

SURVEY NOTES

EQUIPMENT USED:
A TRIMBLE S8 TOTAL STATION WAS USED TO OBTAIN ANGULAR MEASUREMENTS AND DISTANCE MEASUREMENTS.

A TRIMBLE R-10 DUAL FREQUENCY GPS UNIT WAS USED FOR ESTABLISHING CONTROL. A NETWORK ADJUSTED RTK SURVEY WAS PERFORMED AND ADJUSTED BY RELATIVE POSITIONAL ACCURACY.

CLOSURE STATEMENT:
TRACT 1 HAS BEEN CALCULATED FOR CLOSURE AND IS ACCURATE WITHIN ONE FOOT IN 891,827 FEET.

TRACT 2 HAS BEEN CALCULATED FOR CLOSURE AND IS ACCURATE WITHIN ONE FOOT IN 314,592 FEET.

TRACT 3 HAS BEEN CALCULATED FOR CLOSURE AND IS ACCURATE WITHIN ONE FOOT IN 107,064 FEET.

THE FIELD DATA UPON WHICH THIS SURVEY IS BASED HAD A CLOSURE OF ONE FOOT IN 295,764 FEET AND AN ANGULAR ERROR OF 2" PER ANGLE POINT AND WAS ADJUSTED USING THE COMPASS RULE.

THE BEARINGS SHOWN ON THIS SURVEY ARE COMPUTED ANGLES BASED ON A GRID BEARING BASE (GA WEST ZONE) NAD83.

ALL HORIZONTAL DISTANCES SHOWN ARE GROUND DISTANCES. MEASURING UNITS OF THIS SURVEY ARE IN U.S. SURVEY FEET.

CONTOURS ARE SHOWN AT ONE FOOT INTERVALS.

ELEVATIONS ARE BASED ON RTK GLOBAL POSITIONING SYSTEMS OBSERVATION AND ARE RELATIVE TO NAVD 88 DATUM.

INFORMATION REGARDING THE REPUTED PRESENCE, SIZE, CHARACTER, AND LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES IS SHOWN HEREON. THERE IS NO CERTAINTY TO THE ACCURACY OF THIS INFORMATION AND IT SHALL BE CONSIDERED IN THAT LIGHT BY THOSE USING THIS DRAWING.

THE LOCATION AND ARRANGEMENT OF UNDERGROUND UTILITIES AND STRUCTURES SHOWN HEREON MAY BE INACCURATE AND UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED. THE OWNER, HIS EMPLOYEES, HIS CONSULTANTS, HIS CONTRACTORS, AND/OR HIS AGENTS SHALL HEREBY DISTINCTLY UNDERSTAND THAT THE SURVEYOR IS NOT RESPONSIBLE FOR THE CORRECTNESS OR SUFFICIENCY OF THIS INFORMATION SHOWN HEREON AS TO SUCH UNDERGROUND INFORMATION.

INFORMATION REGARDING STORM SEWER AND SANITARY SEWER AS SHOWN HEREON, IS BASED ON OBSERVATIONS TAKEN BY TERRAMARK EMPLOYEES AT THE GROUND ELEVATION OF THE EXISTING STRUCTURE. TERRAMARK EMPLOYEES ARE NOT AUTHORIZED TO ENTER A CONFINED SPACE SUCH AS A STRUCTURE. THEREFORE, THERE IS NO CERTAINTY OF THE PIPE SIZES AND PIPE MATERIAL THAT ARE SHOWN ON THIS SURVEY. EXCAVATION BY A CERTIFIED CONTRACTOR IS THE ONLY WAY TO VERIFY PIPE SIZE AND MATERIAL. THE OWNER, HIS EMPLOYEES, HIS CONSULTANTS, HIS CONTRACTORS, AND/OR HIS AGENTS SHALL HEREBY DISTINCTLY UNDERSTAND THAT THE SURVEYOR IS NOT RESPONSIBLE FOR THE CORRECTNESS OR SUFFICIENCY OF THE PIPE INFORMATION SHOWN HEREON.

STATE WATERS AND BUFFERS AS SHOWN OR NOT SHOWN HEREON ARE SUBJECT TO REVIEW BY LOCAL JURISDICTION OFFICIALS. IT IS THE RESPONSIBILITY OF THE LOCAL AUTHORITY TO DETERMINE SPECIFIC WATER CLASSIFICATION. THEREFORE, TERRAMARK LAND SURVEYING ASSUMES NO RESPONSIBILITY IN THE IDENTIFICATION OF SAID WATERS OR BUFFERS IDENTIFIED OR NOT IDENTIFIED HEREON.

THIS SURVEY MAY NOT REPRESENT OFFSITE PAINT STRIPING TO THE ACCURACY REQUIRED FOR LANE DESIGN. TERRAMARK LOCATES THE EDGE OF PAVING AND CRITICAL POINTS TO REFLECT ACCURATE TOPOGRAPHIC DATA ONLY. ACCURACY OF PAINT LOCATIONS SHOULD BE VERIFIED WITH SURVEYOR PRIOR TO USING THIS SURVEY FOR DESIGN.

PROPERTY IS SUBJECT TO RIGHTS OF UPPER AND LOWER RIPARIAN OWNERS IN AND TO THE WATER OF CREEKS AND BRANCHES CROSSING OR ADJOINING SUBJECT PROPERTY AND THE NATURAL FLOW THEREOF, FREE FROM DIMINUTION OR POLLUTION.

THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON, PERSONS OR ENTITY NAMED HEREON. THIS SURVEY DOES NOT EXTEND TO ANY UNNAMED PERSON, PERSONS OR ENTITY WITHOUT THE EXPRESS CERTIFICATION BY THE SURVEYOR NAMING SAID PERSON, PERSONS OR ENTITY.

TERRAMARK LAND SURVEYING, INC. DOES NOT WARRANT THE EXISTENCE OR NON-EXISTENCE OF ANY WETLANDS OR HAZARDOUS WASTE IN THE SURVEY AREA.

FIELD WORK FOR THIS PROPERTY WAS COMPLETED ON JULY 15, 2016

AREA TABLE

TRACT 1 2,163,996 Sq.Ft. or 49.6785 Ac.
TRACT 2 49,645 Sq.Ft. or 1.1397 Ac.
TRACT 3 30,496 Sq.Ft. or 0.7001 Ac.

TOTAL AREA 2,244,137 Sq.Ft. or 51.5183 Ac.

TITLE NOTES

ACCORDING TO THE "FIRM" (FLOOD INSURANCE RATE MAP) OF DEKALB COUNTY, GEORGIA (PANEL NUMBER 13089C00141), DATED MAY 16, 2013, A PORTION OF THIS PROPERTY LIES WITHIN A SPECIAL FLOOD HAZARD AREA. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF A TITLE REPORT, WHICH COULD REVEAL ENCUMBRANCES NOT SHOWN ON THIS SURVEY. SUBJECT PROPERTY HAS ACCESS TO THE PUBLIC RIGHT OF WAY OF ASHFORD DUNWOODY ROAD, DONALDSON DRIVE AND ROBERTS WAY.

PROPERTY DESCRIPTION TRACT 1

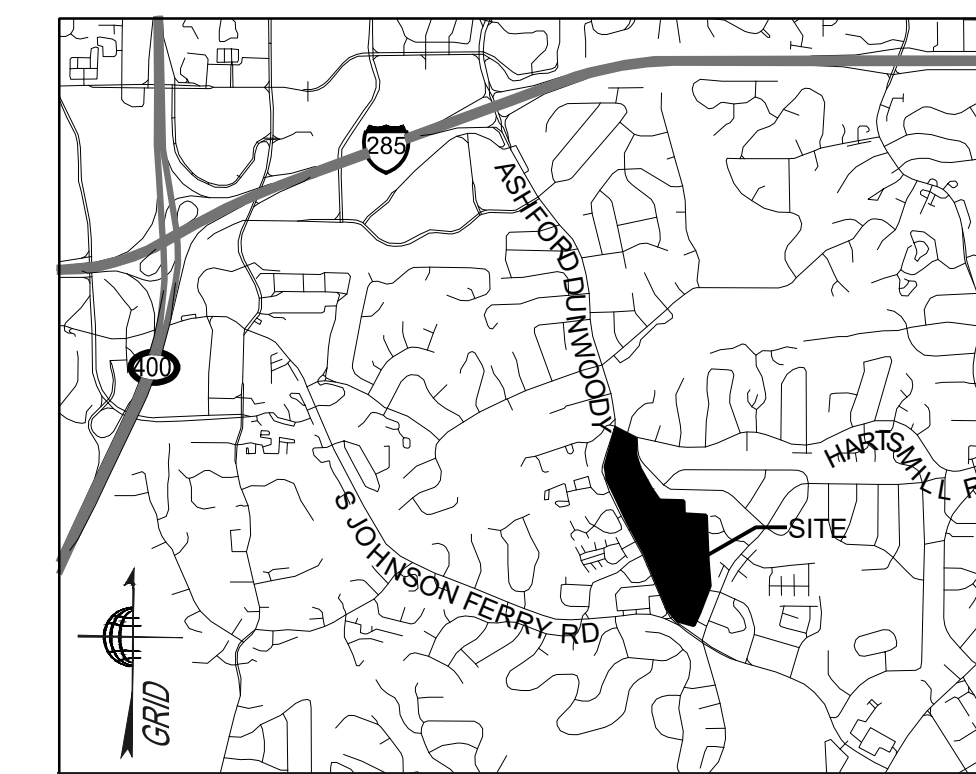
Being a tract or parcel of land lying and being in Land Lots 301, 305 & 306, 18th District, DeKalb County, Georgia and being more particularly described as follows:

To find the Point of Beginning, commence at the intersection of the Northwesterly Right of Way Line of Donaldson Drive (having an apparent 60 feet wide right of way) and the Northeastly Right of Way Line of Ashford Dunwoody Road (having an apparent variable width right of way); thence, leaving the said point and running with the said line of Ashford Dunwoody Road, North 54° 49' 43" West, 270.05 feet to a 1/2 inch capped rebar set; thence, leaving the said point and running with the said line of Ashford Dunwoody Road and continuing with the said line of Ashford Dunwoody Road

- South 42° 54' 47" West, 15.58 feet to a 1/2 inch capped rebar set; thence,
- North 54° 26' 02" West, 159.94 feet; thence,
- 433.92 feet along the arc of a curve deflecting to the right, having a radius of 781.00 feet and a chord bearing and distance of North 38° 31' 02" West, 428.36 feet; thence,
- North 22° 36' 02" West, 833.00 feet; thence,
- 271.89 feet along the arc of a curve deflecting to the left, having a radius of 2,180.00 feet and a chord bearing and distance of North 26° 11' 02" West, 271.71 feet; thence,
- North 29° 46' 02" West, 599.77 feet; thence,
- 267.29 feet along the arc of a curve deflecting to the right, having a radius of 2,300.00 feet and a chord bearing and distance of North 26° 32' 32" West, 267.14 feet; thence,
- North 23° 05' 47" West, 309.71 feet to a 1/2 inch rebar found; thence,
- North 67° 20' 00" East, 10.13 feet to a 3/8 inch square rod found (disturbed); thence, leaving the aforesaid line of Ashford Dunwoody Road and running with the south lines of Lot 11 of a Subdivision for Northwest Corporation, as shown on a plat recorded among the Land Records of DeKalb County, Georgia in Plat Book 43, Page 61
- North 67° 22' 42" East, 235.30 feet to a 1/2 inch capped rebar set; thence,
- North 89° 19' 56" East, 399.36 feet to a 1 inch crimped top pipe found; thence, running with the lines of a subdivision entitled, "Sexton Woods", as shown on a plat recorded among the aforesaid Land Records in Plat Book 54, Page 42
- South 00° 26' 52" East, 449.72 feet to a 1 inch crimped top pipe found; thence,
- North 62° 30' 08" East, 351.47 feet to a 1/2 inch rebar found; thence,
- South 00° 00' 29" West, 299.20 feet to a 1/2 inch rebar found; thence, running with the west line of a subdivision entitled, "Park Creek", as shown on a plat recorded among the aforesaid Land Records in Plat Book 76, Page 121
- South 00° 12' 35" West, 308.53 feet to a 1/2 inch rebar found; thence, running with the property now or formerly owned by Pulte Home Corporation, as described in a deed recorded among the aforesaid Land Records in Deed Book 24543, Page 736
- South 01° 04' 02" East, 286.53 feet to a 1/2 inch capped rebar set; thence,
- South 89° 36' 11" East, 277.27 feet to a 1/2 inch rebar found; thence, running with the lines of a subdivision entitled, "Brick & Ivy S/D", as shown on a plat recorded among the aforesaid Land Records in Plat Book 168, Page 70
- South 13° 09' 25" West, 67.65 feet to a 1 inch crimped top pipe found (disturbed); thence,
- South 09° 58' 52" West, 89.43 feet to a 1 inch crimped top pipe found; thence,
- South 69° 48' 07" West, 90.45 feet to a 1/2 inch crimped top pipe found; thence,
- South 09° 47' 45" West, 206.00 feet to a 1/2 inch rebar found; thence,
- South 89° 38' 42" East, 128.90 feet to a point on the aforesaid line of Donaldson Drive; thence, running with the said line of Donaldson Drive
- South 22° 01' 59" West, 112.17 feet to the intersection with the Northeastly Right of Way Line of Blair Circle (an apparent 60 feet wide right of way); thence, running with the said line of Blair Circle
- North 70° 31' 18" West, 109.49 feet; thence,
- North 70° 31' 18" West, 54.90 feet; thence,
- South 10° 58' 43" West, 60.00 feet to a point on the Southwesterly Right of Way Line of aforesaid Blair Circle; thence, running with the said line of Blair Circle
- South 79° 31' 20" East, 152.51 feet to a point on the aforesaid line of Donaldson Drive; thence, running with the said line of Donaldson Drive
- 76.41 feet along the arc of a curve deflecting to the left, having a radius of 4,810.00 feet and a chord bearing and distance of South 20° 18' 25" West, 76.41 feet to a 1/2 inch capped rebar set; thence, leaving the aforesaid line of Donaldson Drive and running with the property now or formerly owned by the Housing Authority of the County of DeKalb, Georgia, as described in a deed recorded among the aforesaid Land Records in Deed Book 19145, Page 81 and Deed Book 19451, Page 787
- North 80° 16' 48" West, 200.90 feet to a 1/2 inch capped rebar set; thence,
- South 11° 18' 48" West, 145.41 feet to a 1/2 inch capped rebar set; thence,
- South 11° 16' 46" West, 326.91 feet to a 1/2 inch rebar found; thence, running with the property now or formerly owned by GMC 3474 Donaldson, LLC, as described in a deed recorded among the aforesaid Land Records in Deed Book 24362, Page 628
- North 60° 52' 56" West, 59.98 feet to a 3/8 inch rebar found; thence,
- South 42° 54' 47" West, 54.02 feet; thence, running with the property now or formerly owned by Flat Shoals Property Management, LLC, as described in a deed recorded among the aforesaid Land Records in Deed Book 19027, Page 23
- South 42° 54' 47" West, 151.00 feet to the Point of Beginning, containing 2,163,996 square feet or 49.6785 acres of land, more or less.

Property is subject to all easements and rights of way recorded and unrecorded.

BLACKBURN PARK PARKING LOT IMPROVEMENTS FOR THE CITY OF BROOKHAVEN LOCATED IN LAND LOTS 301,305 & 306, 18TH DISTRICT DEKALB COUNTY, GEORGIA



LOCATION MAP

NOT TO SCALE
LAT - 33°53'42.28"N
LONG - 84°19'43.56"W

SHEET INDEX	
SHEET	SHEET TITLE
C1	COVER SHEET
SU1-3	SURVEY
D1	DEMOLITION PLAN
C1	CONSTRUCTION ITEMS
S1	SITE PLAN
S2	SITE LAYOUT
G1	GRADING AND DRAINAGE
U1	UTILITY PLAN
SD1-5	SITE DETAILS
ER1	INITIAL EROSION CONTROL PLAN
ER2	INTERMEDIATE EROSION CONTROL PLAN
ER3	FINAL EROSION CONTROL PLAN
ED1-4	EROSION CONTROL DETAILS
TPR1	TREE PROTECTION AND REPLACEMENT PLAN
LS1	LANDSCAPE SELECTION AND CORRECTION DETAILS
LS2	LANDSCAPE NOTES AND INSTALLATION DETAILS
LS3	LANDSCAPE PLAN
LS4	LANDSCAPE PLAN - RETENTION BASIN

SITE INFORMATION

TOTAL SITE AREA: 51 AC
TOTAL DISTURBED AREA: 0.98 AC

CURRENT OWNER TRACT 1: CITY OF BROOKHAVEN
DB. 24965 PG. 50

TAX PARCEL ID # 18 301 01 001

ADDRESS: 3517 ASHFORD DUNWOODY ROAD

ZONED RM-75

CURRENT OWNER TRACT 2: HOUSING AUTHORITY OF DEKALB
DB. 19451 PG. 81

TAX PARCEL ID # 18 301 01 006

ADDRESS: 3512 DONALDSON DRIVE

ZONED RM-75

CURRENT OWNER TRACT 3: HOUSING AUTHORITY OF DEKALB
DB. 19451 PG. 787

TAX PARCEL ID # 18 301 01 007

ADDRESS: 3526 DONALDSON DRIVE

ZONED RM-75

CURRENT OWNER TRACT 3: HOUSING AUTHORITY OF DEKALB
DB. 19451 PG. 787

TAX PARCEL ID # 18 301 01 007

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TREE LEGEND (ABBREVIATIONS)

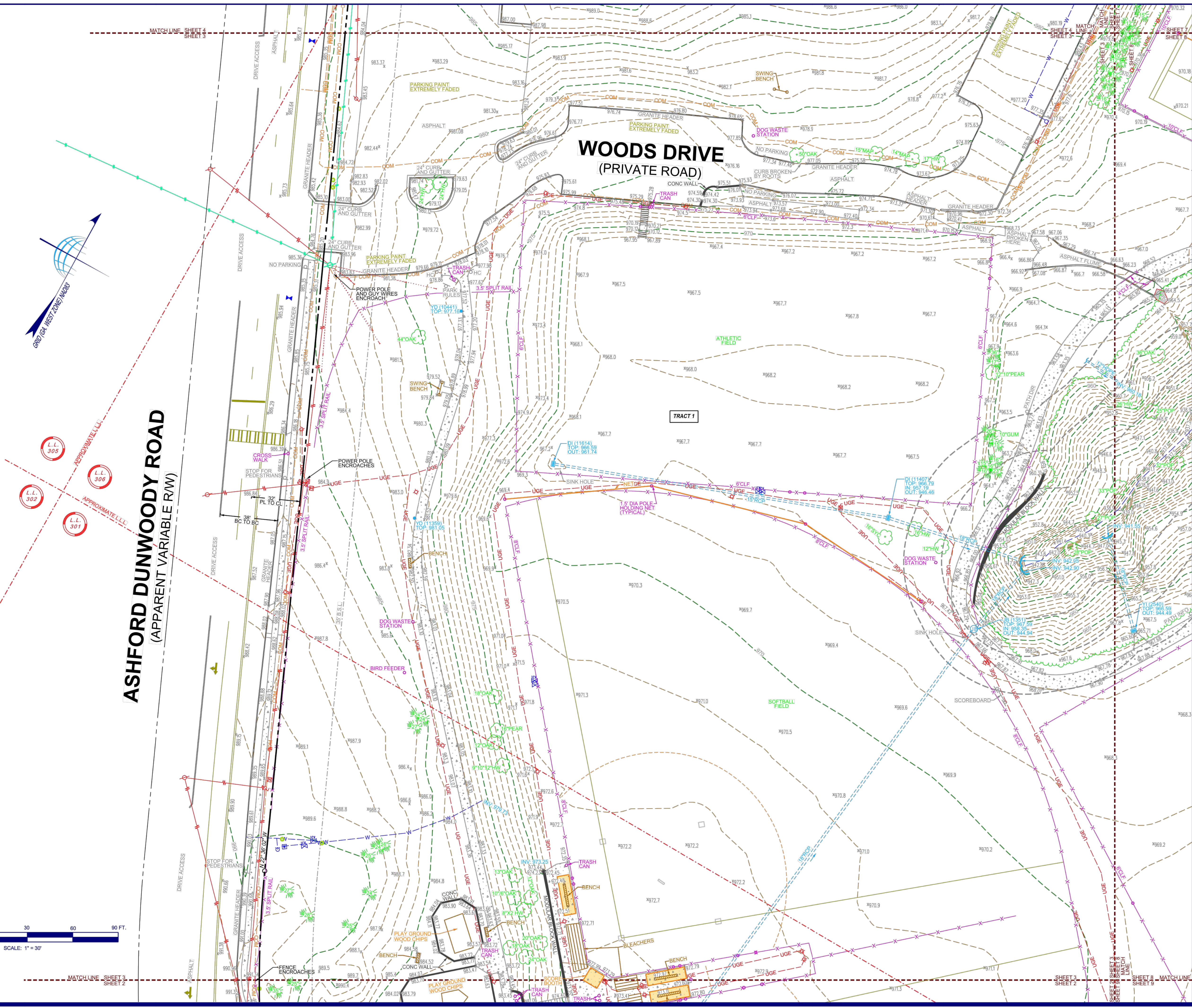
	DECIDUOUS (TREE)	BRC	BIRCH	HLV	HOLLY
	CONIFEROUS (TREE)	BCH	BEECH	HW	HARDWOOD
		CM	CRAPPE MYRTLE	MKD	MAGNOLIA
		CR	CHERRY	MAP	MAPLE
		CYP	CYPRESS	OK	OKRA
		FUR	FUR	CRN	ORNAMENTAL
		GINK	GINKGO	PEAR	PEAR
		GUM	SWEET GUM	POP	POPLAR
		HIC	HICKORY	SYC	SYCAMORE

ABBREVIATIONS

A	ARC LENGTH	IPS	IRON PIN SET (CAPPED)
AC	ACRE	NF	NOW OR FORMERLY
AE	ACCESS EASEMENT	OTP	OPEN TOP PIPE
BSL	BUILDING SETBACK LINE	PG	PAGE
BW	BARBERWIRE	POB	POINT OF BEGINNING
CH	CHORD LENGTH	POC	POINT OF COMMENCEMENT
CLF	CHAIN LINK FENCE	R	RADIUS LENGTH
CMP	CORRUGATED METAL PIPE	RW	RIGHT OF WAY
CMC	CONCRETE	RW MON	RIGHT OF WAY MONUMENT
CTP	CRIMP TOP PIPE	RB	REBAR
DB	DEED BOOK	RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE	SDE	STORM DRAINAGE EASEMENT
FDC	FIRE DEPARTMENT CONNECTION	SQ. FT.	SQUARE FEET
FND	FOUND	SSE	SANITARY SEWER EASEMENT
HDPE	HIGH DENSITY POLYETHYLENE PIPE	WPF	WOOD PRIVACY FENCE
IPF	IRON PIN FOUND		

LEGEND

	CURB AND GUTTER (C&G)
	FENCE
	HANDRAIL
	STORM DRAIN LINE
	SANITARY SEWER
	WATER LINE
	GAS LINE
	UNDERGROUND POWER LINE
	OVERHEAD POWER LINE
	COMMUNICATION
	TOPOGRAPHIC CONTOUR
	PROPERTY LINE
	TRANSMISSION LINE
	CATCH BASIN (C&CB)
	DROP INLET (DI)
	JUNCTION BOX (JB)
	HEAD WALL (HW)
	CURB INLET (CI)
	YARD DRAIN INLET
	SS MANHOLE (MH)
	CLEAN OUT (CO)
	GREASE TRAP (GT)
	IRRIGATION CONTROL VALVE
	FIRE HYDRANT (FH)
	WATER VALVE (WV)
	WATER METER (WM)
	FIRE DEPT. CONNECTION (FDC)
	WATER VALVE MARKER
	TRANSMISSION POLE
	TRANSFORMER BOX (TB)
	AIR CONDITIONER (AC)
	ELECTRIC METER (EM)
	ELECTRIC UTILITY
	LIGHT POLE (LP)
	POWER POLE WITH LIGHT
	POWER POLE (PP)
	UTILITY MANHOLE (UM)
	SPOTLIGHT
	GAS METER (GM)
	GAS VALVE (GV)
	TELEPHONE PEDESTAL
	COMMUNICATION BOX
	TRAFFIC SIGNAL
	BOLLARD (BO)
	MAIL BOX
	SIGN
	CROSSWALK SIGNAL
	SPOT ELEVATION
	CONCRETE AREA
	OVERHANG AREA
	RIP-RAP AREA
	BRICK AREA
	TREELINE



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C. No. 201600010

Project No.	No.	Date
2016-0208	1	07/18/16

Survey	Drawn	Checked	Approved	Date	Scale
AM	NEC	AL	WCV	07/18/16	1"=30'

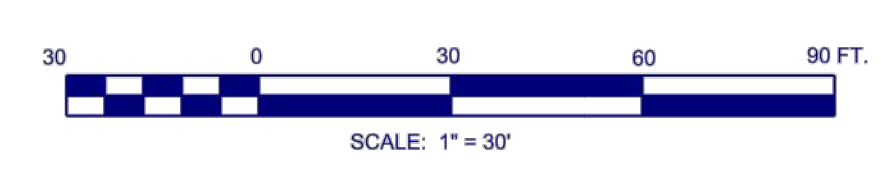
BOUNDARY AND TOPOGRAPHIC SURVEY
FOR
THE CITY OF BROOKHAVEN
(BLACKBURN PARK)
LOCATED IN
LAND LOTS 301, 305 & 306, 18TH DISTRICT
DEKALB COUNTY, GEORGIA

SHEET NO.
3
9
DRAWING# TM 16 99

JOB NUMBER: 2016-0208 PLOT SIZE: 24.2 AC

LEGEND

- CURB AND GUTTER (C&G)
- FENCE
- HANDRAIL
- STORM DRAIN LINE
- SS SANITARY SEWER
- W WATER LINE
- G GAS LINE
- UGE UNDERGROUND POWER LINE
- OVL OVERHEAD POWER LINE
- COM COMMUNICATION
- 100 TOPOGRAPHIC CONTOUR
- 100 PROPERTY LINE
- TRANSMISSION LINE
- CATCH BASIN (DWCB)
- CATCH BASIN (SWCB)
- DROP INLET (DI)
- JUNCTION BOX (JB)
- HEAD WALL (HW)
- CURB INLET (CI)
- YARD DRAIN INLET
- SS MANHOLE (MH)
- CLEAN OUT (CO)
- GREASE TRAP (GT)
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT (FH)
- WATER VALVE (WV)
- WATER METER (WM)
- FIRE DEPT. CONNECTION (FDC)
- WATER VALVE MARKER
- TRANSMISSION POLE
- TRANSFORMER BOX (TX)
- AIR CONDITIONER (AC)
- ELECTRIC METER (EM)
- ELECTRIC UTILITY
- LIGHT POLE (LP)
- POWER POLE WITH LIGHT
- POWER POLE (PP)
- UTILITY MANHOLE (UM)
- SPOTLIGHT
- GAS METER (GM)
- GAS VALVE (GV)
- TELEPHONE PEDESTAL
- COMMUNICATION BOX
- TRAFFIC SIGNAL
- BOLLARD (BO)
- MAIL BOX
- SIGN
- CROSSWALK SIGNAL
- SPOT ELEVATION
- CONCRETE AREA
- OVERHANG AREA
- RIP-RAP AREA
- BRICK AREA
- TREELINE

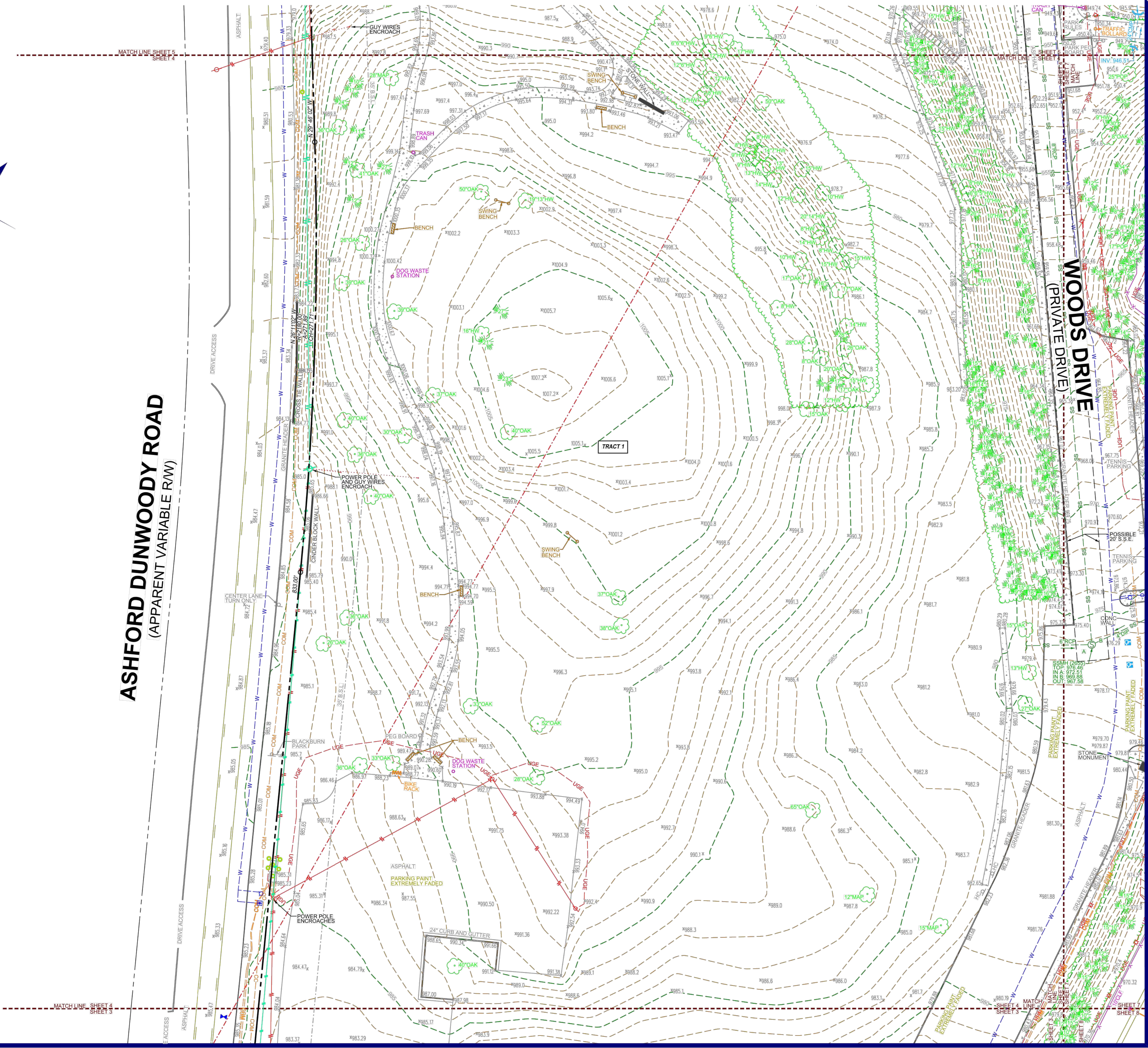


TREE LEGEND (ABBREVIATIONS)

- | | | | | | | | | |
|-------------------|-----------|--------|--------------|---------|-----------|----------------|--------------|-----------|
| DECIDUOUS (TREE) | BRC BIRCH | BEECH | CRANE MYRTLE | CHERRY | CYPRESS | ORN ORNAMENTAL | POP POPLAR | SYCAMORE |
| CONIFEROUS (TREE) | FUR FUR | GINKGO | SWEET GUM | HICKORY | HLY HOLLY | HW HARDWOOD | MAG MAGNOLIA | MAP MAPLE |

ABBREVIATIONS

- | | |
|-------------------------------------|-------------------------------|
| A ARC LENGTH | IPS IRON PIN SET (CAPPED) |
| AC ACRE | N/F NOW OR FORMERLY |
| AE ACCESS EASEMENT | OTF OPEN TOP PIPE |
| BSL BUILDING SETBACK LINE | PB SURVEY BOOK |
| BW BARBWIRE | PG PAGE |
| CH CHORD LENGTH | POB POINT OF BEGINNING |
| CLF CHAIN LINK FENCE | POC POINT OF COMMENCEMENT |
| CMP CORRUGATED METAL PIPE | R RADIUS LENGTH |
| CONC CONCRETE | R/W RIGHT OF WAY |
| CTP CRIMP TOP PIPE | R/W MON RIGHT OF WAY MONUMENT |
| DB DEED BOOK | RB REBAR |
| DIP DUCTILE IRON PIPE | RSP REINFORCED CONCRETE PIPE |
| FDC FIRE DEPARTMENT CONNECTION | SDE STORM DRAINAGE EASEMENT |
| FND FOUND | SQ. FT. SQUARE FEET |
| HOPE HIGH DENSITY POLYETHYLENE PIPE | SSE SANITARY SEWER EASEMENT |
| IPF IRON PIN FOUND | WPF WOOD PRIVACY FENCE |



TerraMark
Professional Land Surveying, Inc.
C.O. A.L.S. 5000010

Project No.	No.	Rev.	Date
2016-039	1		
2016-039	2		
2016-039	3		
2016-039	4		
2016-039	5		
2016-039	6		

BOUNDARY AND TOPOGRAPHIC SURVEY
FOR
THE CITY OF BROOKHAVEN
(BLACKBURN PARK)
LOCATED IN
LAND LOTS 301, 305 & 306, 18TH DISTRICT
DEKALB COUNTY, GEORGIA

SHEET NO.
4
9
DRAWING# TM 16 89

JOB NUMBER: 2016-039 PLOT SIZE: 24 X 36

SITE / GRADING NOTES:

- ALL SIDEWALKS SHALL HAVE A 2% MIN. SLOPE TOWARD THE CURB.
- FINISH GRADE OF ALL SIDEWALKS TO BE FLUSH WITH TOP OF CURB.
- ALL CATCH BASINS TOPS TO BE ADJUSTED TO MATCH FINISHED CURB HEIGHTS AND FINISHED PAVEMENT.
- THE CONTRACTOR SHALL PRESERVE BENCHMARKS AND REFERENCE POINTS.
- ALL WORK AND MATERIALS SHALL COMPLY WITH CITY OF BROOKHAVEN REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
- NOTIFY ALL CITY OF BROOKHAVEN INSPECTORS AT LEAST 24 HOURS PRIOR TO CONSTRUCTION.
- IF THE CONTRACTOR IN THE COURSE OF WORK FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE LOCALITY, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING, AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTORS RISK.
- DUST AND DEBRIS FROM GRADING AND OPERATION OF EQUIPMENT MUST BE MONITORED AND MINIMIZED TO LEVELS ACCEPTABLE TO THE ENGINEER, OWNER AND CITY OF BROOKHAVEN.
- APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY CITY OF BROOKHAVEN OF ANY LAND DISTURBING ACTIVITIES WHICH MAY RESULT IN THE TAKE OF ENDANGERED SPECIES. IT IS THE RESPONSIBILITY OF THE OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY DISTURBANCE WHICH MAY HAVE THIS EFFECT.
- THE TRAFFIC CONTROL DEVICES MUST COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION.
- UPON COMPLETION OF THE CONTRACT WORK, THE CONTRACTOR WILL BE REQUIRED TO RESTORE THE STAGING AREA AND SURROUNDING AREAS AFFECTED BY HIS WORK TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF AND AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS THAT ARE PERTINENT TO THIS WORK.
- ALL CONCRETE, ASPHALT, WASTE EMBANKMENT, DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- HANDICAP ACCESSIBLE RAMPS, AS PER THE AMERICAN NATIONAL STANDARDS INSTITUTE, SHALL BE INSTALLED AT THE SAME TIME AS THE CURB IS PLACED.
- NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS AND OTHER TRAFFIC CONTROL DEVICES AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC SHALL BE PROVIDED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN ENTERING MANHOLES, PIPES OR OTHER STRUCTURES SHOWN ON THE PLANS. AT A MINIMUM, THESE PIPES AND STRUCTURES SHALL BE PROPERLY VENTILATED.
- ALL PAVEMENT MARKINGS SHALL BE PAINTED.
- ALL UTILITIES SHALL BE PLACED UNDERGROUND. UTILITIES SHALL NOT BE LOCATED IN ANY DRAINAGE EASEMENTS EXCEPT FOR CROSSINGS.
- ALL CONSTRUCTION CONTRACTORS MUST OBSERVE THE LIMITS OF CONSTRUCTION OR DISTURBANCE AS SHOWN.
- IF USING HDPE/HDPE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-294 AND AASHTO M-7, TYPE 5SD. CONNECTION SHALL USE A RUBBER GASKET, WHICH CONFORMS TO ASTM F-47. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE D-2321, AASHTO SECTION 30, OR WITH SECTION 550 OF THE GEORGIA DOT STANDARD SPECIFICATION CONSTRUCTION OF ROAD AND BRIDGES.
- IF USING ALUMINUM COATED TYPE 2 STEEL PIPE OR ALUMINUM ALLOY PIPE, ALL ALUMINUM COATED TYPE 2 STEEL PIPE OR ALUMINUM ALLOY PIPE, WHICH WILL CARRY A LIFE STREAM, SHALL HAVE PAVED INVERTS IN ACCORDANCE WITH AASHTO M-100, TYPE C, EXCEPT THAT THE PIPE NEED NOT BE FULLY COATED. INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 550 OF THE GEORGIA DOT STANDARD SPECIFICATION CONSTRUCTION OF ROAD AND BRIDGES.
- IF USING RCP PIPE: ALL RCP PIPE JOINTS SHALL BE BELL & SPIGOT TYPES WITH RUBBER GASKET CONFORMING TO ASTM C-443. THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH AASHTO M-170 AND/OR ASTM C-76. CLASS OF PIPE AND WALL THICKNESS SHALL BE IN ACCORDANCE WITH 1030-D, GA. DOT SPECIFICATION, TABLE NO. 1. INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 550 OF THE GEORGIA DOT STANDARD SPECIFICATIONS CONSTRUCTION OF ROAD AND BRIDGES.
- A SEPARATE BUILDING PERMIT SHALL BE OBTAINED FOR ALL RETAINING WALL (WHICH EITHER EXCEEDS 4 FEET IN HEIGHT OR WHICH HAS A BACKFILL SLOPE GREATER THAN 1 FOOT RISE IN 3 FEET HORIZONTAL) AND FOR EACH DETENTION POND WALL (DAM) IN ACCORDANCE WITH CITY OF BROOKHAVEN CONSTRUCTION CODE. A CERTIFICATE OF COMPLETION SHALL BE ISSUED BY CITY OF BROOKHAVEN BUILDING INSPECTIONS SECTION FOR ALL WALLS PERTINENT TO THE PROJECT PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY USABLE STRUCTURE ON THE SITE OR PRIOR TO APPROVAL OF THE FINAL SUBDIVISION PLAT AS APPLICABLE.
- ALL PAVEMENT TO HAVE 2% MIN. SLOPES FOR POSITIVE DRAINAGE.

NOTE:
SURVEY CONDUCTED BY TERRAMARK
LAND SURVEYING INC., 1396 BELLS
FERRY ROAD, MARIETTA, GEORGIA 30066,
770-421-1927, DRAWING # TM 16 095.



ALL FLOW ARROWS REPRESENT 2% MIN. SLOPE, TYP.

CONCRETE SIDEWALK FLUSH TO ASPHALT.
MAINTAIN ACCESS DRIVEWAY.

FINISH GRADE OF ALL SIDEWALKS SHALL BE FLUSH WITH TOP OF CURB, TYP.

SEE ENLARGEMENT 'B' BELOW

SEE ENLARGEMENT 'A' BELOW

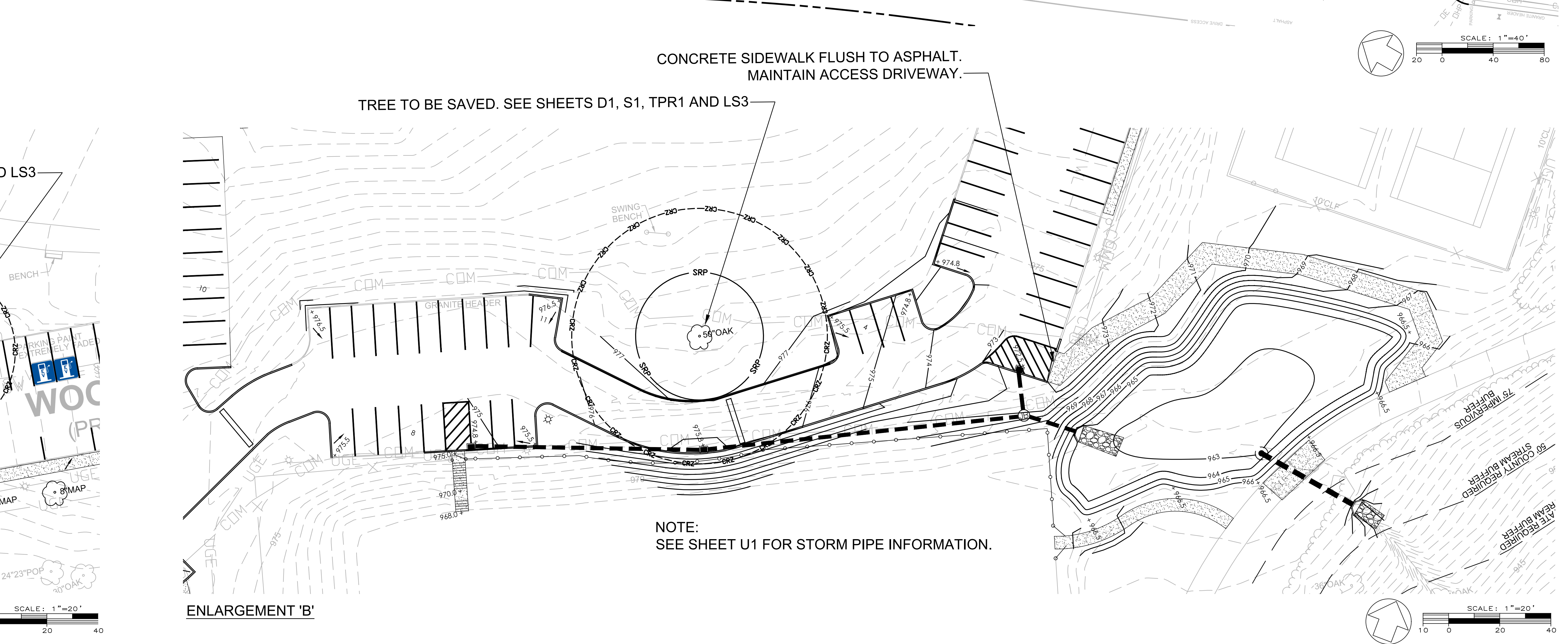
ASHFORD DUNWOODY ROAD
(APPARENT VARIABLE R/W)

CONCRETE SIDEWALK FLUSH TO ASPHALT.
MAINTAIN ACCESS DRIVEWAY.

TREE TO BE SAVED. SEE SHEETS D1, S1, TPR1 AND LS3

TREE TO BE SAVED. SEE SHEETS D1, S1, TPR1 AND LS3

NOTE:
SEE SHEET U1 FOR STORM PIPE INFORMATION.

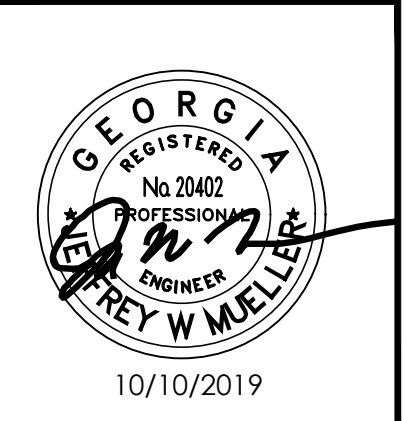


ENLARGEMENT 'A'

ENLARGEMENT 'B'



No.	Date	Description



CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
3493 ASHFORD DUNWOODY ROAD
BROOKHAVEN, GEORGIA 30319

DATE	DRAWN	CHECKED
3/7/19	JP	JM

SCALE: AS SHOWN
SHEET TITLE: GRADING AND DRAINAGE PLAN

PROJECT NUMBER 15090.00
G1
DRAWING NUMBER

Drawing Name: S:\Projects\Brookhaven_CV\Blackburn Park\Design\01 Job Info\CAD\Blackburn Park Layout.dwg
Date last printed: 10/10/2019 2:34 PM
Printed By: Joseph Powell

DRAWINGS SCHEDULE		
No.	Date	Description



10/10/2019

CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
 3493 ASHFORD DUNWOODY ROAD
 BROOKHAVEN, GEORGIA 30319

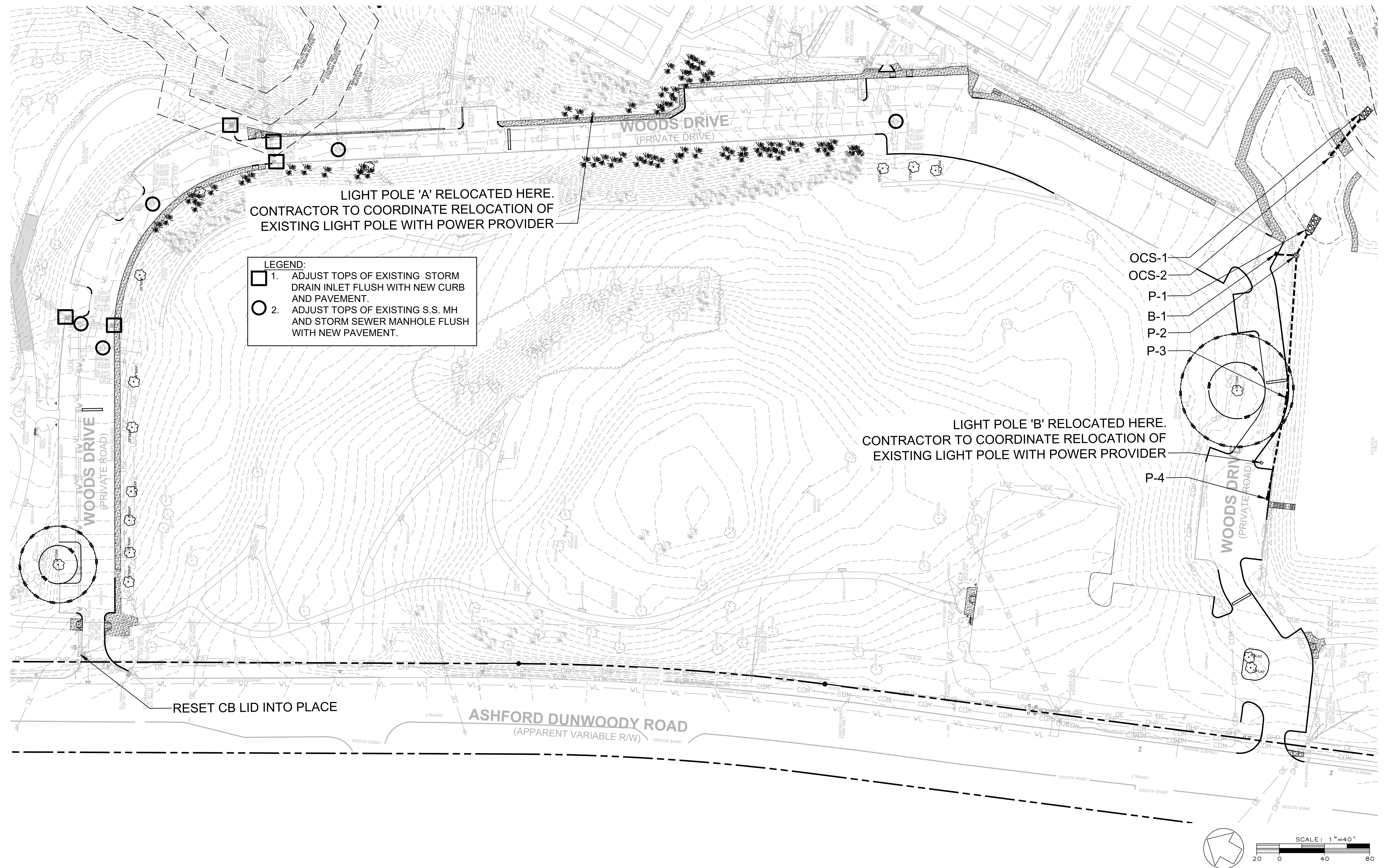
DATE	DRAWN	CHECKED
3/7/19	JP	JM

SCALE: AS SHOWN
SHEET TITLE: UTILITY PLAN

PROJECT NUMBER:
15090.00

U1

DRAWING NUMBER

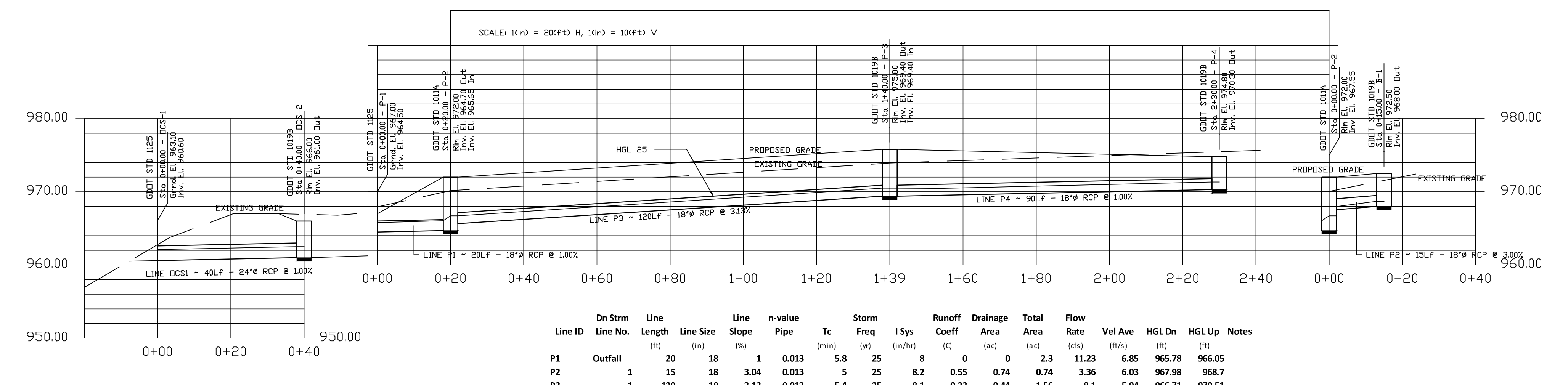
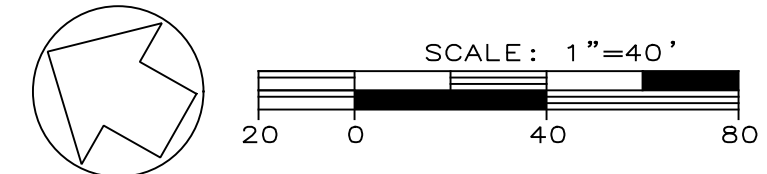


LEGEND:
 1. ADJUST TOPS OF EXISTING STORM DRAIN INLET FLUSH WITH NEW CURB AND PAVEMENT.
 2. ADJUST TOPS OF EXISTING S.S. MH AND STORM SEWER MANHOLE FLUSH WITH NEW PAVEMENT.

