low growing. Sod forming. Slow to establish. Plant with a companion crop. Will spread into bermuda pastures and lawns. Mix with Sericea lespedeza or weeping lovegrass.
alone or with temporary cover	60 lbs.	1.4 lb.			
with other perennials	30 lbs.	0.7 lb.			
BAHIA, WILMINGTON (Paspalum notatum)			M-L P		Same as above.
alone or with temporary cover	60 lbs.	1.4 lb.			
with other perennials	30 lbs.	0.7 lb.			
BERMUDA, COMMON (Cynodon dactylon) Hulled seed alone	10 lbs.	0.2 lb.	P C		1,787,000 seed per pound Quick cover. Low growing and sod forming. Full sun. Good for athletic fields.
with other perennials	6 lbs.	0.1 lb.			
BERMUDA, COMMON (Cynodon dactylon) Unhulled seed with temporary cover	10 lbs.	0.2 lb.	P C		Plant with winter annuals.
with other perennials	6 lbs.	0.1 lb.			Plant with Tall fescue.
BERMUDA SPRIGS (Cynodon dactylon)					
Coastal, Common, Midland, or Tift 44	10 lbs.	0.2 lb.	M-L		A cubic foot contains approximately 650 sprigs. A bushel contains 1.25 cubic feet or approximately 800 sprigs.
Coastal, Common, or Tift 44	6 lbs.	0.1 lb.	P C		Same as above.
Tift 78	6 lbs.	0.1 lb.	C		Southern Coastal Plain only.
CENTIPEDE (Eremochloa ophiuroides)	Block sod only		P C		Drought tolerant. Full sun or partial shade. Effective adjacent to concrete and in concentrated flow areas. Irrigation is needed until fully established. Do not plant near pastures. Winterhardy as far north as Athens and Atlanta.
CROWNVETCH (Cornilla varia) with winter annuals or cool season grasses	15 lbs.	0.3 lb.	M-L P		100,000 seed per pound. Dense growth. Drought tolerant and fire resistant. Attractive rose, pink and white blossoms sring to late fall. Mix with 30 pounds of Tall fescue or 15 pounds of rye. Inoculate seed with M inoculant. Use from North Atlanta and northward.
FESCUE, TALL (Festuca arundinacea)					227,000 seed per pound. Use alone only on better sites. Not for droughty soils. Mix with perennial lespedezas or Crownvetch. Apply topdressing in spring following fall plantings. Not for heavy use areas or athletic fields.
alone	50 lbs.	1.1 lb.	M-L P		
with other perennials	30 lbs.	0.7 lb.			
LESPEDEZA, SERICEA (Lespedeza cuneata)					
scarified	60 lbs.	1.4 lb.	M-L P C		350,000 seed per pound. Widely adapted. Low maintenance. Mix with Weeping lovegrass, Common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
unscarified	75 lbs.	1.7 lb.	M-L P C		Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons	138 lb.	M-L P C		Cut when seed is mature, but before it shatters. Add Tall fescue or winter annuals.
LESPEDEZA Ambro virgata (Lespedeza virgata DC) or Appalow (Lespedeza cuneata [Dumont] G. Don)					300,000 seed per pound. Height of growth is 18 to 24 inches. Advantageous in urban areas. Spreading-type growth. New growth has bronze coloration. Mix with weeping lovegrass, common bermuda, bahia, tall fescue or winter annuals. Do not mix with Sericea lespedeza. Slow to develop solid stands. Inoculate seed with EL inoculant.
scarified	60 lbs.	1.4 lb.	M-L P C		
unscarified	75 lbs.	1.7 lb.	M-L P C		
LESPEDEZA, SHRUB (Lespedeza bicolor) (Lespedeza thumbergii) plants	3'X3'		M-L P C		Provide wildlife food and cover.
LOVEGRASS, WEEPING (Eragrostis curvula)			M-L P C		1,500,00 seed per pound. Quick cover. Drought tolerant. Grows well with Sericea lespedeza on roadbanks.
alone	4 lbs.	0.1 lb.			
with other perennials	2 lbs.	0.05 lb.			
MAIDENCANE (Panicum hemitomon) sprigs	2'x3' spacing		ALL		For very wet sites. May clog channels. Dig springs from local sources. Use along river banks and shorelines.
PANICGRASS, ATLANTIC COASTAL (Panicum amarum var. amarulum)	20 lbs.	0.5 lb.	P C		Grows well on coastal sand dunes, borrow areas, and gravel pits. Provides winter cover for wildlife. Mix with Sericea lespedeza except on sand dunes.
REED CANARY GRASS (Phalaris arundinacea)					Grows similar to tall fescue.
alone	50 lbs.	1.1 lb.	M-L P		
with other perennials	30 lbs.	0.7 lb.			
SUNFLOWER. 'AZTEC' MAXIMILLIAN (Helianthus maxilmiliani	10 lbs.	0.2 lb.	M-L P C		227,000 seed per pound. Mix with Weeping lovegrass or other low-growing grasses or legumes.

