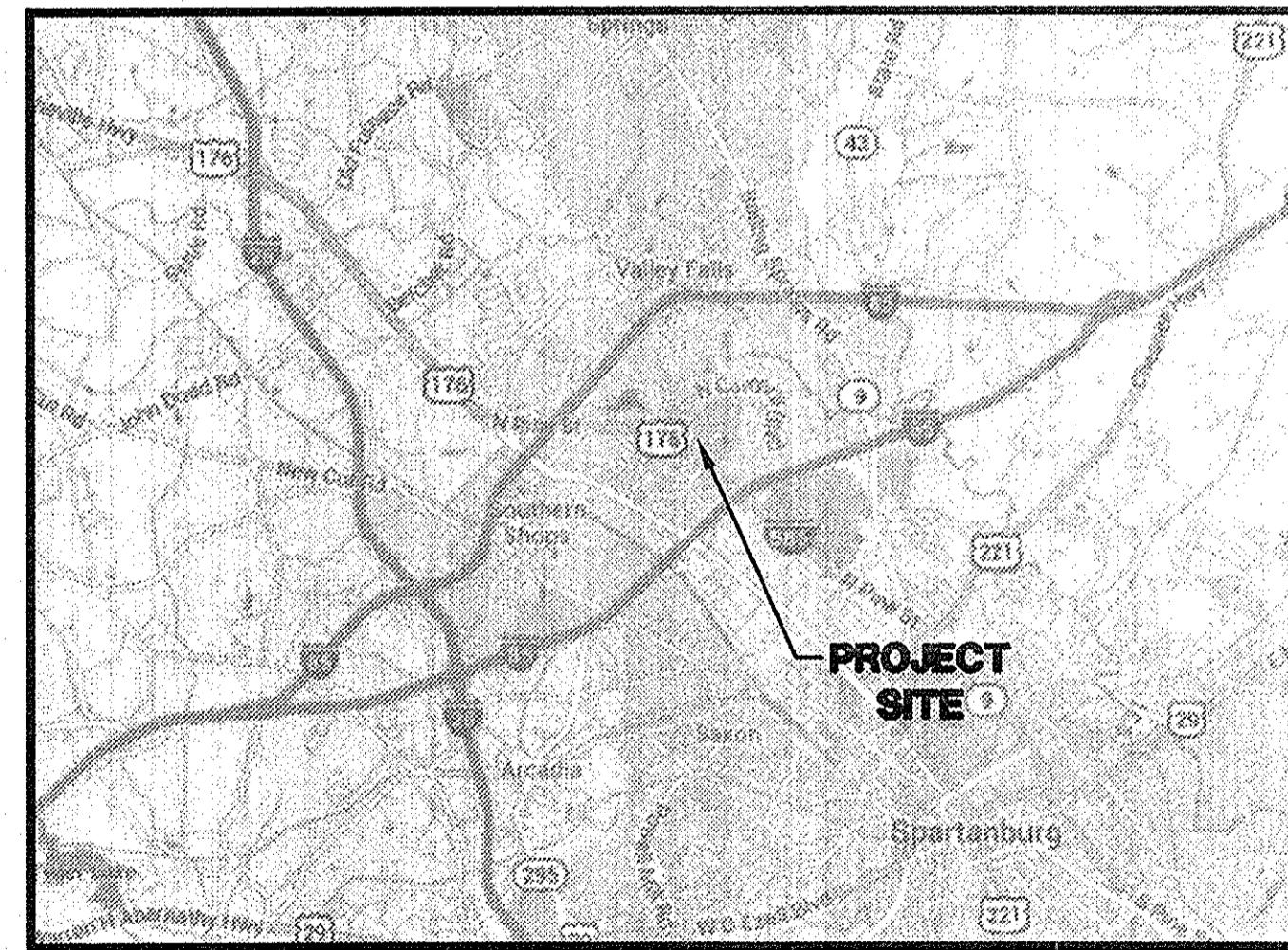