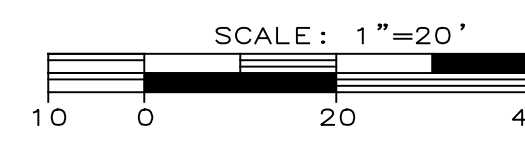
LIGHT POLE 'A' RELOCATED HERE. CONTRACTOR TO COORDINATE RELOCATION OF EXISTING LIGHT POLE WITH POWER PROVIDER

LIGHT POLE 'B' RELOCATED HERE. CONTRACTOR TO COORDINATE RELOCATION OF EXISTING LIGHT POLE WITH POWER PROVIDER

RESET CB LID INTO PLACE



Line ID	Dn Storm Line No.	Length (ft)	Line Size (in)	Line Slope (%)	n-value	Storm Freq (yr)	ISys (in/hr)	Runoff Coeff (C)	Drainage Area (ac)	Total Area (ac)	Flow Rate (cfs)	Vel Ave (ft/s)	HGL On (ft)	HGL Up (ft)	Notes
P1	Outfall	20	18	1	0.013	5.8	25	8	0	0	2.3	11.23	6.85	965.78	966.05
P2	1	15	18	3.04	0.013	5	25	8.2	0.55	0.74	0.74	3.36	6.03	967.98	968.7
P3	1	120	18	3.13	0.013	5.4	25	8.1	0.33	0.44	1.56	8.1	5.94	966.71	970.51
P4	3	90	18	1.00	0.013	5	25	8.2	0.76	1.12	7.02	5.25	970.51	971.53	
OCS1	Outfall	40	24	1.00	0.013	5	25	8.2	0.5	3.55	3.55	17.45	6.89	962.1	962.5

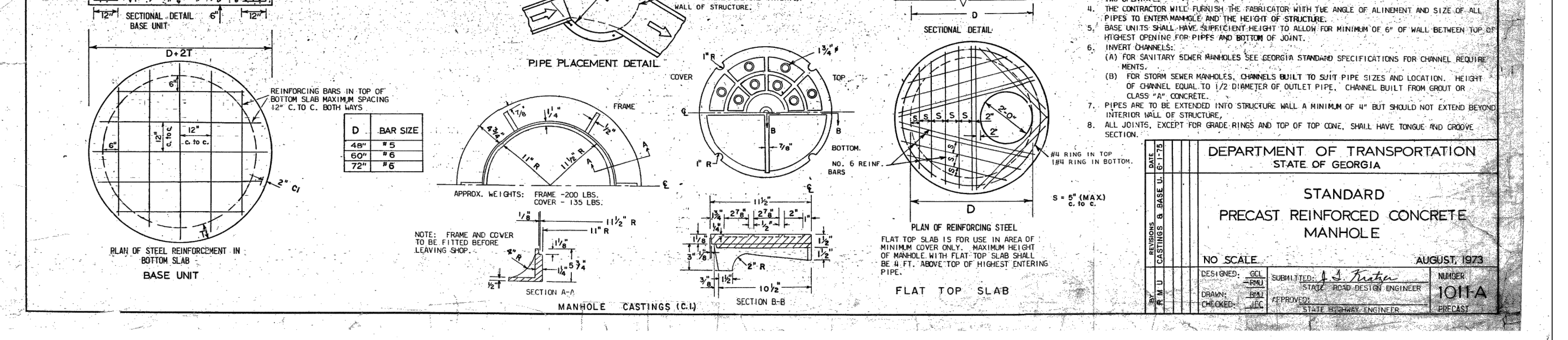
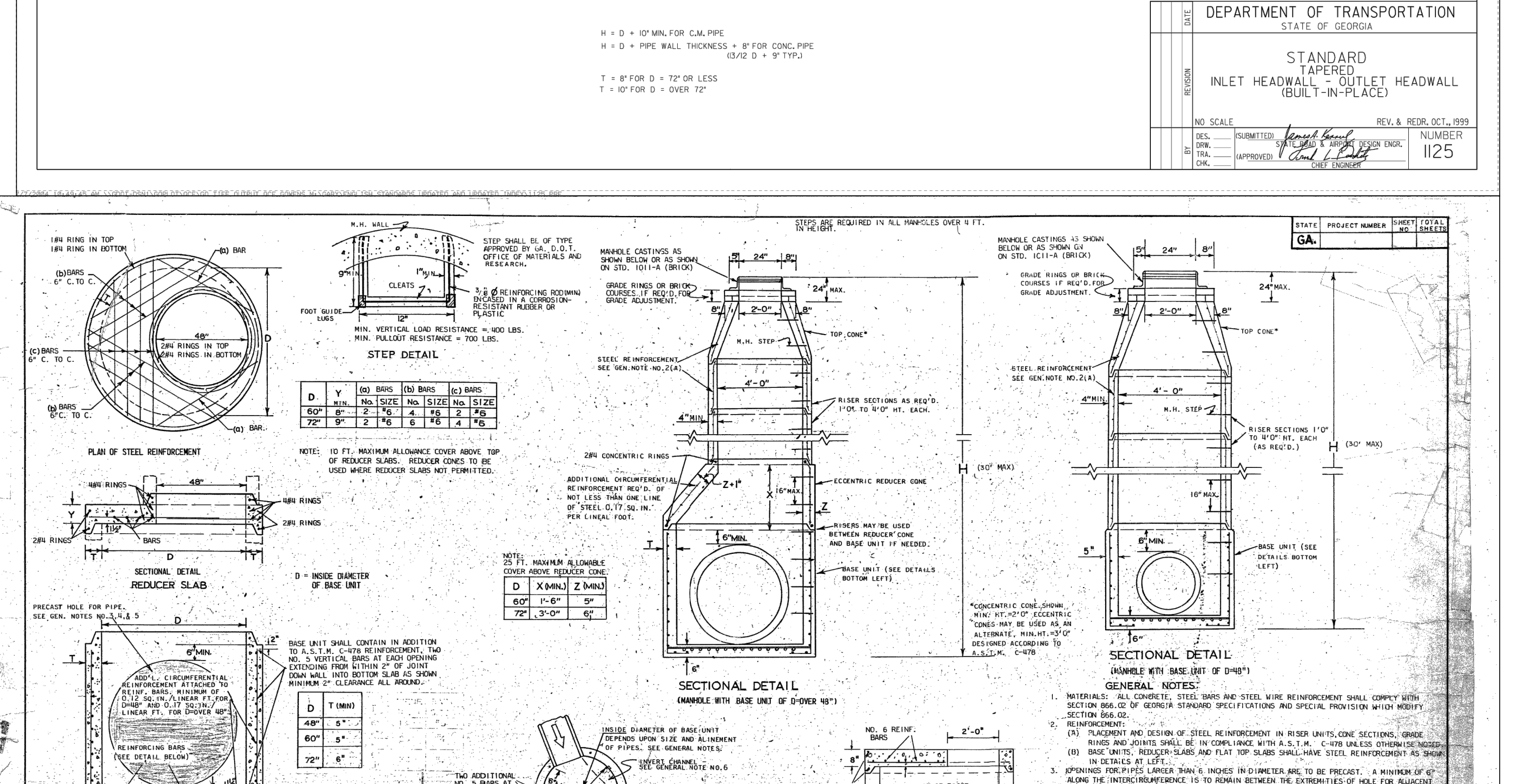
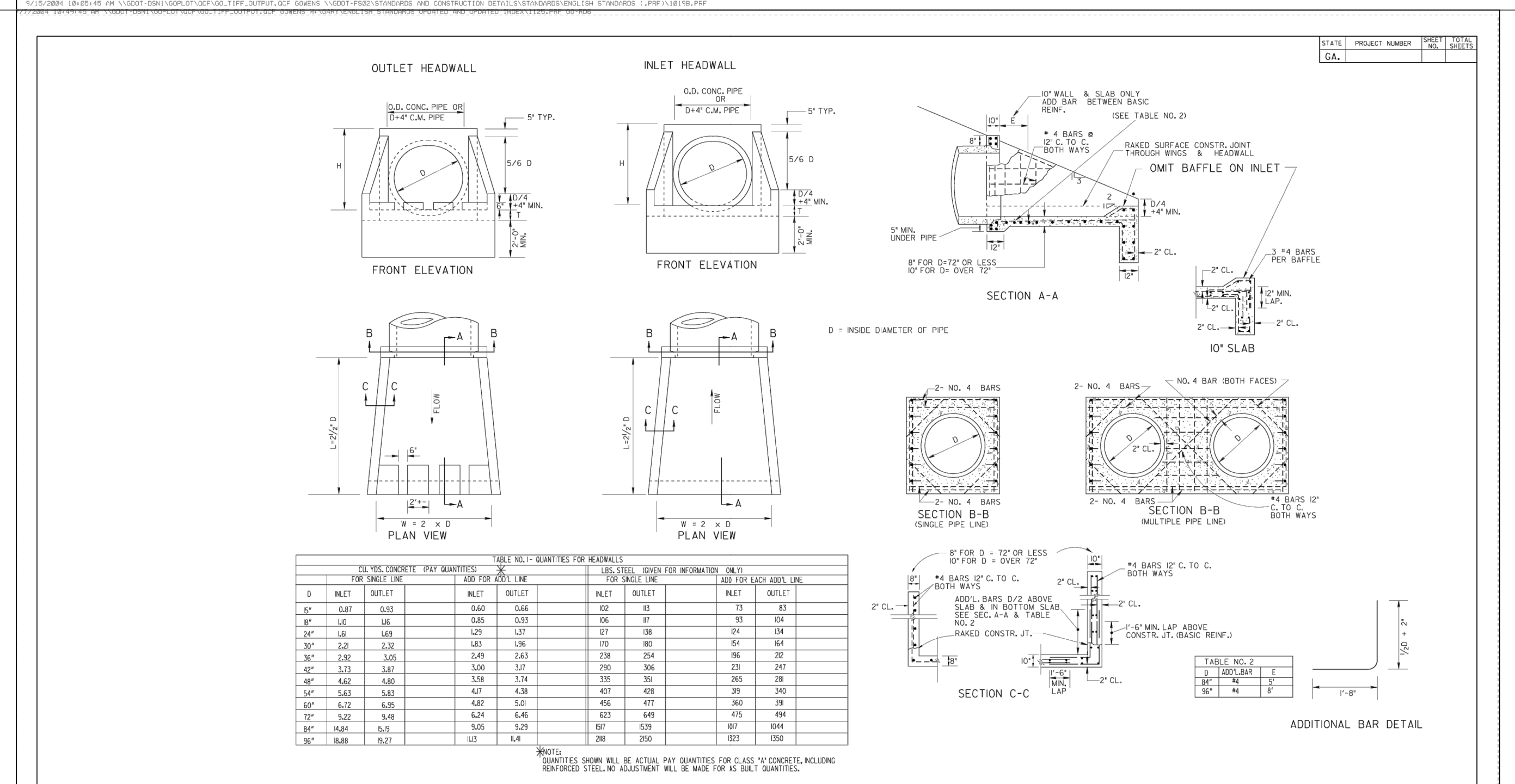
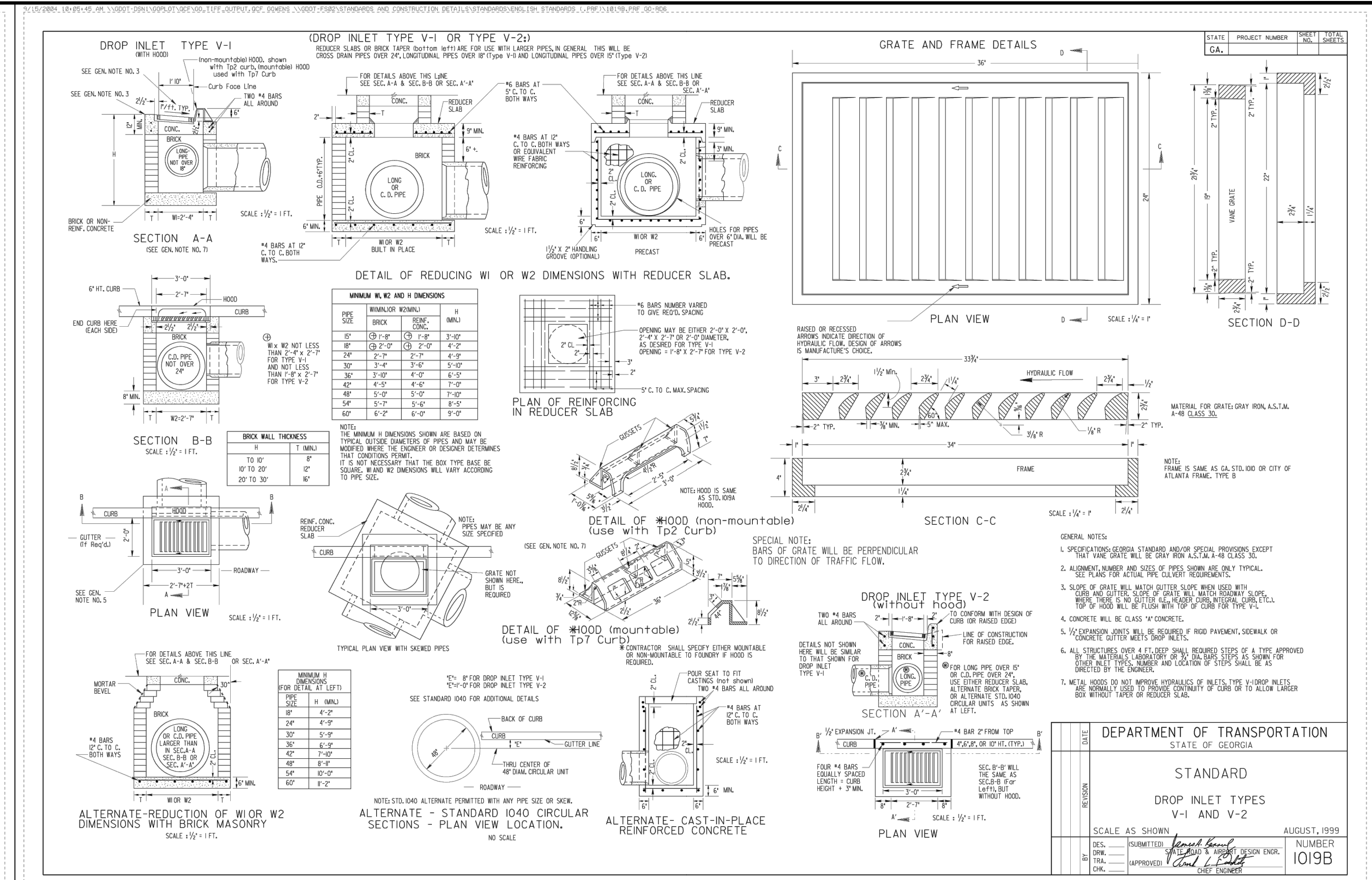
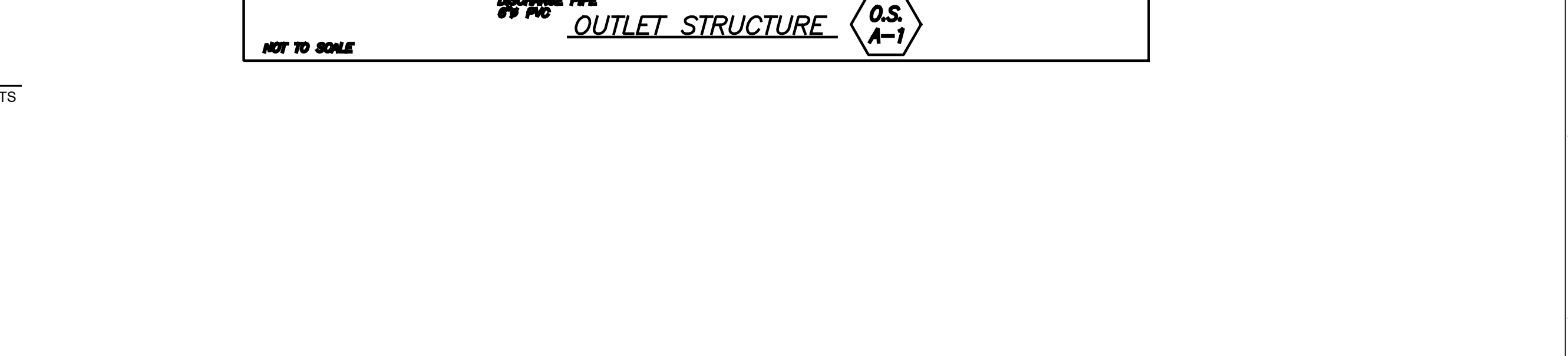
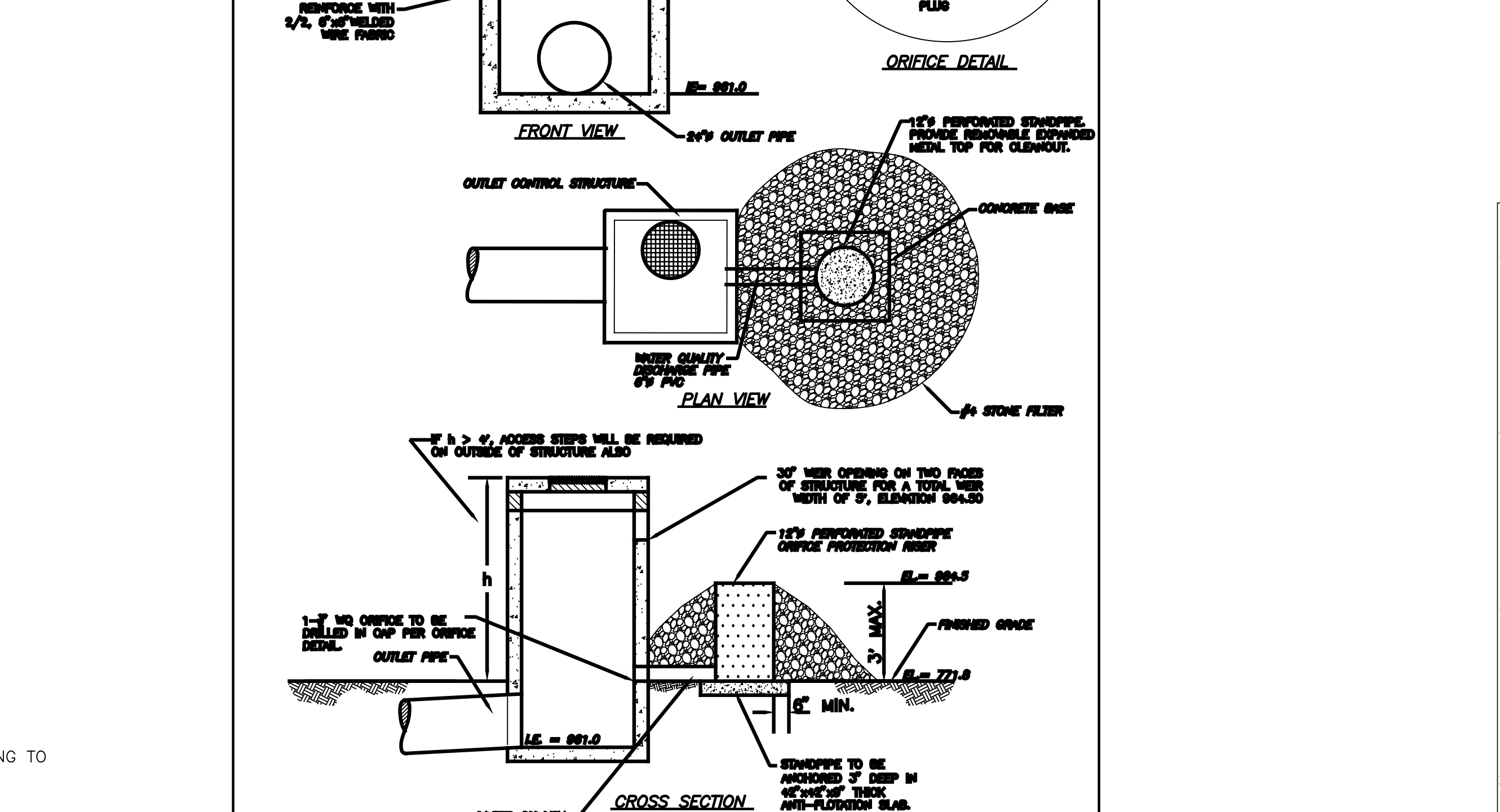
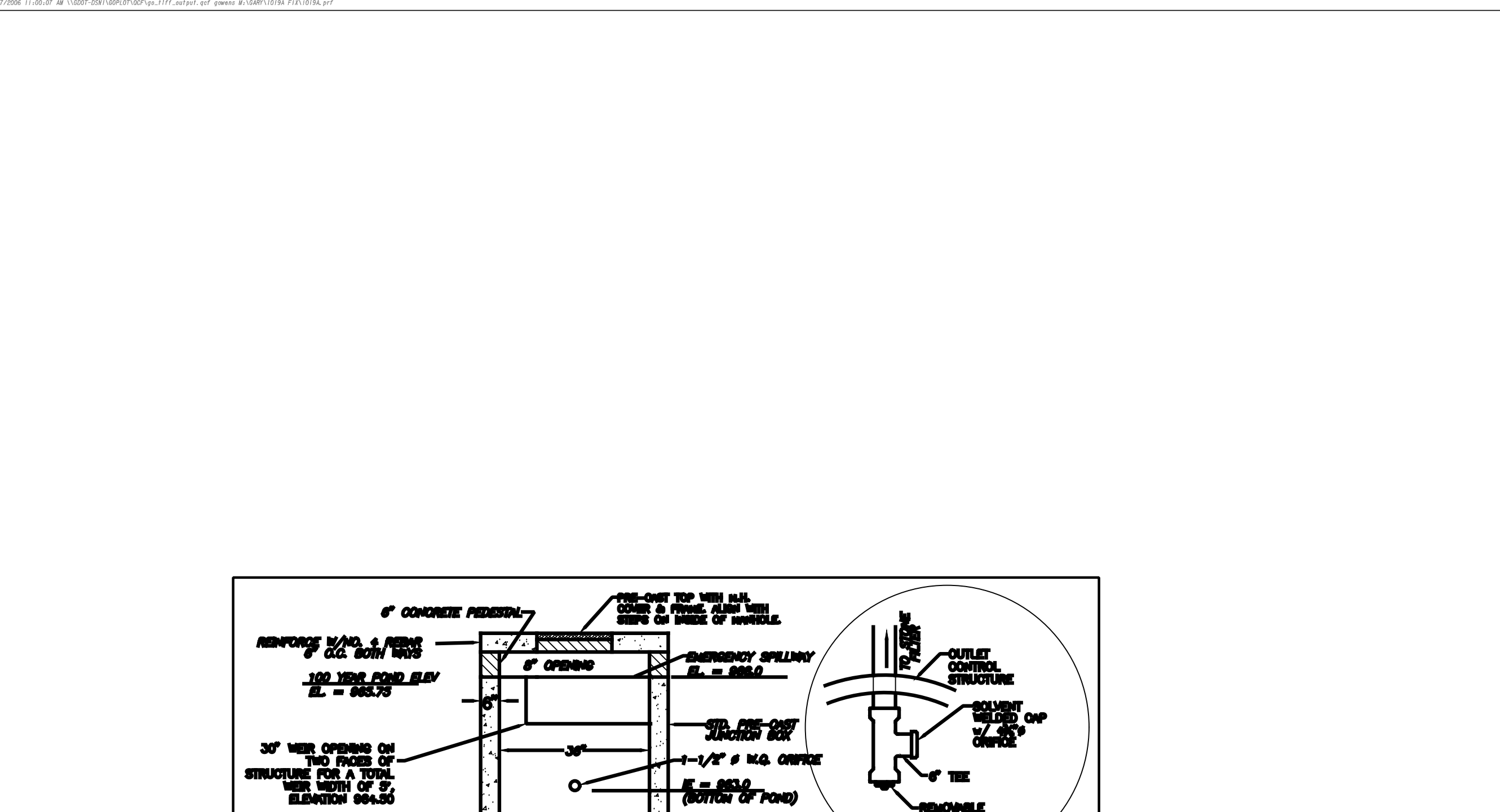
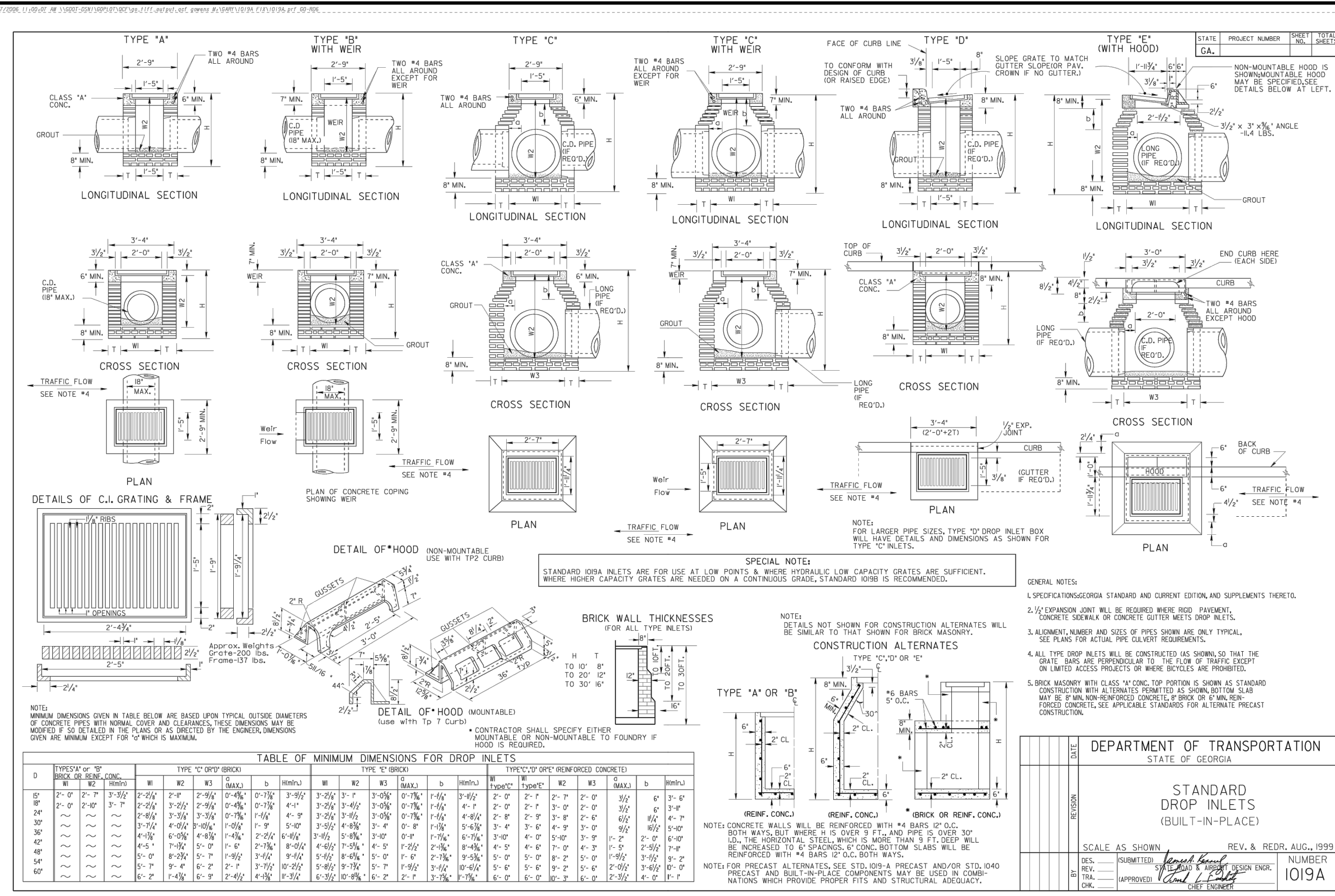
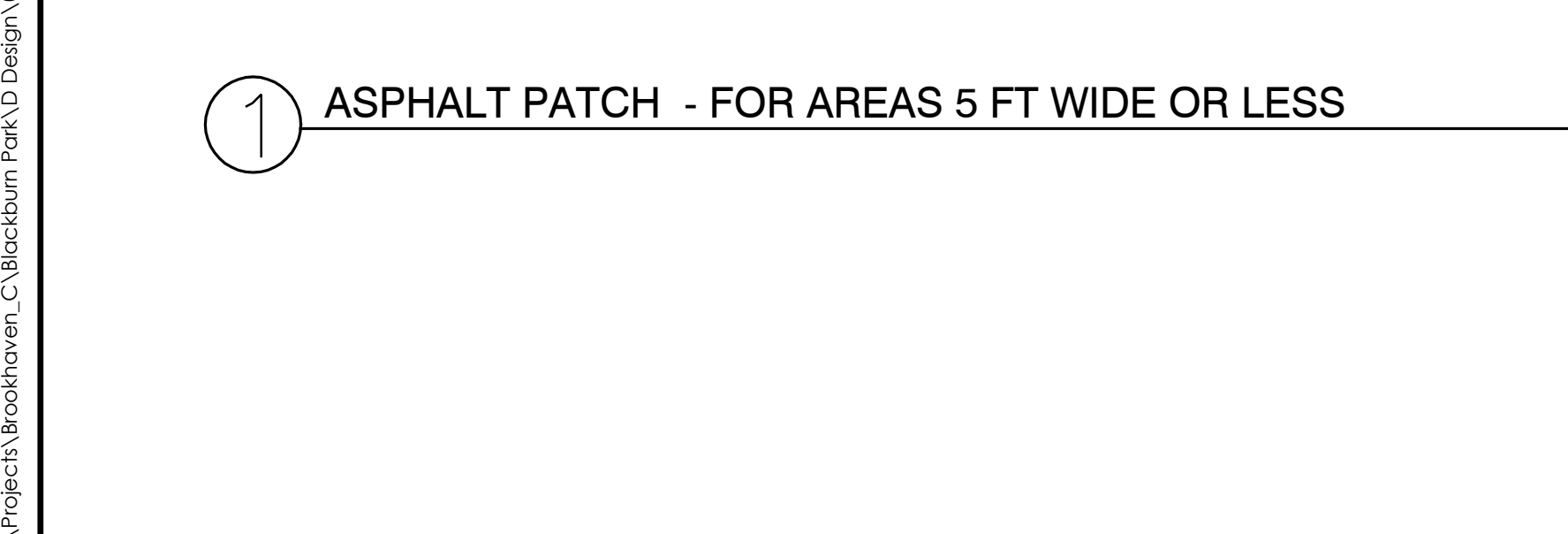
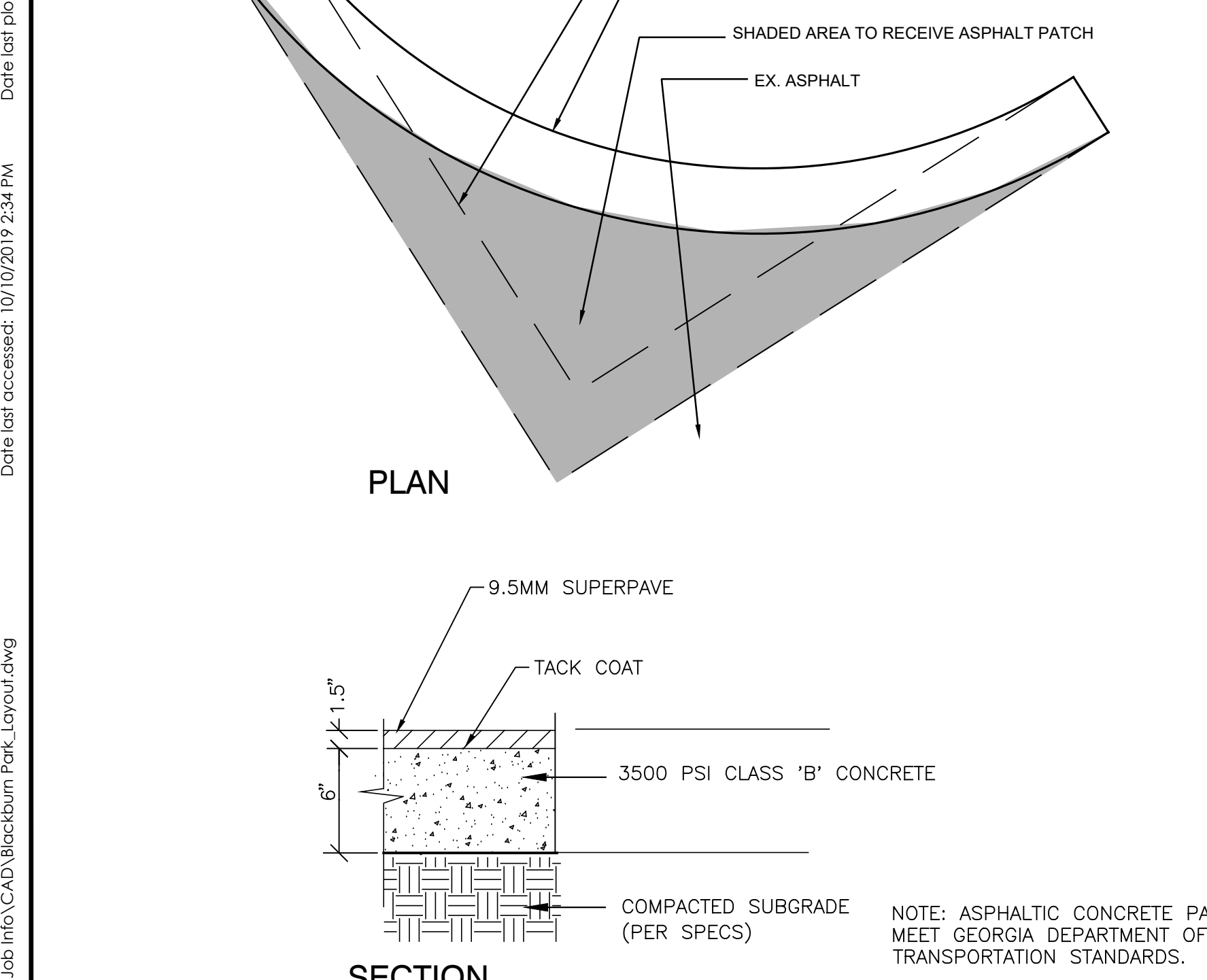
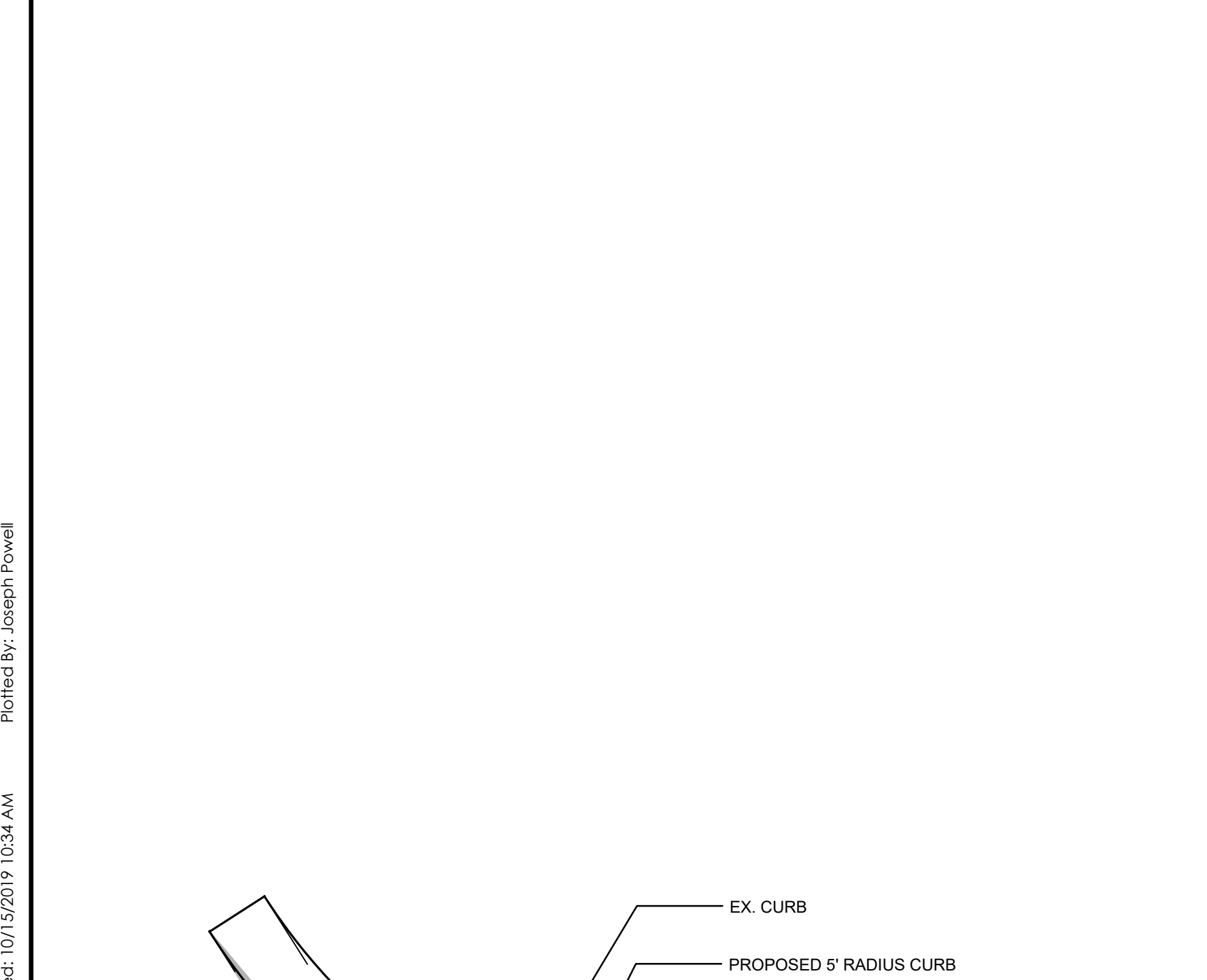
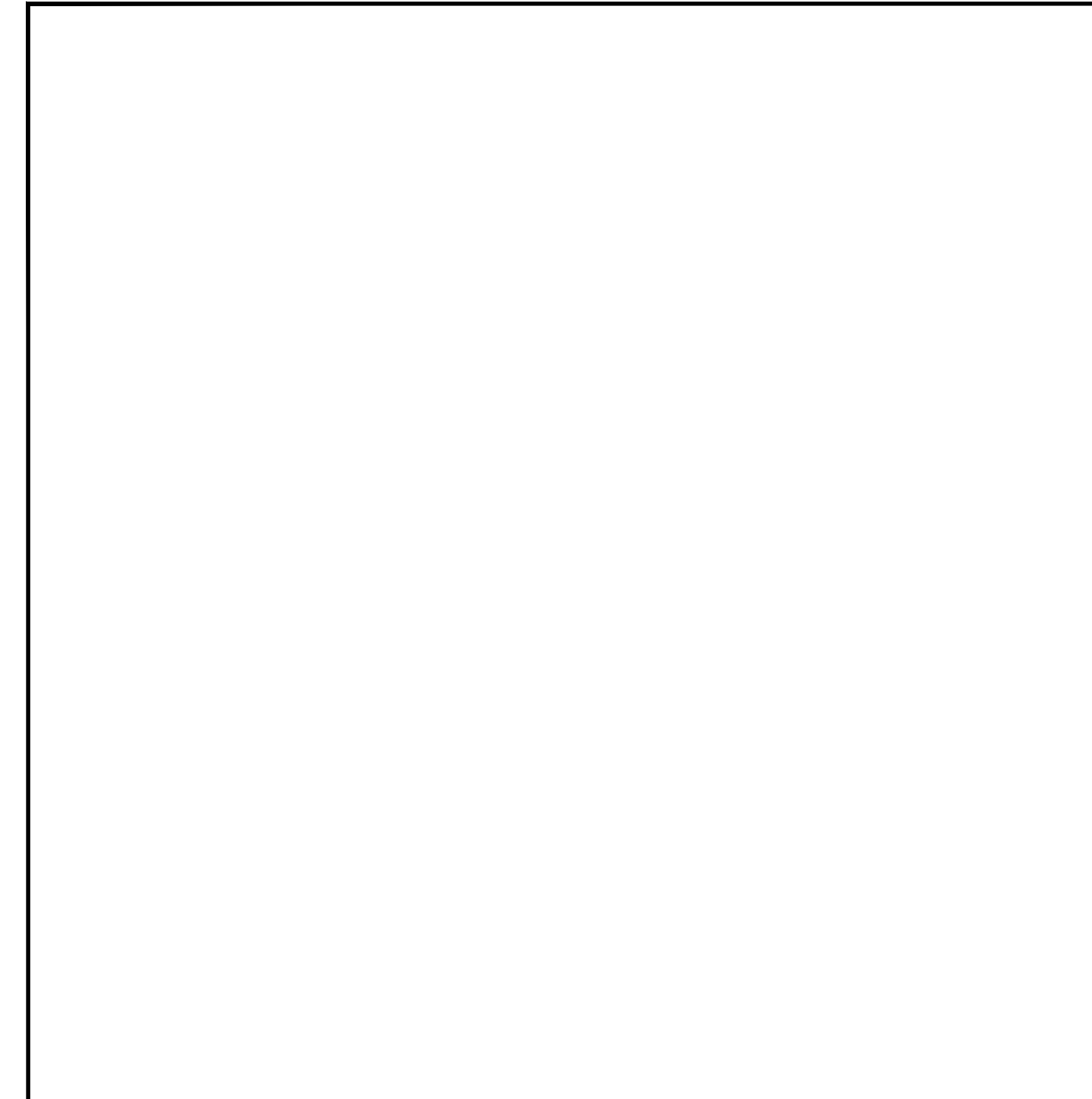


NOTE:
 SURVEY CONDUCTED BY TERRAMARK LAND SURVEYING INC., 1396 BELLS FERRY ROAD, MARIETTA, GEORGIA 30066, 770-421-1927, DRAWING #TM 16 095.



NOTE:
 1. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND WHAT IS SHOWN ON THESE PLANS.