1/ Reduce seeding rates by 50% when drilled.
2/ PLS is an abbreviation for Pure Live Seed. Refer to section V.E of these specifications.
3/ M-L represents to Mountain; Blue Ridge; and Ridges and Valleys MLRAs.
P represents the Southern Piedmont MLRA
C represents Southern Coastal Plain;
Sand Hills; Black Lands and Atlantic Coastal Flatwoods MLRA

(KUDZU OMMITTED)

DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION) Ds3

DURABLE SHRUBS AND GROUND COVERS FOR PERMANENT COVER

Ground covers include a wide range of low-growing plants planted together in considerable numbers to cover large areas of the landscape. Ground covers grow slower than grasses. Weeds are likely to compete, especially the first year. Maintenance is needed to insure survival. These ground covers will not be used unless proper maintenance is planned. Maintain mulch at three-inch theckness until plants provide adequate cover.

Fall planting is encouraged because the need for constant watering is reduced and plants have time to establish new roots before hot weather.

COMMON NAME	SCIENTIFIC NAME	MATURE HEIGHT	PLANT SPACING	COMMENTS
Abelia	Abelia grandiflora	3-4 ft.	5 ft.	Also a prostrate form 2 feet high. Sun, semi-shade. Semi-evergreen.
Carolina Yellow Jasmine	Gelsemium sempervirens	low	3 ft.	Vine. Yellow, trumpet-like flowers. Hardy, one of the best vines. Evergreen. Native to Georgia.
Carpet Bugle	Ajuga reptans	2-4 in.	3 ft.	Needs good drainage, partial shade. Blue or white flowers. Evergreen.
Bearberry Cotoneaster	Cotoneaster dammeri	2-4 ft.	5 ft.	White flowers, red fruit. Sun. Evergreen
Ground Cover Cotoneaster	Cotoneaster salicifoluis 'Repens'	1-2 ft.	5 ft.	White flowers, red fruit. Sun. Evergreen
Rock Cotoneaster	Cotoneaster horizontalis	1-2 ft.	5 ft.	Semi-evergreen. Sun.
Virginia Creeper	Parthenocissue quinquefolia	low	3 ft.	Red in fall. Vine. Deciduous. Native to Georgia.
Daylily	Hemerocallis spp. quinquefolia	2-3 ft.	2 ft.	Many flower colors. Full sun. Very hardy.
English Ivy	Hedera helix	low	3 ft.	Shade only. Climbs.
Compacta Holly	Ilex crenata 'Compacta'	3-4 ft.	5 ft.	Sun, semi-shade.
Chinese Holly	Ilex cornuta 'Rotunda'	3-4 ft.	5 ft.	Very durable. Sun, semi-shade.
Dwarf Burford Holly	Ilex burfordii 'Nana'	5-8 ft.	8 ft.	
Dwarf Yaupon Holly	Ilex vomitoria 'Nana'	3-4 ft.	5 ft.	Very durable. Sun, semi-shade.
Repandens Holly	Ilex crenata 'Repandens'	2-3 ft.	5 ft.	Sun, semi-shade.
Andorra Juniper	Juniperus horizontalis 'Plumosa'	2-3 ft.	5 ft.	Excellent for slopes. Sun.
Andorra Compacta Juniper	Juniperus horizontalis 'Plumosa compacta'	1-2 ft.	5 ft.	More compact than andorra.
Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	8-10 in.	4 ft.	