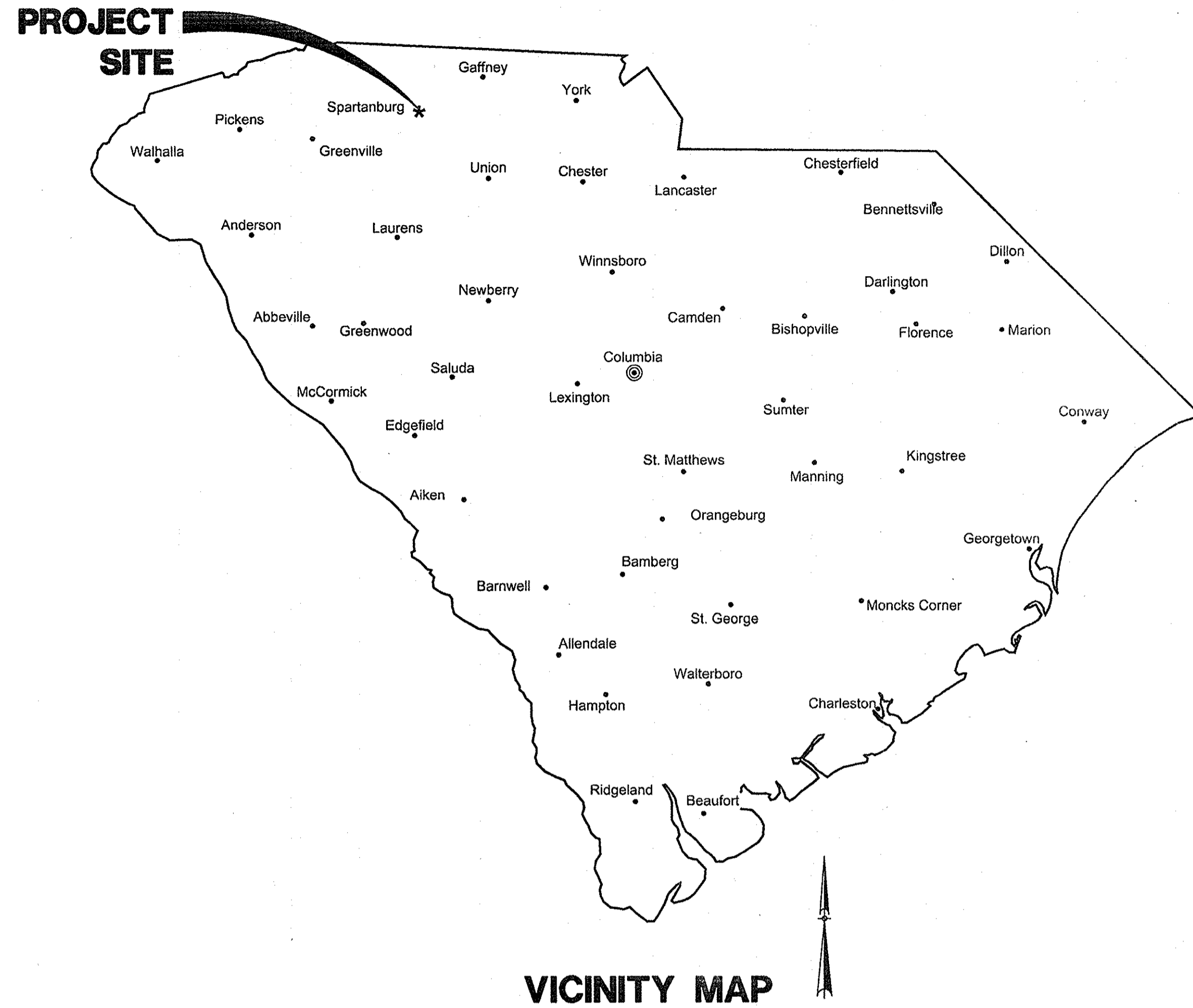