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 Date last accessed: 10/10/2019 2:34 PM
 Date last plotted: 10/15/2019 10:34 AM
 Plotted By: Joseph Powell



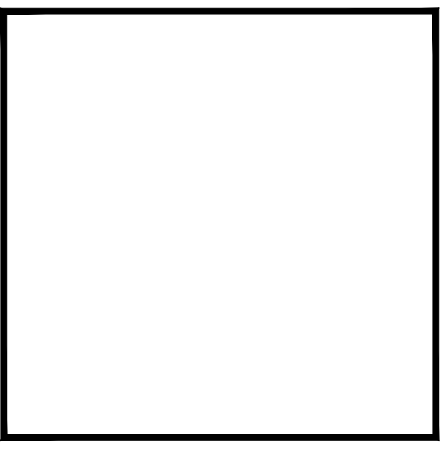
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 Date last plotted: 10/10/2019 2:34 PM
 Plotted By: Joseph Powell

**ARCHITECTURE
ENGINEERING
PLANNING
CPL team.com**



DRAWINGS SCHEDULE

No.	Date	Description



CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
 3493 ASHFORD DUNWOODY ROAD
 BROOKHAVEN, GEORGIA 30319

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**STANDARD
INLET HEADWALLS
(BUILT-IN-PLACE)**

SCALE AS SHOWN REV. 8, REPR. JULY, 1999

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**STANDARD
PRECAST REINFORCED CONCRETE
MANHOLE**

SCALE AS SHOWN REV. 8, REPR. JULY, 1999

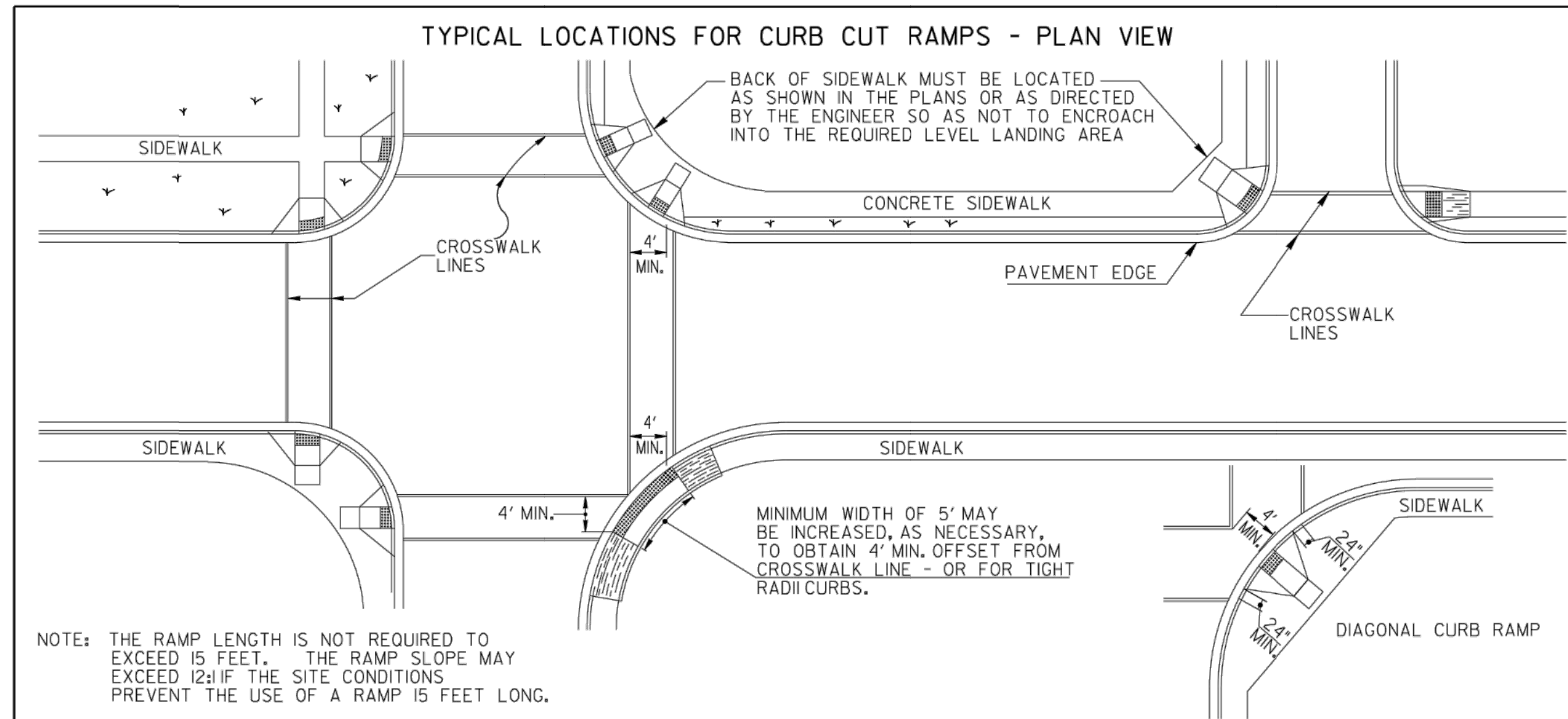
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3/7/19	JW	JM
SCALE AS SHOWN		
SHEET DETAILS		

**PROJECT NUMBER
15090.00**

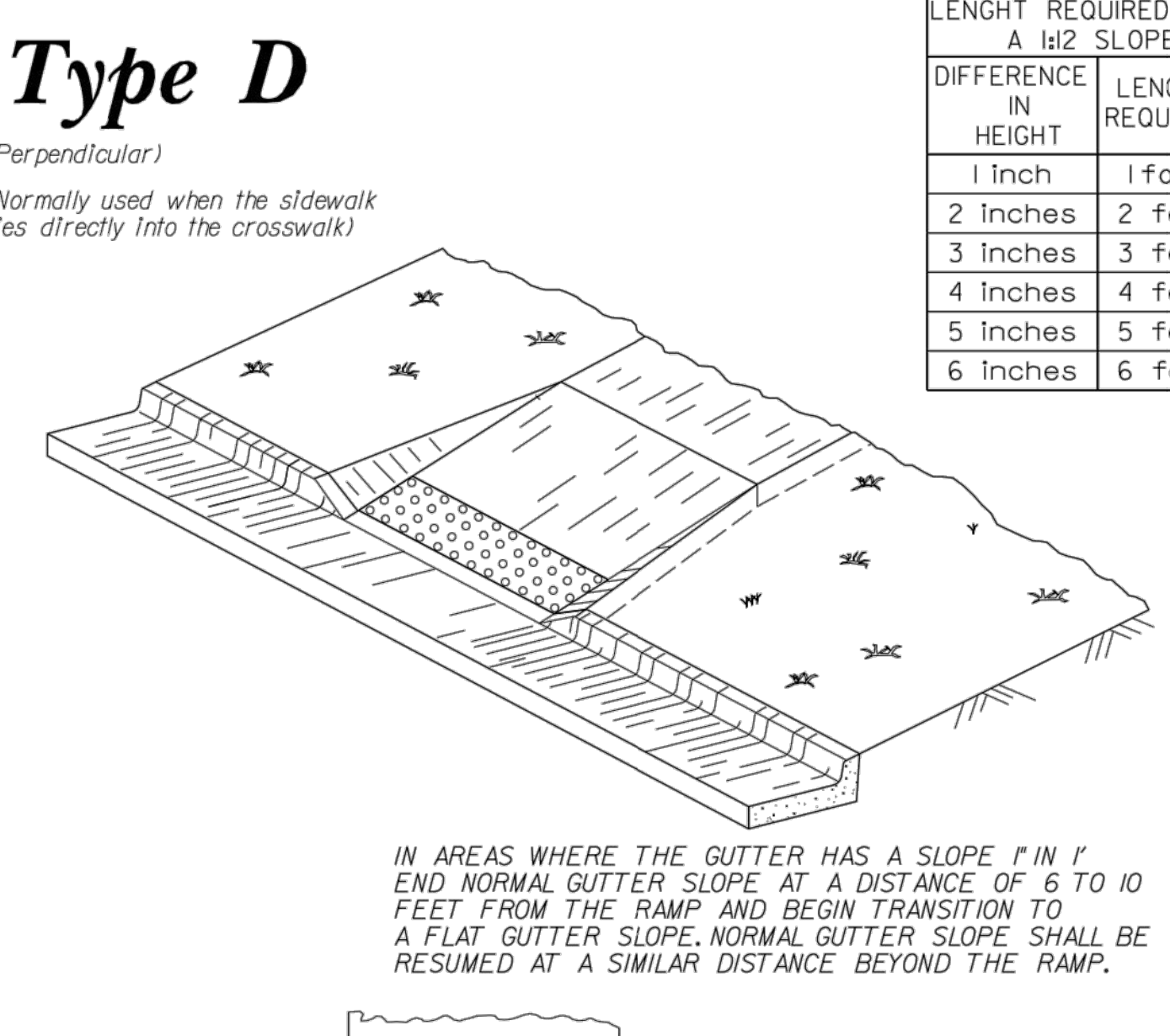
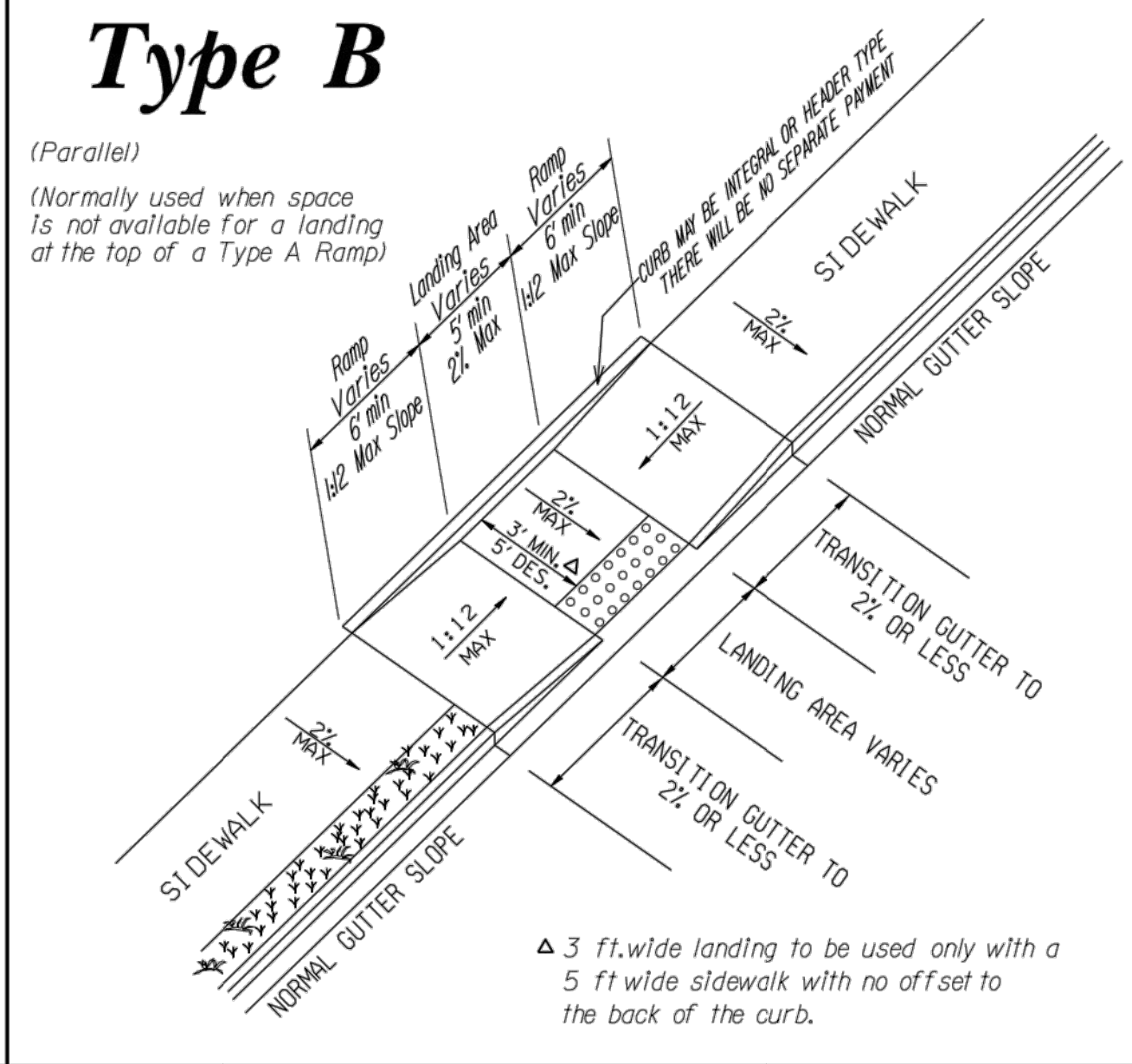
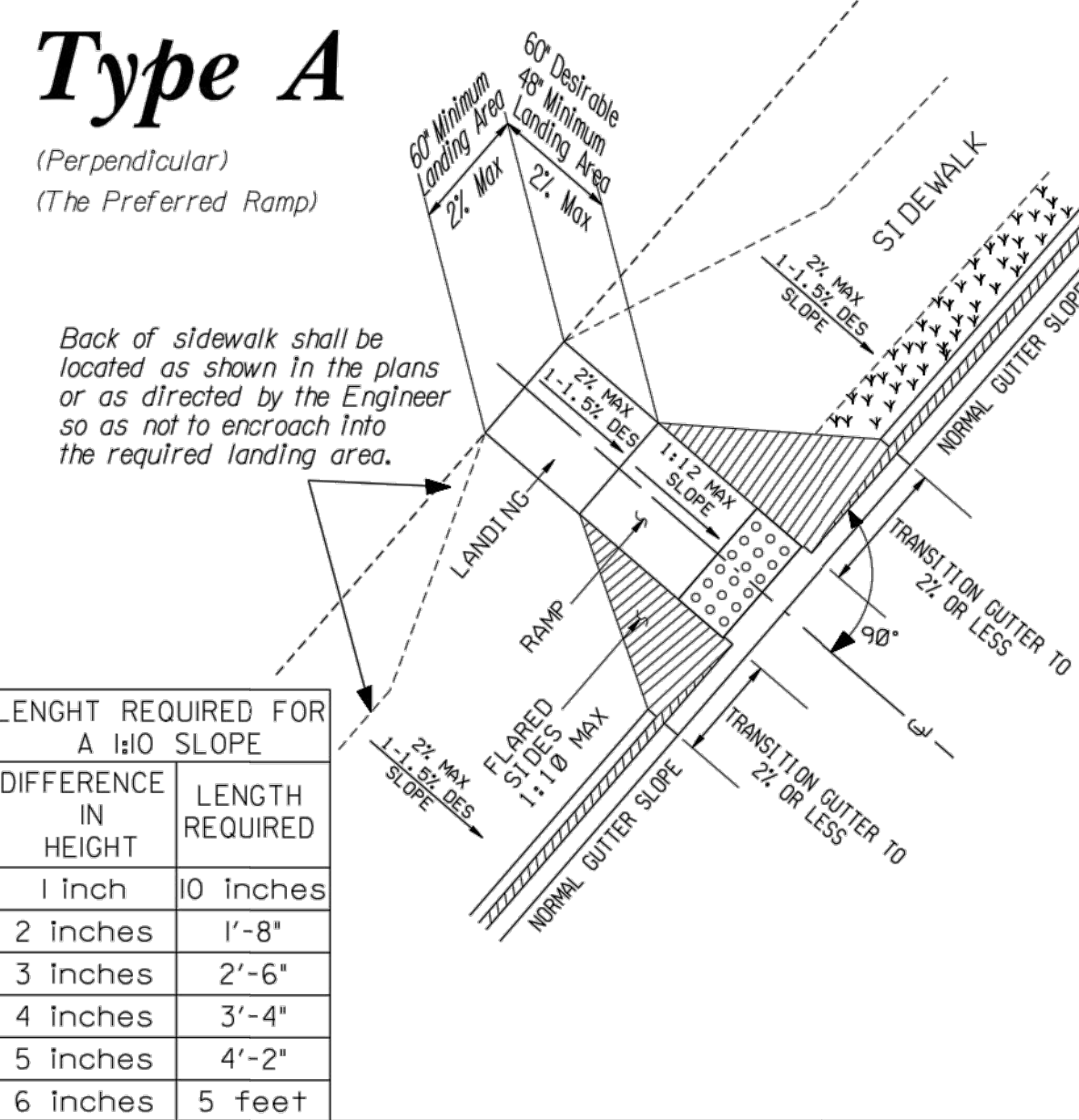
SD1

DRAWING NUMBER

No.	Date	Description

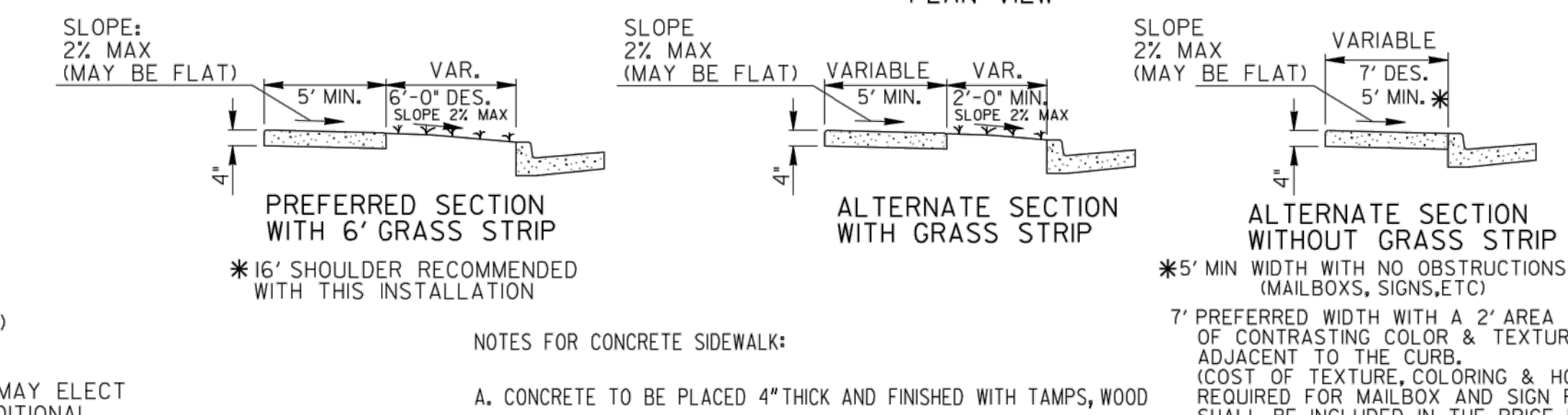
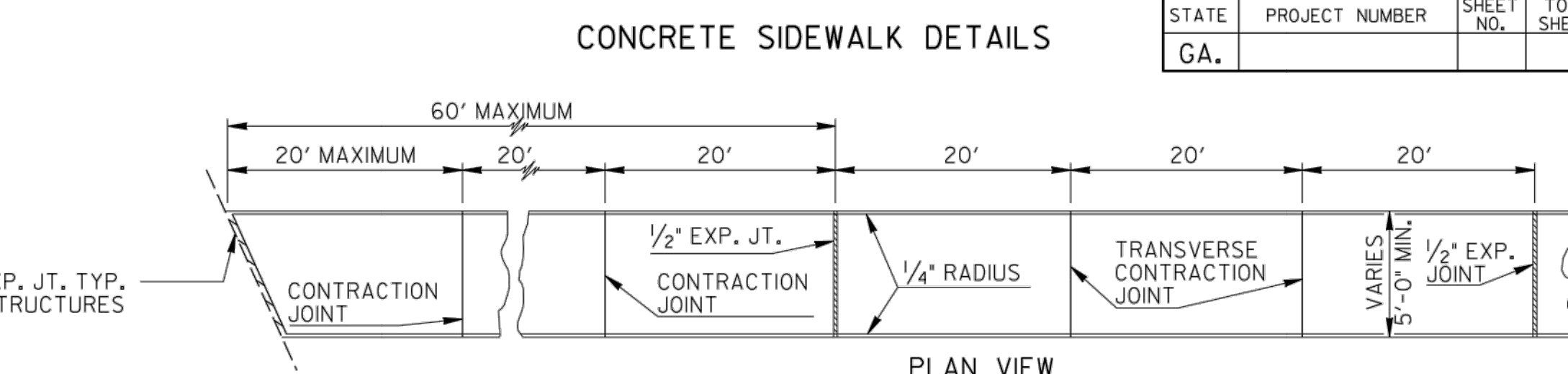
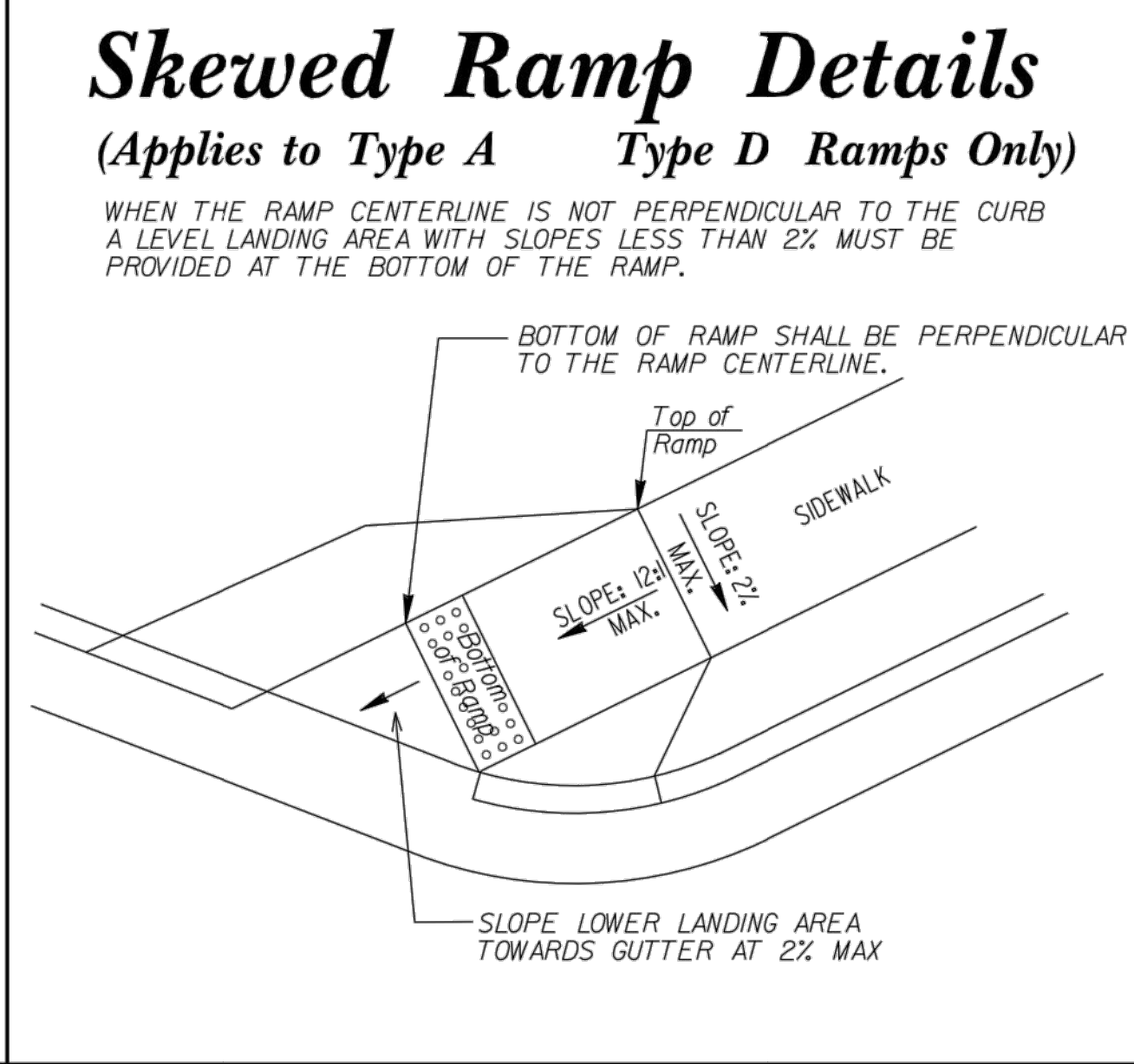
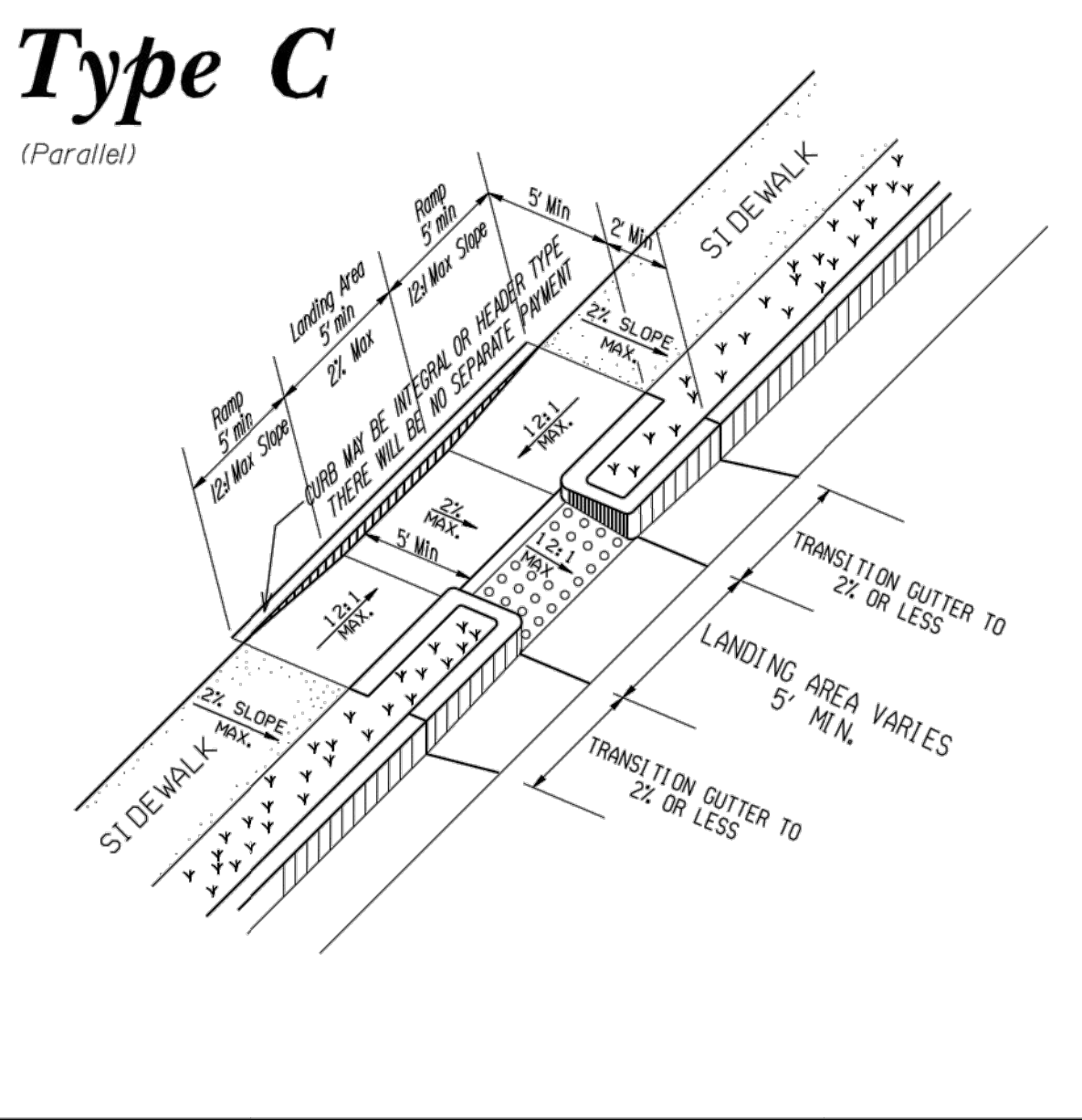


NOTE: THE RAMP LENGTH IS NOT REQUIRED TO EXCEED 15 FEET. THE RAMP SLOPE MAY EXCEED 12% IF THE SITE CONDITIONS PREVENT THE USE OF A RAMP 15 FEET LONG.



LENGTH REQUIRED FOR A 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



- NOTES FOR CONCRETE SIDEWALK:**
- CONCRETE TO BE PLACED 4" THICK AND FINISHED WITH TAMPS, WOOD FLOATS AND STIFF-BRISTLE BROOMS.
 - TRANSVERSE CONTRACTION JOINTS SHALL BE PLACED AT 20 FT. INTERVALS. ALL EDGES TO BE ROUNDED TO 1/4" RADIUS.
 - 1/2" EXPANSION JOINTS SHALL BE PLACED, WHERE SIDEWALK TIE INTO A STRUCTURE OR TERMINATE AT CURB, RAMPS OR DRIVEWAYS AND AT 60' INTERVALS.

- NOTES FOR CURB CUT RAMPS:**
- CURB CUT RAMPS WILL BE LOCATED AS FOLLOWS UNLESS PLANS OR CONTRACT SPECIFY OTHERWISE.
 - AT ALL PEDESTRIAN CROSSWALKS WHERE CURB IS CONSTRUCTED OR REPLACED.
 - WHERE THE SIDEWALK, CONCRETE OR UNPAVED, IS INTERRUPTED BY THE CURB AT TURNOUTS OR AT INTERSECTIONS.
 - AT OTHER LOCATIONS SUCH AS HOSPITALS, NURSING HOMES, REST AREAS, ETC., WHERE THE CURB WOULD OTHERWISE BE AN OBSTRUCTION TO THE PHYSICALLY DISABLED.
 - RAMPS WILL BE CONSTRUCTED FROM CONCRETE. SPECIFICATIONS FOR RAMPS WILL BE THE SAME AS FOR CONCRETE SIDEWALK. RAMPS SHALL HAVE EITHER A ROUGH OR A TEXTURED FINISH.
 - DROP INLETS ARE NOT TO BE LOCATED DIRECTLY IN FRONT OF RAMPS. CATCH BASINS SHOULD BE LOCATED AT LEAST 10 FT. FROM RAMPS WHEN FEASIBLE.
 - WHERE RAMPS ARE LOCATED IN RADIUS, THE DIMENSIONS SHOWN FOR RAMP WIDTHS AND TAPERS ARE MEASURED PERPENDICULAR TO THE RAMP AND NOT ALONG THE CURVE.
 - WHERE UTILITY STRUCTURES CONFLICT, WHERE SIDEWALK GEOMETRY VARIES, AT SKEWED INTERSECTIONS OR IN OTHER SPECIAL CASES, THE RAMP DESIGNS MAY BE MODIFIED BY THE DESIGNER OR ENGINEER, PROVIDED THAT THE WIDTH REMAINS A MINIMUM OF 48 INCHES, AND NO SLOPE ON THE ACCESSIBLE PART OF THE RAMP IS STEEPER THAN 12:1.
 - 1 IN. FT. OF CURB AND GUTTER WILL INCLUDE THE TRANSITIONED CURB IN FRONT OF RAMPS, SO, YDS. OF CONCRETE SIDEWALK AND CONCRETE MEDIAN PAVING WILL INCLUDE RAMPS. NO ADDITIONAL PAYMENT WILL BE MADE FOR CURB RAMPS. NO ADDITIONAL PAYMENT WILL BE MADE FOR SAWING AND REMOVING EXISTING SIDEWALK OR CURB WHERE NECESSARY FOR RAMP CONSTRUCTION.
 - WHEN A CURB RAMP IS PLACED ON EXISTING PAVEMENT, THE PAVEMENT SHALL BE REMOVED TO PROVIDE A MINIMUM THICKNESS OF 3 INCHES OF CONCRETE AT ALL LOCATIONS. NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL OF THE PAVEMENT.
 - DETECTABLE WARNING SURFACES ARE REQUIRED ON ALL INTERSECTIONS WITH PUBLIC STREETS, SIGNALIZED COMMERCIAL DRIVEWAYS, AND COMMERCIAL DRIVEWAYS WITH AN AADT OF 25 VPD.

This Detail Replaces Ga Standard 9031W
Guidelines For Usage On Metric Projects

When these details are incorporated into plans and or projects that are being prepared or constructed in metric units, exact or precise conversion to metric units is not required. The dimensions shown that are in feet and inches may be converted to corresponding metric units using the following "Round-Off" conversion factors: 1"=25mm, 4"=100mm, and 12"=300mm. All measurement notes that refer to linear feet and square yards shall be interpreted to mean linear meters and square meters.

C.B.	REV.	DATE	REVISION

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL DETAIL
CONCRETE SIDEWALK DETAILS
CURB CUT (WHEELCHAIR) RAMPS

NO SCALE
MARCH 12, 2002
NUMBER
A3

Drawing Name: S:\Projects\Brookhaven_CV\Blackburn Park D Design\01 Job Info\CAD\Blackburn Park Layout.dwg
 Date last printed: 10/10/2019 2:34 PM
 Date last plotted: 10/15/2019 10:35 AM
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DRAWINGS SCHEDULE		
No.	Date	Description



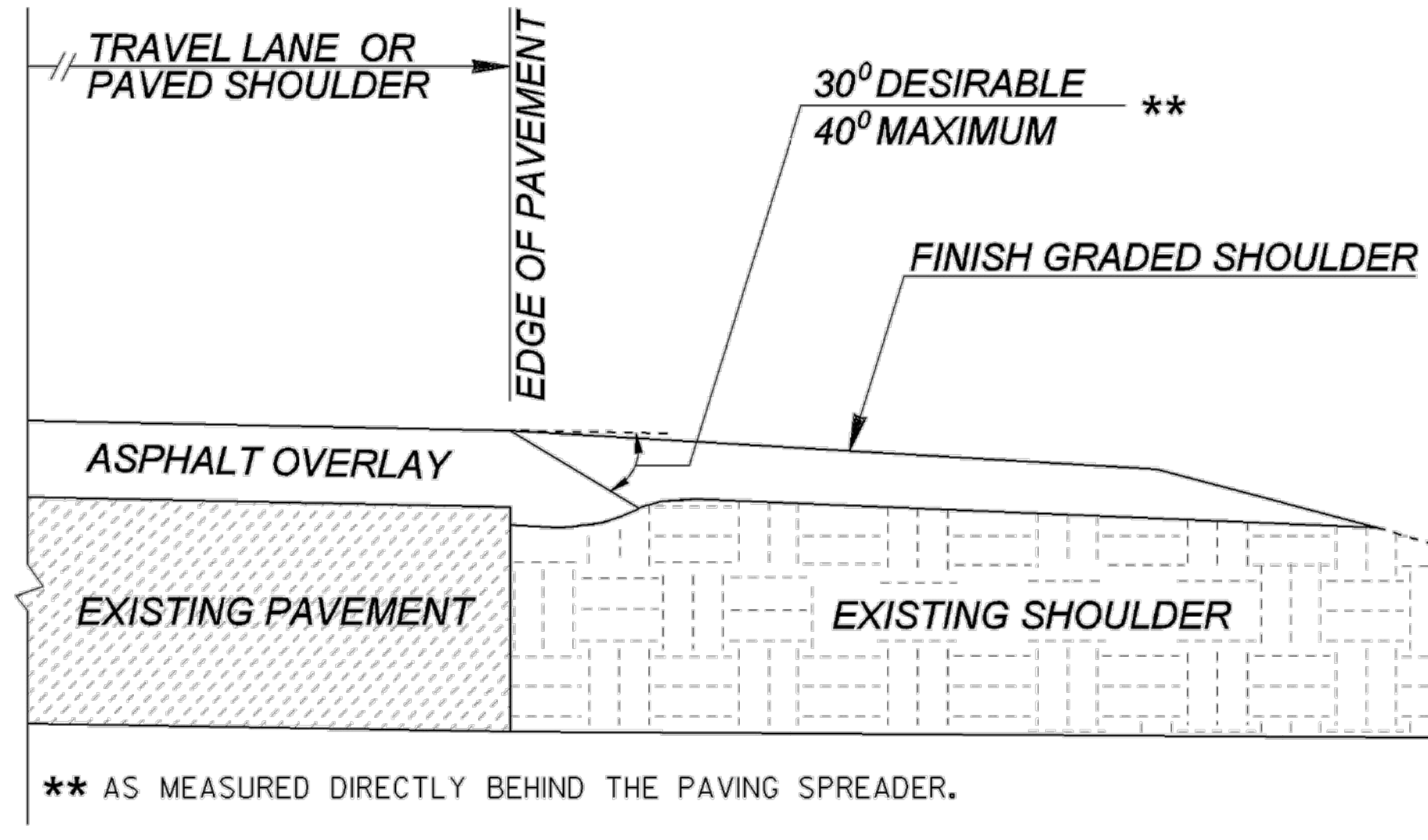
CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
3493 ASHFORD DUNWOODY ROAD
BROOKHAVEN, GEORGIA 30319

DATE	DRAWN	CHECKED
3/7/19	JP	JM
SCALE AS SHOWN		
SHEET TITLE		
SITE DETAILS		

PROJECT NUMBER	15090.00
DRAWING NUMBER	SD4

11/17/2011 2:02:21 PM \\SDOT-DBK\BOPLOT\GCP\60_K1p8000.qcf *look M\TPO\Revised P-7\P-7.plt 60-806

ASPHALT PAVEMENT - OVERLAY

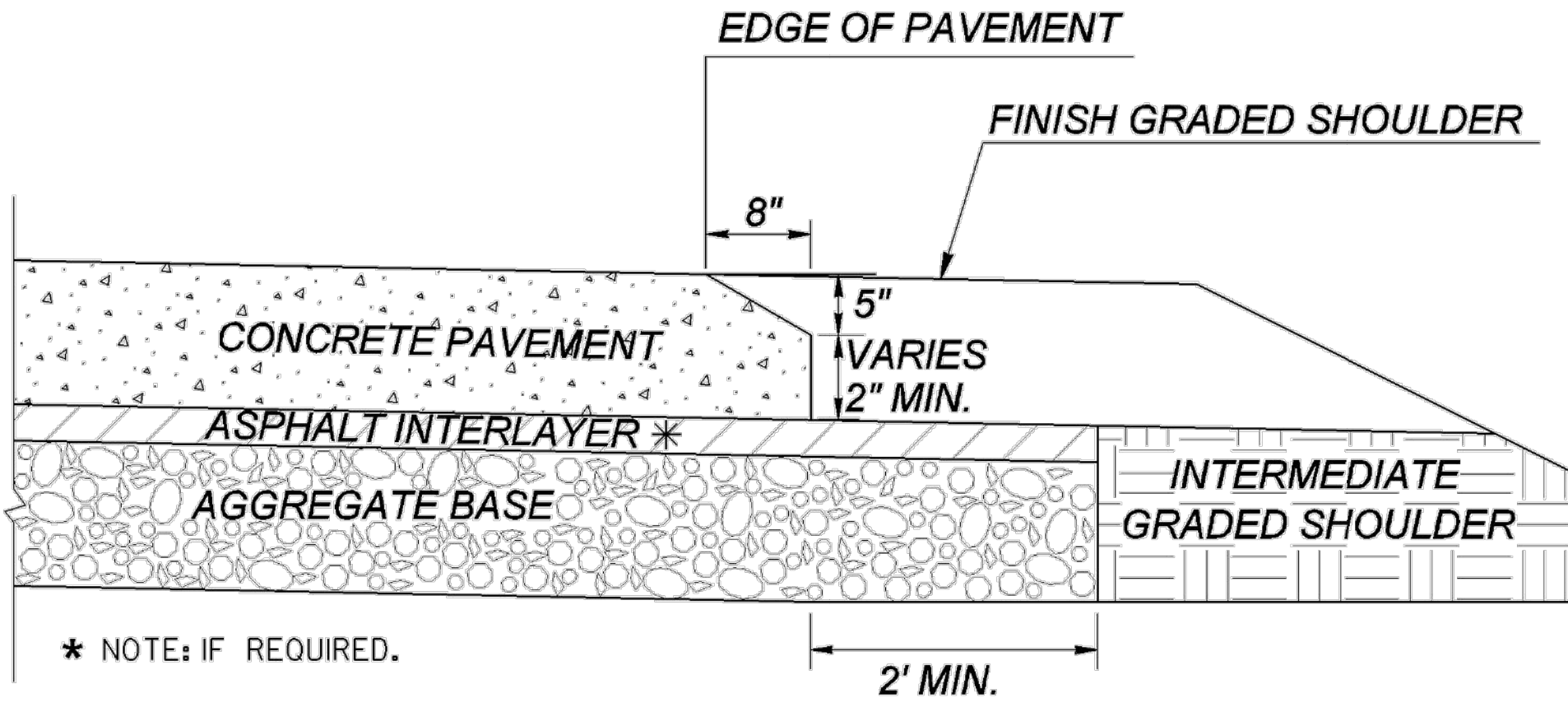


** AS MEASURED DIRECTLY BEHIND THE PAVING SPREADER.

ADDITIONAL QUANTITIES:
DEPTH OF OVERLAY (T), NO RUTTING
(T)² (IN.) X 0.000441 TN/IN.-FT X LENGTH (FT) = _____ TN

DEPTH OF OVERLAY (T), WITH 1 IN. RUTTING
(T)² (IN.) X 0.000441 TN/IN.-FT X LENGTH (FT) + (T) (IN.) X 0.000882 TN/IN.-FT X LENGTH (FT) = _____ TN

PLAIN PC CONCRETE PAVEMENT OR ROLLER COMPACTED CONCRETE PAVEMENT



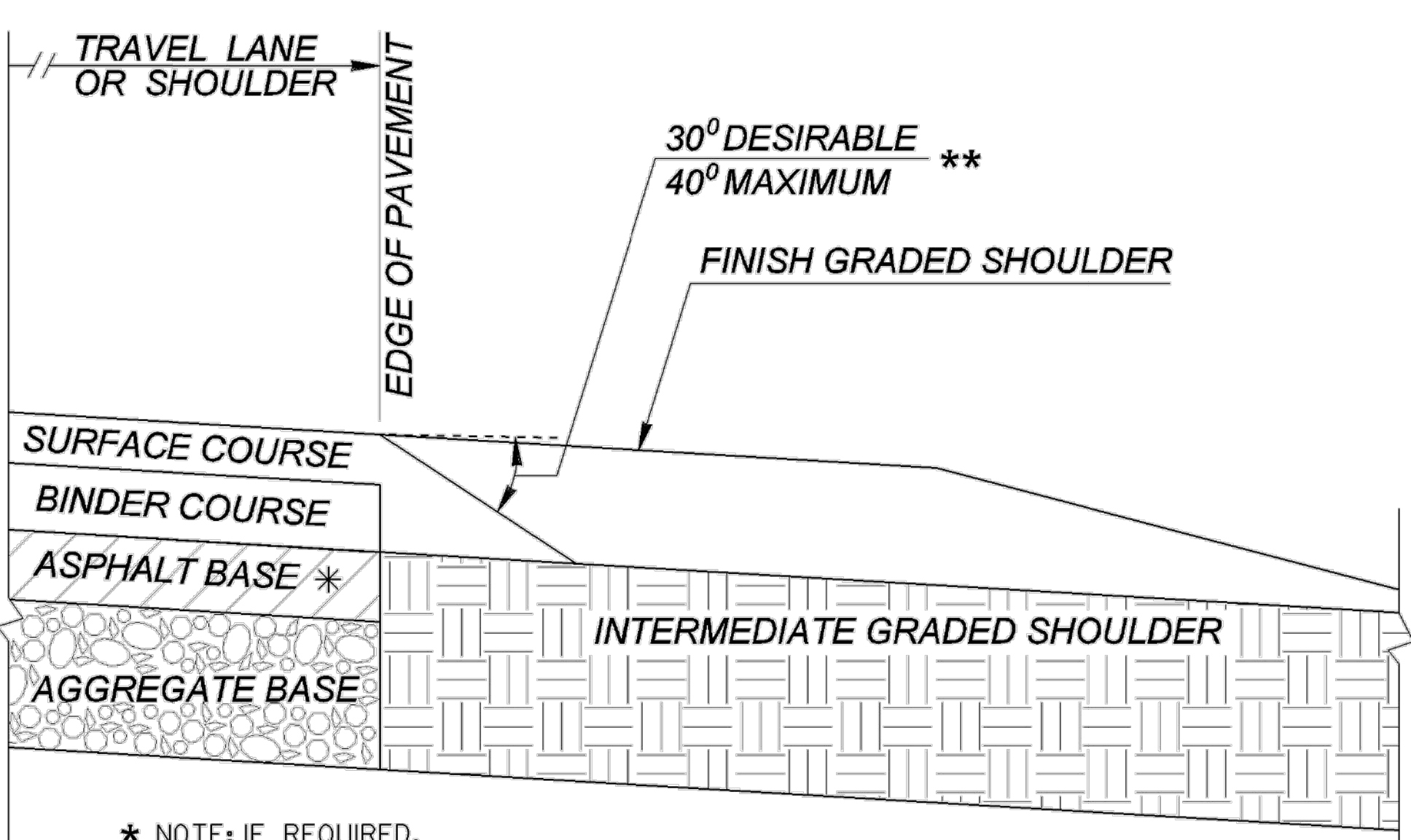
* NOTE: IF REQUIRED.

ADDITIONAL QUANTITIES:
CONCRETE
0.07407 SY/FT X LENGTH (FT) = _____ SY

ASPHALT INTERLAYER, IF REQUIRED
(T) IN. X LENGTH (FT) X 0.004074 TN/IN.-FT = _____ TN

AGGREGATE BASE (BASED ON 2.07 TN/CY)
(T) IN. X LENGTH (FT) X 0.0042592 TN/IN.-FT = _____ TN

ASPHALT PAVEMENT - NEW

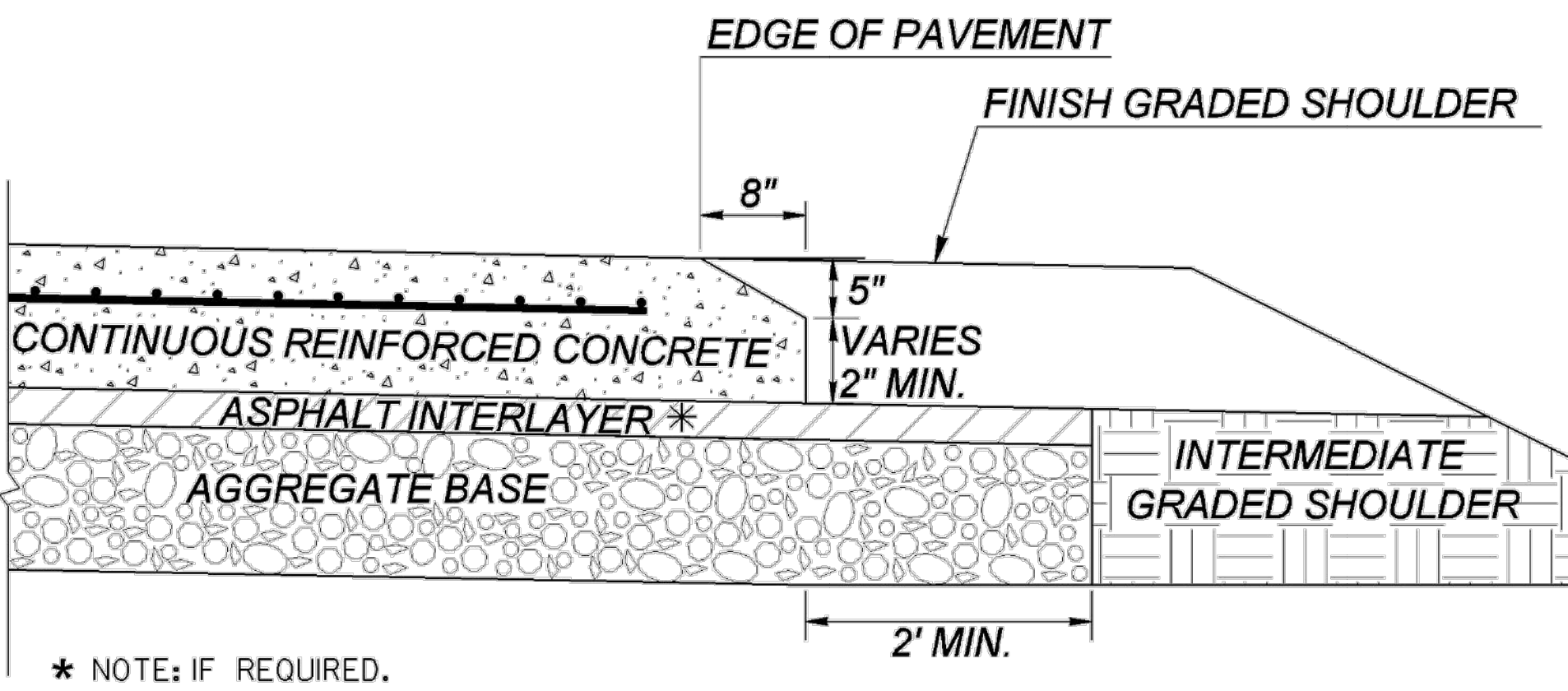


* NOTE: IF REQUIRED.
** AS MEASURED DIRECTLY BEHIND THE PAVING SPREADER.

ADDITIONAL QUANTITIES:
SURFACE COURSE PAVING DEPTH (T)
(T)² (IN.) X 0.000441 TN/IN.-FT X LENGTH (FT) = _____ TN

- GENERAL NOTES:
- THE SAFETY EDGE SHALL BE CONSTRUCTED AS AN INTEGRAL OPERATION OF THE ROADWAY PAVEMENT PLACEMENT PROCESS.
(ASPHALT PAVEMENT)
 - USE AN APPROVED MECHANICAL DEVICE THAT WILL:
 - APPLY COMPACTIVE EFFORT TO THE ASPHALT MIXTURE TO ELIMINATE OBJECTABLE VOIDS AS THE MIXTURE PASSES THROUGH THE WEDGE DEVICE.
 - PRODUCE A WEDGE WITH A UNIFORM TEXTURE, SHAPE, AND DENSITY WHILE AUTOMATICALLY ADJUSTING TO VARYING HEIGHTS ENCOUNTERED ALONG THE ROADWAY SHOULDER.
 - A SINGLE-PLATE STRIKE-OFF METHOD SHALL NOT BE USED FOR BITUMINOUS PAVING, AS THE SINGLE-PLATE STRIKE-OFF METHOD HAS BEEN FOUND TO PRODUCE A NON-DURABLE EDGE.
 - COMPACTION OF THE EDGE SHOULD NOT BE DONE WITH THE FIRST PASS OF THE ROLLER, WITH THE ROLLER STAYING OFF THE EDGE AT LEAST 6 INCHES. THIS IS IN ORDER TO ALLOW THE EDGE MIX TO SLIGHTLY COOL PRIOR TO COMPACTION.
 - SHORT SECTIONS OF HANDWORK ARE ALLOWED, WHEN NECESSARY, FOR TRANSITIONS AND TURNOUTS.

CONTINUOUS REINFORCED CONCRETE PAVEMENT



* NOTE: IF REQUIRED.