Blue Rug Juniper	Juniperus horizontalis 'Wiltonii'	4-6 in.	3 ft.	Very low. Sun.
Parsons Juniper	Juniperus davurica 'Expansa' (Squamata Parsoni)	18-24 in.	5 ft.	One of the best, good winter cover.
Pfitzer Juniper	Juniperus chinensis 'Pfitzerana'	6-8 ft.	6 ft.	Needs room.
Prince of Wales Juniper	Juniperus horizontalis 'Prince of Wales'	8-10 in.	4 ft.	Feathery appearance.
Sargent Juniper	Juniperus chinensis 'Sargentii'	1-2 ft.	5 ft.	Full sun. Needs good drainage. Good winter color.
Shore Juniper	Juniperus conferta	2-3 ft.	5 ft.	Emerald Sea or Blue Pacicfic cultivars are good.
Liriope	Liriope muscari	8-10 in.	3 ft.	
Creeping Liriope	Liriope spicata	10-12 in.	1 ft.	Spreads by runners.
Big Leaf Periwinkle	Vinca major	12-15 in.	4 ft.	Lilac flowers in spring. Semi-shade.
Common Periwinkle	Vinca minor	5-6 in.	4 ft.	Lavender-blue flowers in spring. Semi-shade.
Cherokee Rose	Rose laevigata	2 ft.	5 ft.	Rampant grower. Not for restricted spaces. State flower.
Memoria Rose	Rose weuchuriana	2 ft.	5 ft.	Rampant grower.
St. Johnswort	Hypericum calycenum	8-12 in.	3 ft.	Semi-shade.
Anthony Water Spirea	Spirea bumalda	3-4 ft.	5 ft.	Sun.
Thunberg Spirea	Spirea thinbergii	3-4 ft.	5 ft.	Sun.

TREES FOR EROSION CONTROL

SITE	SOIL MATERIAL	COMMON SOILS	PLANTING TREE SPECIES 1/	SPACING	PLANTING DATES 3/
Borrow areas, graded areas, and spoil material	Sandy	Lakeland Troup	Loblolly pine (Pinus taeda) Longleaf pine (Pinus palustris)	2/	M-L, P12/1-3/15 C 12/1-3/1
	Loamy	Orangeburg, Tifton	Loblolly pine Slash pine	2/	M-L, P12/1-3/15 C 12/1-3/1
	Clay	Cecil, Faceville	Loblolly pine Slash pine Virginia pine (Pinus virginiana)	2/	M-L, P12/1-3/15 C 12/1-3/1
Streambanks			Willows 4/ (Salex species)	2 ft.x2ft.	ALL 11/15-3/15

1/ Other trees and shrubs listed in the previous tables may be interplanted with the pines for improved wildlife benefits.
2/ Type of Planting

	Tree Spacing	No. of Trees per Acre
Trees alone	4 ft.x4 ft.	2722
Trees in combination with grasses and/ or other plants	6 ft.x6 ft.	1210

3/ M-L represents the Mountains; Blue Ridge; and Ridges and Valleys MLRAs
P represents the Southern Piedmont MLRA
C represents the Southern Coastal Plain; Sand Hills; Black lands; and Atlantic Coast Flatwoods MLRAs
4/ Fertilization of companion crop is ample for this species.

CONSTRUCTION SPECIFICATIONS INSTALLATION

Soil Preparation
Bring soil surface to final grade. Clear surface of trash, woody debris, stones and clods larger than 1". Apply sod to soil surfaces only and not frozen surfaces, or gravel type soils.
Topsoil properly applied will help guarantee a stand. Don't use topsoil recently treated with herbicides or soil sterilants.
Mix fertilizer into soil surface. Fertilize based on soil tests or Table 6-6.1.