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# RE BID USC UPSTATE DITCH SECTION MAINTENANCE AND REPAIRS

PREPARED FOR  
**UNIVERSITY OF SOUTH CAROLINA**  
**SPARTANBURG, SOUTH CAROLINA**

SHEET INDEX

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3 DAYS BEFORE DIGGING AT USC UPSTATE CALL:

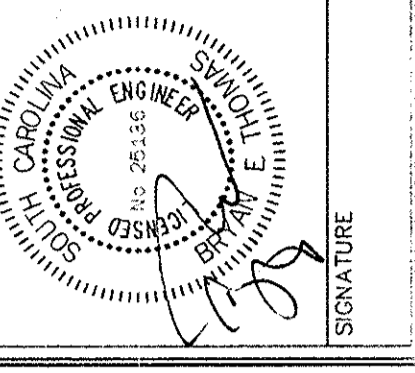
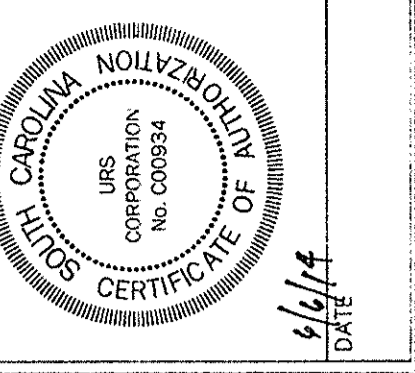


1. PALMETTO UTILITY PROTECTION SERVICE, INC. (PUPS)  
2. METRO WATER: 1-864-503-0822

ALL UTILITIES MAY NOT BE A MEMBER OF PUPS.  
COORDINATE WITH LOCAL UTILITY COMPANIES FOR  
MARKING OF THEIR UTILITIES ALSO.

**STATE PROJECT NO.**  
**H34-9544-JM-E**

**BID DOCUMENTS**  
THESE DOCUMENTS ARE FOR THE  
PURPOSE OF SOLICITATION OF BIDS AND  
ARE NOT FOR USE FOR CONSTRUCTION



**URS**

**URS Corporation**  
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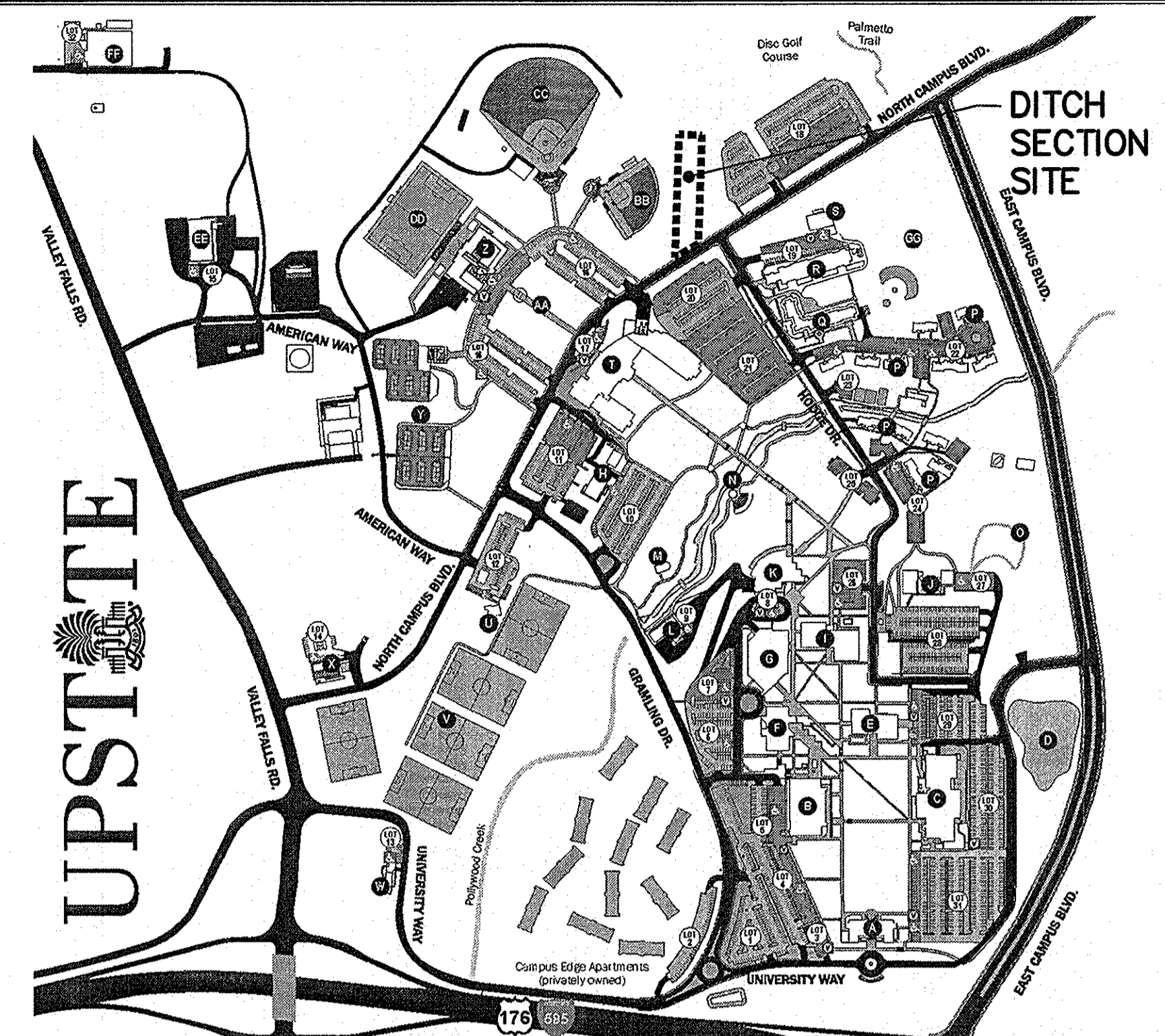
JUNE 6, 2014