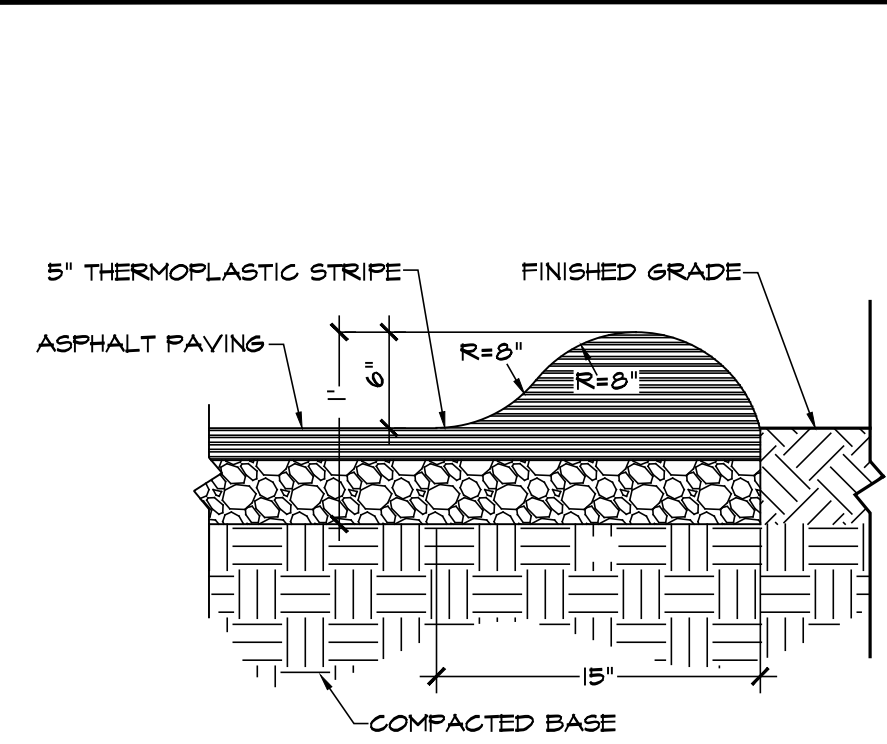
ADDITIONAL QUANTITIES:
CONCRETE
0.07407 SY/FT X LENGTH (FT) = _____ SY

ASPHALT INTERLAYER, IF REQUIRED
(T) IN. X LENGTH (FT) X 0.004074 TN/IN.-FT = _____ TN

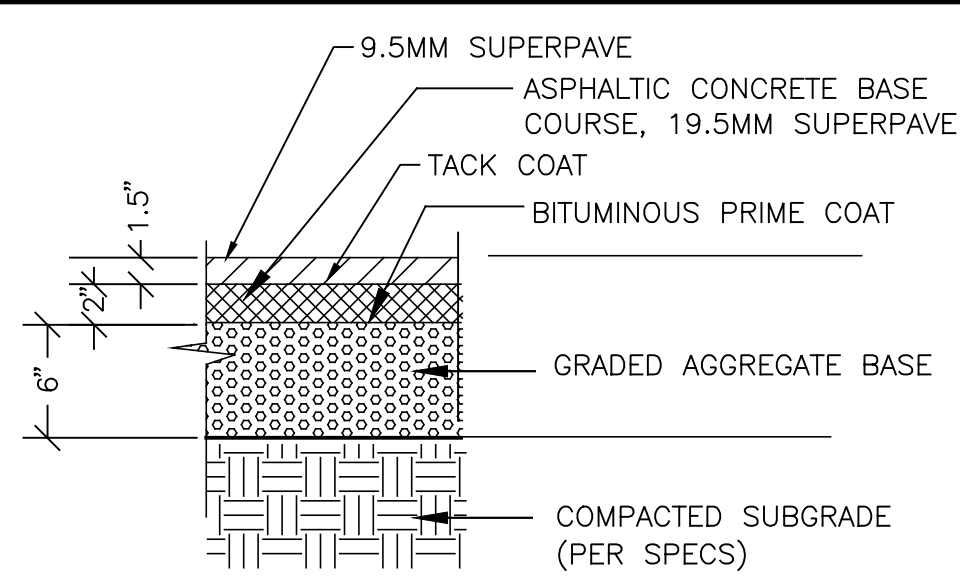
AGGREGATE BASE (BASED ON 2.07 TN/CY)
(T) IN. X LENGTH (FT) X 0.0042592 TN/IN.-FT = _____ TN

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
CONSTRUCTION DETAIL PAVEMENT EDGE TREATMENT ASPHALT AND CONCRETE PAVEMENT	
NO SCALE	SEPTEMBER 2011
NUMBER	P-7

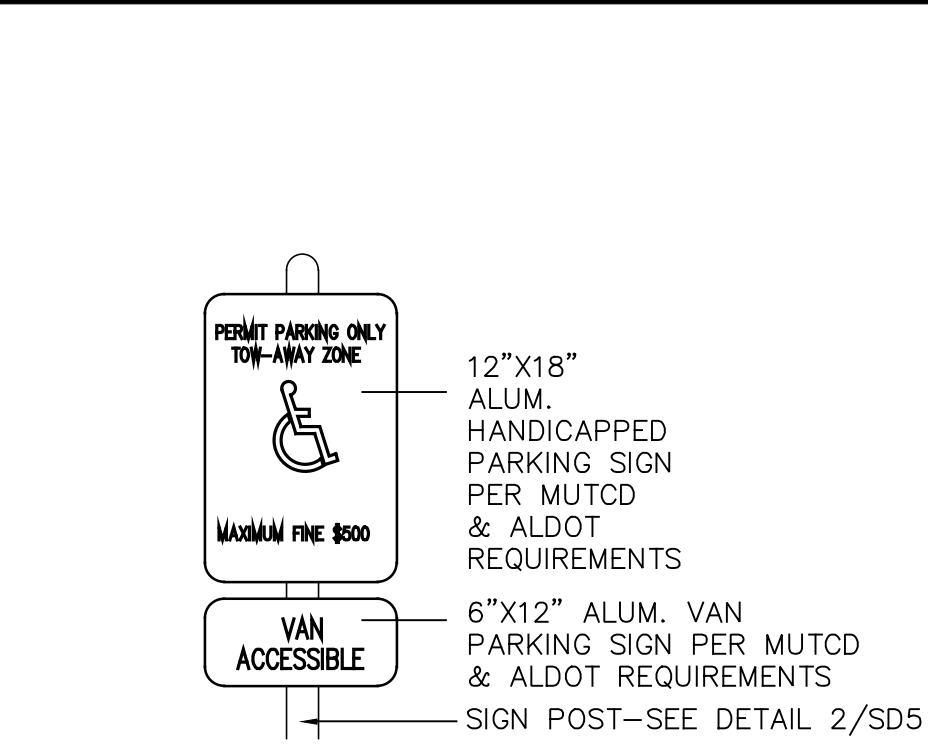
11/17/2011 2:02:21 PM \\SDOT-DBK\BOPLOT\GCP\60_K1p8000.qcf *look M\TPO\Revised P-7\P-7.plt



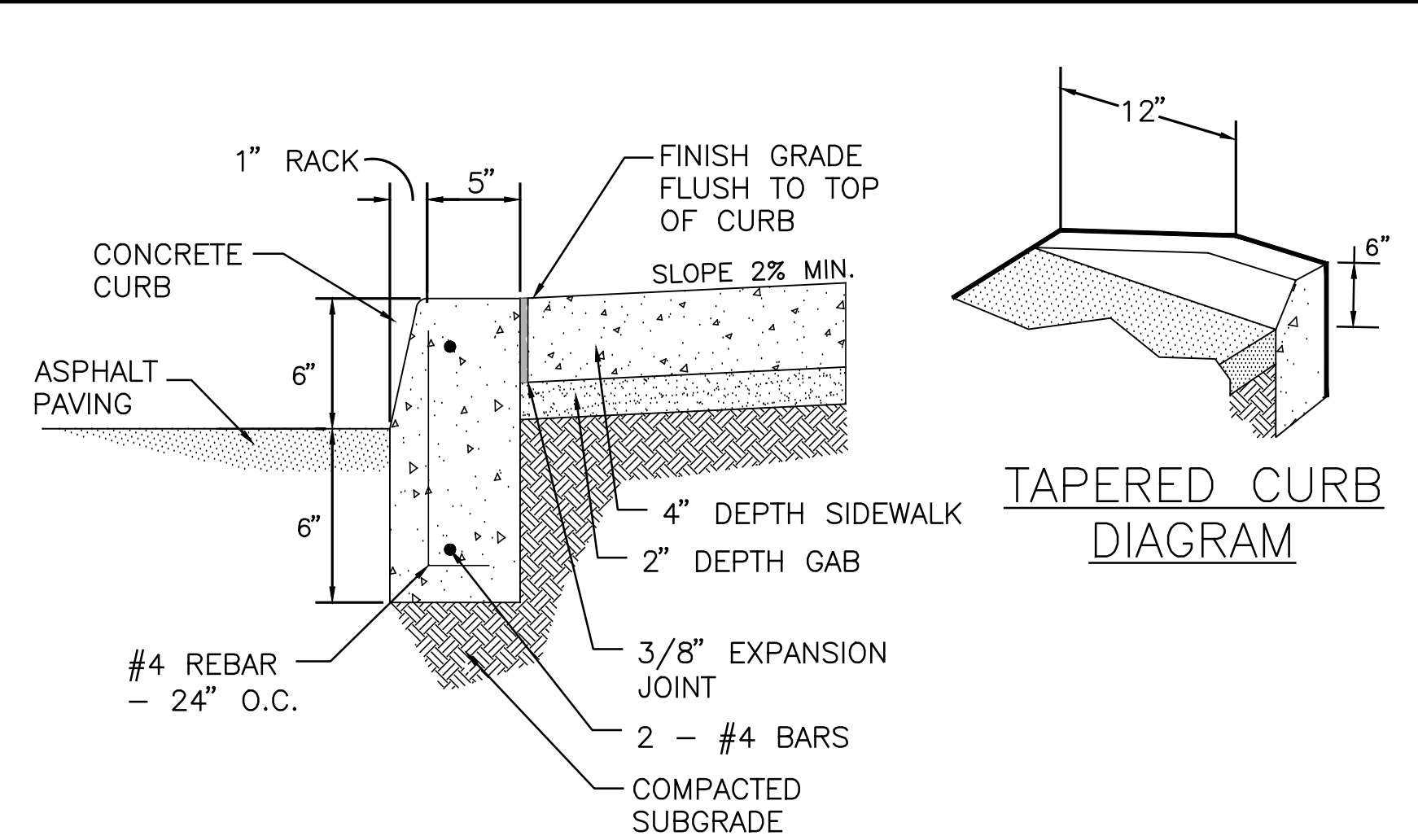
1 ASPHALT ROLL CURB NTS



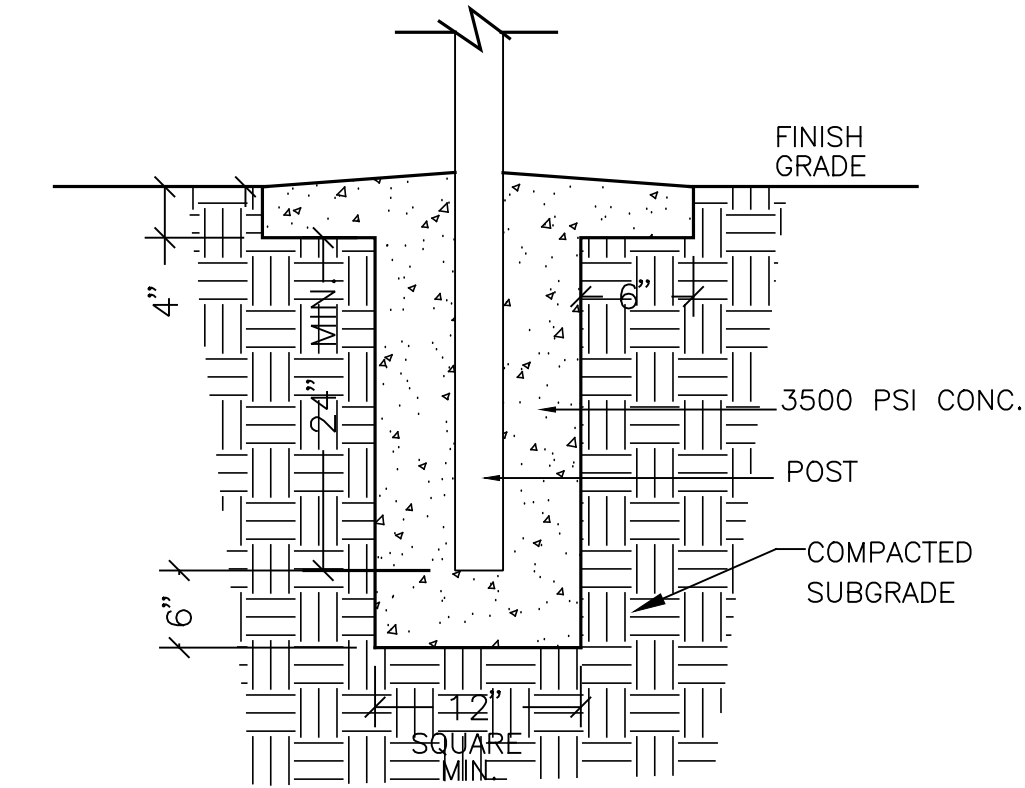
5 ASPHALT ROAD REPLACEMENT NTS



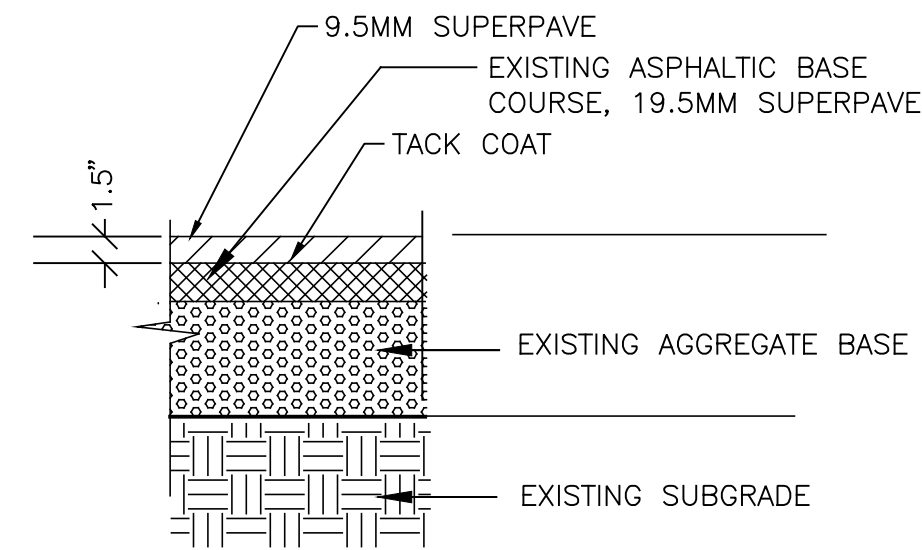
9 HANDICAP SPACE SIGN NTS



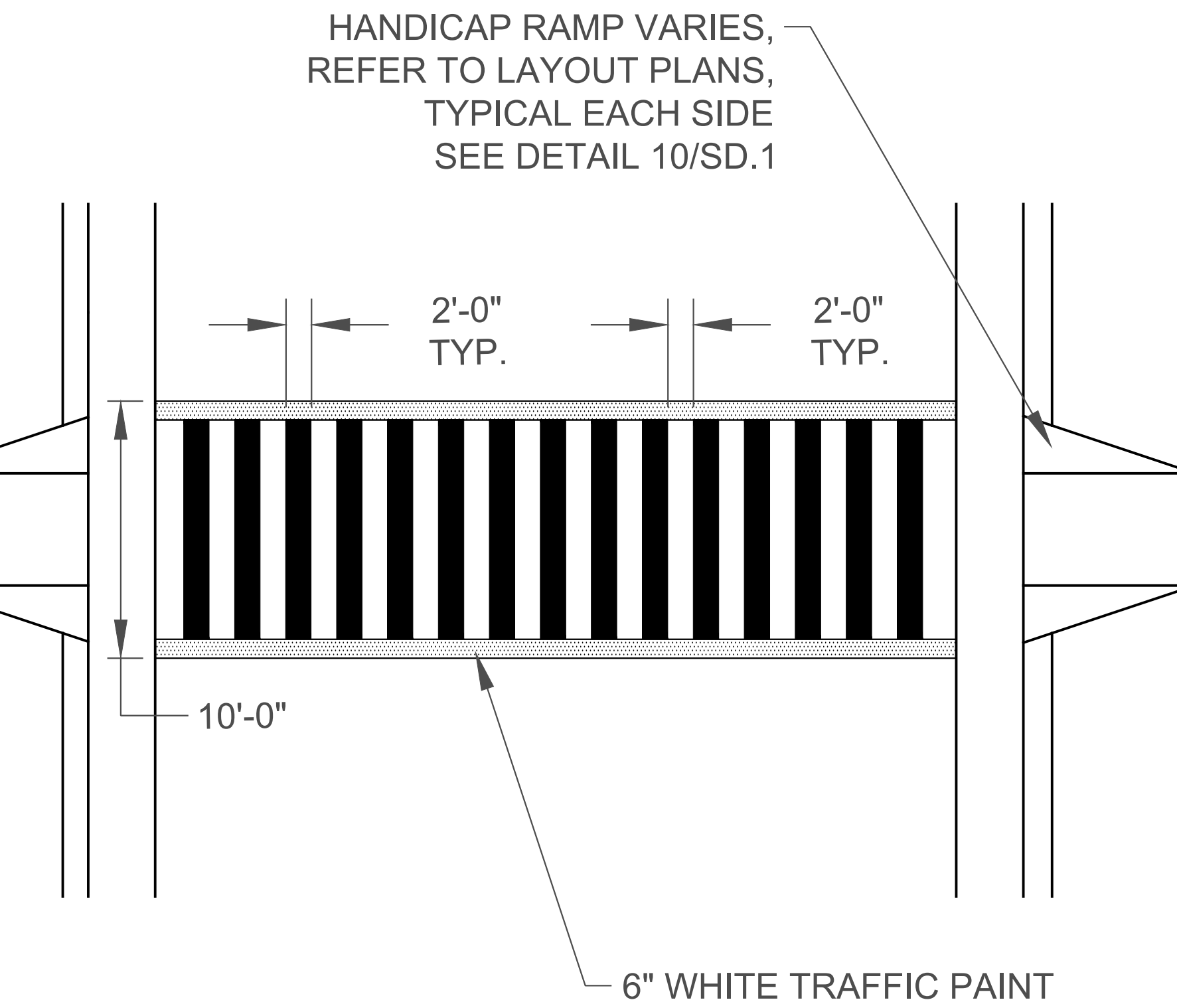
13 CONCRETE HEADER CURB - UNIT PRICE BID ALTERNATE NTS



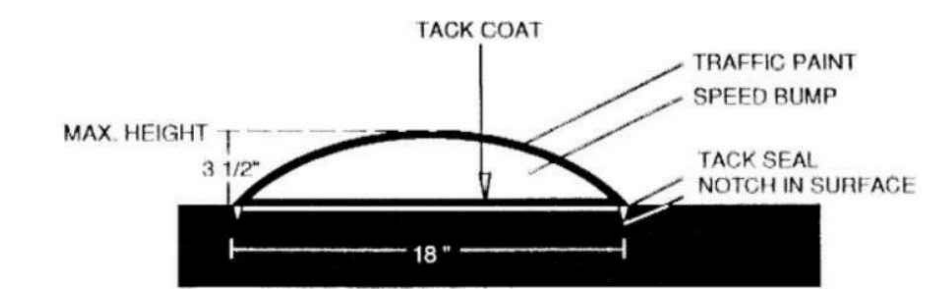
2 POST FOOTING NTS



6 ASPHALT ROAD OVERLAY NTS

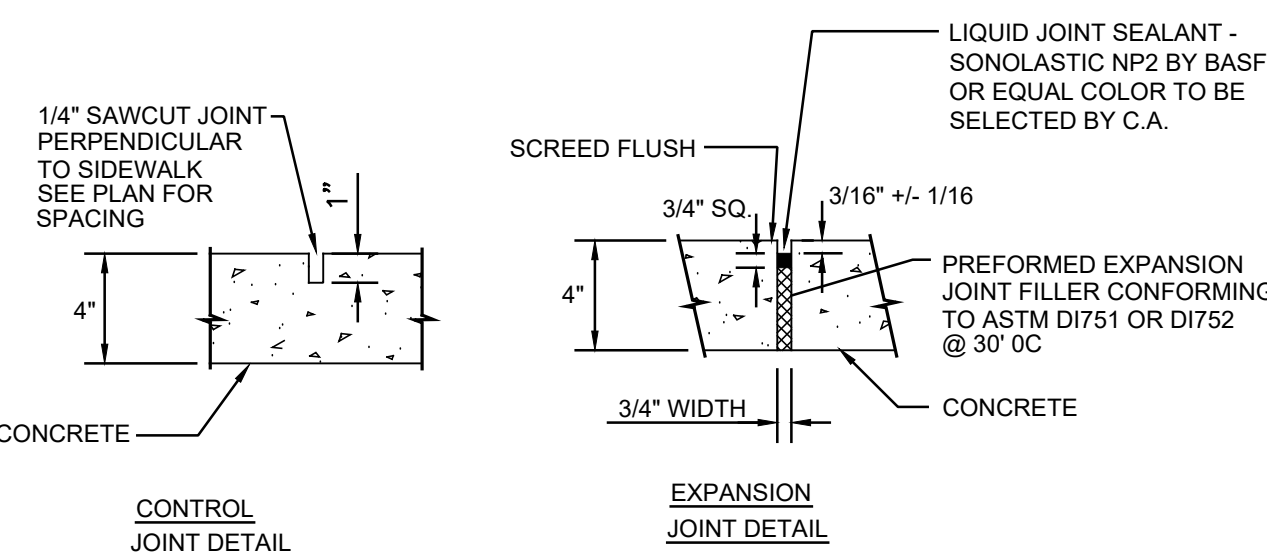


10 CROSSWALK NTS

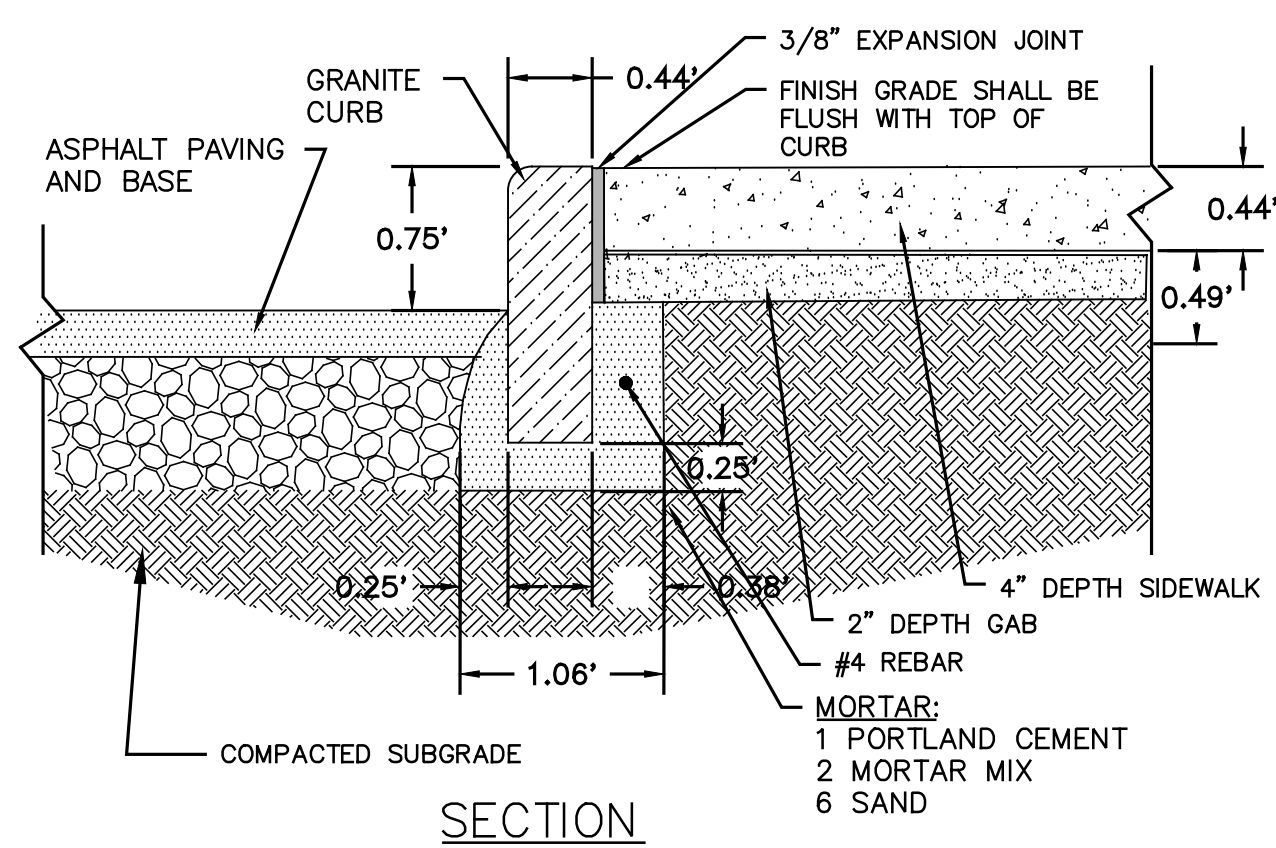


- 1. Lay out and mark area for placement of speed bumps.
- 2. Clean area of all dirt and debris.
- 3. Notch existing asphalt surface to alleviate speed bump displacement.
- 4. Tack coat area of installation using liquid asphalt.
- 5. Install hot mix surface asphalt to a maximum height of 3-1/2" at the apex and a width of 18".
- 6. Apply a seal of liquid asphalt to the adjoining edge of the installation to help prevent moisture penetration.
- 7. Apply heavy-duty reflective traffic paint sufficient to identify the speed bump.

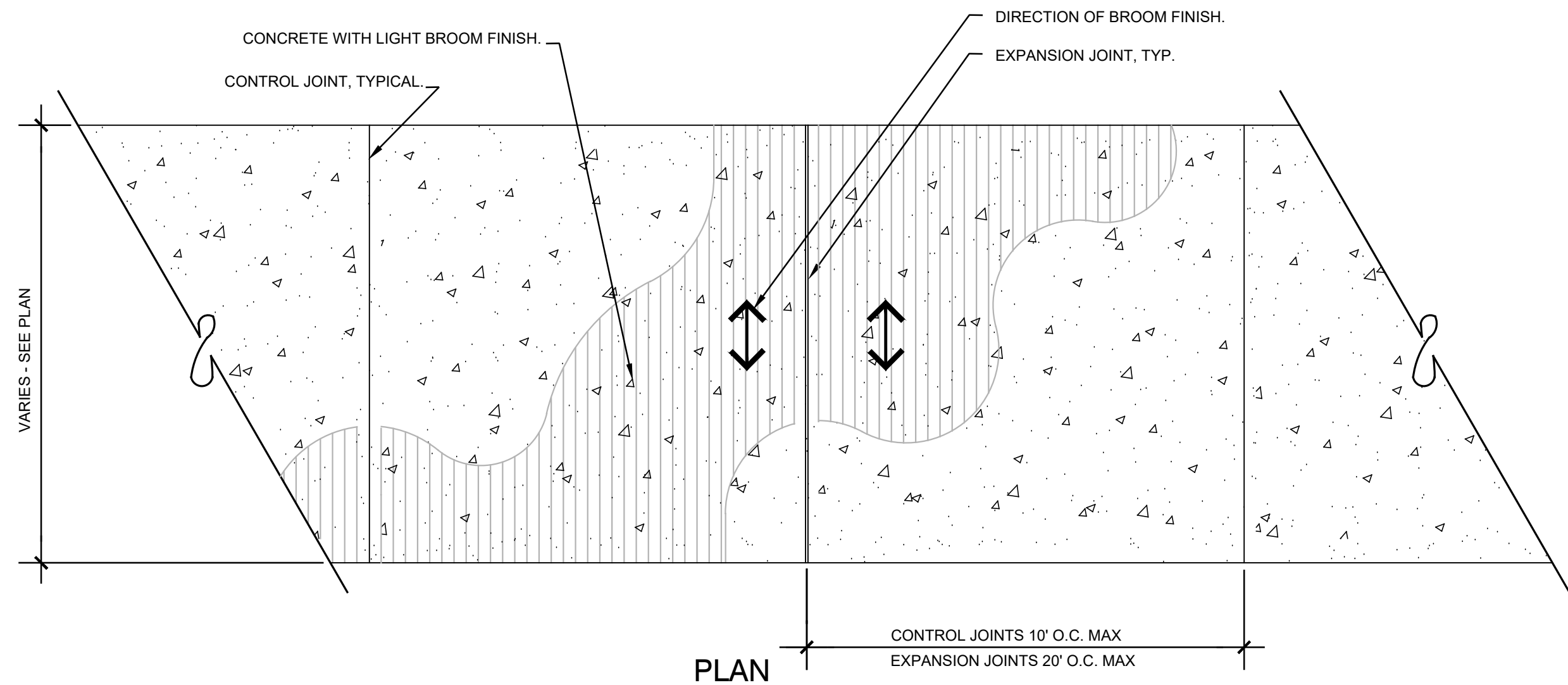
14 ASPHALT SPEED PUMP NTS



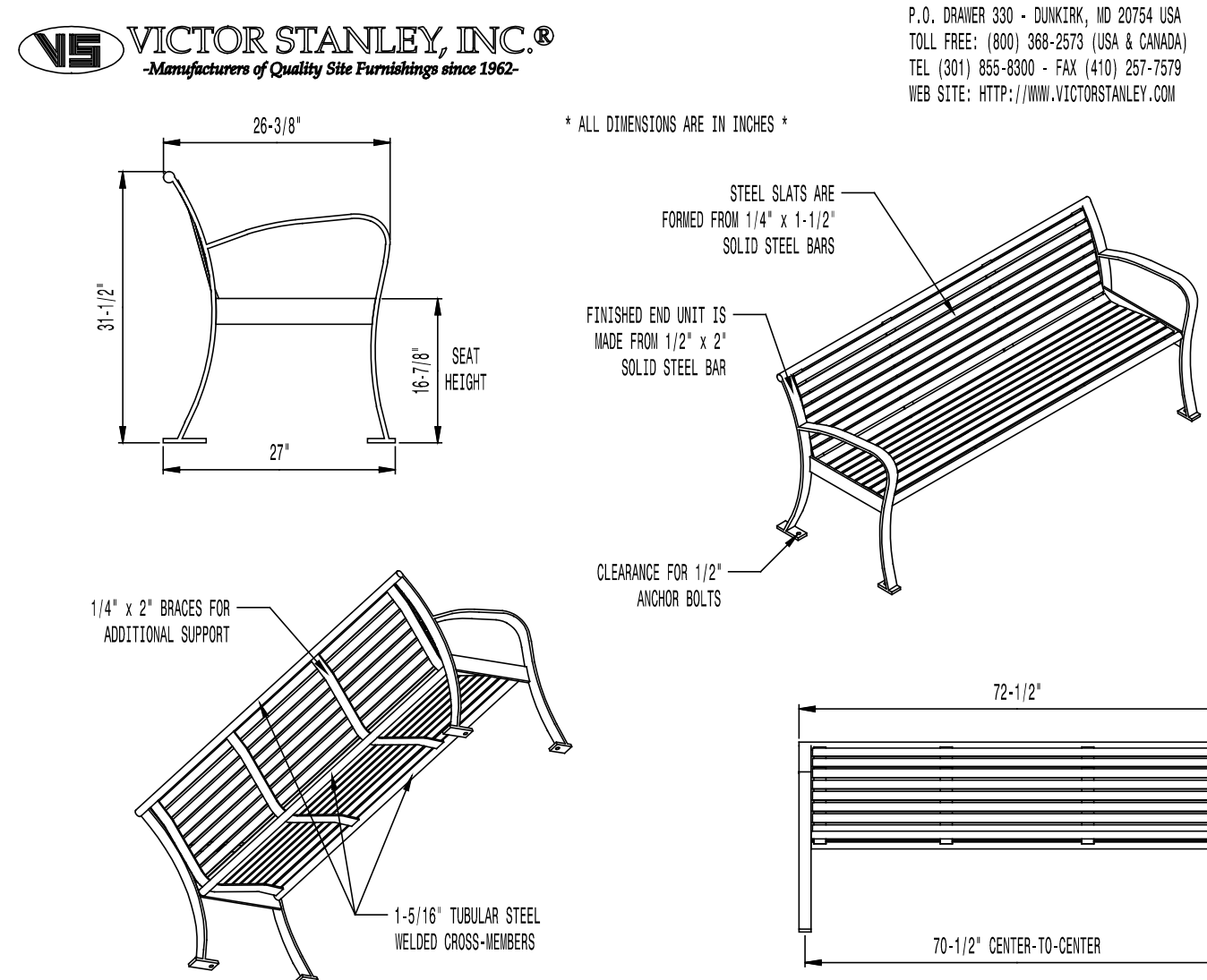
3 TYPICAL CONCRETE JOINT DETAILS NTS



7 GRANITE CURB - RESET AND NEW NTS



4 CONCRETE SIDEWALK N.T.S.



AVAILABLE OPTIONS:
POWDER COATING
16 STANDARD COLORS, 2 OPTIONAL METALLIC COLORS,
CUSTOM COLORS (INCLUDING THE FULL RANGE)
INTERMEDIATE ARRESTS (BOLT-ON)
AVAILABLE WITH OPTIONAL ARRESTS

NOTES:
1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. ALL FABRICATED METAL COMPONENTS ARE STEEL, UNPAINTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.S.I.C. POLYESTER POWDER COATING. PRODUCTS ARE FULLY CLEANED AND PREHEATED. PREHEATED AND COATED PIECES NOT TO FULL SPECIFICATIONS ARE BUILT USING FULL COATING SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH VARIES 8-10 MILS (200-250 MICRONS).
3. IT IS NOT RECOMMENDED TO LOOSEN ANCHOR BOLTS UNTIL BENCH IS IN PLACE. THIS VICTOR STANLEY, INC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND, CONCRETE, OR ASKED FOR RESOLUTION.
4. ANCHOR BOLTS NOT PROVIDED BY VICTOR STANLEY, INC.
5. FOR HIGH SHOCK AND VIBRATION, HOT-DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE. HOT-DIP GALVANIZING IS PERFORMED FOR VICTOR STANLEY, INC. BY AN EMPLOYER QUALIFIED FOR THE PROCESS. HOT-DIP GALVANIZING INCLUDES AN AGGRESSIVE PRE-TREATMENT AND IMMERSION IN A BATH OF CHARGED LIQUID ZINC AT OR ABOVE 800°F (425°C). THE RESULTING SURFACE IS RESISTANT TO RUST BUT HAS SOME IRONINESS RESULTING FROM THE DIPPING OF THE ZINC TO THE STEEL SURFACE. AS A RESULT, THE POWDER-COATING BARRIER FINISH OVER THE GALVANIZED SURFACE MAY EXHIBIT BUBBLES, PREVENTIONS, AND MAY NOT BE AS DURABLE AS THE STANDARD FINISH. THESE BUBBLES AND PREVENTIONS TYPICALLY OCCUR DURING THE GALVANIZING PROCESS. CONTACT MANUFACTURER FOR DETAILS.
6. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE. CONTACT MANUFACTURER FOR DETAILS.
7. THIS PRODUCT IS SHIPPED FULLY ASSEMBLED.

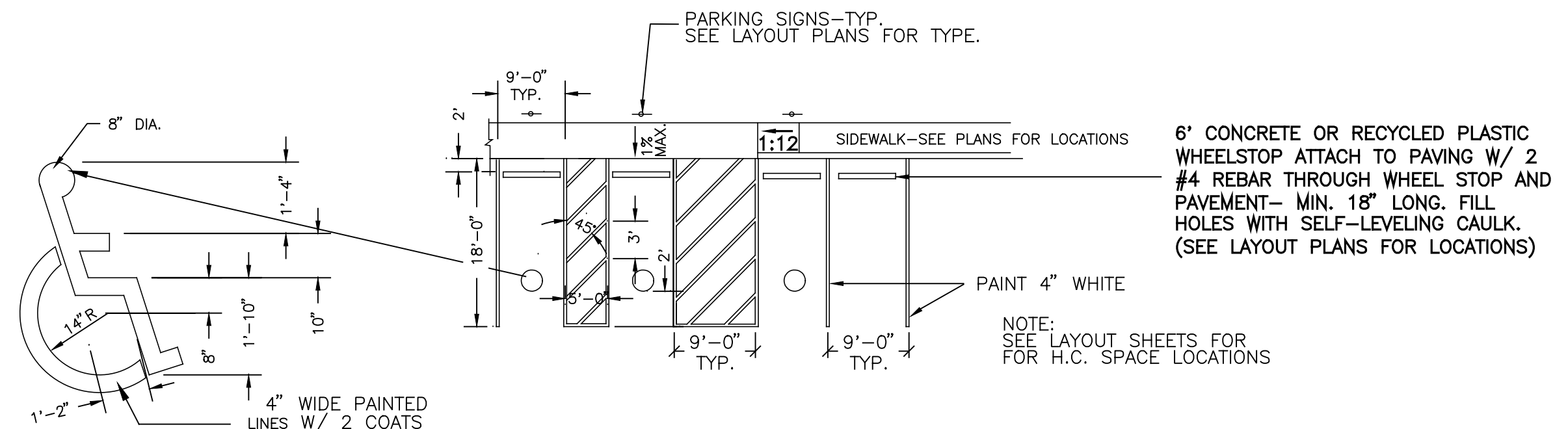
RBP-28
STEELESTRENGTH™ BENCH SECTIONS

ALL STEEL BENCH
SHOWN: STANDARD 6-FOOT LENGTH

INSTALL PER MANUFACTURER
RECOMMENDATIONS

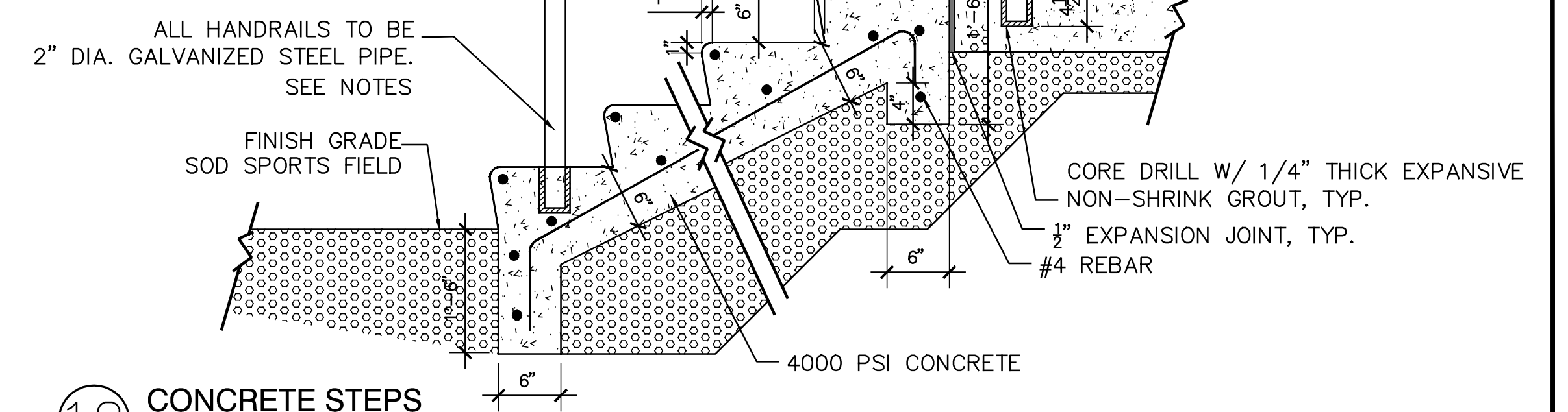
VICTOR STANLEY: RBP-28 STEEL
MATERIAL: BLACK POWDER COAT FINISH
(OR APPROVED EQUAL).

8 BENCH N.T.S.



11 PARKING SPACE LAYOUT NTS

- NOTES:
1. ALL RAILS TO COMPLY W/ CURRENT ADA REQUIREMENTS.
2. SEE GRADING PLAN FOR NUMBER OF RISERS AT EACH STAIR SECTION.
3. INTERMEDIATE SUPPORT POSTS 5' O.C. MAX.
4. ALL GROUT SHALL BE LEVEL WITH SURROUNDING CONC.
5. HANDRAIL SLEEVE TO BE CORE DRILLED IN PLACE OF PAPER SLEEVE.
6. ALL HANDRAILS TO BE GALV. STEEL.



12 CONCRETE STEPS NTS

No.	Date	Description

Plotted By: Joseph Powell
Date last plotted: 10/15/2019 10:35 AM
Date last accessed: 10/10/2019 2:34 PM
Drawing Name: S:\Project\Brookhaven_CAD\Brookhaven Park Layout.dwg

EROSION CONTROL AND DRAINAGE NOTES:

1. EROSION AND SILTATION CONTROL DEVICES MUST BE INSTALLED PRIOR TO START OF OTHER CONSTRUCTION AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
2. ANY FAILURE OF ANY EROSION CONTROL DEVICE TO FUNCTION AS INTENDED FOR ANY REASON SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
3. EROSION CONTROL DEVICES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN, AND REPAIRED BY THE CONTRACTOR AS NECESSARY.
4. ALL DISTURBED AREAS ARE TO BE GRASSED AS SOON AS CONSTRUCTION PHASE PERMITS. TEMPORARY MULCHING SHALL BE UTILIZED DURING THE PERIOD OF GERMINATION OF GRASS SEEDINGS USING STRAW OR HAY MULCH, JUTE MATTING OR SYNTHETIC FIBERS.
5. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL CONFORM TO THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA AND ANY APPLICABLE LOCAL REGULATIONS.
6. EROSION CONTROL DEVICES WILL BE PROPERLY INSTALLED PRIOR TO SITE DISTURBANCE, MAINTAINED IN GOOD WORKING CONDITION UNTIL COMPLETION OF PROJECT, AND REPLACED WHEN EFFECTIVENESS IS REDUCED TO 50%.
7. ALL DISTURBED AREAS ARE TO BE STABILIZED WITH SUITABLE PERENNIAL VEGETATION, ACCORDING TO SOIL CONSERVATION SERVICE OR GEORGIA EXTENSION SERVICE SPECIFICATIONS, IMMEDIATELY FOLLOWING THE COMPLETION OF GRADING.
8. ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED TO CONTROL SEDIMENT AND SILT FROM LEAVING THE SITE AS DETERMINED NECESSARY BY THE REGULATING GOVERNING AUTHORITY.
9. STRIPPING OR VEGETATION, GRADING OR OTHER DEVELOPMENT ACTIVITIES SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION.
10. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.
11. ALL SEDIMENT COLLECTED DURING MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED FROM THE SITE OR SPREAD IN LANDSCAPED OR NATURALLY VEGETATED AREAS, SEEDED AND COVERED WITH STRAW.
12. DETENTION FACILITIES AND EROSION AND SILTATION CONTROL DEVICES MUST BE INSTALLED PRIOR TO START OF OTHER CONSTRUCTION AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE DEVICES SHALL BE MOVED AND ADJUSTED AS NEEDED TO KEEP A FUNCTIONING SYSTEM THROUGHOUT CONSTRUCTION.
13. EROSION CONTROL MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO CONSTRUCTION EXITS, SILT FENCE, STORM INLET/OUTLET PROTECTION, DIVERSION DUG OR DOWNDRAIN ON LONG STEEP SLOPES AND TEMPORARY GRASSING. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
14. SEDIMENT STORAGE MAINTENANCE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, INDICATING THE 1/3 FULL VOLUME.
15. MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE CONTRACTOR.
16. CONTRACTOR TO CLEAN OUT ACCUMULATED SILT IN DETENTION POND AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.
17. DETENTION POND, DETENTION OUTLET STRUCTURES AND TEMPORARY SEDIMENT POND FEATURES ARE TO BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION OR GRADING.
18. THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
19. EROSION CONTROL DEVICES SHALL BE CLEANED WHEN THE SILT EXCEEDS 6" IN DEPTH.
20. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REFLECT GENERALLY ACCEPTED PRACTICES. THE PLANS DO NOT GUARANTEE THAT THESE MEASURES WILL INSURE COMPLIANCE WITH THE WATER QUALITY REGULATIONS IN THE RECEIVING STREAM IMMEDIATELY DOWNSTREAM OF THE PROJECT.
21. TEMPORARY SEDIMENT BASINS ARE TO BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION OR GRADING.
22. SILT BARRIERS TO BE PLACED AT DOWNSTREAM TOE OF ALL CUT AND FILL SLOPES.
23. ANY DISTURBED AREAS LEFT EXPOSED FOR A PERIOD GREATER THAN 7 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
24. PERMANENT VEGETATION SHALL BE PLANTED IN AREA LEFT UNDISTURBED FOR GREATER THAN 6 MONTHS.
25. 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 LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
26. CONCRETE WASHDOWN NOT ALLOWED ON SITE.
27. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED CONSISTENT WITH THE CITY OF BROOKHAVEN EROSION CONTROL ORDINANCE.
28. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
29. STATE WATERS ARE WITHIN 200 FEET OF THE SITE.

EROSION CONTROL INSTALLATION/REMOVAL

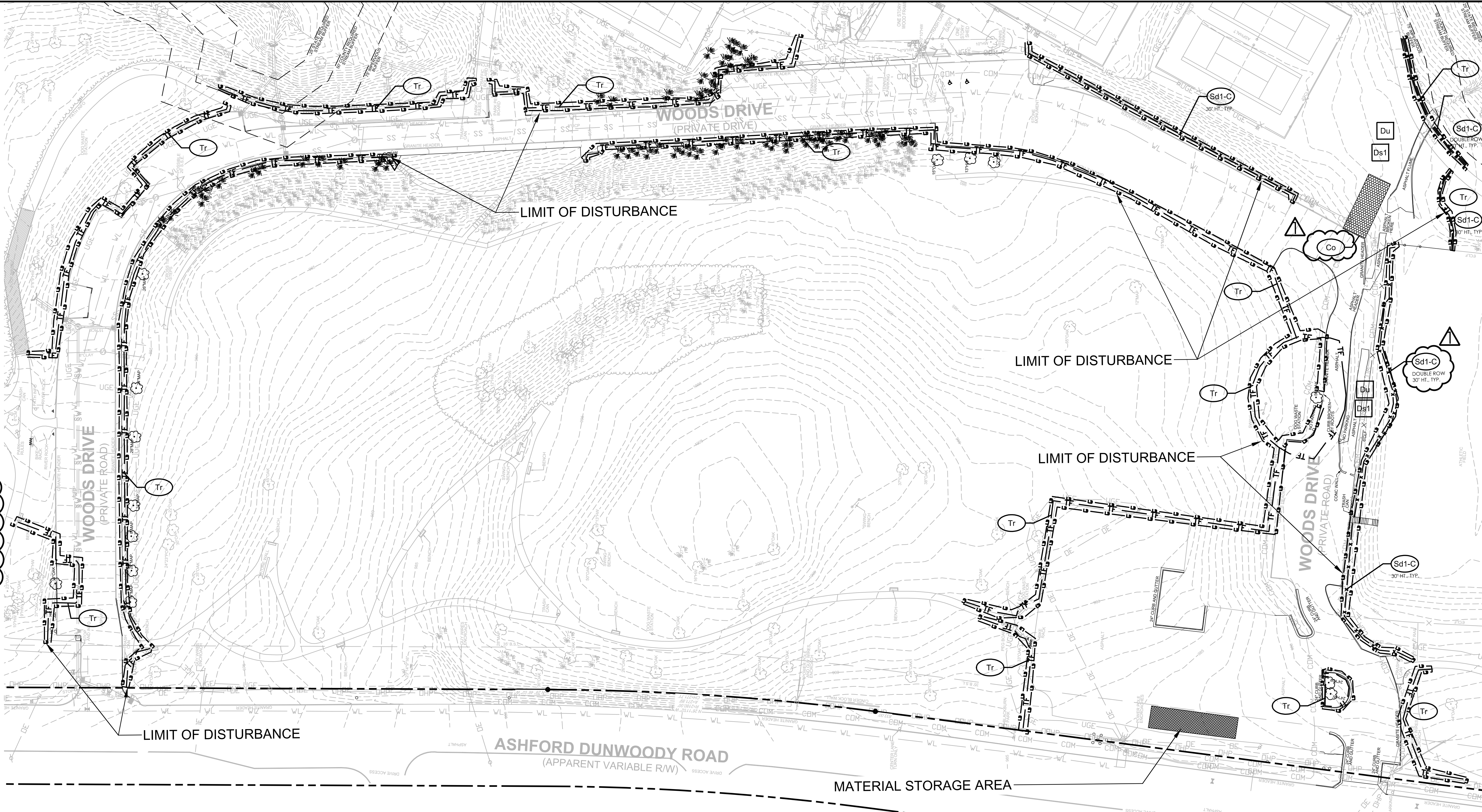
EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO LAND DISTURBANCE. THE EROSION AND SEDIMENT CONTROL MEASURES CAN ONLY BE REMOVED AFTER FINAL SITE STABILIZATION.