Table 6-6.1
Fertilizer Requirements for Soil Surface Application

Fertilizer Type	Fertilizer Rate (lbs./acre)	Fertilizer Rate (lbs./sq.ft.)	Season
10-10-10	1000	0.025	Fall

Agricultural lime should be applied based on soil tests or at a rate of 1 to 2 tons per acre.

Installation
Lay sod with tight joints and in straight lines. Don't overlap joints. Stagger joints and do not stretch sod (See Figure 6-6.2).
On slopes steeper than 3:1, sod should be anchored with pins or other approved methods. Installed sod should be rolled or tamped to provide good contact between sod and soil.
Irrigate sod and soil to a depth of 4" immediately after installation.
Sod should not be cut or spread in extremely wet or dry weather. Irrigation should be used to supplement rainfall for a minimum of 2-3 weeks.

MATERIALS

Sod selected should be certified. Sod grown in the general area of the project is desirable.

1. Sod should be machine cut and contain ¾" (+ or - ¼") of soil, not including shoots or thatch.
2. Sod should be cut to the desired size within + or - 5%. Torn or uneven pads should be rejected.
3. Sod should be cut and installed within 36 hours of digging.
4. Avoid planting when subject to frost heave or hot weather if irrigation is not available.
5. The sod type should be shown on the plans or installed according to Table 6-6.2. Se Figure 6-4.1 for your Resource Area.

Table 6-6.2
Sod Planting Requirements

Grass	Varieties	Resource Area	Growing Season
Bermudagrass	Common Tifway Tifgreen Tiflawn	M-L, P,C P,C P,C P,C	Warm Weather
Bahiagrass	Pensacola	P,C	Warm Weather
Centipede	-	P,C	Warm Weather
St. Augustine	Common Bitterblue Raleigh	C	Warm Weather
Zoysia	Emerald Myer	P,C	Warm Weather
Tall Fescue	Kentucky	M-L,P	Cool Weather

MAINTENANCE

Re-sod areas where an adequate stand of sod is not obtained. New sod should be mowed sparingly.
Grass height should not be cut less than 2"-3" or as specified (See Figure 6-6.2).
Apply one ton of agricultural lime as indicated by soil test or every 4-6 years. Fertilize grasses in accordance with soil tests or Table 6-6.3.

Table 6-6.3
Fertilizer Requirements for Sod

Types of Species	Planting Year	Fertilizer (N-P-K)	Rate (lbs./acre)	Nitrogen Top Dressing Rate (lbs./acre)
Cool season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 1000 400	50-100 - 30
Warm season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 800 400	50-100 50-100 30

DISTURBED AREA STABILIZATION Ds4
(NTS)

GSWCC
Russell Davis #24598
Expires 12/01/2018

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Call 811 or toll-free 800-282-7411 throughout Georgia.
Outside Georgia call 770-623-4344 prior to all construction activities.
THE LOCATION OF UTILITIES ARE SHOWN FROM FIELD EVIDENCE.
OTHER UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN.
BEFORE CONSTRUCTION IT IS RECOMMENDED THAT A PRIVATE UTILITY LOCATOR INVESTIGATE ALL UNDERGROUND UTILITIES.