PROJECT NO.  
46423272

FILE NO.  
36,307-B91

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ABBREVIATION	WORD	F CONT.	S
A	AGGR	AGGREGATE	SCH
APPR	APPROX	APPROXIMATE	SCH
ASPH	ASPH	ASPHALT	SEC (OR ')
AUT	AUT	AUTHORIZED	SD
AVE	AVE	AVENUE	SHW
AZ	AZ	AZIMUTH	SIM
B	BL	BASE LINE	S
BRG	BRG	BEARING	SS
BM	BM	BENCH MARK	ST
BET.	BET.	BETWEEN	STN
BS	BS	BOTH SIDES	STN
B/	B/	BOTTOM OF	STD
BC	BC	BOTTOM CHORD	STN
BDY	BDY	BOUNDARY	STN
BRK	BRK	BREAK	STN
BRDG	BRDG	BRIDGE	STN
BLDG	BLDG	BUILDING	STN
BV	BV	BALL VALVE	STN
BFV	BFV	BUTTERFLY VALVE	STN
C	CALC	CALCULATE	STN
CB	CB	CATCH BASIN	STN
CD	CD	CAST-IN-PLACE	STN
CEM	CEM	CEMENT	STN
CTR	CTR	CENTER	STN
CL	CL	CENTERLINE	STN
CG	CG	CENTER OF GRAVITY	STN
C to C	C to C	CENTER TO CENTER	STN
CHAM	CHAM	CHAMFER	STN
CHNG	CHNG	CHANGE ORDER	STN
CHNL	CHNL	CHANNEL	STN
CHK	CHK	CHECK	STN
CV	CV	CHECK VALVE	STN
CHD	CHD	CIRCLE	STN
CIR	CIR	CIRCULAR	STN
CIRC	CIRC	CIRCUMFERENCE	STN
CO	CO	CLEANOUT	STN
CO	CO	CLOCKWISE	STN
CTD	CTD	COATED	STN
COL	COL	COLUMN	STN
COMB.	COMB.	COMBINATION	STN
CO	CO	COMPANY	STN
CONC	CONC	CONCRETE	STN
CMP	CMP	CORRUGATED METAL PIPE	STN
CMU	CMU	CONCRETE MASONRY UNIT	STN
COND	COND	CONDITION	STN
CONN	CONN	CONNECT	STN
CONT	CONT	CONTINUOUS	STN
CD	CD	CORD	STN
CORP	CORP	CORPORATION	STN
XSECT	XSECT	CROSS SECTION	STN
CU	CU	CUBIC	STN
CC	CC	CUBIC CENTIMETER	STN
CFM	CFM	CUBIC FEET PER MINUTE	STN
CF	CF	CUBIC FEET PER SECOND	STN
CU FT	CU FT	CUBIC FOOT	STN
CU IN.	CU IN.	CUBIC INCH	STN
CU M	CU M	CUBIC METER	STN
CU YD	CU YD	CUBIC YARD	STN
CUR	CUR	CURRENT	STN
D	DEC	DECIMAL	STN
DEG	DEG	DEGREE	STN
(OR ')	(OR ')		STN
DEPT	DEPT	DEPARTMENT	STN
DSGN	DSGN	DESIGN	STN
DET	DET	DETAIL	STN
DEV	DEV	DEVELOP	STN
DI	DI	DROP INLET	STN
DIAG	DIAG	DIAGONAL	STN
DI (OR Ø)	DI (OR Ø)	DIAMETER	STN
DIM.	DIM.	DIMENSION	STN