DESCRIPTION OF CONTROLS AND MEASURES

FIRST, EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO LAND DISTURBANCE. AFTER SILT FENCE IS INSTALLED, CLEARING WILL BE DONE AS NEEDED TO PERFORM THE MINOR GRADING. THE EROSION AND SEDIMENT CONTROL MEASURES MUST BE MAINTAINED CONTINUOUSLY AND CAN ONLY BE REMOVED AFTER FINAL SITE STABILIZATION.

DISTURBANCE LIMITS:

- INITIAL PHASE = 0.49 ACRES
- INTERMEDIATE = 0.98 ACRES
- FINAL PHASE = 0.78 ACRES



CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cr	CONSTRUCTION ROAD STABILIZATION			A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction site, roadways and similar sites.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)			Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)			Establishing a temporary vegetative cover with fast growing seedlings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Ds4	DISTURBED AREA STABILIZATION (SEEDING)			A permanent vegetative cover using sods on highly erodible or critically eroded lands.

OWNER/PRIMARY PERMITEE:
 CITY OF BROOKHAVEN
 4362 PEACHTREE ROAD
 BROOKHAVEN, GEORGIA 30319
 CONTACT: CHRISTIAN SIGMAN, CITY MANAGER
 PHONE: (404) 637-0469

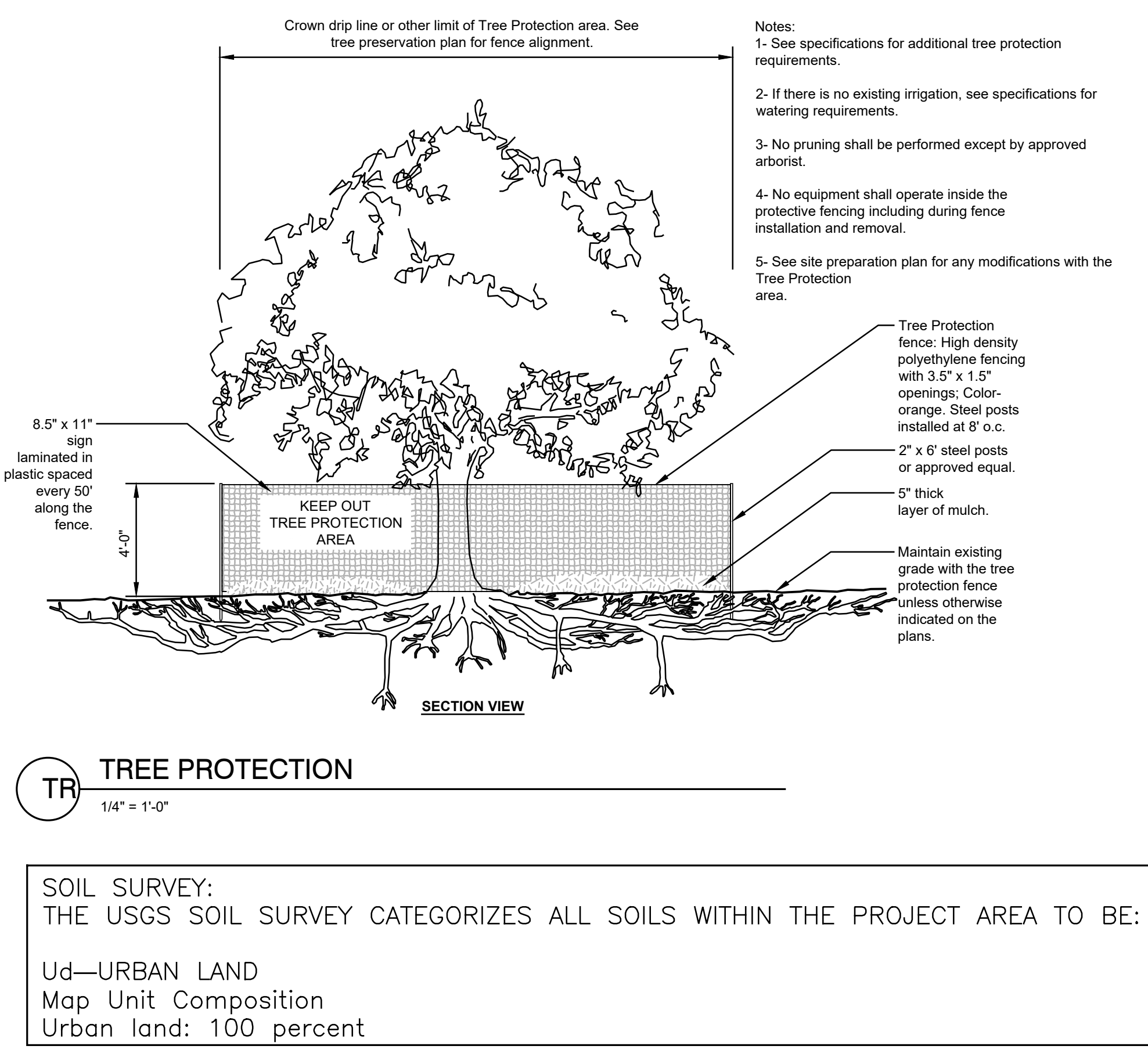
24-HOUR CONTACT:
 CITY OF BROOKHAVEN
 LEE CROY, PROGRAM MANAGER
 PHONE: (678) 576-9846

DESIGN PROFESSIONAL:
 CLARK PATTERSON LEE
 3011 SUTTON GATE DRIVE
 SUITE 130
 SUWANEE, GEORGIA 30024
 CONTACT: JEFF MULLER
 OFFICE: (678) 318-1243
 EMAIL: JMULLER@CLARKPATTERSON.COM

NOTE:
 SURVEY CONDUCTED BY TERRAMARK LAND SURVEYING INC., 1396 BELLS FERRY ROAD, MARIETTA, GEORGIA 30066, 770-421-1927, DRAWING #TM 16 095.

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Jeffrey W Mueller
 Level II Certified Design Professional
 CERTIFICATION NUMBER: 00000039
 ISSUED: 05/05/2008 EXPIRES: 05/15/2016

GEORGIA811
 Utilities Protection Center, Inc.
 1-800-282-7411
 Know what's below.
 Call before you dig.



SOIL SURVEY:
 THE USGS SOIL SURVEY CATEGORIZES ALL SOILS WITHIN THE PROJECT AREA TO BE:
 Ud—URBAN LAND
 Map Unit Composition
 Urban land: 100 percent

ARCHITECTURE
 ENGINEERING
 PLANNING
CPL team.com
 3031 EASTWIND DRIVE SUITE 130 SUWANEE, GEORGIA 30024



DRAWINGS SCHEDULE

No.	Date	Description
1	03-10-19	PERMIT COMMENTS

GEORGIA REGISTERED ENGINEER
JEFF W MUELLER
 No. 29402
 10/10/2019

CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
 3493 ASHFORD DUNWOODY ROAD
 BROOKHAVEN, GEORGIA 30319

DATE: 3/7/19 DRAWN: JP CHECKED: JM
 SCALE: AS SHOWN

SHEET TITLE:
INITIAL EROSION CONTROL PLAN

PROJECT NUMBER:
 15090.00
ER1
 DRAWING NUMBER

Drawing Name: S:\Project\Brookhaven_C\Blackburn Park\Design\01 Job Info\CAD\Blackburn Park Layout.dwg
 Date last plotter: 10/10/2019 2:34 PM
 Date last accessed: 10/10/2019 2:34 AM
 Plotted By: Joseph Powell

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EROSION CONTROL INSTALLATION/REMOVAL

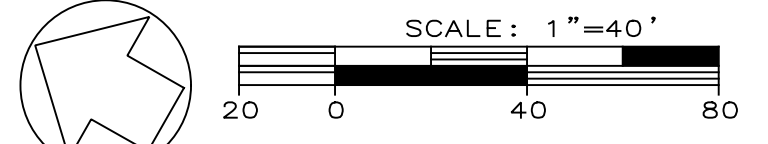
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DESCRIPTION OF CONTROLS AND MEASURES

FIRST, EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO LAND DISTURBANCE. AFTER SILT FENCE IS INSTALLED, CLEARING WILL BE DONE AS NEEDED TO PERFORM THE MINOR GRADING. THE EROSION AND SEDIMENT CONTROL MEASURES MUST BE MAINTAINED CONTINUOUSLY AND CAN ONLY BE REMOVED AFTER FINAL SITE STABILIZATION.

DISTURBANCE LIMITS:

- INITIAL PHASE = 0.49 ACRES
- INTERMEDIATE = 0.98 ACRES
- FINAL PHASE = 0.78 ACRES

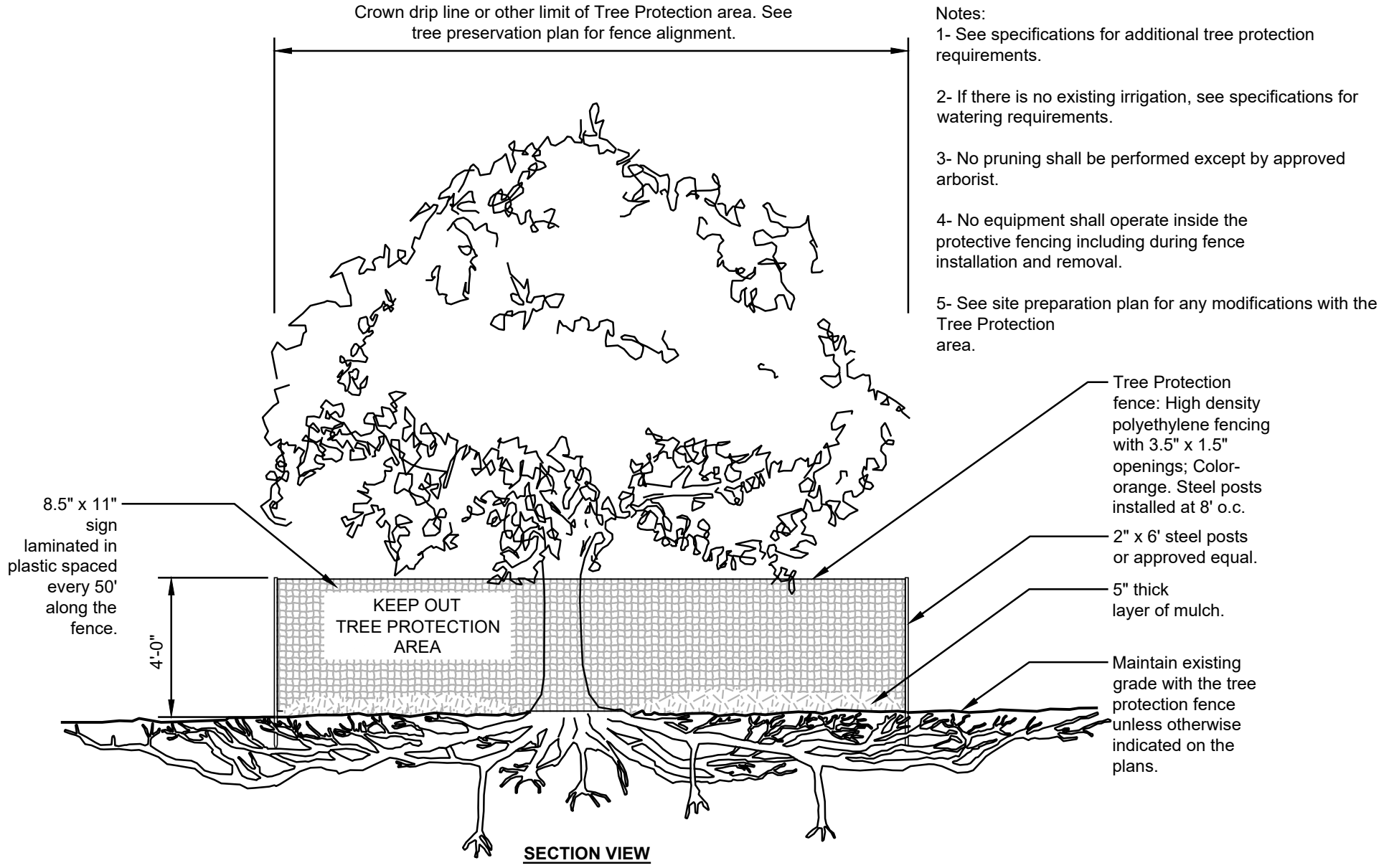


1. FLOW CHARACTERISTICS OF PIPE (OCS1) AT FULL FLOW:
PIPE DIA. = 24. FLOW RATE (CFS) = 17.45. VELOCITY (FPS) = 6.89. TAIL WATER = 1.5FT

2. APRON DIMENSIONS:
LENGTH (L) = 9 FT
HEADWALL (W) = 6 FT
DOWNSTREAM WIDTH (W2) = 5.6 FT
STONE DIAMETER (d50) = 2 IN.
STONE DEPTH (D) = 6 IN.

1. FLOW CHARACTERISTICS OF PIPE (P1) AT FULL FLOW:
PIPE DIA. = 18. FLOW RATE (CFS) = 11.23. VELOCITY (FPS) = 6.85. TAIL WATER = 1.28 FT

2. APRON DIMENSIONS:
LENGTH (L) = 11 FT
HEADWALL (W) = 4.5 FT
DOWNSTREAM WIDTH (W2) = 5.9 FT
STONE DIAMETER (d50) = 2 IN.
STONE DEPTH (D) = 6 IN.



CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cr	CONSTRUCTION ROAD STABILIZATION			A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction site, roadways and similar sites.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)			Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
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Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Ds4	DISTURBED AREA STABILIZATION (SEEDING)			A permanent vegetative cover using sods on highly erodible or critically eroded lands.

OWNER/PRIMARY PERMITEE:
CITY OF BROOKHAVEN
4382 PEACHTREE ROAD
BROOKHAVEN, GEORGIA 30319
CONTACT: CHRISTIAN SIGMAN, CITY MANAGER
PHONE: (404) 637-0469

24-HOUR CONTACT:
CITY OF BROOKHAVEN
LEE CROY, PROGRAM MANAGER
PHONE: (678) 576-9846

DESIGN PROFESSIONAL:
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3011 SUTTON GATE DRIVE
SUITE 130
SUWANEE, GEORGIA 30024
CONTACT: JEFF MULLER
OFFICE: (678) 518-1243
EMAIL: JMULLER@CLARKPATTERSON.COM

NOTE:
SURVEY CONDUCTED BY TERRAMARK LAND SURVEYING INC., 1396 BELLS FERRY ROAD, MARIETTA, GEORGIA 30066, 770-421-1927, DRAWING #TM 16 095.

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Jeffrey W Mueller
Level II Certified Design Professional
CERTIFICATION NUMBER: 00000000
ISSUED: 04/24/2008 EXPIRES: 04/24/2018

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Utilities Protection Center, Inc.
1-800-282-7411
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SOIL SURVEY:
THE USGS SOIL SURVEY CATEGORIZES ALL SOILS WITHIN THE PROJECT AREA TO BE:
Ud—URBAN LAND
Map Unit Composition
Urban land: 100 percent

ARCHITECTURE
ENGINEERING
PLANNING
CPL team.com



DRAWINGS SCHEDULE

No.	Date	Description
1	10-10-19	PERMIT COMMENTS

REGISTERED PROFESSIONAL ENGINEER
No. 29402
JEFFREY W. MUELLER
10/10/2019

CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
3493 ASHFORD DUNWOODY ROAD
BROOKHAVEN, GEORGIA 30319

DATE: 3/7/19 DRAWN: JP CHECKED: JM
SCALE: AS SHOWN
SHEET TITLE: INTERMEDIATE EROSION CONTROL PLAN

PROJECT NUMBER: 15090.00
DRAWING NUMBER: ER2

EROSION CONTROL AND DRAINAGE NOTES:

1. EROSION AND SILTATION CONTROL DEVICES MUST BE INSTALLED PRIOR TO START OF OTHER CONSTRUCTION AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
2. ANY FAILURE OF ANY EROSION CONTROL DEVICE TO FUNCTION AS INTENDED FOR ANY REASON SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
3. EROSION CONTROL DEVICES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN, AND REPAIRED BY THE CONTRACTOR AS NECESSARY.
4. ALL DISTURBED AREAS ARE TO BE GRASSED AS SOON AS CONSTRUCTION PHASE PERMITS. TEMPORARY MULCHING SHALL BE UTILIZED DURING THE PERIOD OF GERMINATION OF GRASS SEEDINGS USING STRAW OR HAY MULCH, JUTE MATTING OR SYNTHETIC FIBERS.
5. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL CONFORM TO THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA AND ANY APPLICABLE LOCAL REGULATIONS.
6. EROSION CONTROL DEVICES WILL BE PROPERLY INSTALLED PRIOR TO SITE DISTURBANCE, MAINTAINED IN GOOD WORKING CONDITION UNTIL COMPLETION OF PROJECT, AND REPLACED WHEN EFFECTIVENESS IS REDUCED TO 50%.
7. ALL DISTURBED AREAS ARE TO BE STABILIZED WITH SUITABLE PERENNIAL VEGETATION, ACCORDING TO SOIL CONSERVATION SERVICE OR GEORGIA EXTENSION SERVICE SPECIFICATIONS, IMMEDIATELY FOLLOWING THE COMPLETION OF GRADING.
8. ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED TO CONTROL SEDIMENT AND SILT FROM LEAVING THE SITE AS DETERMINED NECESSARY BY THE REGULATING GOVERNING AUTHORITY.
9. STRIPPING OF VEGETATION, GRADING OR OTHER DEVELOPMENT ACTIVITIES SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION.
10. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.
11. ALL SEDIMENT COLLECTED DURING MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED FROM THE SITE OR SPREAD IN LANDSCAPED OR NATURALLY VEGETATED AREAS, SEEDED AND COVERED WITH STRAW.
12. DETENTION FACILITIES AND EROSION AND SILTATION CONTROL DEVICES MUST BE INSTALLED PRIOR TO START OF OTHER CONSTRUCTION AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE DEVICES SHALL BE MOVED AND ADJUSTED AS NEEDED TO KEEP A FUNCTIONING SYSTEM THROUGHOUT CONSTRUCTION.
13. EROSION CONTROL MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO CONSTRUCTION EXITS, SILT FENCE, STORM INLET/OUTLET PROTECTION, DIVERSION DIKE OR DOWNDRAMP ON LONG STEEP SLOPES AND TEMPORARY GRASSING. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
14. SEDIMENT STORAGE MAINTENANCE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, INDICATING THE 1/3 FULL VOLUME.
15. MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE CONTRACTOR.
16. CONTRACTOR TO CLEAN OUT ACCUMULATED SILT IN DETENTION POND AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.
17. DETENTION POND, DETENTION OUTLET STRUCTURES AND TEMPORARY SEDIMENT POND FEATURES ARE TO BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION OR GRADING.
18. THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
19. EROSION CONTROL DEVICES SHALL BE CLEANED WHEN THE SILT EXCEEDS 6" IN DEPTH.
20. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REFLECT GENERALLY ACCEPTED PRACTICES. THE PLANS DO NOT GUARANTEE THAT THESE MEASURES WILL INSURE COMPLIANCE WITH THE WATER QUALITY REGULATIONS IN THE RECEIVING STREAM IMMEDIATELY DOWNSTREAM OF THE PROJECT.
21. TEMPORARY SEDIMENT BASIN(S) ARE TO BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION OR GRADING.
22. SILT BARRIERS TO BE PLACED AT DOWNSTREAM TOE OF ALL CUT AND FILL SLOPES.
23. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 7 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING.
24. PERMANENT VEGETATION SHALL BE PLANTED IN AREA LEFT UNDISTURBED FOR GREATER THAN 6 MONTHS.
25. 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 LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
26. CONCRETE WASHDOWN NOT ALLOWED ON SITE.
27. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED CONSISTENT WITH THE CITY OF BROOKHAVEN EROSION CONTROL ORDINANCE.
28. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
29. STATE WATERS ARE WITHIN 200 FEET OF THE SITE.

EROSION CONTROL INSTALLATION/REMOVAL
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 STONE DEPTH (D) = 6 IN.

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 4362 PEACHTREE ROAD
 BROOKHAVEN, GEORGIA 30319
 CONTACT: CHRISTAIN SIGMAN, CITY MANAGER
 PHONE: (404) 637-0469

24-HOUR CONTACT:
 CITY OF BROOKHAVEN
 LEE CROY, PROGRAM MANAGER
 PHONE: (678) 576-9846

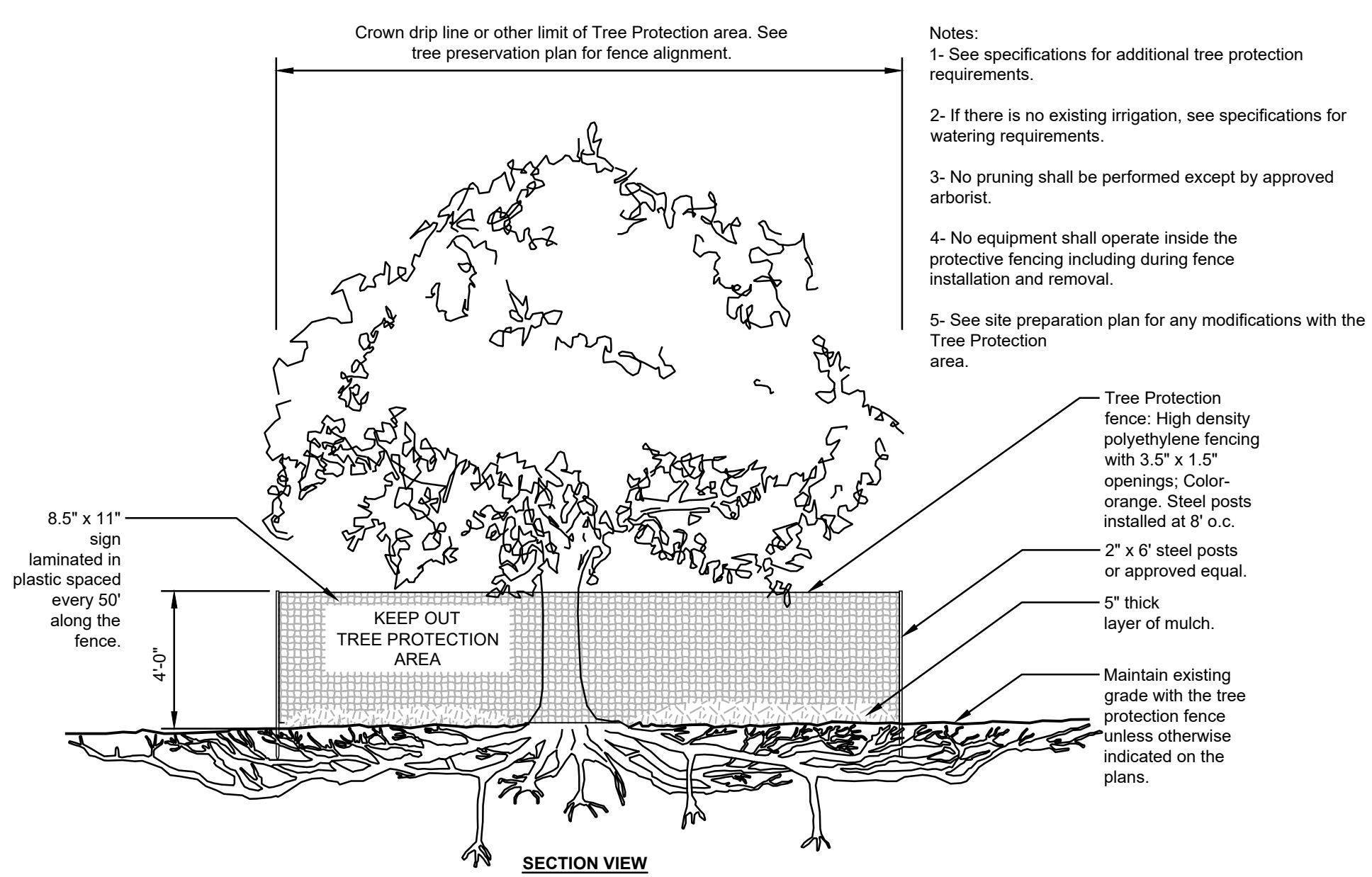
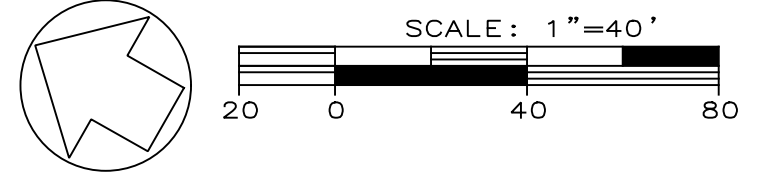
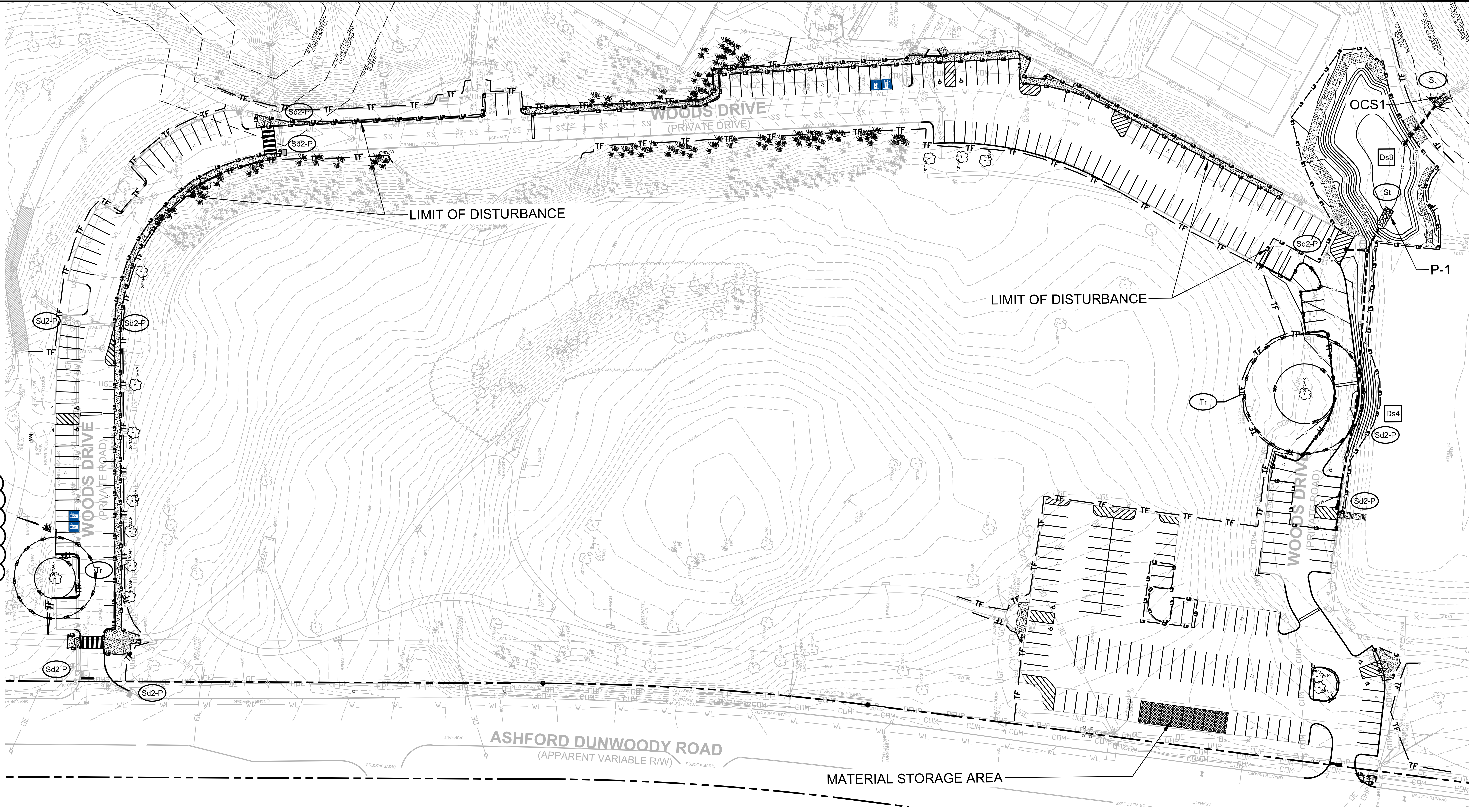
DESIGN PROFESSIONAL:
 CLARK PATTERSON LEE
 3011 SUTTON GATE DRIVE
 SUITE 130
 SUWANEE, GEORGIA 30024
 CONTACT: JEFF MULLER
 OFFICE: (678) 318-1243
 EMAIL: JMULLER@CLARKPATTERSON.COM

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 SURVEY CONDUCTED BY TERRAMARK LAND SURVEYING INC., 1396 BELLS FERRY ROAD, MARIETTA, GEORGIA 30066, 770-421-1927, DRAWING #TM 16 095.

GSWCC GEORGIA SOLID AND WATER CONSERVATION COMMISSION
Jeffrey W Mueller
 Level II Certified Design Professional
 CERTIFICATION NUMBER: 00000020
 ISSUED: 05/15/2018 EXPIRES: 05/15/2022

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 Utilities Protection Center, Inc.
 1-800-282-7411
 Know what's below.
 Call before you dig.

SOIL SURVEY:
 THE USGS SOIL SURVEY CATEGORIZES ALL SOILS WITHIN THE PROJECT AREA TO BE:
 U_d—URBAN LAND
 Map Unit Composition
 Urban land: 100 percent



TR TREE PROTECTION
 1/4" = 1'-0"

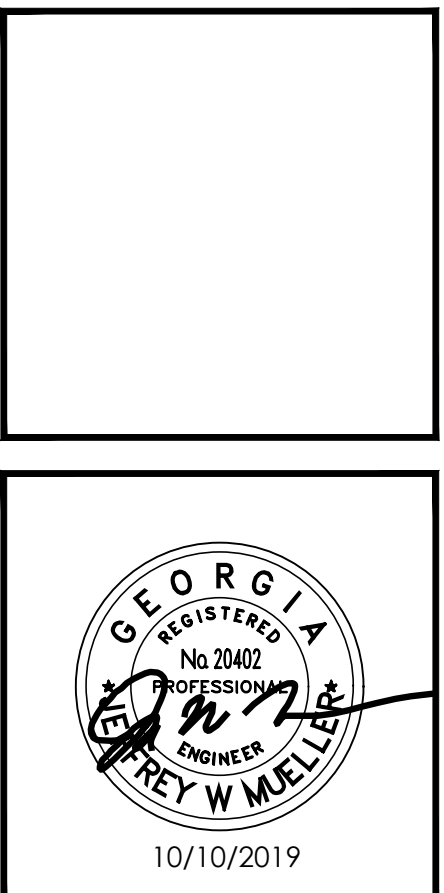
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 Date last plotter: 10/10/2019 2:34 PM
 Date last plotter: 10/15/2019 10:37 AM
 Plotted By: Joseph Powell

**ARCHITECTURE
 ENGINEERING
 PLANNING**
CPL team.com



DRAWINGS SCHEDULE

No.	Date	Description
1	10-10-19	PERMIT COMMENTS



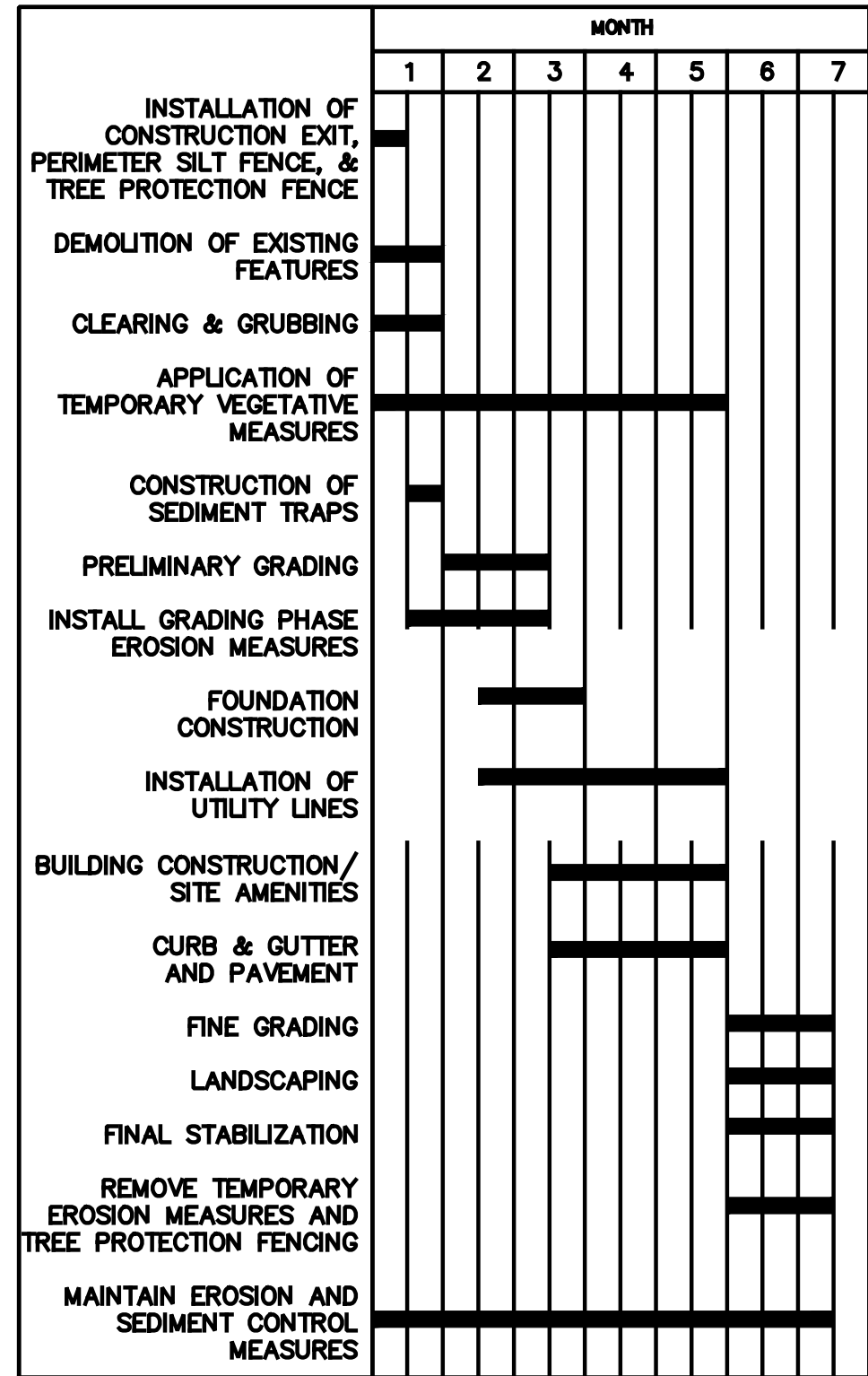
**CITY OF BROOKHAVEN
 BLACKBURN PARK
 PARKING LOT IMPROVEMENTS
 3493 ASHFORD DUNWOODY ROAD
 BROOKHAVEN, GEORGIA 30319**

DATE	DRAWN	CHECKED
3/7/19	JP	JM

SCALE: AS SHOWN

**FINAL
 EROSION CONTROL
 PLAN**

PROJECT NUMBER	15090.00
ER3	
DRAWING NUMBER	



Construction Exit Co



DEFINITION

A stone stabilized pad located at any point where traffic will be leaving a construction site to a public right-of-way, street, sidewalk or parking area or any other area where there is a transition from bare soil to a paved area.

PURPOSE

To reduce or eliminate the transport of mud from the construction area onto public rights-of-way by motor vehicles or by runoff.

CONDITIONS

This practice is applied at appropriate points of construction egress. Geotextile underliners are required to stabilize and support the pad aggregates.

DESIGN CRITERIA

Formal design is not required. The following standards shall be used:

Aggregate Size

Stone will be in accordance with National Stone Association R-2 (1.5 to 3.5 inch stone).

Pad Thickness

The gravel pad shall have a minimum thickness of 6 inches.

Pad Width

At a minimum, the width should equal full width of all points of vehicular egress, but not less than 20 feet wide.

Pad Length

The gravel pad shall have a minimum length

of 50 feet. When the construction is less than 50' from the paved access, the length shall be from the edge of existing pavement to the permitted building being constructed.

Washing

If the action of the vehicle traveling over the gravel pad does not sufficiently remove the mud, the tires should be washed prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with crushed stone and provisions that intercept the sediment-laden runoff and direct it into an approved sediment trap or sediment basin.

Location

The exit shall be located or protected to prevent sediment from leaving the site.

CONSTRUCTION SPECIFICATIONS

It is recommended that the egress area be excavated to a depth of 3 inches and be cleared of all vegetation and roots.

Diversion Ridge

On sites where the grade toward the paved area is greater than 2%, a diversion ridge 6 to 8 inches high with 3:1 side slopes shall be constructed across the foundation approximately 15 feet above the road.

Geotextile

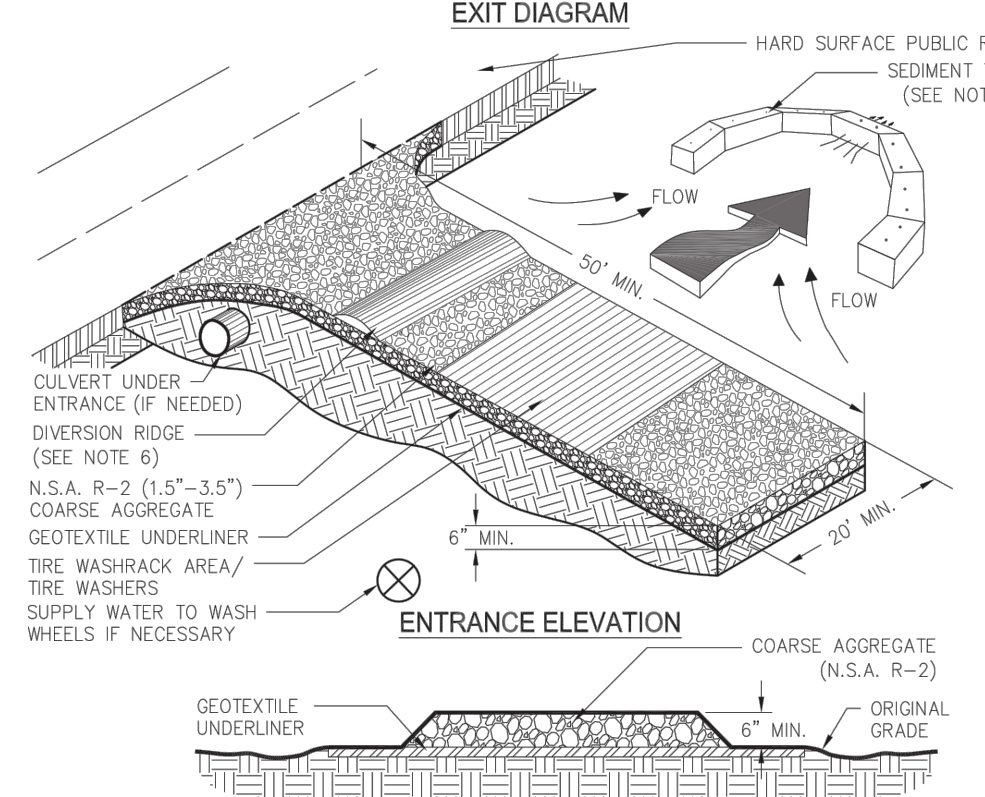
The geotextile underliner must be placed the full length and width of the entrance. Geotextile selection shall be based on AASHTO M288-06 specification.

- For subgrades with a CBR greater than or equal to 3 or shear strength greater than 90 kPa, geotextile must meet requirements of section AASHTO M288-06 Section 7.3, Separation Requirements.
- For subgrades with a CBR between 1 and 3 or shear strength between 30 and 90 kPa, geotextile must meet requirements of section AASHTO M288-06 Section 8, Geotextile Property Requirements for Sub-surface Drainage, Separation, Stabilization, and Permanent Erosion Control (Geotextile Property Requirements).

MAINTENANCE
The exit shall be maintained in a condition that will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 1.5-3 inch stone, as conditions demand, and repair and/or cleanout of any structures to trap sediment. All materials spilled,

dropped, washed, or tracked from vehicles or site onto roadways or into storm drains must be removed immediately.

CRUSHED STONE CONSTRUCTION EXIT



- NOTES:**
- AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 - REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 - AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
 - GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6"
 - PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NOT LESS THAN 20'
 - A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
 - INSTALL WASH TRAP OR SEDIMENT TRAP AT ALL POINTS OF VEHICULAR EGRESS.
 - 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 (OVERLAP ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
 - WASHRADES AND/OR TRUCK WASHERS MAY BE REQUIRED (DEPENDENT ON SCALE AND CIRCUMSTANCE). IF NECESSARY, WASHRADE DESIGN MUST CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
 - 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.

Figure 6-14.1

Disturbed Area Stabilization (With Mulching Only) Ds1



DEFINITION

Applying plant residues or other suitable materials produced on the site if possible, to the soil surface.

PURPOSE

- To reduce runoff and erosion
- To conserve moisture
- To prevent surface compaction or crusting
- To control undesirable vegetation
- To modify soil temperature
- To increase biological activity in the soil

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% coverage 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 any area will remain undisturbed for greater than six months, permanent vegetative techniques shall be employed. Refer to Ds2-Disturbed Area Stabilization (With Temporary Seeding).

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 graded 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

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

Mulching Materials

Select one of the following materials and apply at the depth indicated:

- 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.
- 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.
- 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.

- Dry straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.

DESIGN CRITERIA

Temporary Roads and Parking Areas

All cuts and fills shall have side slopes designed to be stable for the particular site conditions and soil materials specified. All cut-and-fill shall be 2:1 or flatter to the extent possible. When maintenance by machine mowing is planned, side slopes shall be no steeper than 3:1.

Drainage

The type of drainage structure used will depend on the type of enterprise and runoff conditions. The capacity and design shall be consistent with sound engineering principles and shall be adequate for the class of vehicle, type of road, development, or use. Structures should be designed to withstand flows from a 25-year, 24-hour frequency storm or the storm specified in Title 12-7-1 of the Official Code of Georgia Annotated. Channels shall be designed to be on stable grades or protected with structures or linings for stability.

Stabilization

Geotextile should be applied to the roadbed for additional stability. Geotextile selection shall be based on AASHTO M288-98 specification:

- For subgrades with a CBR greater than or equal to 3 or shear strength greater than 90 kPa, geotextile must meet requirements of section AASHTO M288-98 Section 7.3, Separation Requirements.
- For subgrades with a CBR between 1 and 3 or shear strength between 30 and 90 kPa, geotextile must meet requirements of section AASHTO M288-98 Section 7.4, Stabilization Requirements.

Grades and Alignment

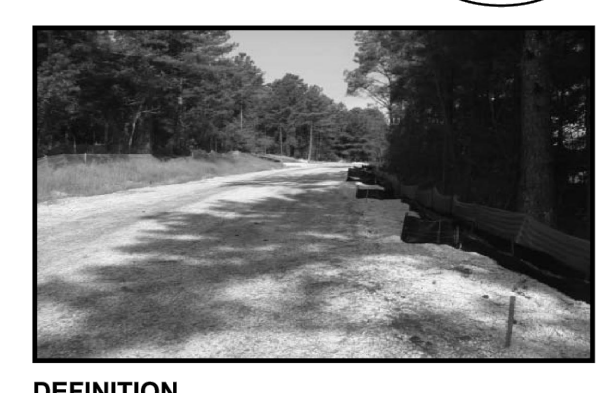
Grades for temporary roads should not exceed 10 percent except for very short lengths (200 feet or less), but maximum grades of 20 percent or more may be used if necessary for special uses. Frequent grade changes generally cause fewer erosion problems than long continuous grades.

Curves and switchbacks must be of sufficient radius for trucks and other large vehicles to negotiate easily. On temporary roads, the radius should be no less than 35 feet for standard vehicles and 50 feet for tractor-trailers.

Width

Temporary roadbeds shall be at least 14 feet wide for one-way traffic and 20 feet wide for two-way traffic. The width for two-way traffic shall be increased approximately 4 feet for trailer traffic. A minimum shoulder width shall be 2 feet on each side. Where turnouts are used, road width shall be increased to a minimum of 20 feet for a

Construction Road Stabilization Cr



DEFINITION

A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas, and other on-site vehicle transportation routes.

PURPOSE

To provide a fixed travel route for construction traffic and reduce erosion and subsequent regrading of permanent roadbeds between time of initial grading and final stabilization.

CONDITIONS

This practice is applicable where travelways are needed in a planned land use area or wherever stone-base roads or parking areas are constructed, whether permanent or temporary, or by construction traffic.

PLANNING CONSIDERATIONS

Areas graded for construction vehicle transport and parking purposes are especially susceptible to erosion. The exposed soil is continuously disturbed, eliminating the possibility of stabilization with vegetation. The prolonged exposure of the roads and parking areas to surface runoff can create severe rilling and muddying of the areas, requiring regrading before paving. The soil removed during this process may enter streams and other waters of the state via storm-water management systems, compromising the water quality. Also, because the roads become so unstable during wet weather, they are virtually unusable, limiting access, and causing delays in construction.

GRADING AND ALIGNMENT

The gradient and vertical and horizontal alignment shall be adapted to the intensity of use, mode of travel, and level of development.

PLANNING CONSIDERATIONS

Grades for temporary roads should not exceed 10 percent except for very short lengths (200 feet or less), but maximum grades of 20 percent or more may be used if necessary for special uses. Frequent grade changes generally cause fewer erosion problems than long continuous grades.

Width

Temporary roadbeds shall be at least 14 feet wide for one-way traffic and 20 feet wide for two-way traffic. The width for two-way traffic shall be increased approximately 4 feet for trailer traffic. A minimum shoulder width shall be 2 feet on each side. Where turnouts are used, road width shall be increased to a minimum of 20 feet for a

Disturbed Area Stabilization (With Temporary Seeding) Ds2



DEFINITION

The establishment of temporary vegetative cover with fast growing seedlings for seasonal protection on disturbed or denuded areas.

PURPOSE

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

To improve till, infiltration and aeration as well as organic matter for permanent plantings

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Temporary grassing, instead of mulch, can be applied to rough graded areas that will be exposed for less than six months. If an area is expected to be undisturbed for longer than six months, permanent perennial vegetation shall be used. If optimum planting conditions for temporary grassing is lacking, mulch can be used as a singular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored, and have a continuous 90% cover or greater of the soil surface. Refer to specification Ds1-Disturbed Area Stabilization (With Temporary Seeding).

CONDITIONS

Temporary vegetative measures should be coordinated with permanent measures to assure economical and effective stabilization. Most types of temporary vegetation are ideal to use as companion crops until permanent vegetation is established. Note: Some species of temporary vegetation are not appropriate for companion crop plantings because of their potential to out-compete the desired species (e.g. annual ryegrass). Contact NRCS or the local SWCD for more information.

SPECIFICATIONS

Grading and Shaping
Excess water runoff 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 compaction on 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 agricultural lime at a rate determined by soil test for pH. Quick acting lime should be incorporated to modify pH during the germination period. Bio stimulants should 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 fertilizer and amendments. Fertilizer should be applied before land preparation and incorporated with a disk, ripper, or chisel. On slopes too steep for, or inaccessible to equipment, fertilizer may be hydraulically applied, preferably in the first pass with seed and some hydraulic mulch, then topped with the remaining required application rate.

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, cut-packer-seeder, or hydraulic seeder (slurry including seed and fertilizer). Drill or cut/packer 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 potential. However, the use of mulch can often accelerate and enhance germination and vegetation establishment. 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.

Table 6-6.2 Sod Planting Requirements

Grass	Varieties	Resource Area	Growing Season
Bermudagrass	Common Tifway Tifgreen	M, L, P P P	warm weather
Bahia grass	Pensacola	P	warm weather
Centipede	-	P	warm weather
St. Augustine	Common Bitterblue Raleigh	C	warm weather
Zoysia	Emerald Myer	P	warm weather
Tall Fescue	Kentucky	M, L, P	cool weather

Table 6-6.3 Fertilizer Requirements for Sod

Types Species	Planting Year	Fertilizer (lb/ac)	Rate (lb/ton)	Nitrogen Top Dressing Rate (lb/acre)
cool season grasses	first	6-12-12	1500	50-100
	second	10-10-10	400	30
warm season grasses	first	6-12-12	1500	50-100
	second	10-10-10	400	30

DISTURBED AREA STABILIZATION (WITH SODDING) Ds4



DEFINITION

A permanent vegetative cover using sods on highly erodible or critically eroded lands.