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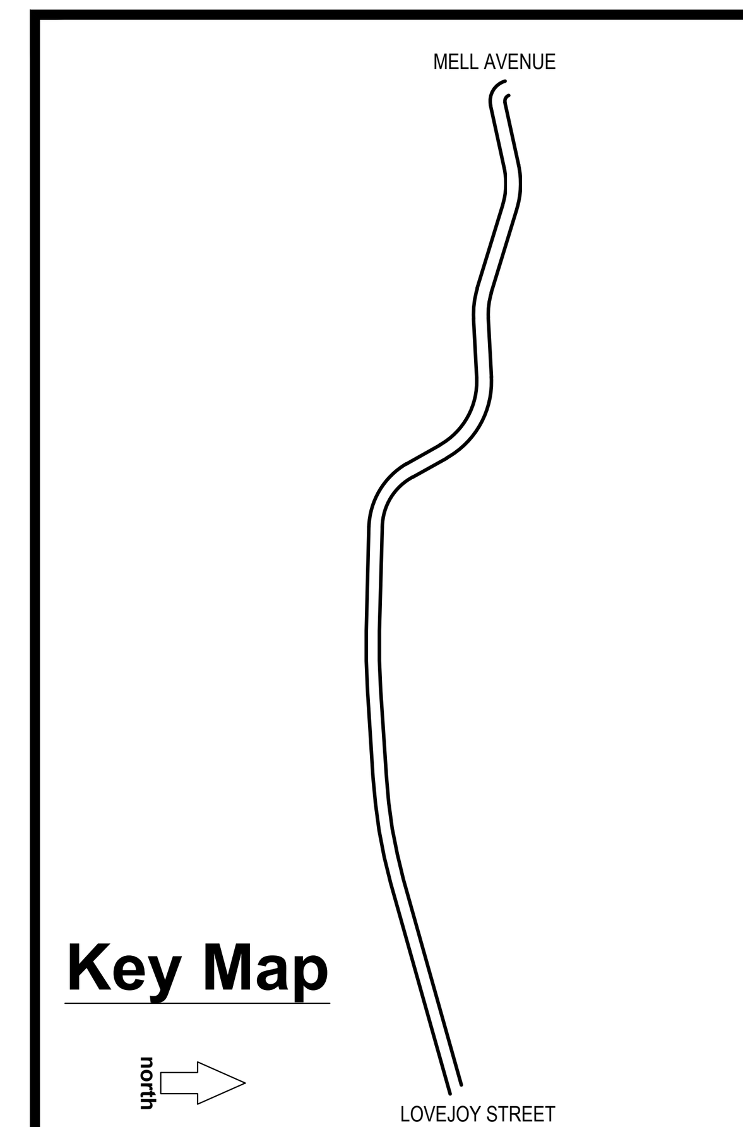
Key Map



REVISION	DATE	DESCRIPTION

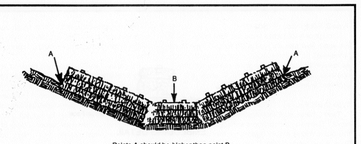
KAIZEN PROJECT # 2016 - 104
PROJECT MANAGER GGD

STONE MOUNTAIN PATH
CLARKSTON, GA

GEORGIA REGISTERED No. 26672 PROFESSIONAL ENGINEER RUSSELL E. DAVIS 07/24/2017

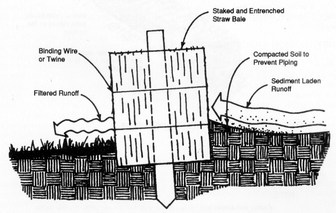
CONSTRUCTION DETAILS

SCALE: 1"=30'
DATE: AUG 1, 2017
SHEET NAME: ECD-04



Points A should be higher than point B

PROPER PLACEMENT OF STRAW BALE BARRIER IN DRAINAGE WAY

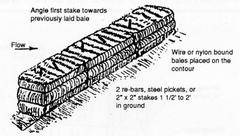


Note: Embed hay bales a minimum of 4 inches.