DISCH	DISCH	DISCHARGE	STN
DIST	DIST	DISTANCE	STN
DO	DO	DITTO	STN
DN	DN	DOWN	STN
DRAFT	DRAFT	DRAFTING	STN
DWG	DWG	DRAWING	STN
DR	DR	DRIVE	STN
DI	DI	DUCTILE IRON	STN
DIP	DIP	DUCTILE IRON PIPE	STN
E	EA	EACH	STN
ES	ES	EACH SIDE	STN
EW	EW	EAST	STN
E	E	EFFECTIVE	STN
ELL	ELL	ELBOW	STN
ELEC	ELEC	ELECTRIC	STN
ELEV	ELEV	ELEVATION	STN
ENGR	ENGR	ENGINEER	STN
EQ	EQ	EQUAL	STN
(OR EQ)	(OR EQ)	EQUIPMENT	STN
EQUIV	EQUIV	EQUIVALENT	STN
EST	EST	ESTIMATE	STN
EXP	EXP	EXPANSION	STN
EJ	EJ	EXPANSION JOINT	STN
EXT	EXT	EXTERIOR	STN
F	FES	FLARED END SECTION	STN
F to F	F to F	FACE TO FACE	STN
(OR ')	(OR ')	FEET	STN
FT	FT	FEET PER MINUTE	STN
FPM	FPM	FEET PER MINUTE	STN
FPS	FPS	FEET PER SECOND	STN
FRP	FRP	FIBERGLASS REINFORCED PLASTIC	STN
FLD	FLD	FIELD	STN
FIG.	FIG.	FIGURE	STN
G	GAL	GALLON	STN
GEN	GEN	GENERAL	STN
GR	GR	GRADE	STN
GL	GL	GRADE LINE	STN
GRD	GRD	GROUND	STN
H	H	HIGH POINT	STN
H	H	HIGH DENSITY POLYETHYLENE	STN
H.P.	H.P.	HIGH POINT	STN
HOR	HOR	HORIZONTAL	STN
HR	HR	HOUR	STN
HW	HW	HEADWALL	STN
HYD	HYD	HYDRAULIC	STN
I	I	INCH	STN
(OR ')	(OR ')	INCHES PER SECOND	STN
INCL	INCL	INCLUDE	STN
IND	IND	INDUSTRIAL	STN
INFO	INFO	INFORMATION	STN
ID	ID	INSIDE DIAMETER	STN
IF	IF	INSIDE FACE	STN
INT	INT	INTERSECT	STN
INV	INV	INVERT	STN
I	I	IRON	STN
J	JCT	JUNCTION	STN
JB	JB	JUNCTION BOX	STN
L	L	LATITUDE	STN
LAT	LAT	LATITUDE	STN
LT	LT	LEFT	STN
L.P.	L.P.	LOW POINT	STN
M	M	MANHOLE	STN
MH	MH	MANHOLE	STN
MAN.	MAN.	MANUFACTURE	STN
MATL	MATL	MATERIAL	STN
MAX	MAX	MAXIMUM	STN
MECH	MECH	MECHANICAL	STN
MED	MED	MEDIAN	STN
MET.	MET.	METAL	STN
M	M	METER	STN
M	M	MILES	STN
MPH	MPH	MILE PER HOUR	STN
MIN	MIN	MINIMUM	STN
(OR ')	(OR ')	MINUTE	STN
MISC	MISC	MISCELLANEOUS	STN
MOD	MOD	MODEL	STN
MULT	MULT	MULTIPLE	STN
N	N	NEGATIVE	STN
NEG	NEG	NEGATIVE	STN