PURPOSE

- Establish immediate ground cover.
- Reduce runoff and erosion.
- Improve aesthetics and land value.
- Reduce dust and sediments.
- Stabilize waterways, critical areas.
- Filter sediments, nutrients and bugs.
- Reduce downstream complaints.
- Reduce likelihood of legal action.
- Reduce likelihood of work stoppage due to legal action.
- Increase "good neighbor" benefits.

CONDITIONS

This application is appropriate for areas which require immediate vegetative covers, drop inlets, grass swales, and waterways with intermittent flow.

PLANNING CONSIDERATIONS

Sodding can initially be more costly than seeding, but the advantages justify the increased initial costs:

- Immediate erosion control, green surface, and quick use.
- Reduced failure as compared to seed as well as the lack of weeds.
- Can be established nearly year-round.

Sodding is preferable to seed in waterways and swales because of the immediate protection of the channel after application. Sodding must be sited in concentrated flow areas (See Figure 6-6.1).

Consider using sod framed around drop inlets to reduce sediments and maintaining the grade.

CONSTRUCTION SPECIFICATIONS

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.

Fertilizer Type	Fertilizer Rate (lb/ac)	Fertilizer Rate (lb/ton)	Season
10-10-10	1000	.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.

- Sod should be machine cut and contain 3/4" (+ or -1/4") of soil, not including shoots or thatch.
- Sod should be cut to the desired size within +/- 5%. Torn or uneven pads should be rejected.
- Sod should be cut and installed within 36 hours of digging.
- Avoid planting when subject to frost heave or hot weather, if irrigation is not available.
- The sod type should be shown on the plans or installed according to Table 6-6.2. See Figure 6-6.1 for your Resource Area.

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" 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 6-6.2 Sod Planting Requirements

Grass	Varieties	Resource Area	Growing Season
Bermudagrass	Common Tifway Tifgreen	M, L, P P P	warm weather
Bahia grass	Pensacola	P	warm weather
Centipede	-	P	warm weather
St. Augustine	Common Bitterblue Raleigh	C	warm weather
Zoysia	Emerald Myer	P	warm weather
Tall Fescue	Kentucky	M, L, P	cool weather

Table 6-6.3 Fertilizer Requirements for Sod

Sediment Barrier (Sd1)



DEFINITION
Sediment Barriers are temporary structures made up of a porous material typically supported by steel or wood posts. Types of sediment barriers may include silt fence, brush piles, mulch berms, compost filter socks or other filtering material.

PURPOSE
To minimize and prevent sediment carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage systems by slowing storm water runoff and causing the deposition and/or filtration of sediment at the structure. The barriers retain the soil on the disturbed land until the activities disturbing the land are completed and vegetation is established.

CONDTIONS
Barriers should be installed where runoff can be stored behind the barrier without damaging the submerged area behind the barrier or the structure itself. Sediment barriers shall not be installed across streams, ditches, waterways, or other concentrated flow areas.

DESIGN CRITERIA
Sediment barriers are designed to retain sediment transported by sheet flow from disturbed areas. It is important to design professional to take into account the profile of the product for use on the site.

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Sediment Barriers should also provide a riprap splash pad or other outlet protection device for any point where flow may overtop the sediment barrier. Ensure that the maximum height of the barrier at a protected, reinforced outlet does not exceed 1 foot and that the support spacing does not exceed 4 feet.

Where all runoff is to be stored behind the sediment barrier (where no storm water disposal system is present), maximum continuous slope length behind a sediment barrier shall not exceed those shown in Table 6-27.1. For longer slope lengths, slope interrupters must be used. The drainage area shall not exceed $\frac{1}{4}$ acre for every 100 feet of sediment barrier.

Table 6-27.1 Criteria for Sediment Barrier

Land Slope Percent	Maximum Slope Length Above Fence 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 feet between the toe of slope to the barrier should be provided.

Placement
The type of sediment barrier depends on whether the area is sensitive or nonsensitive. Sensitive areas can be defined as any area that needs additional protection, these areas include but are not limited to, state waters, wetlands, or any area the design professional designates as sensitive.

When using multiple types of sediment barriers on a site in a single run, the barriers must be overlapped 18 inches or as specified by design professional. See Figure 6-27.5

CONSTRUCTION SPECIFICATIONS
Non-sensitive Areas - Sd1-NS

Sediment barriers being used as Type NS shall have a support spacing of no greater than 6 feet on center, with each being driven into the ground a minimum of 18 inches.

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A brush barrier is a good tool to use in developing pasture in an agricultural situation to prevent sediment from leaving the site until the pasture is stabilized.

If greater filtering capacity is required, a commercially available sediment barrier may be placed on the side of the brush barrier receiving the sediment-laden runoff. The lower edge of the fabric must be buried in a 6-inch deep trench immediately uphill from the barrier. The upper edge must be stapled, tied or otherwise fastened to the brush barrier. Edges of adjacent fabric pieces must overlap each other. See Figure 6-27.5.

Installation
Sediment barriers should be installed along the contour.

Temporary sediment barriers shall be installed according to the following specifications as shown on the plans or as directed by the design professional.

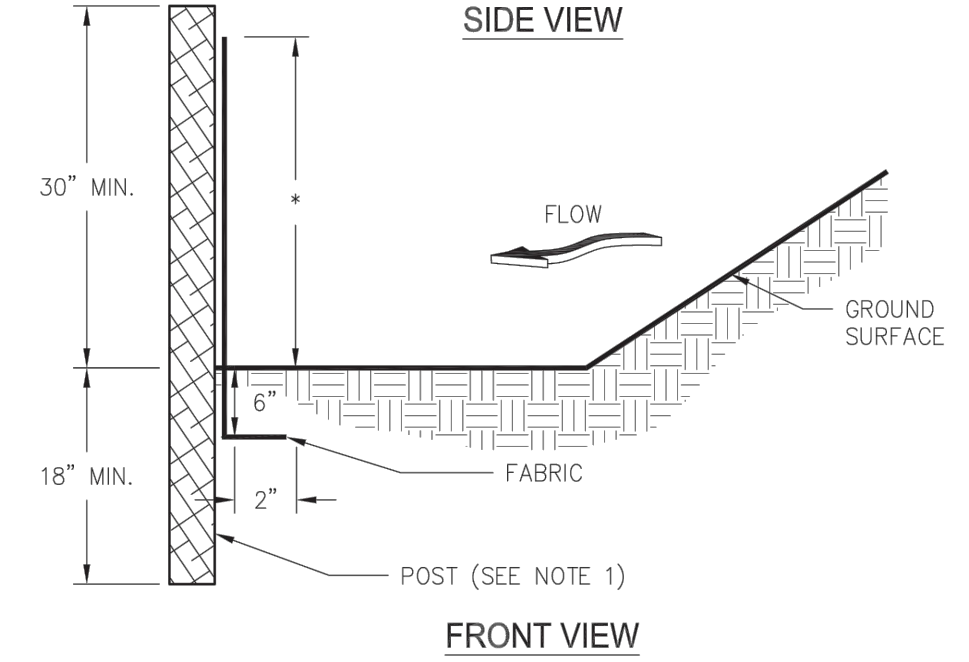
For installation of the barriers, See Figures 6-27.1, 6-27.2, 6-27.3 and 6-27.4, respectively. It is important to remember that not all sediment barriers need to be trenched into the ground but most taller sediment barriers do.

Post installation shall start at the center of a low point (if applicable) with the remaining posts spaced no greater than 6 feet apart for Type NS sediment barriers and no greater than 4 feet apart for Type C sediment barriers. For post size requirements, see Table 6-27.2. Fasteners for wood posts are listed in Table 6-27.3.

Static Slicing Method
The static slicing machine pulls a narrow blade through the ground to create a slit 1/2" deep, and simultaneously inserts the silt fence fabric into this slit behind the blade. The blade is designed to slightly disrupt soil upward next to the slit and to minimize horizontal compaction, thereby creating an optimum condition for compaction of the soil vertically on both sides of the fabric. Compaction is achieved by rolling a tractor wheel along both sides of the slit in the ground 2 to 4 times to achieve nearly the same or greater compaction as the original undisturbed soil.

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SILT FENCE - TYPE C



FASTENERS FOR SILT FENCES

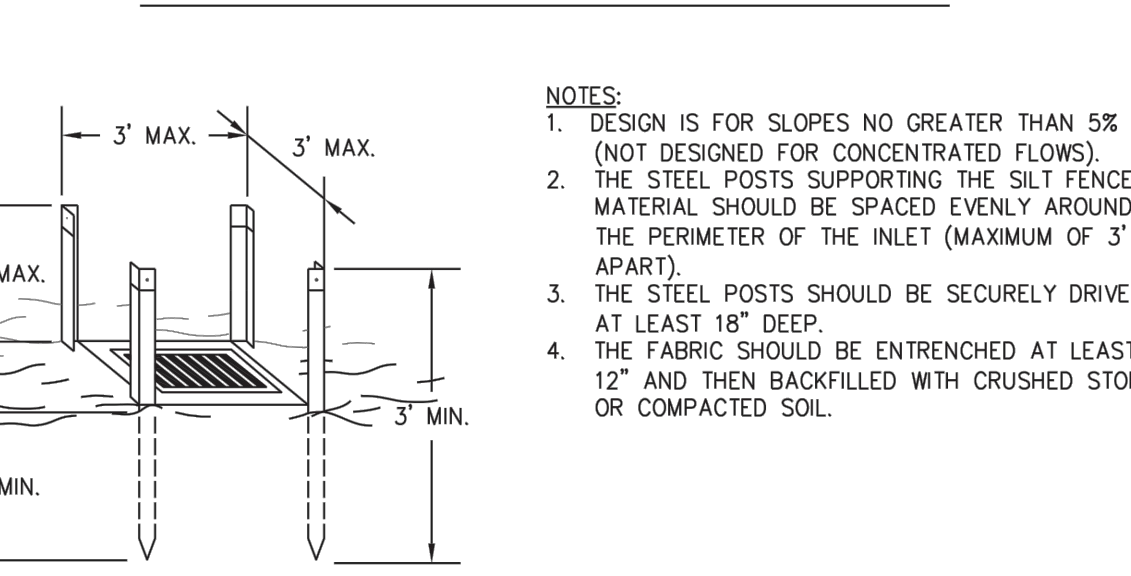
Table 6-27.2 Post Size		Table 6-27.3 Fasteners for Wood Posts					
Type	Min Length	Type of Post	Size of Post	Gauge	Crown	Legs	Staples / Post
NS	4'	Soft wood Oak Steel	3" dia or 2x4 1.5" x 1.5" 1.15lb./ft. min	17 min.	3/4" wide	1/2" long	5 min.
S	4'	Steel Oak	1.15-1.25 lb./ft. min 2"x2"	14 min.	1"	3/4"	4 min.

Note: Filter Fabric may also be attached to the post by wire, cords, and pockets.

FASTENERS FOR SILT FENCES
OVERLAP AT FABRIC EDGES
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.

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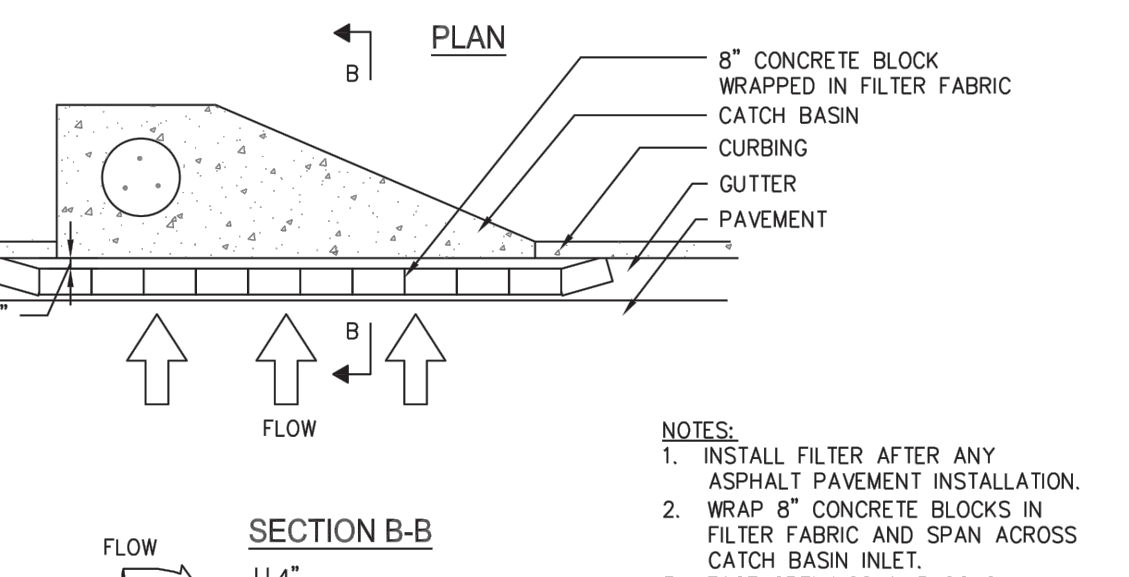
FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION



CONSTRUCTION SPECIFICATIONS
Non-sensitive Areas - Sd1-NS

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FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION



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Inlet Sediment Trap (Sd2)



DEFINITION
A temporary protective device formed at or around an inlet to a storm drain to trap sediment.

PURPOSE
To prevent sediment from entering a storm drainage system prior to permanent stabilization of the disturbed area draining to the inlet.

CONDTIONS
All storm drain drop inlets that receive runoff from disturbed areas.

DESIGN CRITERIA
Through testing there are two different categories (high retention and high flow) supported. In areas where BMPs are being used on paved surfaces, or safety is a concern, the potentially negative effects of ponding should be taken into account. In such cases, a high flow BMP is preferred.

On un-paved areas where ponding will not cause a safety hazard, high retention shall be taken into account. If high retention is not used in this situation a rationale shall be given on the plan and an un-paved application should apply.

Sediment traps must be self-draining unless they are otherwise protected in an approved fashion that will not present a safety hazard. The drainage area entering the inlet sediment trap shall be no greater than one acre.

If runoff may bypass the protected inlet, a temporary dike should be constructed on the down slope side of the structure. Also, a stone filter ring may be used on the up slope side of the inlet to slow runoff and filter larger soil particles. Refer to Fr-Stone Filter Ring.

CONSTRUCTION SPECIFICATIONS
Excavated Inlet Sediment Trap
An excavation may be created around the inlet sediment trap to provide additional sediment storage. The trap shall be sized to provide a minimum storage capacity calculated at the rate of 67 cubic yards per acre of drainage area. A minimum depth of 1.5 feet for sediment storage should be provided. Side slopes shall not be steeper than 2:1.

Sediment traps may be constructed on natural ground surface, on an excavated surface, or on machine compacted fill, provided they have a non-erodible outlet.

Filter Fabric with Supporting Frame Sd2-F
This method of inlet protection is applicable where the inlet drains a relatively flat area (slope no greater than 5%) and shall not apply to inlets receiving concentrated flows, such as in street or highway medians. As shown in Figure 6-28.1, Type S silt fence supported by steel posts should be used. The stakes shall be placed evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely driven into the ground, approximately 18 inches deep. The fabric shall be 36 inches tall and entrenched 12 inches and backfilled with crushed stone or compacted soil. Fabric and wire shall be securely fastened to the posts, and fabric ends must be overlapped a minimum of 18 inches or wrapped together around a post to provide a continuous fabric barrier around the inlet.

Baffle Box Sd2-B
For inlets receiving runoff with a higher volume or velocity, a baffle box inlet sediment trap should be used. As shown in Figure 6-28.2, the baffle box shall be constructed of 4" boards spaced a maximum of 1 inch apart or of plywood with weep holes 2 inches in diameter. The weep holes shall be placed approximately 6 inches on center vertically and horizontally. Gravel shall be placed outside the box, all around the inlet, to a depth of 2 to 4 inches. The entire box is wrapped in filter fabric that shall be entrenched 12 inches and backfilled.


Block and Gravel Drop Inlet Protection Sd2-Bg
This method of inlet protection is applicable where heavy flows are expected and where an overflow capacity is necessary to prevent excessive ponding around the structure. As shown in Figure 6-28.3, one block is placed on each side of the structure on its side in the bottom row to allow pool drainage. The foundation should be excavated at least 2 inches below the crest of the storm drain. The bottom row of blocks is placed against the edge of the storm drain for lateral support and to avoid washouts when overflow occurs. If needed, lateral support may be given to subsequent rows by placing 2" x 4" wood studs through block openings. Hardware cloth or comparable wire mesh with 1/2 inch openings shall be fitted over all block openings to hold gravel in place. The gravel shall be placed 2 inches below the top of the block on a 2:1 slope or flatter and smoothed to an even grade. DOT #57 washed stone is recommended.

Gravel drop Inlet Protection Sd2-G
This method of inlet protection is applicable where heavy concentrated flows are expected. As shown in Figure 6-28.4, stone and gravel are used to trap sediment. The slope toward the inlet shall be no steeper than 3:1. A minimum 1 foot wide level stone area shall be left between the structure and around the inlet to prevent gravel from entering the inlet. On the slope toward the inlet, stone 3 inches in diameter and larger should be used. On the slope away from the inlet, 1/2 to 3/4 inch gravel (#57 washed stone) should be used at a minimum thickness of 1 foot.

Sod Inlet Protection Sd2-S
This method of inlet protection is applicable only at the time of permanent seeding, to protect the inlet from sediment and mulch material until permanent vegetation has become established. As shown in Figure 6-28.5, the sod shall be placed to form a turf mat covering the soil for

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Storm Drain Outlet Protection (St)



DEFINITION
Paved and/or riprapped channel sections, placed below storm drain outlets.

PURPOSE
To reduce velocity of flow before entering receiving channels below storm drain outlets.

CONDTIONS
This standard applies to all storm drain outlets, road culverts, paved channel outlets, etc., discharging into natural or constructed channels. Analysis and/or treatment will extend from the end of the conduit, channel or structure to the point of entry into an existing stream or publicly maintained drainage system.

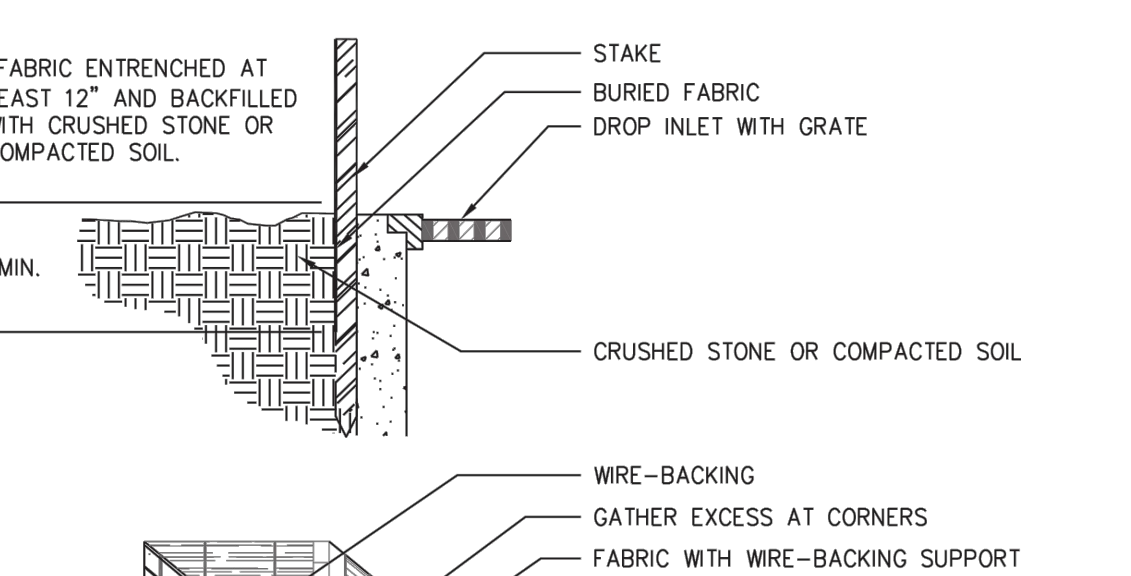
DESIGN CRITERIA
Structurally lined aprons at the outlets of pipes and paved channel sections shall be designed according to the following criteria:

Capacity
Peak stormflow from the 25-year, 24-hour frequency storm or the storm specified in Title 12-7-1 of the Official Code of Georgia Annotated or the design discharge of the water conveyance structure, whichever is greater.

Tailwater Depth
The depth of tailwater immediately below the pipe outlet must be determined for the design capacity of the pipe. Manning's Equation may be used to determine tailwater depth. If the tailwater depth is less than half the diameter of the outlet pipe, it shall be classified as a Minimum Tailwater Condition. If the tailwater depth is greater than half the pipe diameter, it shall be classified as a

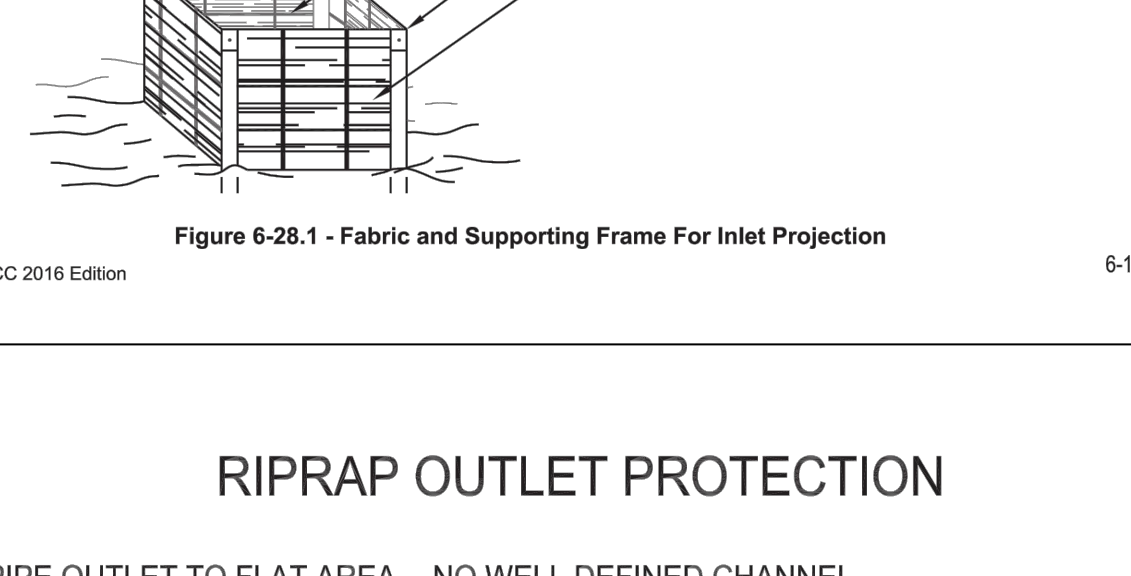
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FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION



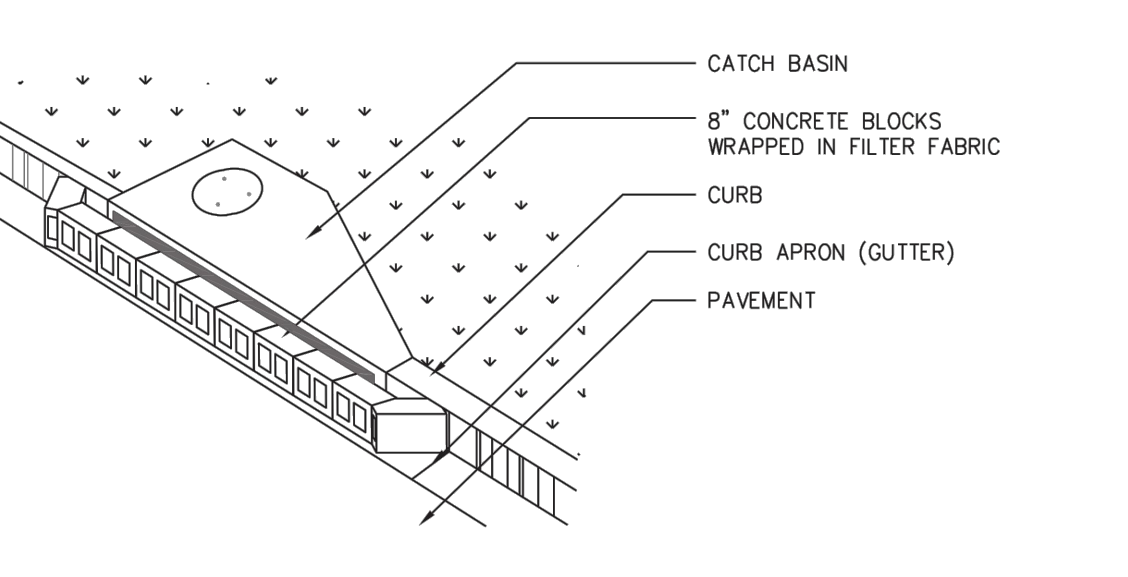
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FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION



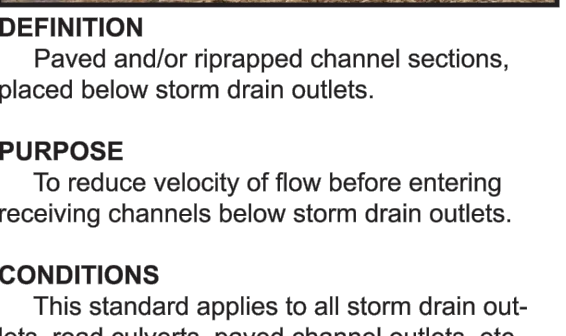
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CURB INLET FILTER "PIGS IN BLANKET"



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Storm Drain Outlet Protection



DEFINITION
Paved and/or riprapped channel sections, placed below storm drain outlets.

PURPOSE
To reduce velocity of flow before entering receiving channels below storm drain outlets.

CONDTIONS
This standard applies to all storm drain outlets, road culverts, paved channel outlets, etc., discharging into natural or constructed channels. Analysis and/or treatment will extend from the end of the conduit, channel or structure to the point of entry into an existing stream or publicly maintained drainage system.

DESIGN CRITERIA
Structurally lined aprons at the outlets of pipes and paved channel sections shall be designed according to the following criteria:

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Tailwater Depth
The depth of tailwater immediately below the pipe outlet must be determined for the design capacity of the pipe. Manning's Equation may be used to determine tailwater depth. If the tailwater depth is less than half the diameter of the outlet pipe, it shall be classified as a Minimum Tailwater Condition. If the tailwater depth is greater than half the pipe diameter, it shall be classified as a

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Alignment

The apron shall be located so that there are no bends in the horizontal alignment.

Geotextile
Geotextiles should be used as a separator between the graded stone, the soil base, and the subunits. The geotextile will prevent the migration of soil particles from the subgrade into the graded stone. The geotextile shall be specified in accordance with AASHTO M288-06 Section 8, Geotextile Property Requirements. The geotextile should be placed immediately adjacent to the subgrade without any voids.

Materials
The apron may be lined with riprap, grouted riprap, or concrete. The median sized stone for riprap, d₅₀, shall be determined from the curves, Figures 6-34.1 and 6-34.2, according to the tailwater condition. The gradation, quality and placement of riprap shall conform to Appendix C.

Refer to Figure 6-34.4, for alternative structures to achieving energy dissipation at an outlet. For information regarding the selection and design of these alternative energy dissipators, refer to: FHWA Standard (REF. Hydraulic Design of Energy Dissipators for Culverts and Channels, HEC No. 14, FHWA. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

CONSTRUCTION SPECIFICATIONS

- Ensure that the riprap for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
- The riprap and gravel filter must conform to the specified grading limits shown on the plans.
- Geotextile must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter fabric over the damaged area. All connecting joints should overlap a

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Alignment

The apron shall be located so that there are no bends in the horizontal alignment.

Geotextile
Geotextiles should be used as a separator between the graded stone, the soil base, and the subunits. The geotextile will prevent the migration of soil particles from the subgrade into the graded stone. The geotextile shall be specified in accordance with AASHTO M288-06 Section 8, Geotextile Property Requirements. The geotextile should be placed immediately adjacent to the subgrade without any voids.

Materials
The apron may be lined with riprap, grouted riprap, or concrete. The median sized stone for riprap, d₅₀, shall be determined from the curves, Figures 6-34.1 and 6-34.2, according to the tailwater condition. The gradation, quality and placement of riprap shall conform to Appendix C.

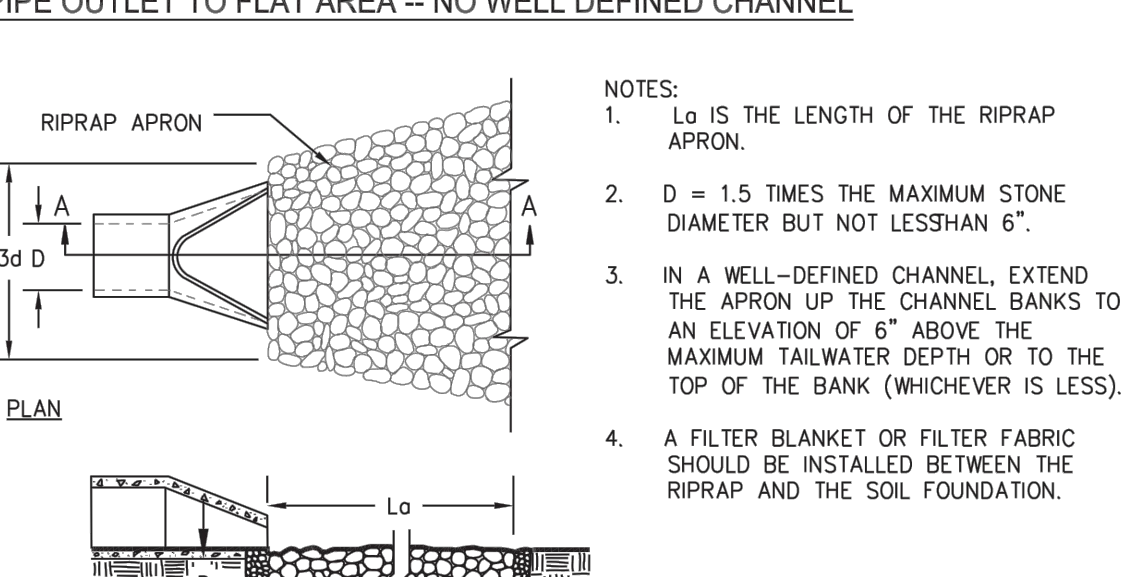
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CONSTRUCTION SPECIFICATIONS

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- The riprap and gravel filter must conform to the specified grading limits shown on the plans.
- Geotextile must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter fabric over the damaged area. All connecting joints should overlap a

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PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL

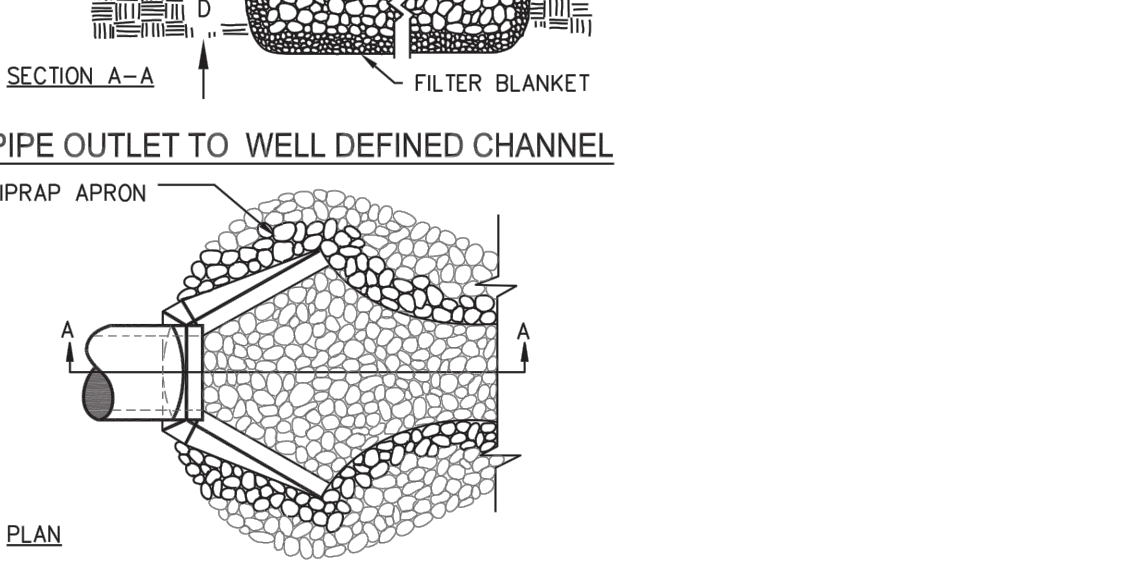


CONSTRUCTION SPECIFICATIONS

- Ensure that the riprap for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
- The riprap and gravel filter must conform to the specified grading limits shown on the plans.
- Geotextile must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter fabric over the damaged area. All connecting joints should overlap a

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RIPRAP OUTLET PROTECTION



CONSTRUCTION SPECIFICATIONS

- Ensure that the riprap for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
- The riprap and gravel filter must conform to the specified grading limits shown on the plans.
- Geotextile must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter fabric over the damaged area. All connecting joints should overlap a

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DRAWINGS SCHEDULE

No.	Date	Description



EROSION CONTROL DETAILS

DATE	DRAWN	CHECKED
3/7/19	JW	JM

SCALE: AS SHOWN

ED2

DRAWING NUMBER

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 unpaired 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 uniformly covered 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.

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Wildlife Plantings

Commercially available plants beneficial to wildlife species include the following:

Must 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, Hackberry 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 that 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, inoculant (if needed), and wood cellulose or wood pulp fiber mulch and applied in a slurry. The inoculant, 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

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:

- Apply before land preparation so that it will be mixed with the soil during seedbed preparation.
- Mix with the soil used to fill the holes, distribute in furrows.
- Broadcast after steep surfaces are scarified, pitted or trenched.
- 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.,

$$PLS = \% \text{ germination } \times \% \text{ purity}$$

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:

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

$$56\% \text{ PLS}$$

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

- Tillage, at a minimum, shall adequately

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.

Tillage may be done with any suitable equipment.

Tillage should be done on the contour where feasible.

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

- Where individual plants are to be set, the soil shall be prepared by excavating holes, opening furrows, or dibble planting.
- For nursery stock plants, holes shall be large enough to accommodate roots without crowding.
- 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 inoculant 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 inoculant to the seed. For conventional seeding, use twice the amount of inoculant recommended by the manufacturer. For hydraulic seeding, four times the amount of inoculant 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 (inoculated 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 firm 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-



DRAWINGS SCHEDULE

No.	Date	Description

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

- 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.
- 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.
- One thousand pounds of wood cellulose or wood pulp fiber, which includes a tackifier, shall be used with hydraulic seeding on slopes 3:4 or steeper.
- Sericea Lespedeza hay containing mature seed shall be applied at a rate of three tons per acre.
- 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.
- When using temporary erosion control blankets or block sod, mulch is not required.
- 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:

- 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.
- 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**
- 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.
- 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.

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.

Table 6-5.1. Fertilizer Requirements

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
1. Cool season grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs./ac. 1/2'
	Second	6-12-12	1000 lbs./ac.	30
	Maintenance	10-10-10	400 lbs./ac.	—
2. Cool season grasses and legumes	First	6-12-12	1500 lbs./ac.	0-50 lbs./ac. 1'
	Second	0-10-10	1000 lbs./ac.	—
	Maintenance	0-10-10	400 lbs./ac.	—
3. Ground covers	First	10-10-10	1300 lbs./ac. 3'	—
	Second	10-10-10	1300 lbs./ac. 3'	—
	Maintenance	10-10-10	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	0-10-10	700 lbs./ac.	—
	Maintenance	0-10-10	700 lbs./ac. 4'	—
6. Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.	30 lbs./ac. 5'
7. Warm season grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs./ac. 2/6'
	Second	6-12-12	800 lbs./ac.	50-100 lbs./ac. 2'
	Maintenance	10-10-10	400 lbs./ac.	30 lbs./ac.
8. Warm season grasses and legumes	First	6-12-12	1500 lbs./ac.	50 lbs./ac./6'
	Second	0-10-10	1000 lbs./ac.	—
	Maintenance	0-10-10	400 lbs./ac.	—

- Apply in spring following seeding.
- Apply in split applications when high rates are used.
- Apply in 3 split applications.
- Apply when plants are pruned.
- Apply to grass species only.
- Apply when plants grow to a height of 2 to 4 inches.

Species	Broadcast Rates	Resource Area ¹	Planting Dates by Resource Area ²												Remarks	
			J	F	M	A	M	J	J	A	S	O	N	D		
BAHIA, PENNSACOLA Paspalum notatum alone or with temporary cover	60 lbs 30 lbs	Pure Live Seed Rate Per Acre For 100% PLS 1.4 lbs 0.7 lb														166,000 seed per pound. Low growing. Sod forming. Slow to establish for pastures and lawns. Mix with Sericea Lespedeza or weeping lovegrass.
BAHIA, WILMINGTON Paspalum notatum alone or with temporary cover	60 lbs 30 lbs	1.4 lb 0.7 lb														Same as above.
BERNALDA, COMMON Cynodon dactylon Hulled seed alone	10 lbs 6 lbs	0.2 lb 0.7 lb														1,070,000 seed per pound. Quick cover. Good for athletic fields.
Unhulled seed with temporary cover with other perennials	10 lbs 6 lbs	0.2 lb 0.1 lb														Plant with winter annuals. Plant with Tall Fescue

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CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
3493 ASHFORD DUNWOODY ROAD
BROOKHAVEN, GEORGIA 30319

DATE	DRAWN	CHECKED
3/7/19	JP	JM

SCALE: AS SHOWN
SHEET TITLE: EROSION CONTROL DETAILS

PROJECT NUMBER 15090.00
ED3
DRAWING NUMBER

Table 6-5.2: Permanent Cover Crops

Table with columns: Species, Broadcast Rates, Resource Area, Planting Dates by Resource Area, Remarks. Includes species like BERNUDA SPRIGS, Coastal, Common, Midland, etc.

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Table 6-5.2: Permanent Cover Crops

Table with columns: Species, Broadcast Rates, Resource Area, Planting Dates by Resource Area, Remarks. Includes species like FESCUE, TALL, Festuca sturudracea, etc.

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Table 6-5.2: Permanent Cover Crops

Table with columns: Species, Broadcast Rates, Resource Area, Planting Dates by Resource Area, Remarks. Includes species like LESPEDEZA, SHRUB, Lespedeza bicolor, etc.

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Table 6-5.2: Permanent Cover Crops

Table with columns: Species, Broadcast Rates, Resource Area, Planting Dates by Resource Area, Remarks. Includes species like MAIDENSANE, Pennium herbifolium, etc.

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Table 6-5.3. Durable Shrubs and Ground Covers for Permanent Cover

Ground covers include a wide range of low-growing plants... Fall planting is encouraged because the need for constant watering is reduced...

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Table 6-5.3. Durable Shrubs and Ground Covers for Permanent Cover

Table with columns: Common Name, Scientific Name, Mature Height, Plant Spacing, Comments. Includes species like Repandens, Andorra Juniper, etc.

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Table 6-5.3. Durable Shrubs and Ground Covers for Permanent Cover

Table with columns: Common Name, Scientific Name, Mature Height, Plant Spacing, Comments. Includes species like Creeping Liriope, Big Leaf Periwinkle, etc.

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Table 6-5.4. Trees for Erosion Control

Table with columns: SITE, SOIL MATERIAL, COMMON SOILS, PLANTING TREE SPECIES, SPACING, PLANTING DATES. Includes sites like Borrow areas, Streambanks, etc.

Other trees and shrubs listed on Table 6-25.3 may be interplanted with the pines for improved wildlife benefits. Type of Planting, Tree Spacing, No. of Trees Per Acre.

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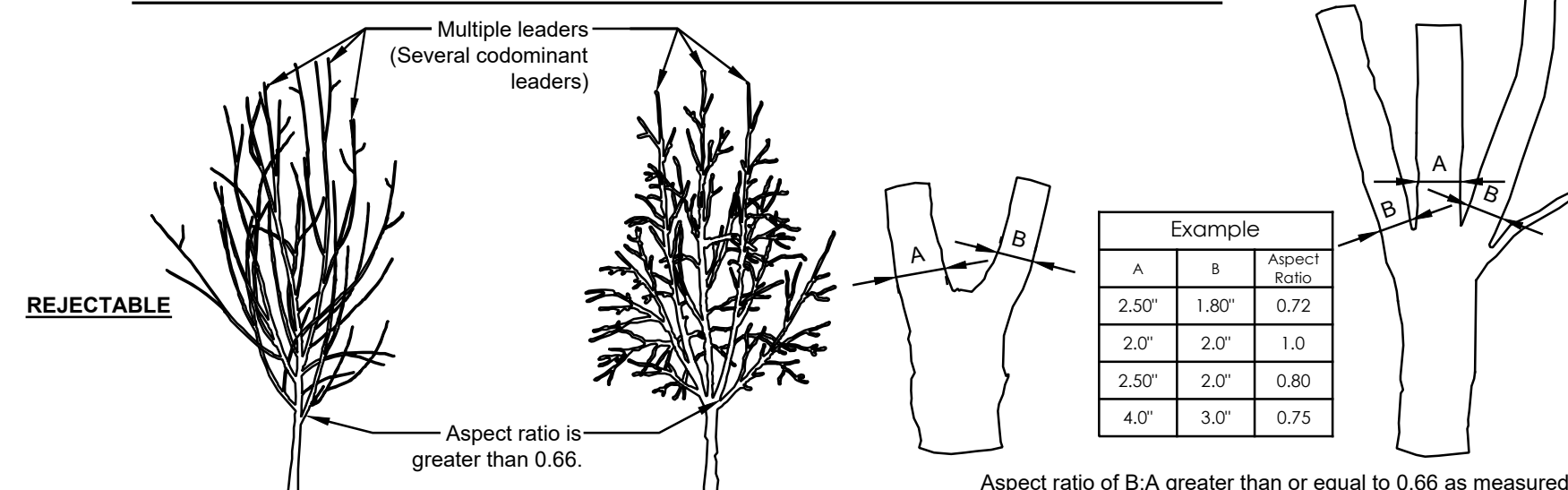
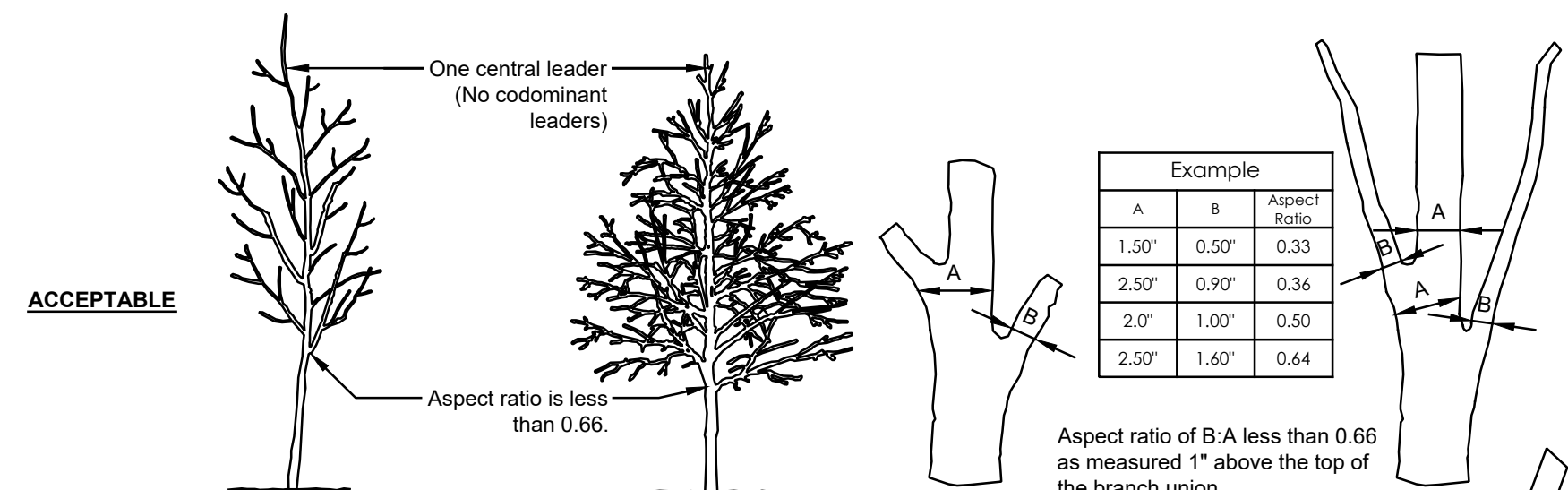
DRAWINGS SCHEDULE table with columns: No., Date, Description



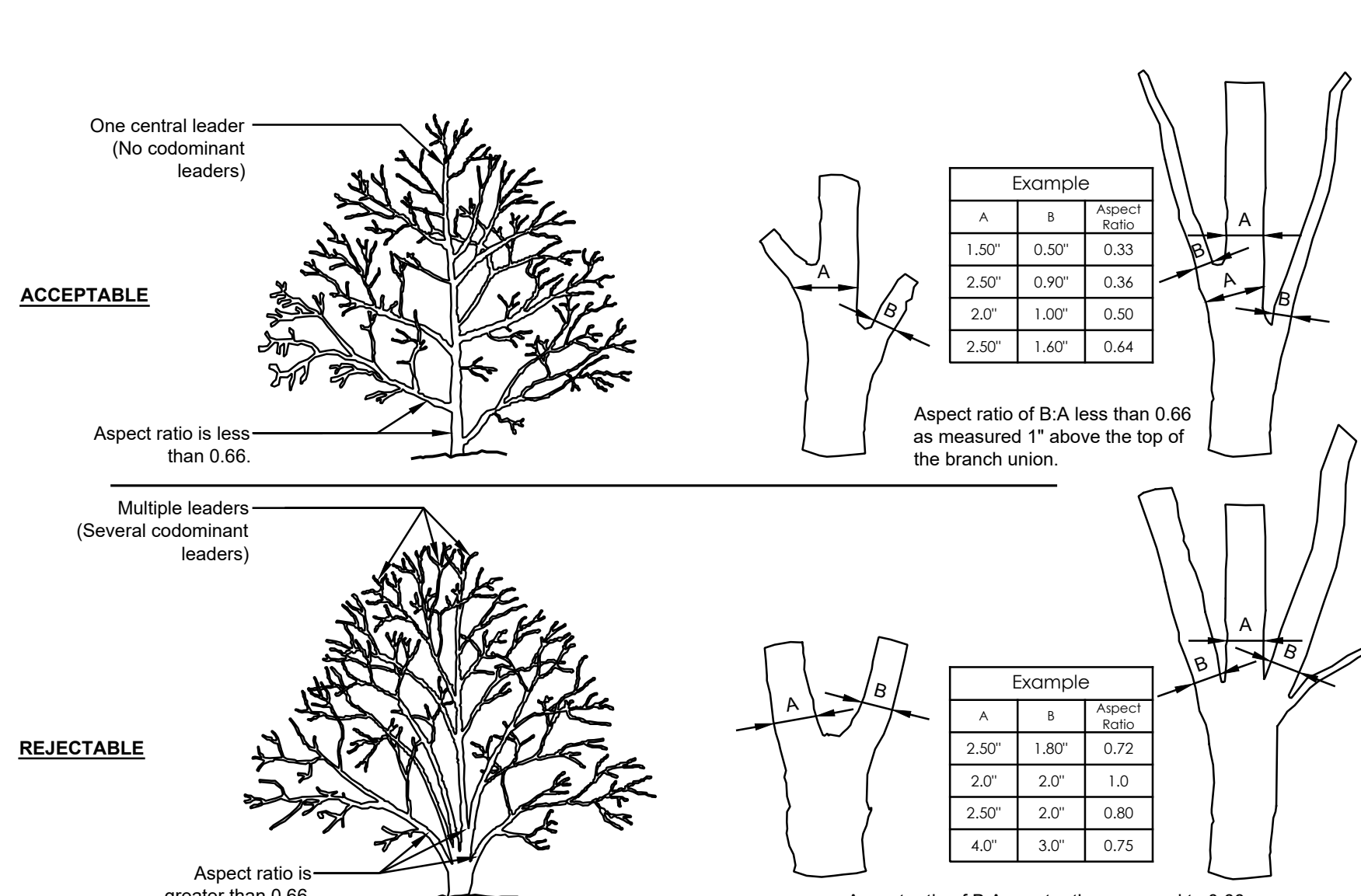
CITY OF BROOKHAVEN BLACKBURN PARK PARKING LOT IMPROVEMENTS 3493 ASHFORD DUNWOODY ROAD BROOKHAVEN, GEORGIA 30319

DATE 3/7/19, DRAWN JP, CHECKED JM, SCALE AS SHOWN, SHEET TITLE EROSION CONTROL DETAILS

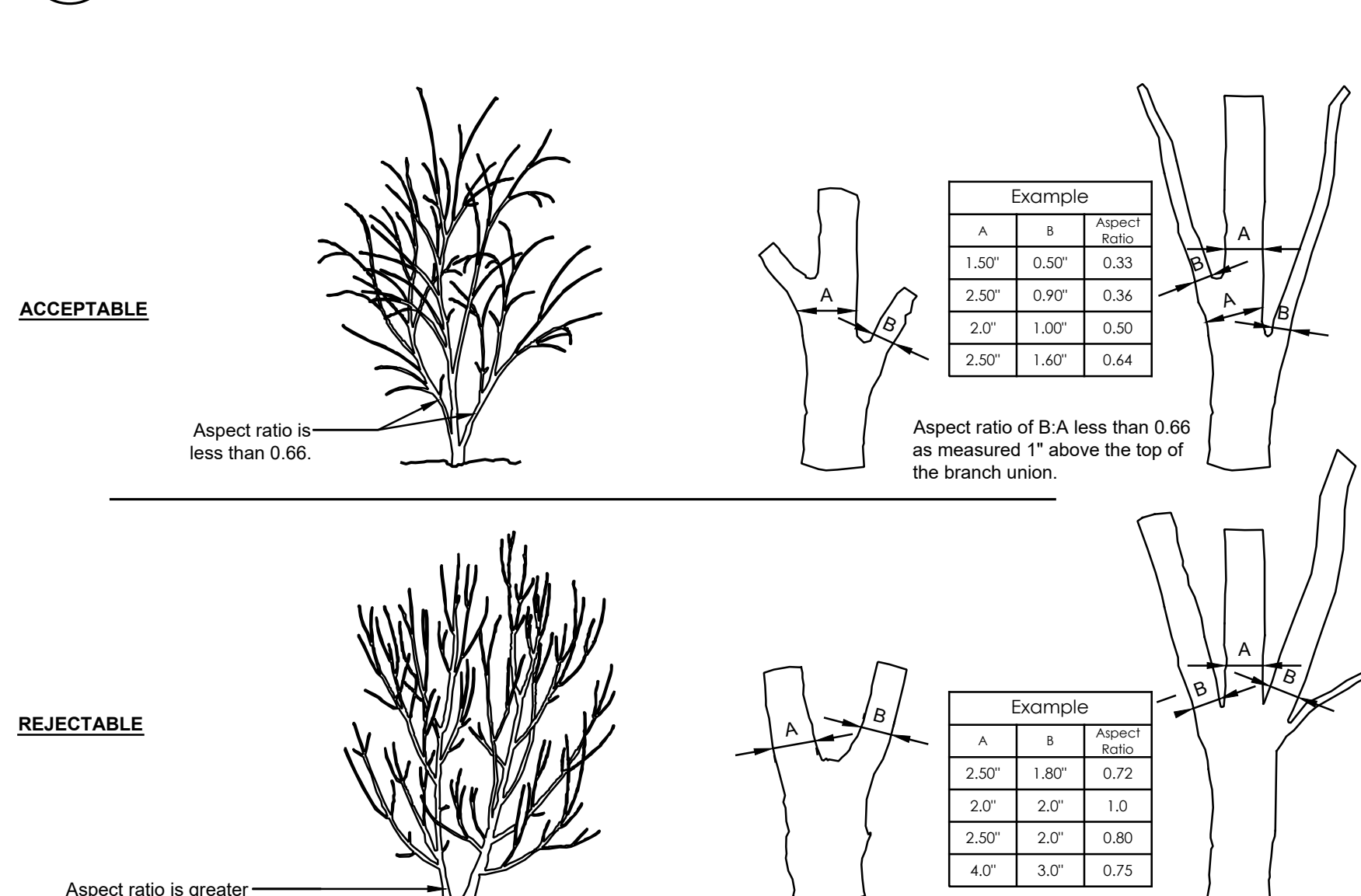
PROJECT NUMBER 15090.00, DRAWING NUMBER ED4



Notes:
 1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.
 2- Any tree not meeting the crown observations detail may be rejected.