CROSS-SECTION OF A PROPERLY INSTALLED STRAW BALE

Figure 6-20.1

EMBEDDING DETAIL



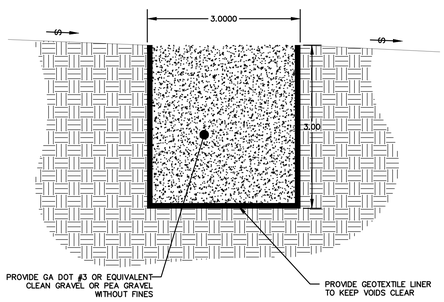
ANCHORING DETAIL

NOTE:
- Anchor and embed into soil to prevent washout or water working under barrier
- Repair or replacement must be made promptly as needed

STAKED HAYBALE BARRIERS

Figure 6-20.2

INFILTRATION TRENCH



Sediment Barrier – Compost Filter Sock

DEFINITION
Compost filter socks are a three-dimensional tubular sediment control and storm water runoff filtration device typically used for **perim eter control** of sediment and soluble pollutants (such as phosphorus and petroleum hydrocarbons), on and around construction activities. Compost filter socks trap sediment and soluble pollutants by filtering runoff water as it passes through the matric of the compost filter socks and by allowing water to temporarily pond behind the compost filter socks, allowing deposition of suspended solids. Compost filter socks are also used to reduce runoff flow velocities on sloped surfaces.

PURPOSE
Compost filter socks are to be installed down slope of any disturbed area requiring erosion and sediment control and filtration of soluble pollutants from runoff. Compost filter socks are effective when installed perpendicular to sheet or low concentrated flow, and in areas that silt fence is normally considered appropriate. Acceptable applications include:
- Site perimeters
- Above and below disturbed areas subject to sheet runoff, interrill and rill erosion
- Above and below exposed and erodable slopes
- Along the toe of stream and channel banks
- Around area drains or inlets located in a "sump"
- On compacted soils where trenching of silt fence is difficult or impossible
- Around sensitive trees where trenching of silt fence is not beneficial for tree survival or may unnecessarily disturb established vegetation.
- On frozen ground where trenching of silt fence is impossible.
- On paved surfaces where trenching of silt fence is impossible.

CONDITIONS
Compost filter socks should be installed where runoff can be filtered without damaging the compost filter sock or the area behind the sock:

C. Moisture content of less than 60% in accordance with standardized test methods for moisture determination.
D. Material shall be relatively free (<1% by dry weight) of inert or foreign man made materials.
E. A sample shall be submitted to the Engineer for approval prior to being used and must comply with all local, state and federal regulations.

CONSTRUCTION SPECIFICATIONS
The compost filter sock shall be installed according to this specification, as shown on the plans or as directed by the engineer. For installation of the compost filter sock see Figure 1.

1. Compost filter socks should be installed parallel to the base of the slope or other disturbed area. In extreme conditions (i.e., 2:1 slopes), a second compost filter sock shall be constructed at the top of the slope.
2. Stakes shall be installed through the middle of the compost filter sock on 10 ft (3m) centers, using 2 in (50mm) by 2 in (50mm) by 3 ft (1m) wooden stakes. In the event staking is not possible, i.e., when compost filter socks are used on pavement, heavy concrete blocks shall be used behind the compost filter socks to help stabilize during rainfall/runoff events.
3. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.
4. Loose compost may be backfilled along the upslope side of the compost filter sock, filling the seam between the soil surface and the device, improving filtration and sediment retention.
5. If the compost filter sock is to be left as a permanent filter or part of the natural landscape, it may be seeded at time of installation for establishment of permanent vegetation. The engineer will specify seed requirements.
6. Compost filter socks are not to be used in perennial, ephemeral, or intermittent streams.

MAINTENANCE
Sediment shall be removed once it has accumulated to one-half the original height of the barrier. Compost filter socks shall be replaced whenever it has deteriorated to such an extent that the effectiveness of compost filter sock is reduced. Compost filter socks shall remain in place until disturbed areas have been permanently stabilized. All sediment accumulation at the compost filter sock shall be removed and properly disposed of before the compost filter sock is removed.

DESIGN CRITERIA
Compost filter socks are designed to retain sediment transported in sheet flow from disturbed areas. Compost filter socks perform the same function as silt fence, allow a higher flow rate, and are usually faster and cheaper to install. Where all runoff is to be treated by the compost filter sock the maximum slope length behind the compost filter sock shall not exceed those shown in Table 1. The drainage area shall not exceed ¼ acre for every 100 ft of compost filter sock.