NIC	NIC	NOT IN CONTRACT	STN
NOM	NOM	NEUTRAL	STN
NOR	NOR	NORTH	STN
N	N	NOT TO SCALE	STN
NTS	NTS	NOT TO SCALE	STN
NO.	NO.	NUMBER	STN
(OR #)	(OR #)		STN
O	O	ON CENTER	STN
O/C	O/C	OFFSET	STN
OPN	OPN	OPENING	STN
OPP	OPP	OPPOSITE	STN
ORIG	ORIG	ORIGINAL	STN
OD	OD	OUTSIDE DIAMETER	STN
OF	OF	OUTSIDE FACE	STN
OA	OA	OVERALL	STN
OHP	OHP	OVERHEAD POWER	STN
O/F	O/F	OVERFLOW	STN
P	P	PERMANENT	STN
PERP	PERP	PERPENDICULAR	STN
PL	PL	PROPERTY LINE	STN
LB (OR #)	LB (OR #)	POUNDS PER SQUARE INCH	STN
PSI	PSI	POWER	STN
PFR	PFR	PREFERRED	STN
PP	PP	PREFRERRED	STN
PREP.	PREP.	PRESSURE	STN
PCO	PCO	PRESSURE CLEANOUT	STN
PT	PT	PRESSURE TREATED	STN
PROD	PROD	PRODUCTION	STN
PF	PF	PROFILE	STN
PROJ	PROJ	PROJECT	STN
R	R	RADIUS	STN
RR	RR	RAILROAD	STN
REC	REC	RECEIVED	STN
REC	REC	RECORD	STN
REF	REF	REFERENCE	STN
REF L	REF L	REFERENCE LINE	STN
RCP	RCP	REINFORCED CONCRETE PIPE	STN
REINF	REINF	REINFORCING	STN
REM	REM	REMOVE	STN
REQ	REQ	REQUIRED	STN
REQD	REQD	REQUIRED	STN
REV	REV	REVISION (REVISED)	STN
RJ	RJ	RESTRAINED JOINT	STN
RRMP	RRMP	RAILROAD MILE POST	STN
RT	RT	RIGHT HAND	STN
RH	RH	RIGHT OF WAY	STN
R/W	R/W	RIGHT OF WAY	STN
S	S	SCHEDULE	STN
SEA	SEA	SEA LEVEL	STN
SECT	SECT	SECTION	STN
SD	SD	STORM DRAIN	STN
SHW	SHW	SIMILAR	STN
S	S	SOUTH	STN
SQ	SQ	SQUARE	STN
SS	SS	SANITARY SEWER	STN
STD	STD	STANDARD	STN
STN	STN	STATION	STN
SURF	SURF	SURFACE	STN
SY	SY	SYMBOL	STN
SYM	SYM	SYMBOL	STN
TAN	TAN	TANGENT	STN
TPR	TPR	TAPER	STN
THK	THK	THICK	STN
TOT	TOT	TOTAL	STN
TYP	TYP	TYPICAL	STN
U	U	UNTIL	STN
UNO	UNO	UNLESS NOTED OTHERWISE	STN
V	V	VALVE	STN
VAR	VAR	VARIABLE	STN
VERT	VERT	VERTICAL	STN
VOL	VOL	VOLUME	STN
W	W	WEIGHT	STN
WT	WT	WEST	STN
W	W	WIDTH	STN
W	W	WITH	STN
Y	Y	YARD	STN
YD	YD	YARD	STN
YH	YH	YARD HYDRANT	STN
YI	YI	YARD INLET	STN
YR	YR	YEAR	STN