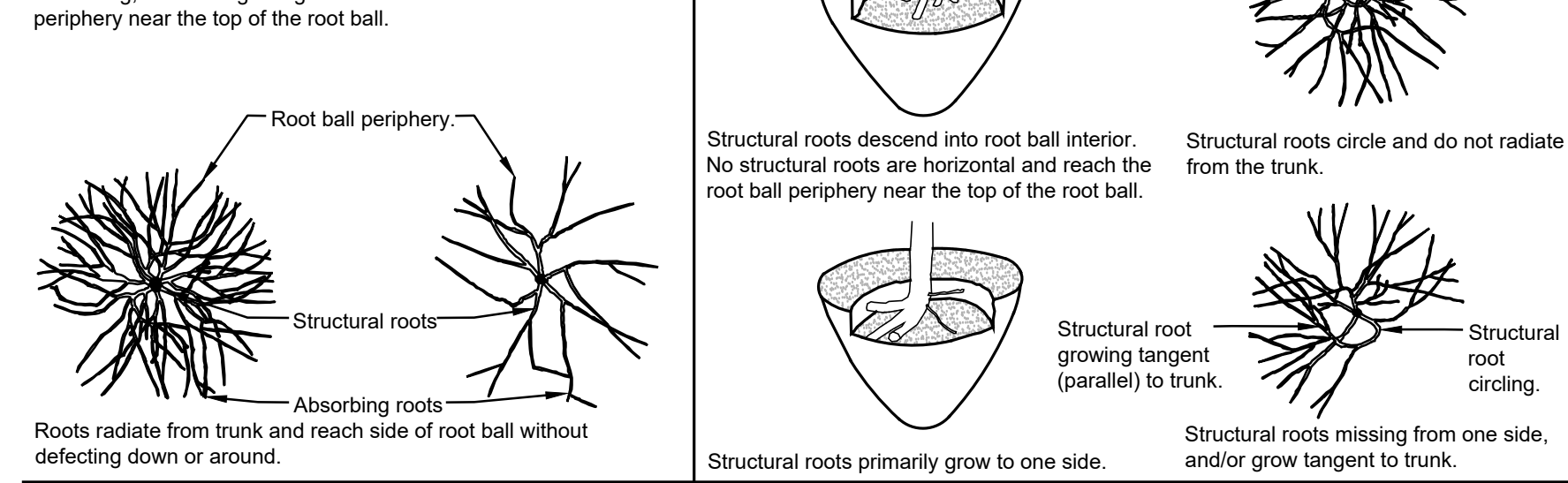
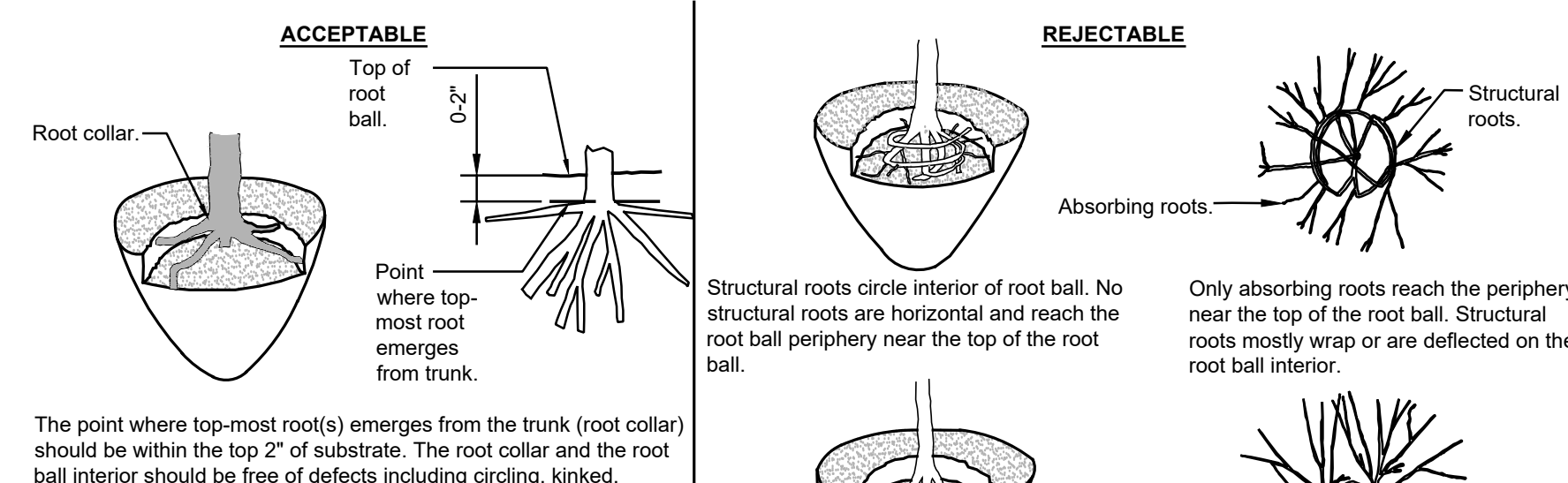
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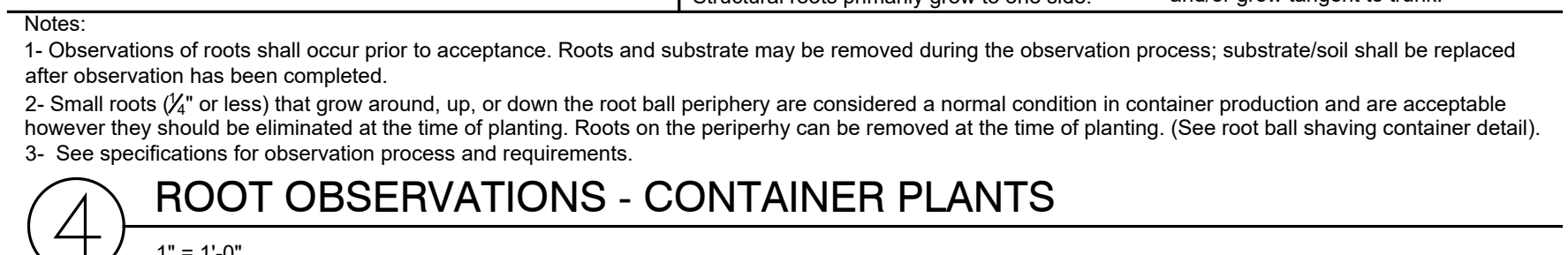
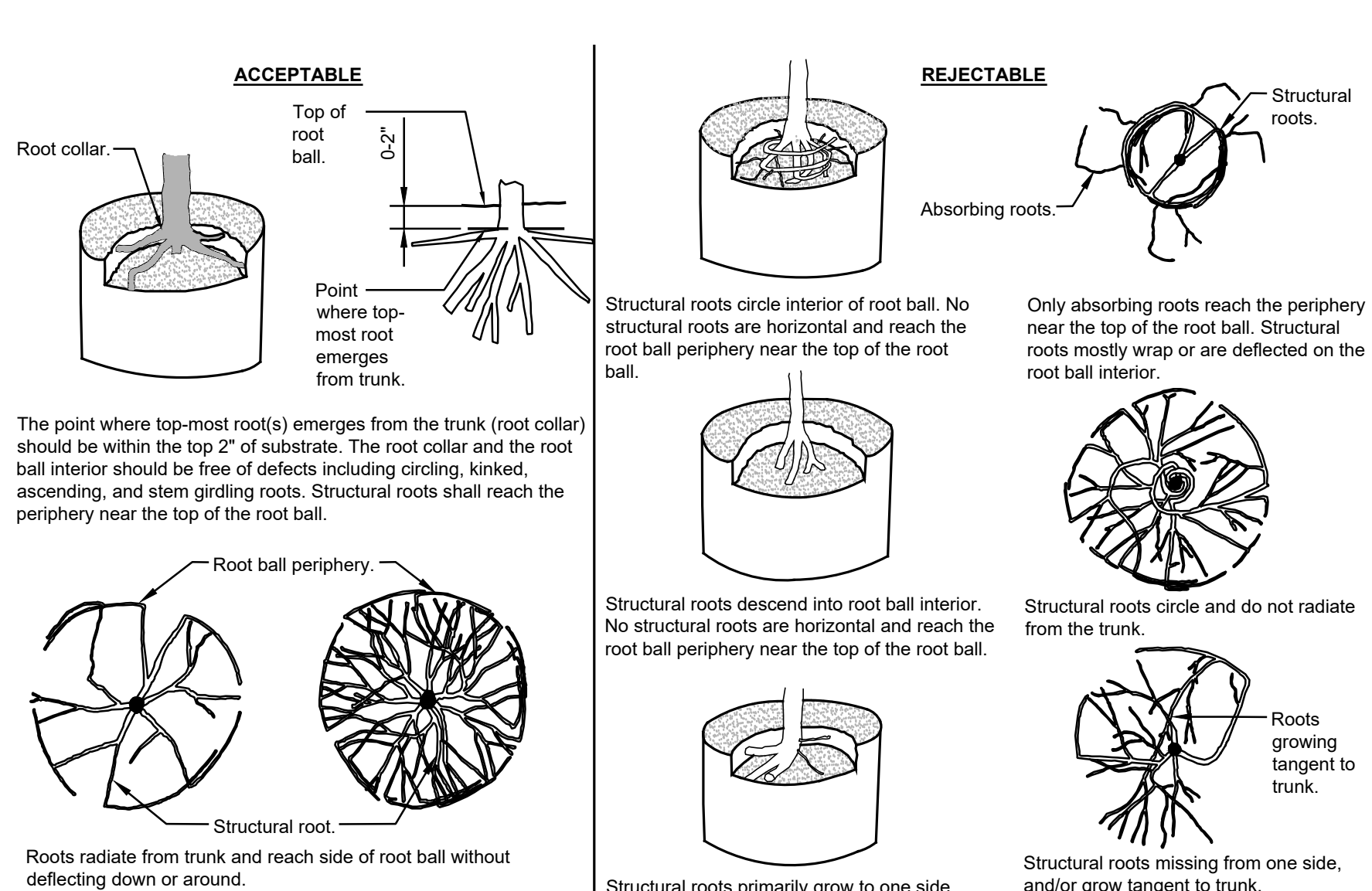
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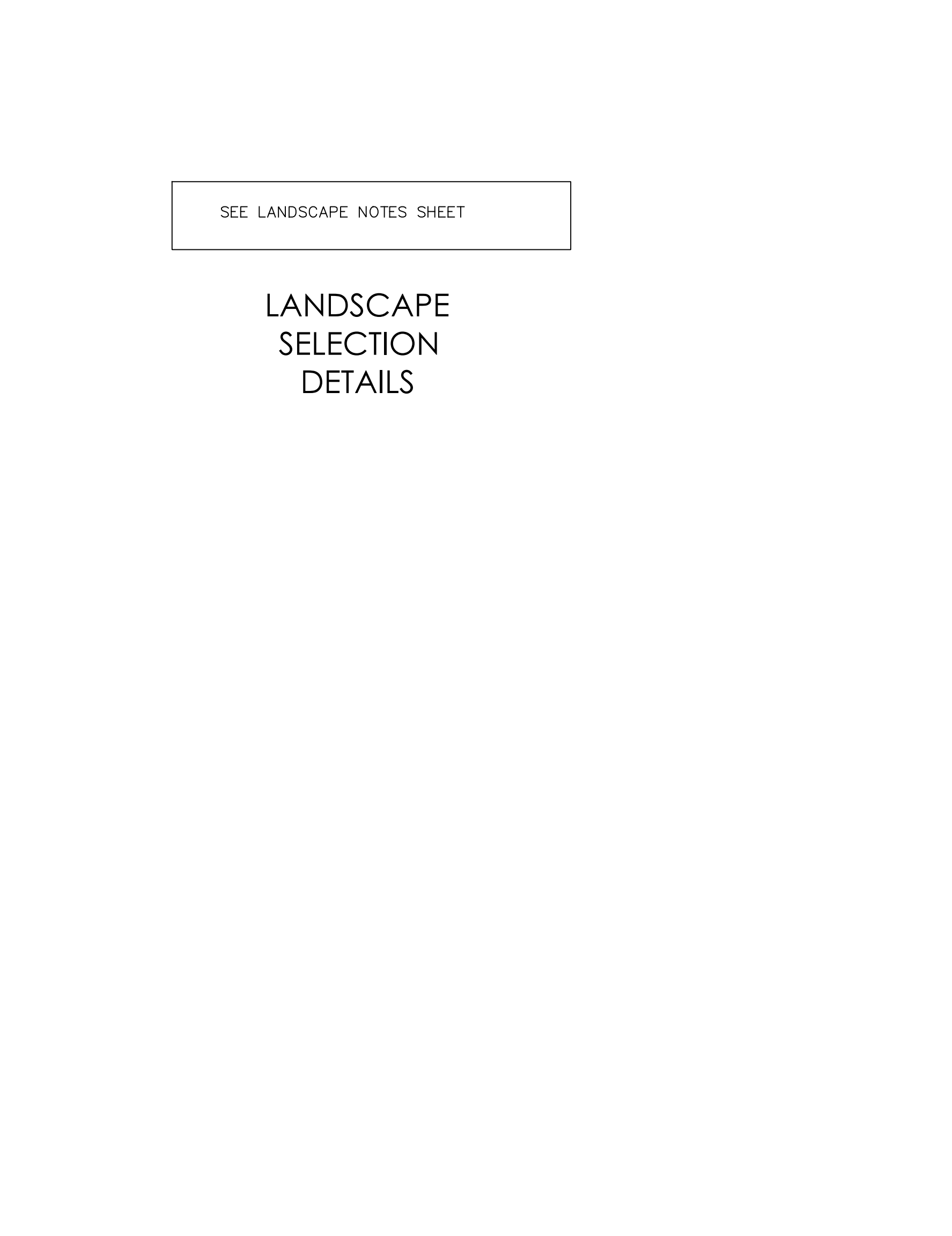
Notes:
 1- All trees shown are rejectable unless they undergo recommended correction.
 2- First Step 1, then Step 2. Roots and soil may be removed during the correction process; substrate/soil shall be replaced after correction has been completed.
 3- Trees shall meet root observations detail following correction.
 4- Small roots (1/4" or less) on the periphery of the root ball are common with container plant production. These small roots are not defined as "defects" and can be addressed at the time of installation. (See root ball shaving container detail).



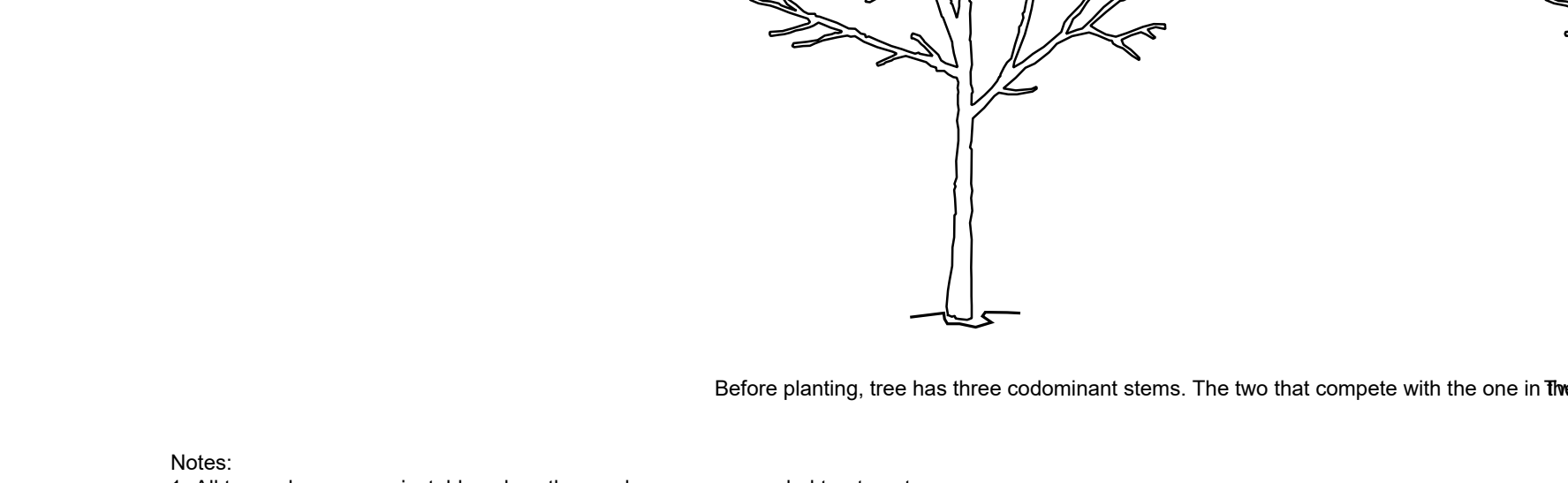
Notes:
 1- Observations of roots shall occur prior to acceptance. Roots and soil may be removed during the observation process; substrate/soil shall be replaced after the observations have been completed.
 2- See specifications for observation process and requirements.



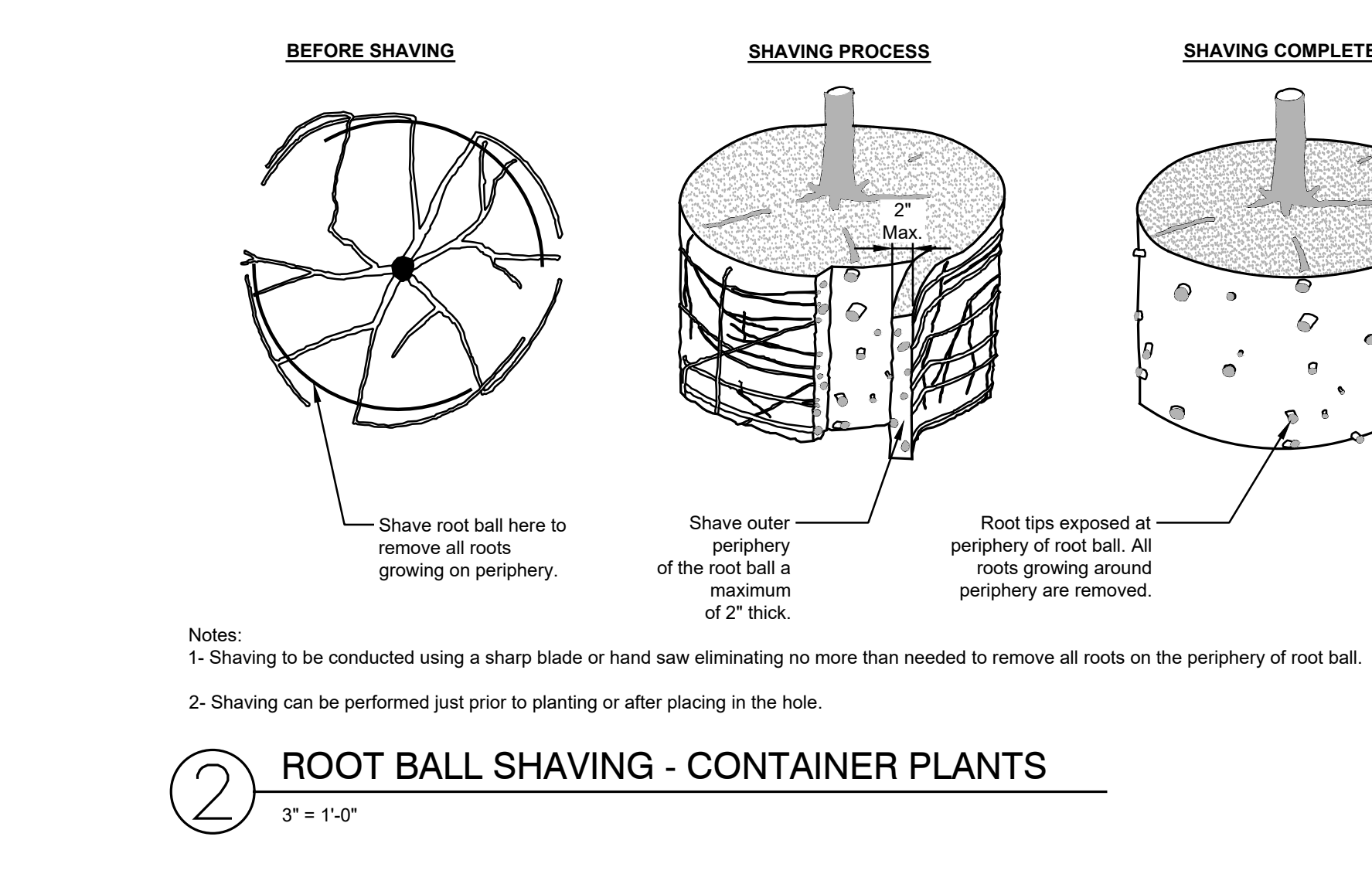
Notes:
 1- Observations of roots shall occur prior to acceptance. Roots and substrate may be removed during the observation process; substrate/soil shall be replaced after observation has been completed.
 2- Small roots (1/4" or less) that grow around, up, or down the root ball periphery are considered a normal condition in container production and are acceptable however they should be eliminated at the time of planting. Roots on the periphery can be removed at the time of planting. (See root ball shaving container detail).
 3- See specifications for observation process and requirements.



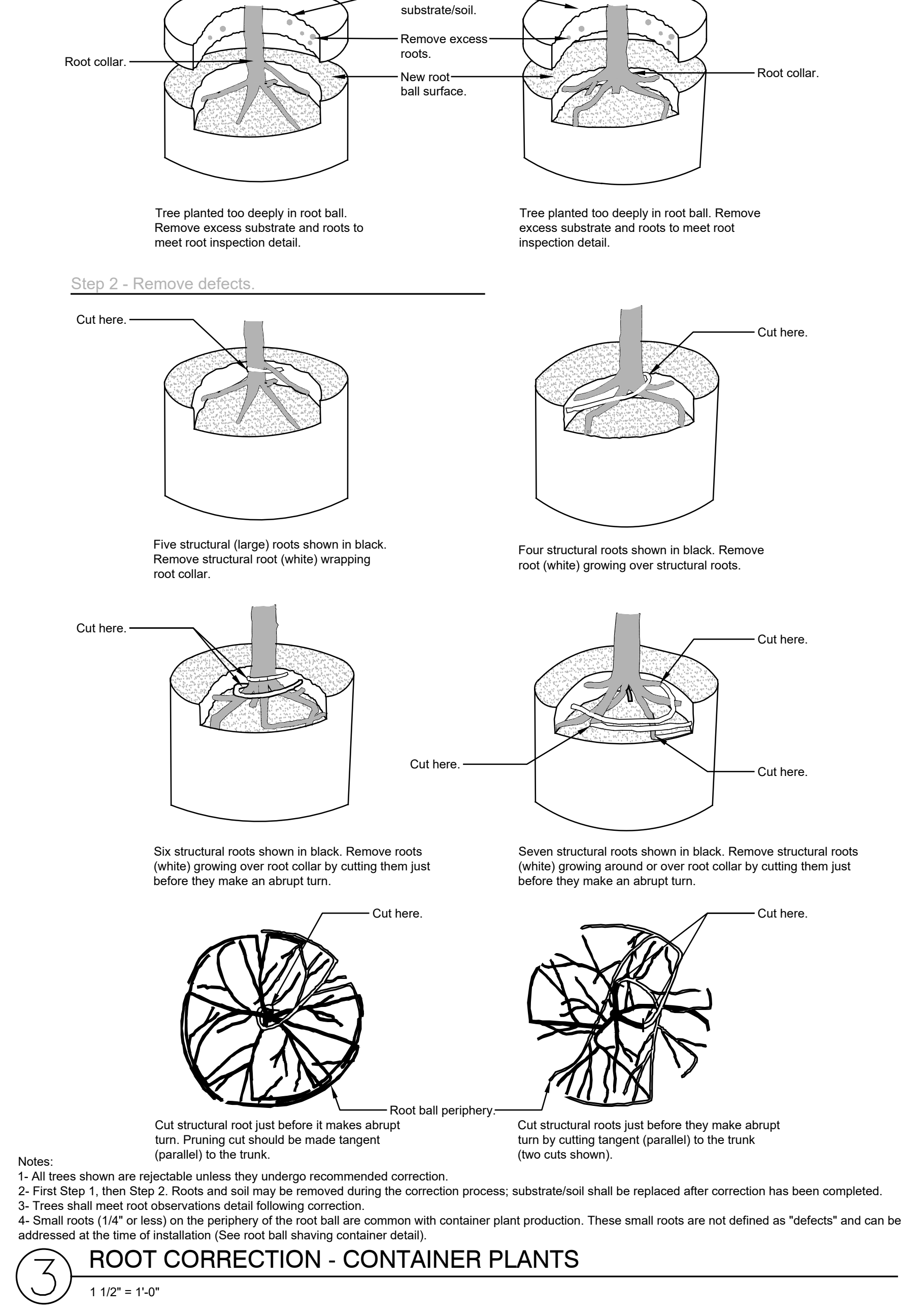
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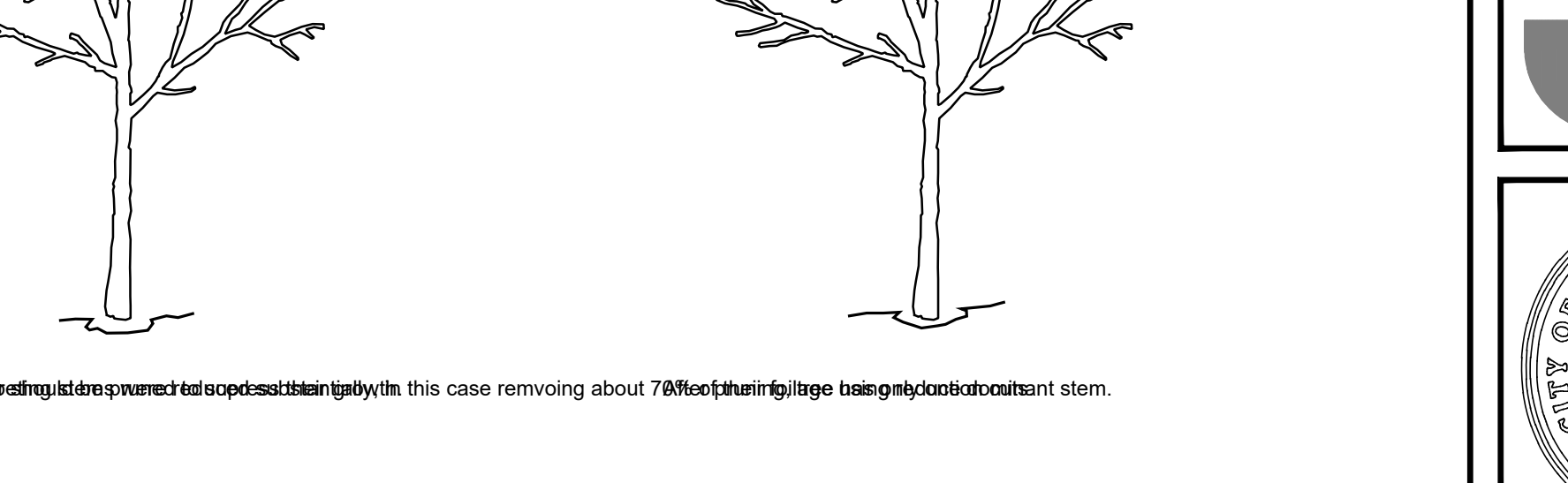
Notes:
 1- All trees shown are rejectable unless they undergo recommended correction.
 2- Tree shall meet crown observation detail following correction.



Notes:
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 2- First Step 1, then Step 2. Roots and soil may be removed during the correction process; substrate/soil shall be replaced after correction has been completed.
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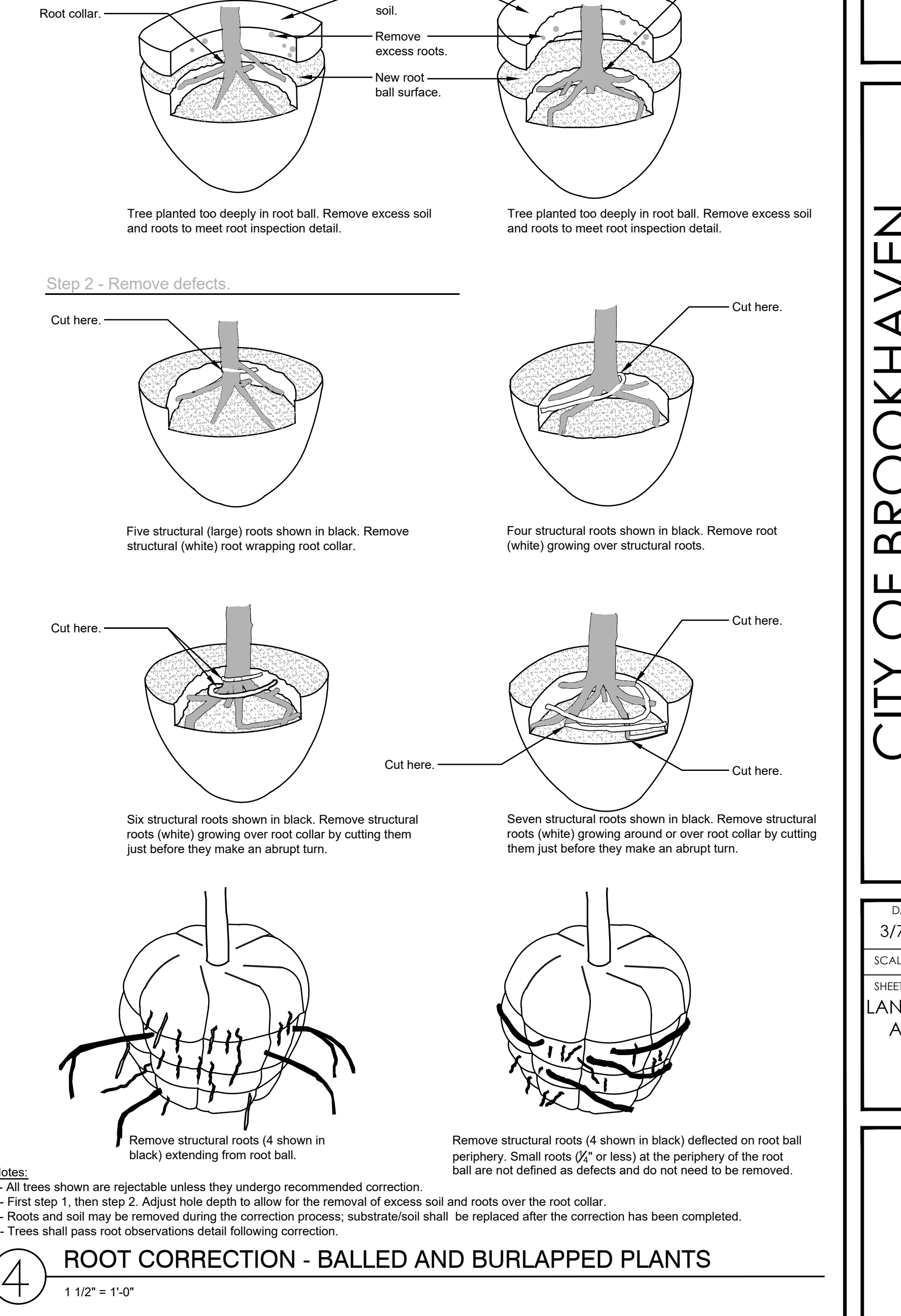
Notes:
 1- All trees shown are rejectable unless they undergo recommended correction.
 2- First step 1, then step 2. Adjust hole depth to allow for the removal of excess soil and roots over the root collar.
 3- Roots and soil may be removed during the correction process; substrate/soil shall be replaced after the correction has been completed.
 4- Trees shall pass root observations detail following correction.



Notes:
 1- All trees shown are rejectable unless they undergo recommended correction.
 2- Tree shall meet crown observation detail following correction.



Notes:
 1- All trees shown are rejectable unless they undergo recommended correction.
 2- First step 1, then step 2. Adjust hole depth to allow for the removal of excess soil and roots over the root collar.
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Notes:
 1- All trees shown are rejectable unless they undergo recommended correction.
 2- First step 1, then step 2. Adjust hole depth to allow for the removal of excess soil and roots over the root collar.
 3- Roots and soil may be removed during the correction process; substrate/soil shall be replaced after the correction has been completed.
 4- Trees shall pass root observations detail following correction.

No.	Date	Description

DATE	DRAWN	CHECKED
3/7/19	JP	JM
SCALE AS SHOWN		
SHEET TITLE		
LANDSCAPE SELECTION AND CORRECTION DETAILS		

PROJECT NUMBER
15090.00
DRAWING NUMBER
LS1

Drawing Name: S:\Projects\Brookhaven_C\Blackburn Park\Design\01_Landscaping\CAD\Brookburn Park_Landscape.dwg
 Date last accessed: 10/10/2019 2:34 PM
 Date last plotted: 10/15/2019 10:39 AM
 Plotted By: Joseph Powell

GENERAL:

- 1. BEFORE BEGINNING ANY WORK... 2. THE CONTRACTOR'S PRICE SHALL INCLUDE ALL LABOR AND MATERIAL NECESSARY TO COMPLETE THE WORK... 3. GROUND CULTIVATION INCLUDES SCALPING AND REMOVING EXISTING VEGETATION DOWN TO THE SUB-GRADE... 4. CONTRACTOR SHALL PROVIDE INVOICES OF ALL PLANT MATERIAL TO OWNER AND LANDSCAPE ARCHITECT DURING CONSTRUCTION... 5. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN BEST MANAGEMENT PRACTICES TO PREVENT AND MINIMIZE EROSION AND SEDIMENTATION... 6. IN CONFORMANCE WITH GDOT STANDARD SPECIFICATIONS, PLANT INSTALLATION SHALL OCCUR BETWEEN THE DATES OF OCTOBER 15 AND MARCH... 7. THE LANDSCAPE CONTRACTOR SHALL IMPLEMENT ALL MEASURES REQUIRED BY THE CITY OF BROOKHAVEN AND DEKALB COUNTY... 8. THE LANDSCAPE CONTRACTOR SHALL TAKE MEASURES TO PREVENT DUST, MUD, EQUIPMENT MARKS, ETC FROM SOILING AND DAMAGING IMPROVEMENTS... 9. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL MATERIAL QUANTITIES SHOWN ON THESE DRAWINGS BEFORE PRICING THE WORK... 10. PROVIDE PLANT MATERIALS TRUE TO SPECIES AND VARIETY COMPLYING WITH RECOMMENDATIONS OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERY MEN... 11. PLANTING PLANS INDICATE DIAGRAMMATIC LOCATIONS ONLY. SITE ADJUSTMENTS OF PLANTING DESIGN AND RELOCATION OF PLANT MATERIAL INSTALLED PRIOR TO DESIGN PROFESSIONAL OR OWNER'S REPRESENTATIVE'S APPROVAL SHALL BE DONE WITHOUT PENALTY OR ADDITIONAL COST TO OWNER...

ELIMINATION OF EXISTING VEGETATION AND REPLACEMENT WITH PROPOSED VEGETATION:

- 1. THIS PROJECT MAY REQUIRE THE ELIMINATION OF EXISTING VEGETATION IN ORDER TO INSTALL LANDSCAPING AS SHOWN ON PLANS... 2. CONTRACTOR SHALL COMMENCE EACH PHASE BY SCALPING (MOWING AS CLOSELY TO THE ROUND AS POSSIBLE) ALL EXISTING VEGETATION WITHIN THE LIMITS OF DISTURBANCE FOR THAT PHASE... 3. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO THE MAIN BODY OF THE PLANT AND NOT FROM BRANCH TIP TO TIP... 4. HARDWOOD TREES SHALL HAVE STRAIGHT TRUNKS WITH CENTRAL LEADERS... 5. PLACE PLANTS UPRIGHT AND TURNED SO THAT THE MOST ATTRACTIVE SIDE IS VIEWED... 6. AFTER BEING DUG AT THE NURSERY SOURCE, ALL TREES IN LEAF SHALL BE ACCLIMATED FOR TWO (2) WEEKS UNDER A MIST SYSTEM PRIOR TO INSTALLATION... 7. ALL NEWLY PLANTED TREES SHALL HAVE VISIBLE ROOT FLARES AT FINISHED GRADE... 8. TREES LESS THAN THE CALIPER INCH SHOWN ON THE PLANS WILL NOT BE ACCEPTED... 9. PLANT HEIGHT MEASUREMENT IS TAKEN AT THE TOP OF THE MAIN BODY OF THE PLANT AND NOT AT THE TIP OF THE TOP MOST GROWTH... 11. SEE CROWN AND ROOT OBSERVATIONS DETAILS ON LANDSCAPE DETAILS SHEETS.

NURSERY STOCK SELECTION:

- 1. PLANTS SHALL BE WATERED PRIOR TO TRANSPORTATION AND SHALL BE KEPT MOIST UNTIL PLANTED... 2. PLANTS SHALL BE SPECIMEN QUALITY, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF... 3. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO THE MAIN BODY OF THE PLANT AND NOT FROM BRANCH TIP TO TIP... 4. HARDWOOD TREES SHALL HAVE STRAIGHT TRUNKS WITH CENTRAL LEADERS... 5. PLACE PLANTS UPRIGHT AND TURNED SO THAT THE MOST ATTRACTIVE SIDE IS VIEWED... 6. AFTER BEING DUG AT THE NURSERY SOURCE, ALL TREES IN LEAF SHALL BE ACCLIMATED FOR TWO (2) WEEKS UNDER A MIST SYSTEM PRIOR TO INSTALLATION... 7. ALL NEWLY PLANTED TREES SHALL HAVE VISIBLE ROOT FLARES AT FINISHED GRADE... 8. TREES LESS THAN THE CALIPER INCH SHOWN ON THE PLANS WILL NOT BE ACCEPTED... 9. PLANT HEIGHT MEASUREMENT IS TAKEN AT THE TOP OF THE MAIN BODY OF THE PLANT AND NOT AT THE TIP OF THE TOP MOST GROWTH... 11. SEE CROWN AND ROOT OBSERVATIONS DETAILS ON LANDSCAPE DETAILS SHEETS.

PLANTING SOIL MIX:

- 1. CONTRACTOR SHALL SUPPLY TOP SOIL AND PLANTING SOIL MIX... 2. THE CONTRACTOR SHALL SUPPLY A SOIL REPORT THROUGH THE LOCAL EXTENSION SERVICE OF EXISTING SOILS TO SHOW RECOMMENDED AMENDMENTS... 3. THE CONTRACTOR SHALL SUPPLY A SECOND SOIL REPORT OF PROPOSED SOIL MIX WHICH SHALL MEET THE RECOMMENDATIONS IN THE FIRST SOIL REPORT... 4. EXISTING AND PROPOSED SOIL REPORTS MUST BE APPROVED BY THE OWNER OR OWNERS REPRESENTATIVE PRIOR TO ANY BACKFILLING... ALLOWANCES: 5. THE PLANTING SOIL MIX FOR ON-GRADE PLANTINGS (TREES, SHRUBS & GROUND COVERS) SHALL CONSIST OF THE FOLLOWING: 80% SANDY LOAM TOPSOIL (AS SPECIFIED AND AMENDED PER SOIL REPORT) 20% PREPARED ADDITIVES SHALL BE PER SOIL REPORT OR BY VOLUME AS FOLLOWS: 2 PARTS HUMUS AND/OR PEAT 1 PART STERILIZED COMPOSTED COW MANURE 1 PART SHREDDED, COMPOSTED HARDWOOD MULCH 6. PLANTING SOIL MIX FOR PERENNIAL BEDS CONSIST OF THE FOLLOWING: 70% SANDY LOAM TOPSOIL (AS SPECIFIED AND AMENDED PER SOIL REPORT) 30% PREPARED ADDITIVES SHALL BE PER SOIL REPORT OR BY VOLUME AS FOLLOWS: 2 PARTS HUMUS AND/OR PEAT 1 PART SHREDDED, COMPOSTED HARDWOOD MULCH 1 PART (50% STERILIZED COMPOSTED COW MANURE AND 50% ANGULAR BUILDERS SAND) 7. GYPSUM, LIME AND COMMERCIAL FERTILIZER SHALL ONLY BE USED AS PRESCRIBED IN THE SOIL REPORT. 8. ALLOWANCES SUBJECT TO CHANGE BASED ON SOIL REPORT.

WATERING/IRRIGATION:

- 1. WATERING AFTER INSTALLATION AND WATER TRANSPORTATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR... 2. USE OF TREE CAMEL, OOOZ TUBES OR TREE GATOR BAGS FOR TREES ARE NOT ACCEPTABLE... 3. MULCH SHOULD BE INSPECTED EVERY 3 MONTHS TO ENSURE A DEPTH OF 4-INCHES AND REPLENISHED WHERE NECESSARY... 4. THE CONTRACTOR SHALL INSTALL A TEMPORARY IRRIGATION SYSTEM IN ORDER TO ESTABLISH INSTALLED PLANT MATERIAL... 5. ALL MATERIALS USED IN THE DESIGN OF THE TEMPORARY SYSTEM, INCLUDING SPRINKLER HEADS, VALVES, VALVE BOXES, CONTROLLERS, PUMPS, BACKFLOW PREVENTORS, RAIN AND FREEZE SENSORS, DRIP EQUIPMENT, WIRE, ELECTRICAL CONNECTIONS, AND PVC PIPE AND FITTINGS, SHALL MEET MINIMUM INDUSTRY STANDARDS... 6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY SYSTEM AFTER ONE YEAR... 7. IF NO TEMPORARY SYSTEM IS PROPOSED, THE CONTRACTOR SHALL DEVELOP A SCHEDULE FOR MANUAL WATERING OF PLANTS THIS SCHEDULE SHOULD BE INCLUDED IN ANY MAINTENANCE AGREEMENT AND/OR BONDING OF LANDSCAPE MATERIAL...

TREES: SHOULD BE WATERED DAILY FOR MONTH 1. EVERY OTHER DAY FOR MONTHS 2-4. AND WEEKLY FOR MONTHS 5-12. APPLY 8 GALLONS PER 4" CALIPER TREE PER APPLICATION. ADJUST RATE TO LOCAL RAINFALL AMOUNT. (ASSUME 30 GALLONS PER TREE FOR EVERY INCH OF RAINFALL).

SHRUBS: SHOULD BE WATERED DAILY FOR MONTH 1. EVERY OTHER DAY FOR MONTHS 2-4. AND WEEKLY FOR MONTHS 5-12. APPLY 1 GALLON PER SHRUB PER APPLICATION. ADJUST RATE TO LOCAL RAINFALL AMOUNT. (ASSUME 2 GALLONS PER SHRUB FOR EVERY INCH OF RAINFALL).

TURF: SHOULD RECEIVE 1-INCH OF IRRIGATION PER WEEK APRIL THROUGH SEPTEMBER, 1/2-INCH OF IRRIGATION OCTOBER THROUGH MARCH. ADJUST RATE TO LOCAL RAINFALL AMOUNT.

NATIVE GRASS BEDS: WATER EVERY OTHER DAY FOR THE FIRST MONTH. ONLY CONTINUE WATERING AFTER THAT ONLY DURING EXTENDED OR FORECASTED DRY PERIODS, AND THEN, ONLY ONCE PER WEEK.

SOD:

- 1. GROUND TO BE CULTIVATED AS INDICATED TO A MINIMUM DEPTH OF 6 INCHES PRIOR TO SOD INSTALLATION... 2. SOD SHALL BE STRONGLY ROOTED, 2 YEAR OLD STOCK... 3. LAY SOD WITHIN 24 HOURS FROM TIME OF STRIPPING... 4. LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS... 5. IN SLOPING AREAS, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOURS AND WITH JOINTS STAGGERED... 6. SOD SHALL BE SECURED IN-PLACE WITH STAPLES ON SLOPES GREATER THAN 3:1... 7. STAPLES FOR SOD STAKING SHALL BE NO. 11 GAUGE STEEL WIRE, U-SHAPED WITH LEGS 12 INCHES IN LENGTH AND 1" CROWN... 8. TAMP OR ROLL TO INSURE CONTACT WITH SOIL... 9. CONTRACTOR SHALL REMOVE NETTING FROM THE BACK OF SOD PRIOR TO INSTALLATION... 10. SOD SHALL BE WATERED IMMEDIATELY AFTER ROLLING OR TAMPING.