The sediment and pollutant removal process characteristic to compost filter socks combines both filtering and deposition from settling solids. This is different than methods that rely on ponding for deposition of solids for sediment control), such as silt fence. Ponding occurs when water flowing to the compost filter sock accumulates faster than the hydraulic flow through rate of the compost filter sock. Hydraulic flow-through rates for compost filter socks are 50% greater than silt fence filter fabric. Greater hydraulic flow-through rates reduce ponding. Compost filter sock mesh netting shall meet the netting specification in Table 2. Compost filter socks shall meet the specifications in Table 3. Compost used in compost filter socks shall meet the specification described under Compost Filter Media Specifications.

CRITERIA FOR COMPOST FILTER SOCK PLACEMENT

Land Slope	Maximum Slope Length Above Compost Filter Sock
Percent	Feet
<2	100
2 to 5	75
5 to 10	50
10 to 20	25
>20*	15

*In areas where the slope is greater than 20%, a flat area length of 10 ft between the toe of the slope to the compost filter sock should be provided.

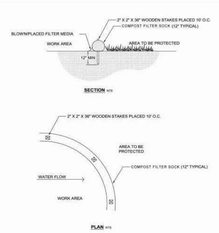
Table 1

A 12 inch diameter compost filter sock shall be used on developments where the life of the project is greater than or equal to six months. A 12 inch diameter compost filter sock may also be used on minor projects, such as residential home sites or small commercial developments.

COMPOST FILTER MEDIA SPECIFICATIONS
Compost used for compost filter sock filter material (filter media) shall be weed free and derived from a well-decomposed source of organic matter. The compost shall be produced using an aerobic composting process meeting CFR 503 regulations including time and temperature data. The compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted. Test methods for the items below should follow US Composting Council Test Methods for the Examination of Composting and Compost guidelines for laboratory procedures:

A. PH – 5.0-8.0 in accordance with TMECC 04.11-A, "Electrometric pH Determinations for Compost"
B. Particle size – 99% passing a 2 in (50mm) sieve and a maximum of 40% passing a 3/8 in (9.5mm) sieve, in accordance with TMECC 02.02-B, "Sample Sieving for Aggregate Size Classification". *(Note- In the field, product commonly is between ½ in [12.5mm] and 2 in [50mm] particle size.)*

FIGURE 1



COMPOST FILTER SOCK
NTS

Material Type	Multi-Filament Polypropylene	Multi-Filament Polypropylene
Material Characteristic	Photodegradable	Photodegradable
Mesh Opening	3/8 in (10mm)	1/8 in (3mm)
Tensile Strength (ASTM 5035-95)	44 psi (3.09 kg/cm²)	202 psi (14.2 kg/cm²)*
% Original Strength from Ultraviolet Exposure (ASTM G-155)	100% at 1000 hr	100% at 1000 hr

Table 2.

	12 in (300mm) Diameter
Effective Circumference	38 in (960mm)
Density (when filled)	32 lbs/ft (50 kg/m)
Air Space	20%
Hydraulic Flow Through Rate	11.3 gpm/ft (141 L/m/m)
'P' Factor (RUSLE)	0.1-0.32

Table 3

Dust Control on Disturbed Areas

Du

DEFINITION
Controlling surface and air movement of dust on construction sites, roads, and demolition sites.

PURPOSE
- To prevent surface and air movement of dust from exposed soil surfaces.
- To reduce the presence of airborne substances which may be harmful or injurious to human health, welfare, or safety, or to animals or plant life.

CONDITIONS
This practice is applicable to areas subject to surface and air movement of dust where on and off-site damage may occur without treatment.

METHOD AND MATERIALS

A. Temporary Methods

Mulches. See standard **Ds1 - Disturbed Area Stabilization (With Mulching Only)**. Synthetic resins may be used instead of asphalt to bind mulch material. Refer to specification **Tac - Tackifiers**. Resins such as Curasol or Terratack should be used according to manufacturer's recommendations.