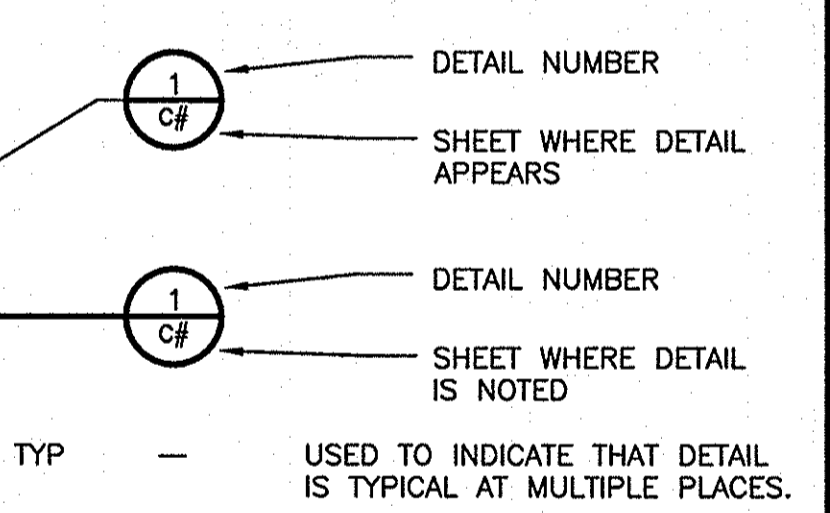
### Campus Map Legend

A. John C. Stockwell Administration Building	L. The P. Kathryn Hicks Visual Arts Center	V. Soccer Fields
B. Library/Honors Program Office (Lib 252)	M. Dr. Lawrence E. Roel Garden Pavilion	W. Health Services
C. Richard E. Tukey Theatre	N. Susan Jacobs Arboretum	X. University Public Safety
D. G. B. Hodges Center/Arena	O. Science Trail	Y. Tennis Complex
E. Upstate Rotary International Peace Park	P. The Villas	Z. University Readiness Center/SC National Guard
F. Media Center	Q. Palmetto House	AA. Louis P. Howell Athletic Complex
G. WRET-TV	R. Magnolia House	BB. Cyril Striboski Stadium
H. Horace C. Smith Science Building	S. John M. Rampey Center	CC. Cleveland S. Harley Baseball Park
I. Curtis R. Harley Art Gallery	T. Health Education Complex/Wellness Center	DD. County University Soccer Stadium
J. Academic Annex 1 and 2 (AAO/AACN)	U. Mary Black School of Nursing	EE. Facilities Management Complex
K. College of Arts & Sciences Building	V. School of Education	FF. University Services Building
L. Burroughs Child Development Center	W. Enrollment Management	GG. Postal/Shipping & Receiving
M. Olin B. Sansbury, Jr. Campus Life Center	X. Bookstore	HH. Intramural Field
	Y. U. Smith Farmhouse/Athletic Annex	

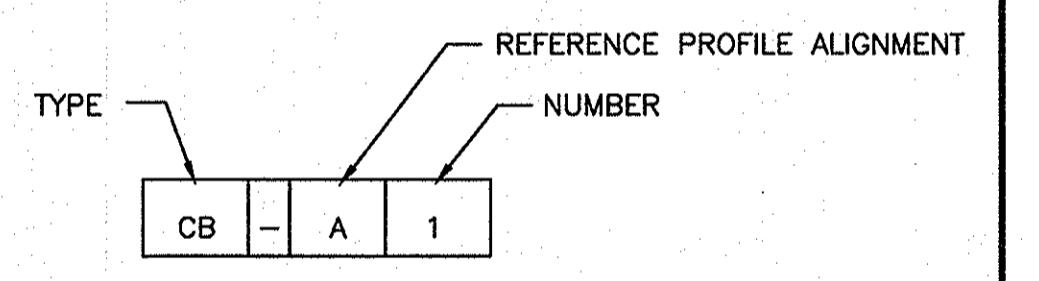
### OVERALL SITE MAP

NOT TO SCALE

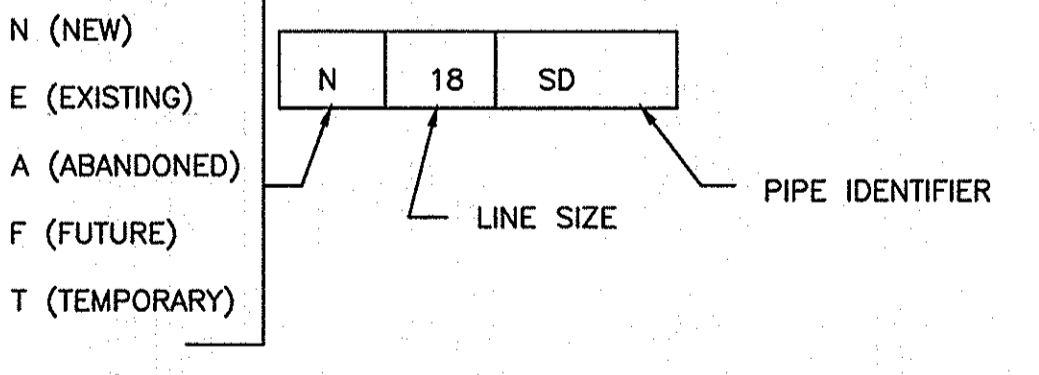
### DETAIL REFERENCES



### STRUCTURE



### PIPING



### MATERIALS

	CHIP SEAL APPLICATION
	FULL DEPTH PAVEMENT
	CONCRETE
	EXISTING GRADE
	FINISHED GRADE
	GRANULAR FILL (ROCK/GRAVEL)
	RIP RAP