INSTALLATION:

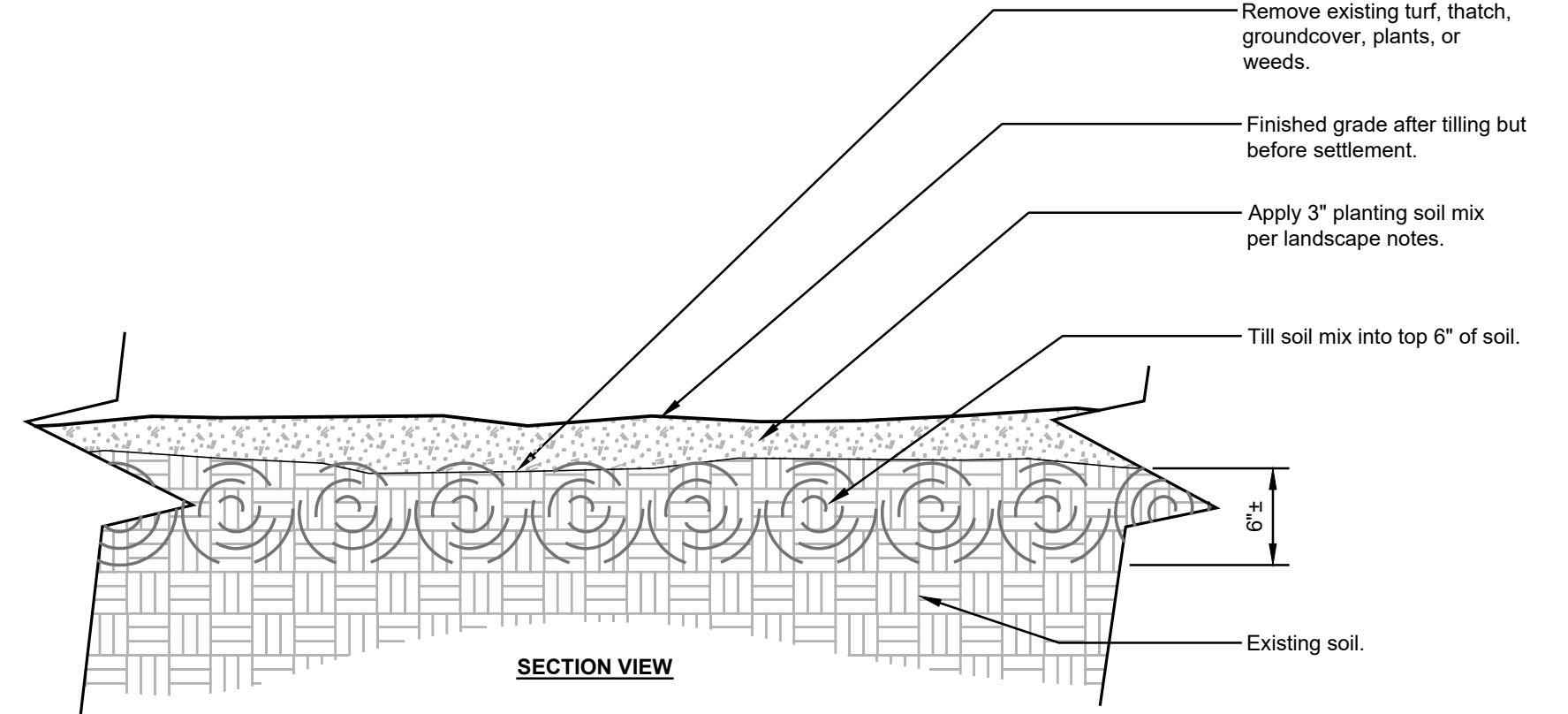
- 1. INSTALL TREES PLUMB, DO NOT DEPEND ON STAKING TO PULL PLANTS TO PLUMB POSITION... 2. MULCH: PROVIDE 4" THICKNESS MULCH AT ALL PLANTS AND PLANTING BEDS... 3. LEAVES: MUST BE OF MEDIUM FOLIAGE, ALL GOOD LEAVES, MAXIMUM OF 10% CHLOROSIS ALLOWED... 4. IF DRAINAGE IS NOT SUFFICIENT NOTIFY PROJECT OWNER'S REPRESENTATIVE IN WRITING BEFORE INSTALLING THE PLANTS... 5. UNLESS OTHERWISE SPECIFIED DUE TO SOIL CONDITIONS, SET ROOT FLARE OF ROOTBALL LEVEL WITH SURROUNDING GRADE... 6. BALLED AND BURLAPPED: ROOTS MUST BE STURDILY ESTABLISHED IN BALL THAT HAS BEEN TIGHTLY WRAPPED AND SECURELY TIED... 7. STAKING IS ONLY TO BE INSTALLED IN SPECIAL CIRCUMSTANCES AT THE DIRECTION OF THE DESIGN PROFESSIONAL... 8. ALL TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM ANY UTILITY LINE AND/OR EASEMENT... 9. IF TREE SURVEY INACCURACIES ARE FOUND ON-SITE, A STOP WORK ORDER WILL BE ISSUED UNTIL REVISED PLANS ARE APPROVED... 10. TREES AGREED UPON TO BE SAVED ARE THE RESPONSIBILITY OF THE OWNER... 11. A 4" LAYER OF MULCH WILL BE REQUIRED FOR THE CRZ OF SPECIMEN TREES... 12. NO TRENCHING IS ALLOWED IN TREE SAVE AREAS... 13. TREE PIT DRAINAGE TESTING IS REQUIRED WHEN TREES ARE PLANTED IN PARKING LOT ISLANDS, SIDEWALK TREE PITS, ROADWAY MEDIANS, OR SIMILAR LOCATIONS... 14. ALL BUFFERS SHALL BE REPLANTED WHERE SPARSE OR AS DIRECTED BY THE CITY OF BROOKHAVEN...

INSPECTION:

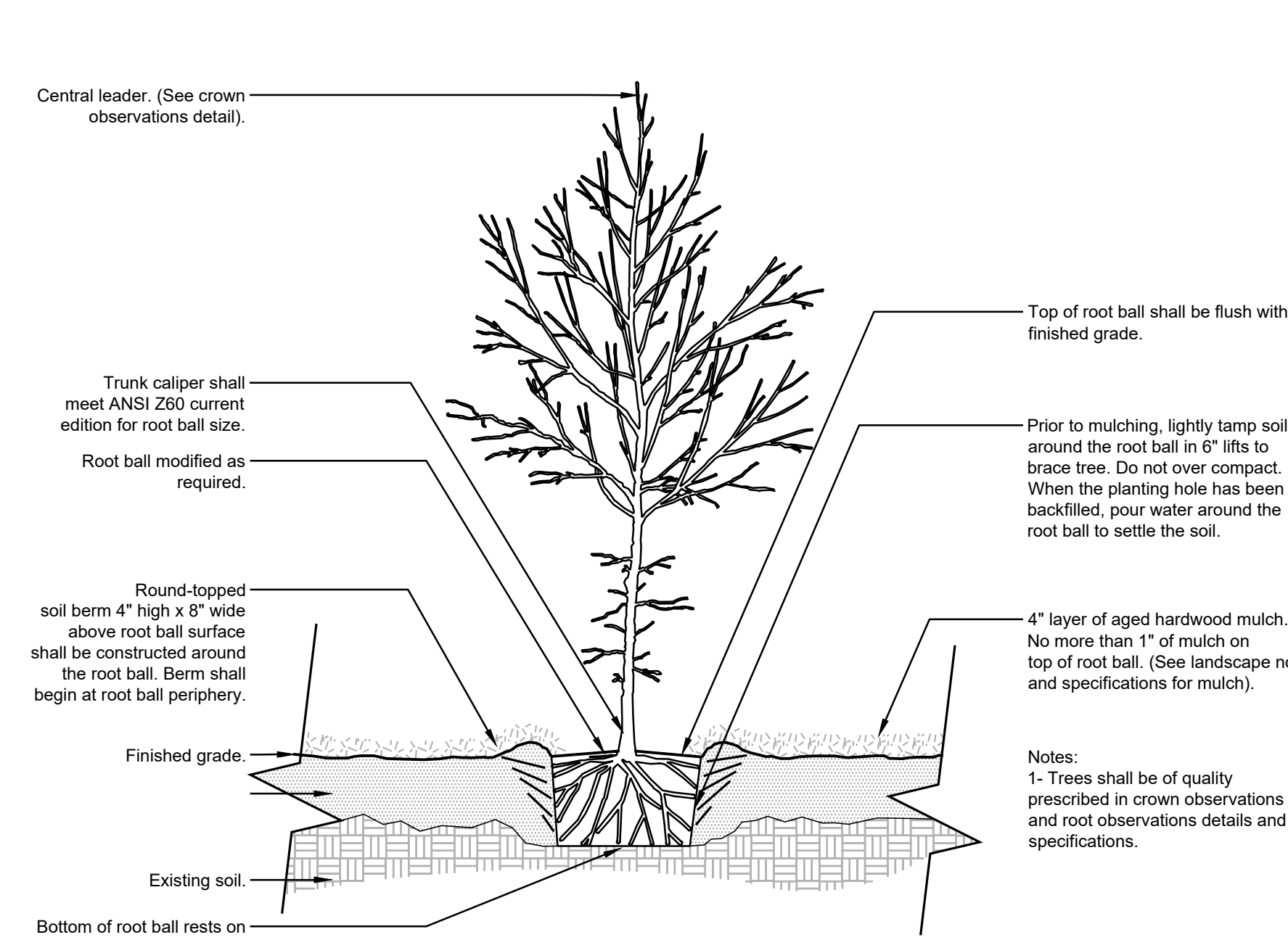
- 1. THE OWNER'S REPRESENTATIVE SHALL INSPECT THE TOTAL WORK FOR ACCEPTANCE UPON REQUEST OF THE LANDSCAPE CONTRACTOR... 2. ALL PLANTING AND PLANT MATERIAL REQUIRED BY THIS CONTRACT SHALL BE IN A SATISFACTORY AND ACCEPTABLE CONDITION WHEN THE CONTRACTOR APPLIES FOR PAYMENT... 3. DESIGN PROFESSIONAL OR OWNER'S REPRESENTATIVE SHALL BE THE SOLE JUDGE OF THE QUALITY AND ACCEPTABILITY OF MATERIALS AND PLACEMENT.

WARRANTY:

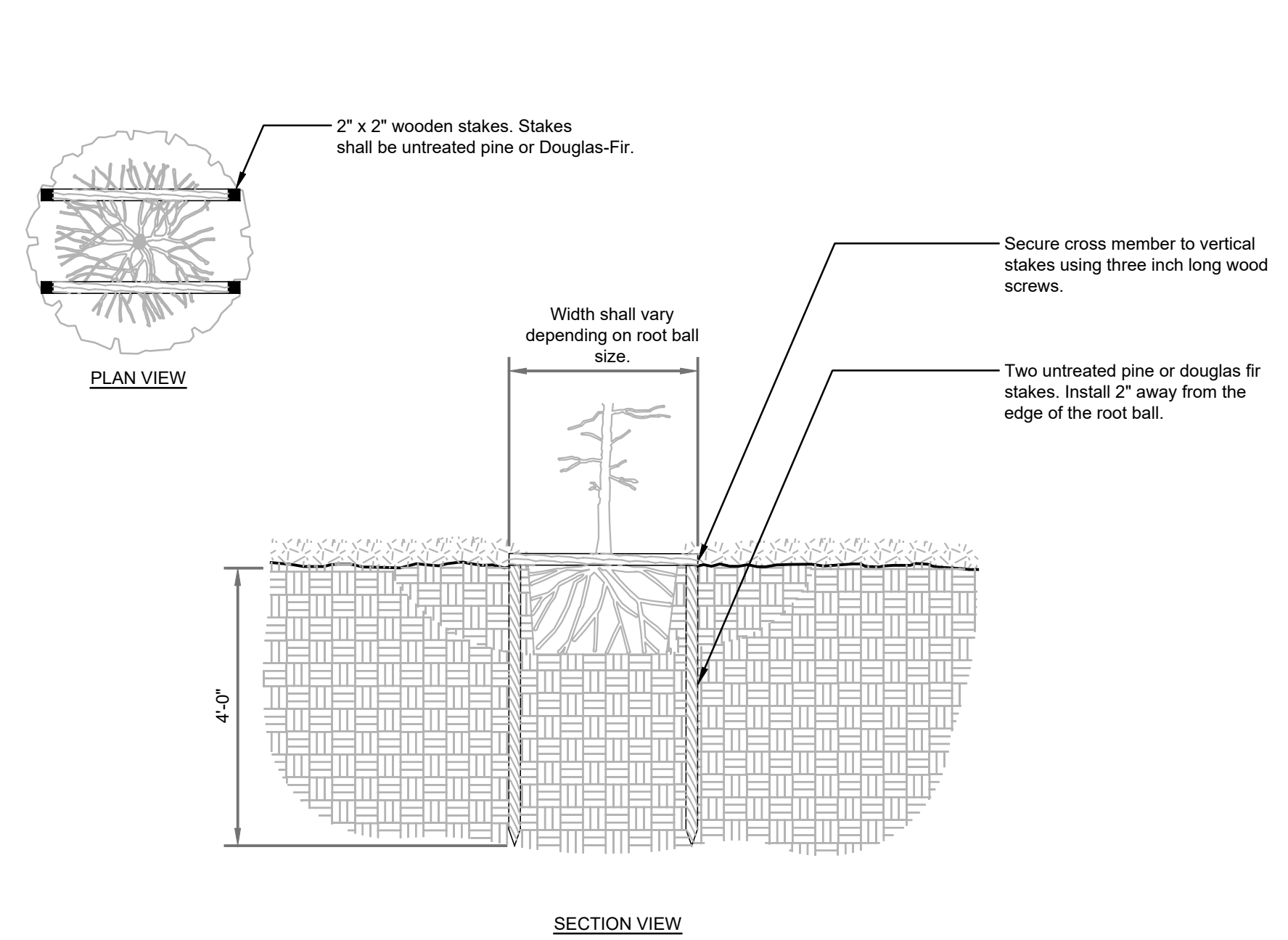
- 1. THE CONTRACTOR SHALL COMPLETELY WARRANTY ALL PLANT MATERIAL AS INDICATED IN THE SPECS... 2. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN OR DECOLATES PRIOR TO DATE OF SUBSTANTIAL COMPLETION OF THE WORK... 3. THE LANDSCAPE CONTRACTOR SHALL MAKE ALL NECESSARY REPAIRS TO GRADES, VEGETATIVE COVER AND PAVING REQUIRED BECAUSE OF PLANT REPLACEMENTS...



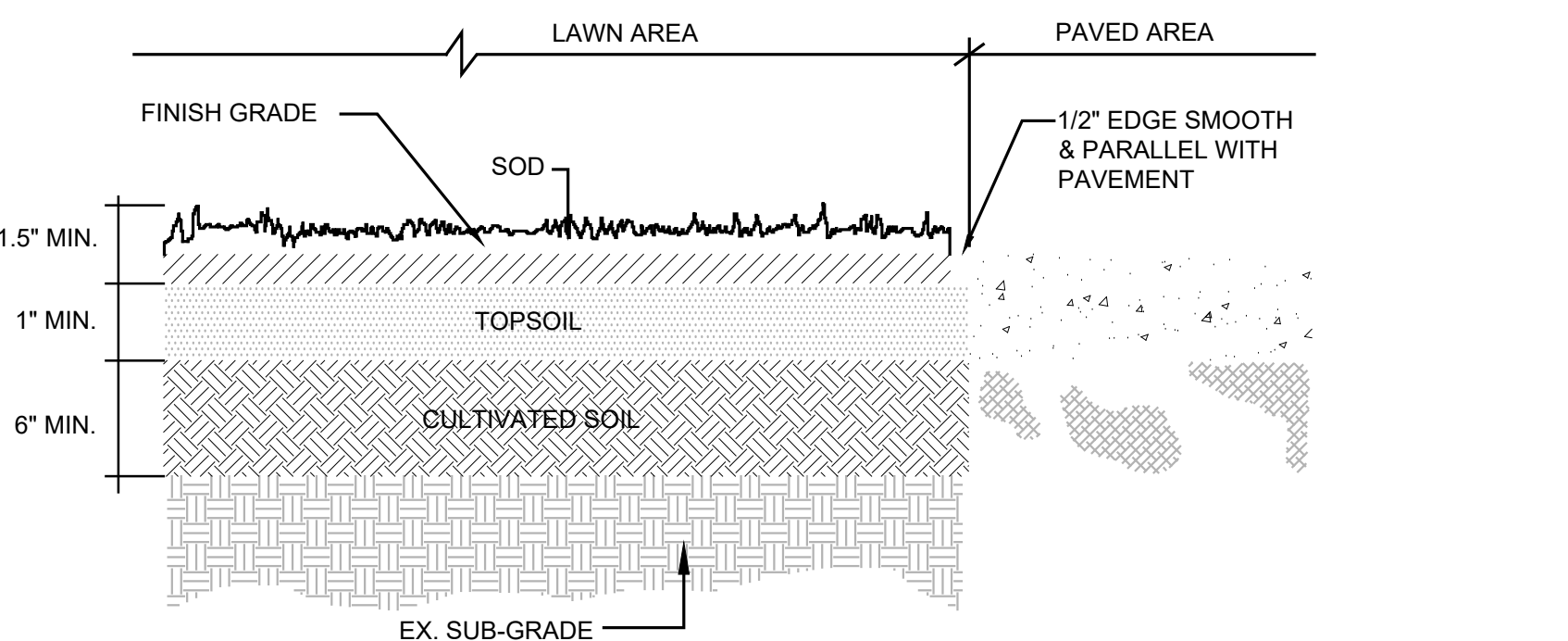
1 SOIL PREPARATION / CULTIVATION



2 TREE w/ BERM (EXISTING SOIL MODIFIED)

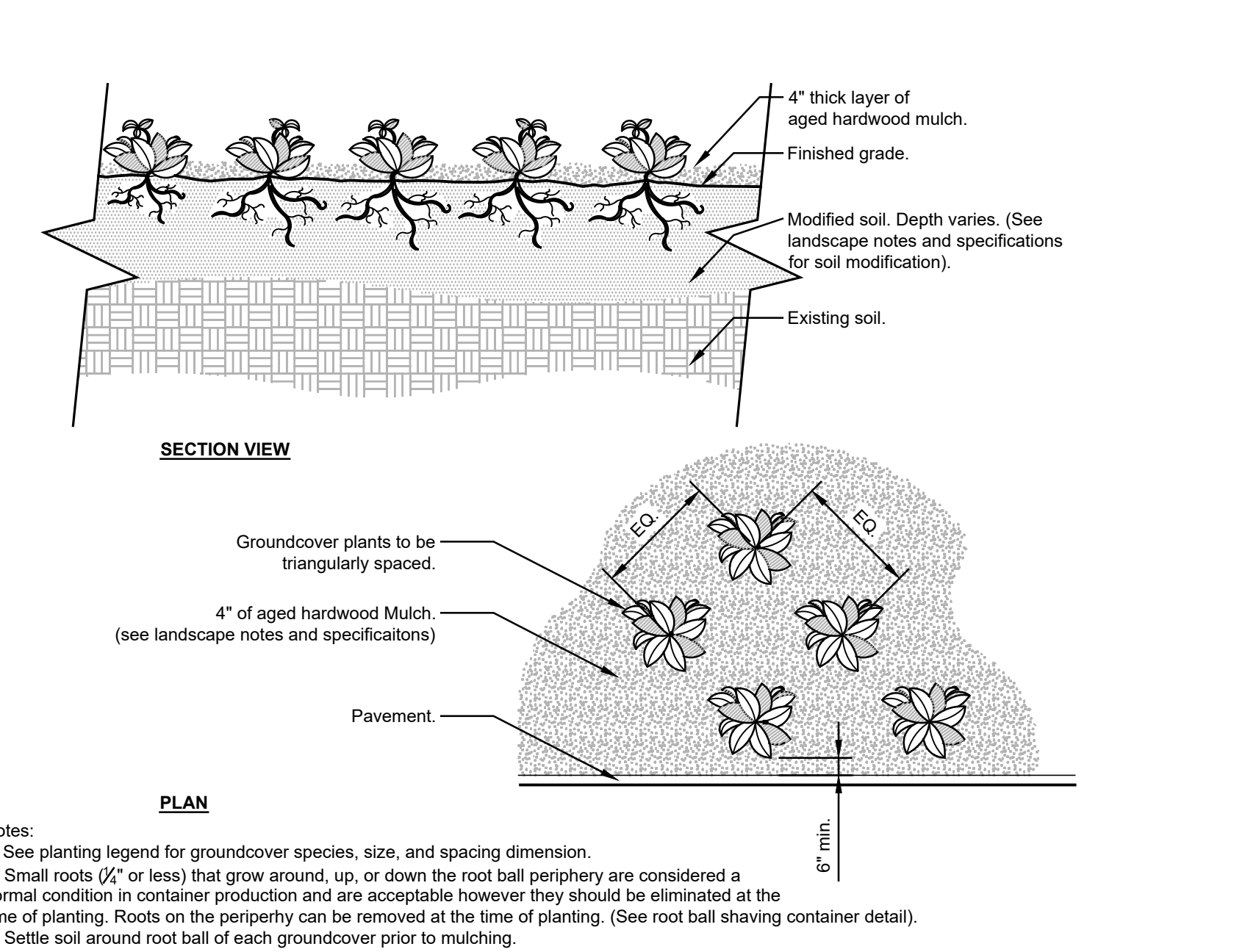


3 TREE STAKING - STAPLE

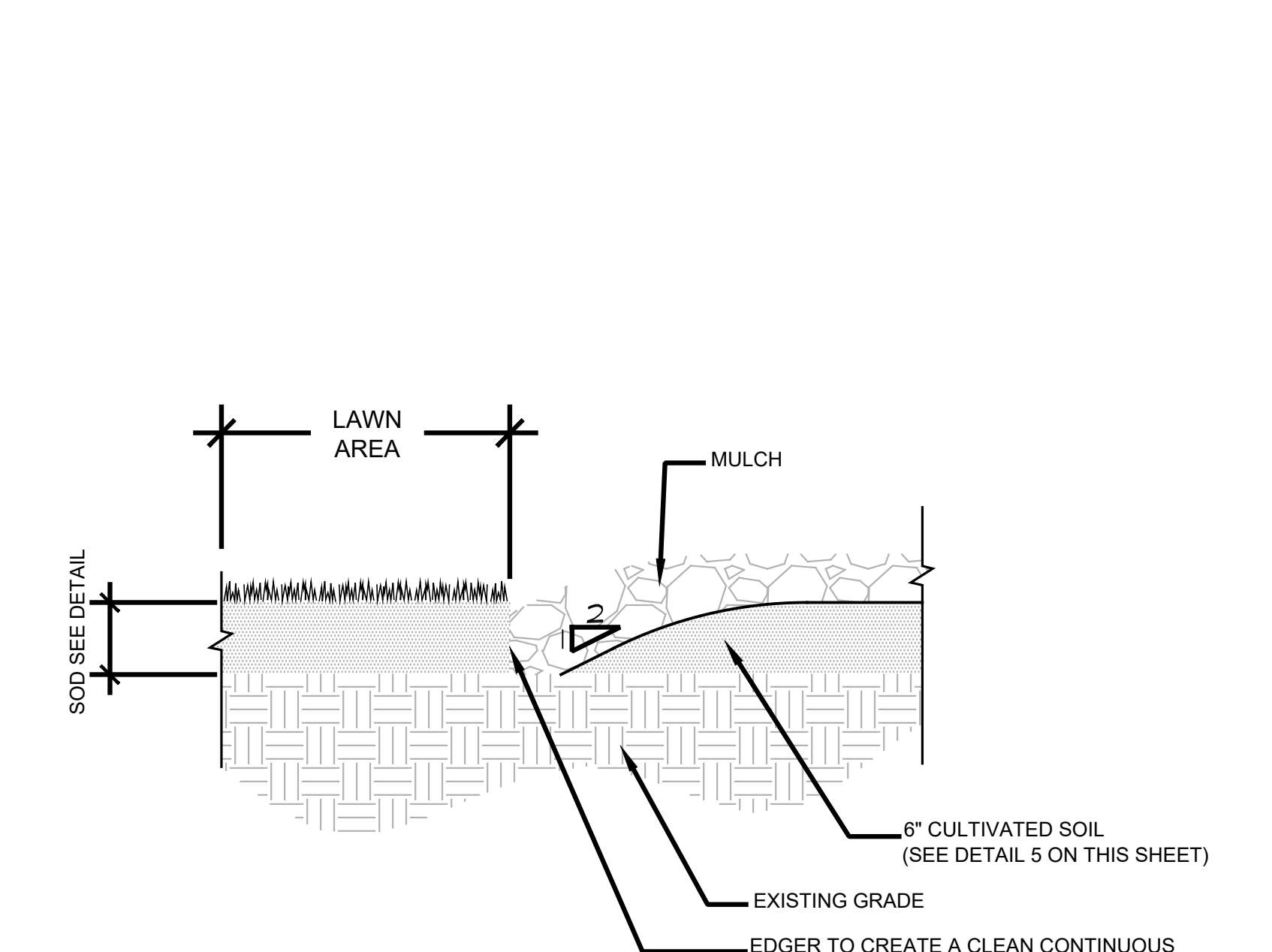


NOTE: 1. INSTALL SOD SO THAT TOP OF SOIL & ROOT LAYER IS LEVEL WITH TOP OF PAVEMENT 2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY IRRIGATION TO ESTABLISH SOD.

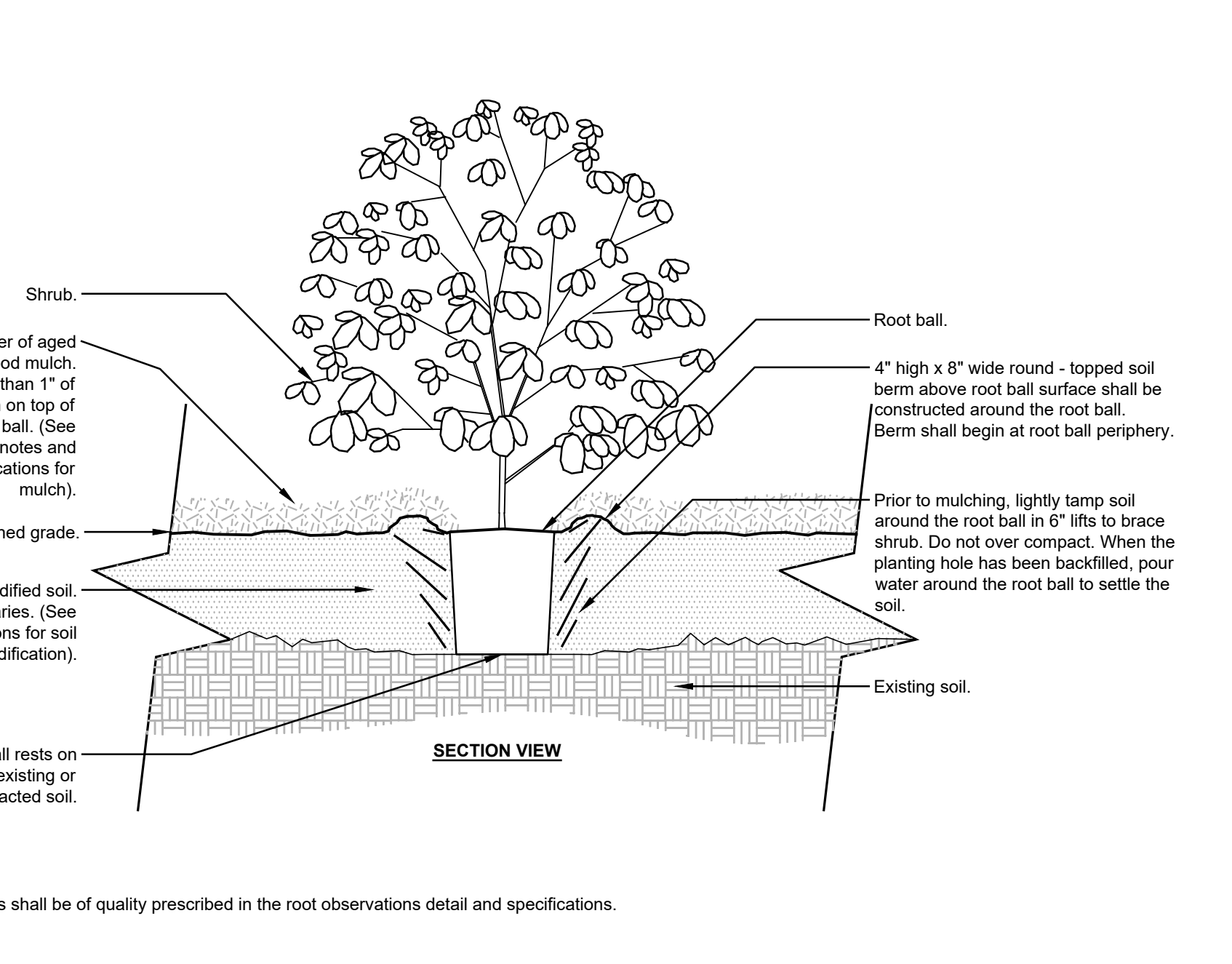
4 SODDING



5 GROUNDCOVER INSTALLATION / SPACING



6 MULCH BED AT SOD EDGE



7 SHRUB - MODIFIED SOIL

Drawn by: s3\Projects\Brookhaven_C\Blackburn Park\Layout.dwg Date last plot: 10/10/2019 2:34 PM Date last printed: 10/15/2019 10:39 AM Plotted By: Joseph Powell



DRAWINGS SCHEDULE table with columns: No., Date, Description



10/10/2019

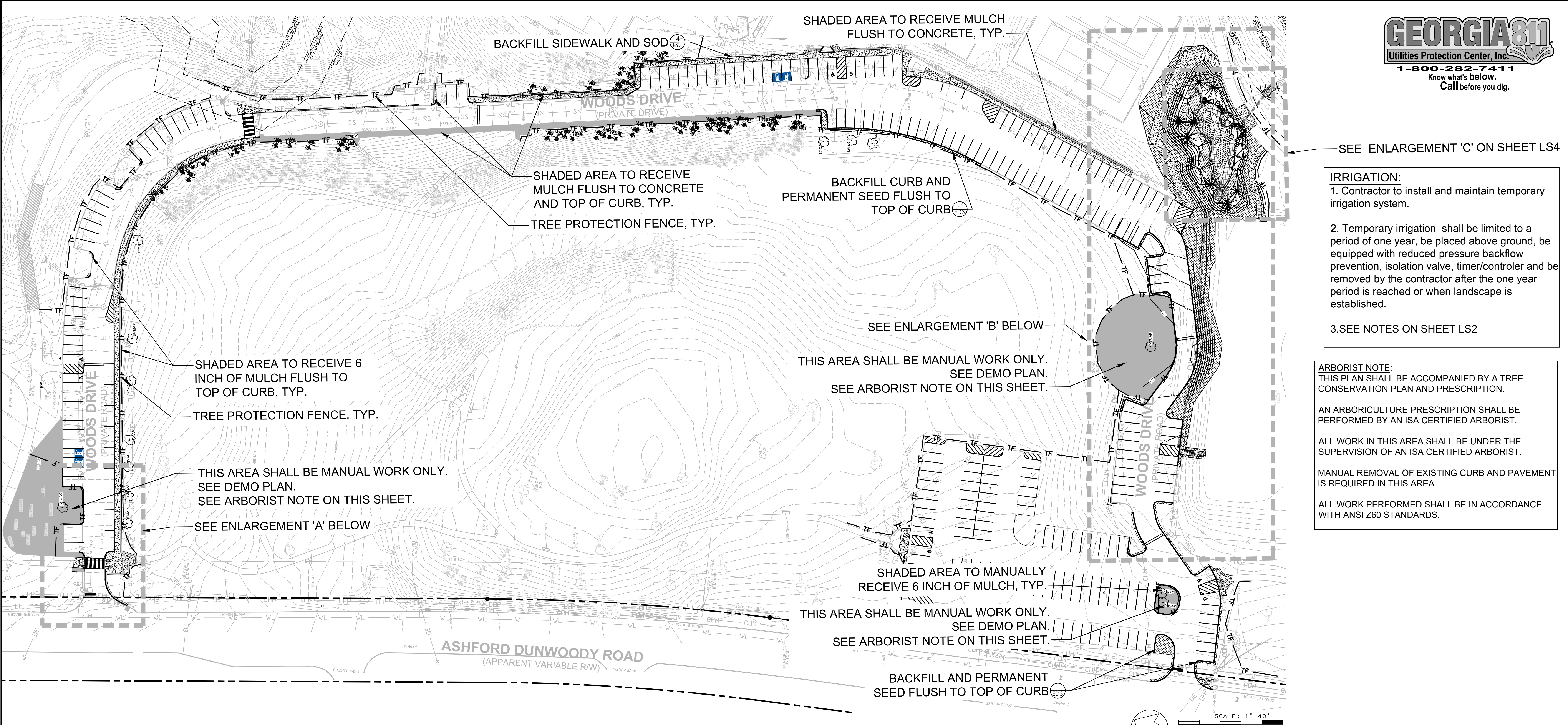
CITY OF BROOKHAVEN BLACKBURN PARK PARKING LOT IMPROVEMENTS 3493 ASHFORD DUNWOODY ROAD BROOKHAVEN, GEORGIA 30319

DATE 3/7/19, DRAWN JP, CHECKED JM, SCALE AS SHOWN, SHEET TITLE LANDSCAPE NOTES AND INSTALLATION DETAILS

PROJECT NUMBER 15090.00, LS2, DRAWING NUMBER

DRAWINGS SCHEDULE

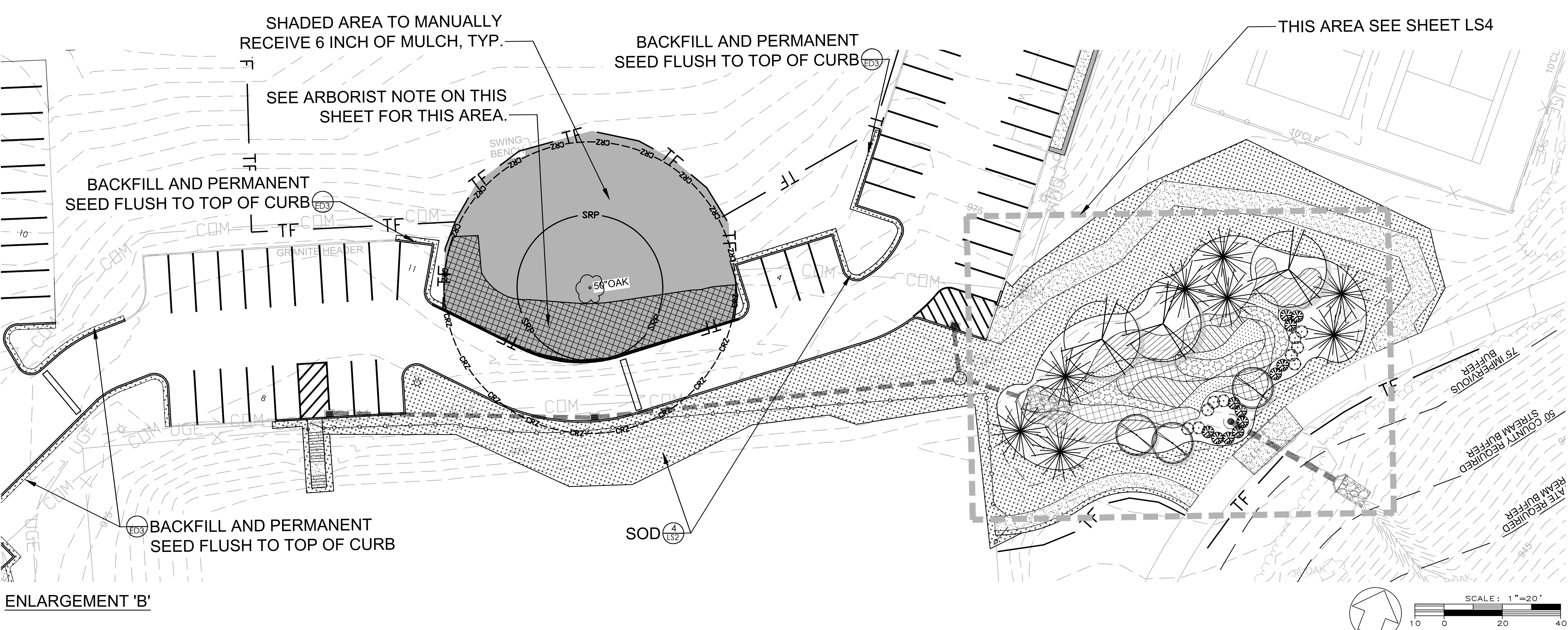
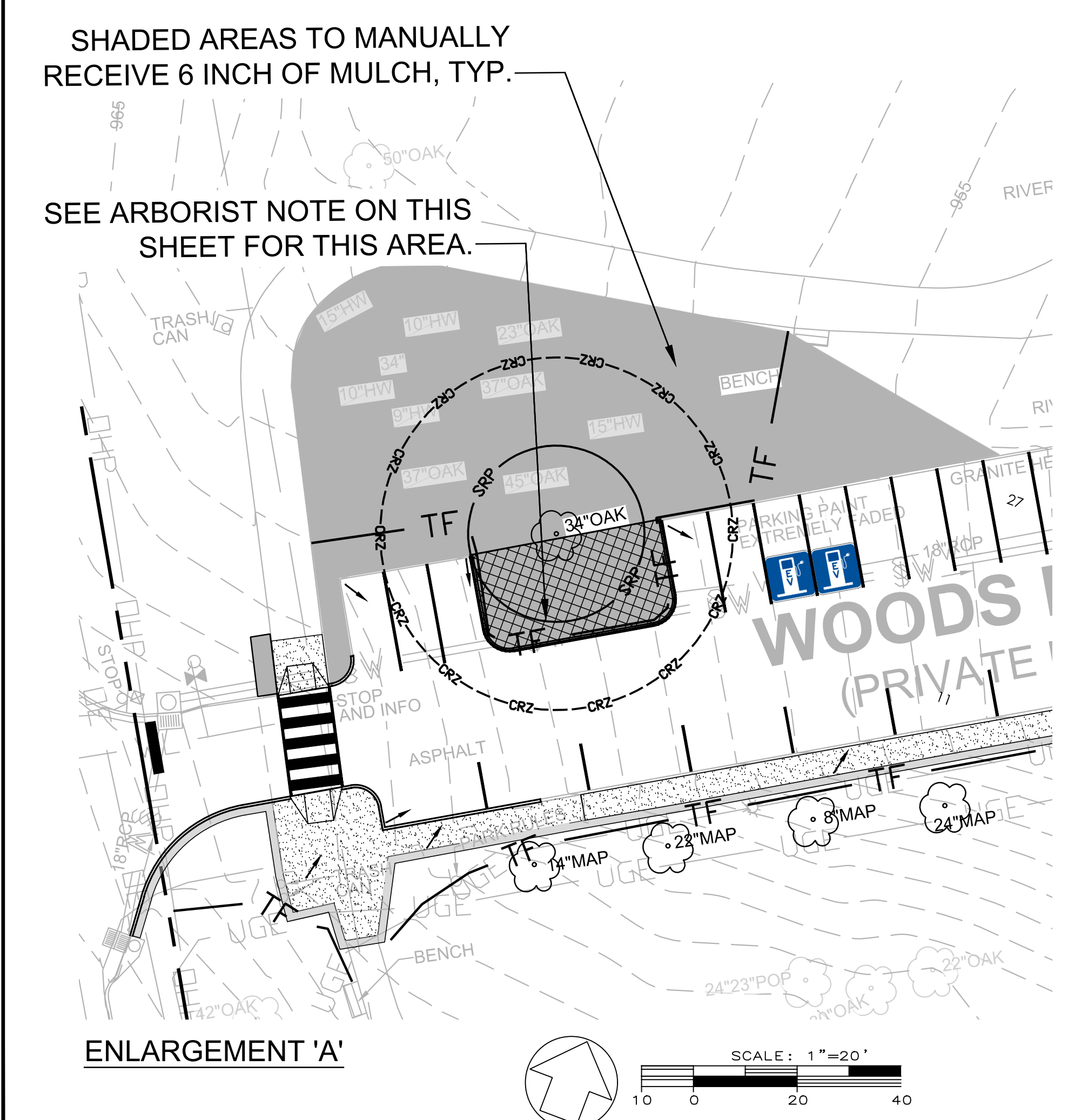
No.	Date	Description



IRRIGATION:

1. Contractor to install and maintain temporary irrigation system.
2. Temporary irrigation shall be limited to a period of one year, be placed above ground, be equipped with reduced pressure backflow prevention, isolation valve, timer/controller and be removed by the contractor after the one year period is reached or when landscape is established.
3. SEE NOTES ON SHEET LS2

ARBORIST NOTE:
 THIS PLAN SHALL BE ACCOMPANIED BY A TREE CONSERVATION PLAN AND PRESCRIPTION.
 AN ARBORICULTURE PRESCRIPTION SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST.
 ALL WORK IN THIS AREA SHALL BE UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST.
 MANUAL REMOVAL OF EXISTING CURB AND PAVEMENT IS REQUIRED IN THIS AREA.
 ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ANSI Z60 STANDARDS.



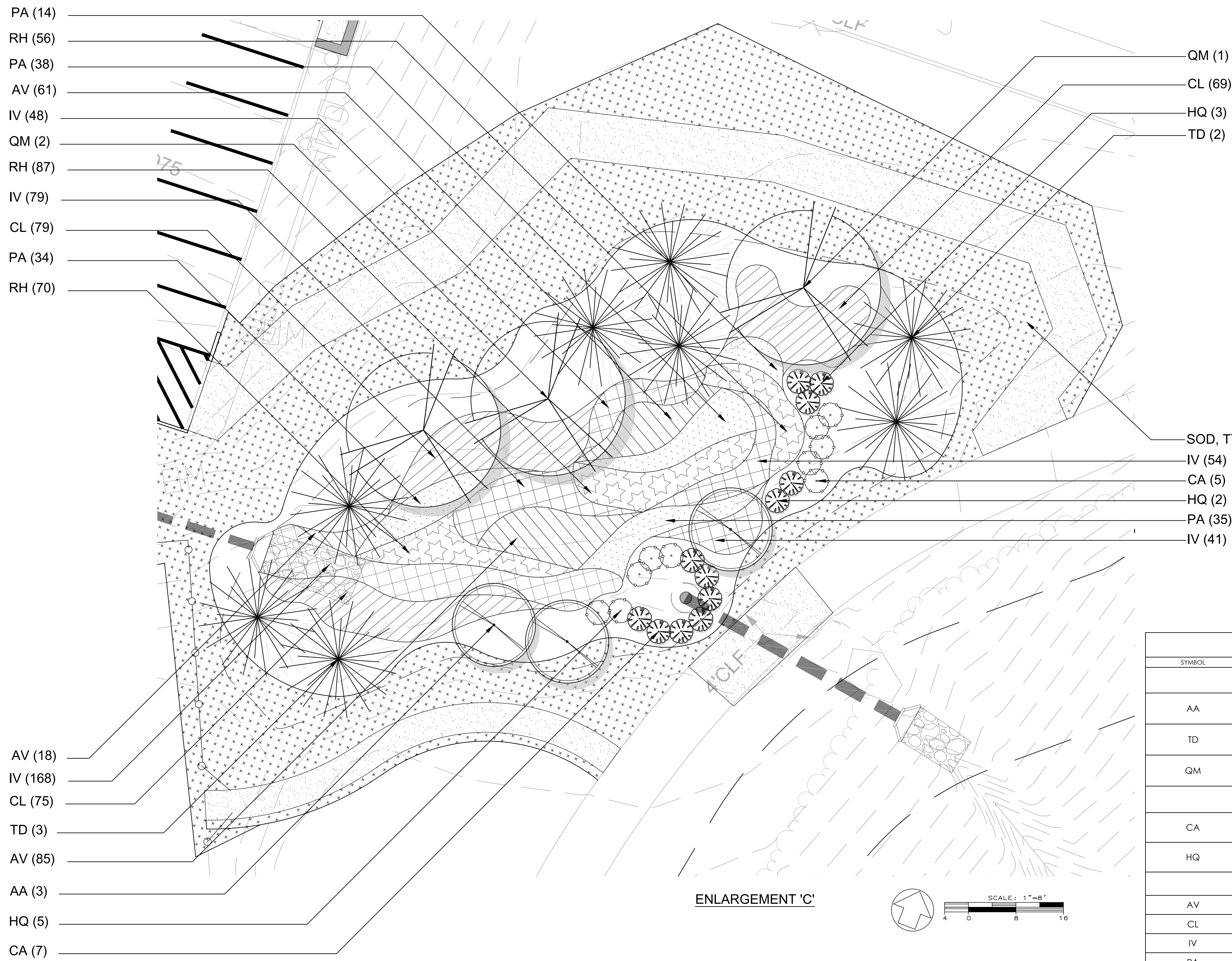
**CITY OF BROOKHAVEN
 BLACKBURN PARK
 PARKING LOT IMPROVEMENTS
 3493 ASHFORD DUNWOODY ROAD
 BROOKHAVEN, GEORGIA 30319**

DATE	DRAWN	CHECKED
3/7/19	JP	JM
SCALE AS SHOWN		
SHEET TITLE LANDSCAPE PLAN		
PROJECT NUMBER 15090.00		
DRAWING NUMBER LS3		
DRAWING NUMBER		

Drawing Name: S:\Projects\Brookhaven, C\Blackburn Park D\Blackburn Park Layout.dwg
 Date last modified: 10/10/2019 2:34 PM
 Date last plotted: 10/15/2019 10:41 AM
 Plotted By: Joseph Powell

DRAWINGS SCHEDULE

No.	Date	Description



IRRIGATION:
 1. Contractor to install and maintain temporary irrigation system.
 2. Temporary irrigation shall be limited to a period of one year, be placed above ground, be equipped with reduced pressure backflow prevention, isolation valve, timer/controller and be removed by the contractor after the one year period is reached or when landscape is established.
 3. SEE NOTES ON SHEET LS2

PLANT MATERIAL				
SYMBOL	SCIENTIFIC NAME	COMMON NAME	COUNT	SIZE
TREES				
AA	AMELANCHIER ARBOREA	SERVICEBERRY	3	2" CAL. B&B, 8' HT. MIN
TD	TAXODIUM DISTICHUM	BALD CYPRESS	8	3" CAL. B&B, 8' HT. MIN
QM	QUERCUS MICHAUXII	SWAMP CHESTNUT OAK	3	3" CAL. B&B, 8' HT. MIN
SHRUBS				
CA	CALlicARPA AMERICANA	BEAUTYBERRY	19	3 GAL.
HQ	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	16	3 GAL.
GROUNDCOVER				
AV	ANDROPOGON VIRGINICUS	BROOMSEDGE	164	1 GAL. @ 18" O.C.
CL	CHAZZMANTHIUM LATIFOLIUM	INLAND SEA OATS	223	1 GAL. @ 24" O.C.
IV	IRIS VERSICOLOR	BLUE FLAG IRIS	390	1 GAL. @ 18" O.C.
PA	PENNISETUM ALOPECUROIDES	FOUNTAIN GRASS	121	1 GAL. @ 24" O.C.
RH	RUDBECKIA HIRTA	BLACK-EYED SUSAN	269	1 GAL. @ 18" O.C.
OTHER MATERIAL				
		AGED HARDWOOD MULCH	18,300 SF	4" DEPTH
		BERMUDA SOD	10,200 SF	TIFWAY 419 BERMUDA

ENLARGEMENT 'C' SCALE: 1"=8'

SCALE: 1"=20'

Drawing Name: S:\Project\Brookhaven_CV\Brookhaven Park\Design\01_Brookhaven Park\01_Brookhaven Park_Landscape.dwg
 Date last accessed: 10/10/2019 2:34 PM
 Date last plotted: 10/15/2019 10:41 AM
 Plotted By: Joseph Powell

CITY OF BROOKHAVEN
BLACKBURN PARK
PARKING LOT IMPROVEMENTS
 3493 ASHFORD DUNWOODY ROAD
 BROOKHAVEN, GEORGIA 30319

DATE	DRAWN	CHECKED
3/7/19	JP	JM
SCALE AS SHOWN		
SHEET TITLE		
LANDSCAPE PLAN		

PROJECT NUMBER	15090.00
DRAWING NUMBER	LS3