Vegetative Cover. See specification **Ds2 - Disturbed Area Stabilization (With Temporary Seeding)**.

Spray-on Adhesives. These are used on mineral soils (not effective on muck soils). Keep traffic off these areas. Refer to specification **Tac - Tackifiers**.

Tillage. This practice is designed to roughen and bring clods to the surface. It is an emergency measure which should be used before wind erosion starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.

Irrigation. This is generally done as an emergency treatment. Site is sprinkled with water until the surface is wet. Repeat as needed.

Barriers. Solid board fences, snowfences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 15 times their height are effective in controlling wind erosion.

Calcium Chloride. Apply at rate that will keep surface moist. May need retreatment.

B. Permanent Methods

Permanent Vegetation. See specification **Ds3 -Disturbed Area Stabilization (With Permanent Vegetation)**. Existing trees and large shrubs may afford valuable protection if left in place.

Topsoiling. This entails covering the surface with less erosive soil material. See specification **Tp - Topsoiling**.

Stone. Cover surface with crushed stone or coarse gravel. See specification **Cr-Construction Road Stabilization**.

When you washdown...

Use Best Management Practices (BMPs) to keep washdown water from making its way into streams and rivers.

Protect your company. Discharging washdown water into storm drains, streams or rivers is illegal.

Take Pride that the ready mix industry is working to keep Georgia's waterways clean.

NOTE
On some sites, you may not have permission or access to a location suitable to dig a washdown pit. In those cases, you may have to washdown into a wheelbarrow or container and carry the container to a disposal site.

NEVER let washdown water enter a storm drain.

If you need help...

Georgia Small Business
Environmental Assistance Program
Georgia Environmental Protection Division
toll-free 1-877-427-6255
404-362-4842
www.gasmallbiz.org

FREE & CONFIDENTIAL

A special thanks to Walker Concrete

A Guide for Ready Mix Chute/Hopper Washdown

Georgia Small Business
Environmental Assistance Program
1-877-427-6255 (toll-free)
404-362-4842

Cleaning your equipment is important -- both for road safety AND for protection of equipment. Avoid environmental penalties by using BEST MANAGEMENT PRACTICES.

A Typical Best Management Practice

PICK THE RIGHT SPOT TO WASHDOWN
Make sure:
- Washdown water stays in the pit.
- The pit is located away from a storm drain, stream or river.
- The pit is accessible to your vehicle.
- You have permission to use area for washdown.

1 Coordinate with site superintendent to excavate a pit deep enough to contain the washdown water.

2 Back in your equipment.

3 Washdown only the chute, hopper and rear of the vehicle. Do NOT wash out the drum.

4 Make sure washdown water goes into and stays in the pit.

5 Coordinate with site superintendent to fill in pit and smooth out ground.

For additional examples of Best Management Practices, please contact the Small Business Environmental Assistance Program Toll-free 1-877-427-6255 404-362-4842

Free & Confidential Assistance for Small Businesses

KAIZENCOLLABORATIVE
2390 Main Street | Tucker, GA 30084 | 404.239.2521

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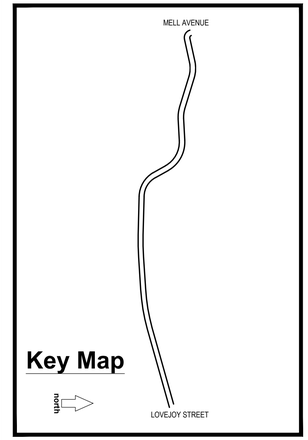

Key Map

REVISION	DATE	DESCRIPTION
1	08-18-17	CITY COMMENTS

KAIZEN PROJECT #	2016 - 104
PROJECT MANAGER	GGD

STONE MOUNTAIN PATH

CLARKSTON, GA

GEORGIA REGISTERED No. 26672 PROFESSIONAL ENGINEER RUSSELL E. DAVIS
07/24/2017

CONSTRUCTION DETAILS

SCALE:	1"=30'
DATE:	AUG 1, 2017
SHEET NAME:	ECD-05