### IDENTIFIER DESCRIPTION

DB	DUCT BANK
DRN	DRAIN
FM	FORCEMAIN
G	GAS
SD	STORM DRAIN
S	SANITARY SEWER
W	WATER

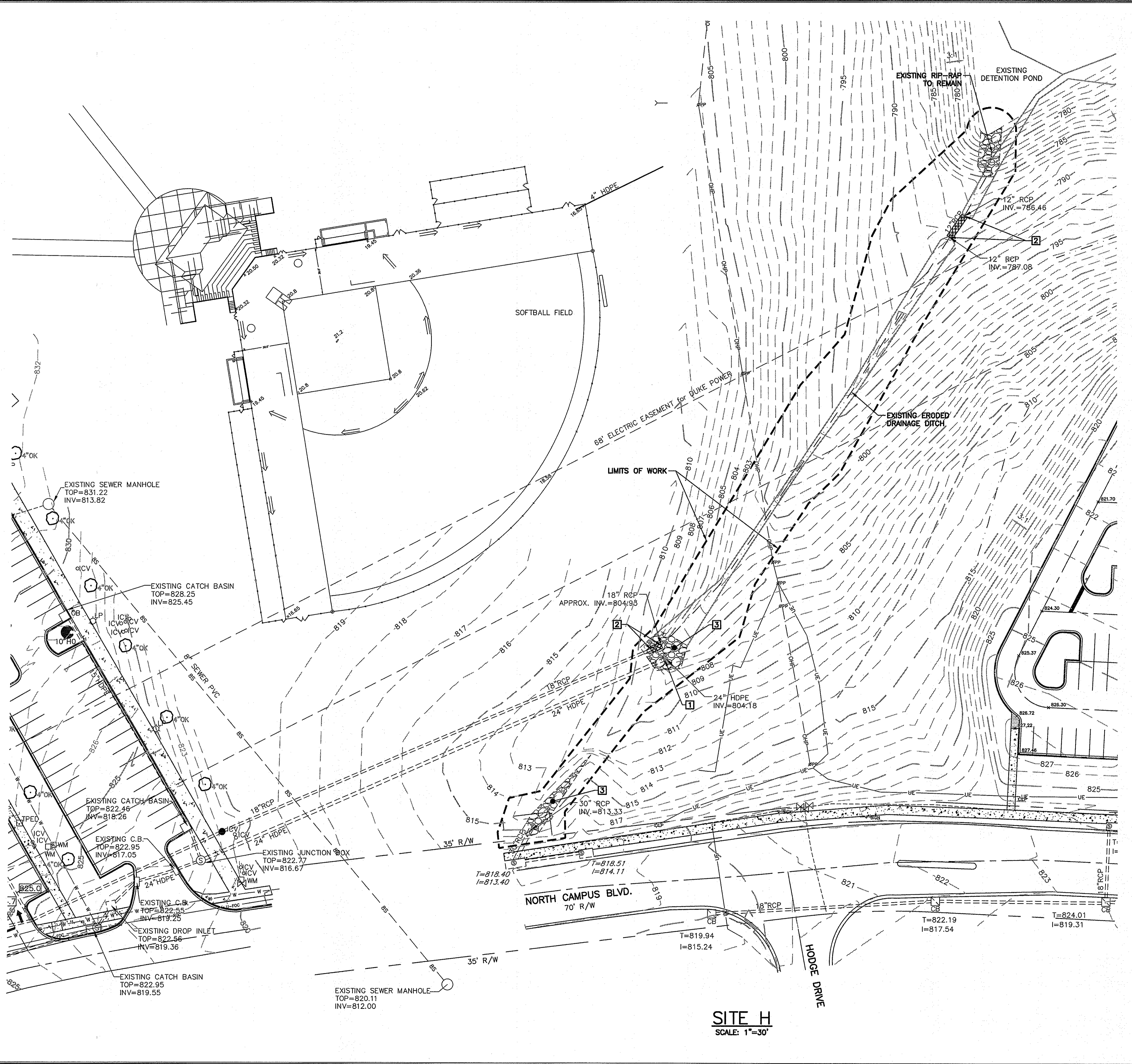
### GENERAL NOTES

- REFERENCE IS MADE TO THE FOLLOWING:
  - BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED FOR USC UPSTATE BY BP BARBER, DATED NOVEMBER 24, 2009.
  - PARTIAL SITE SURVEY BY BP BARBER, DATED FEBRUARY 15, 2008.
  - BOUNDARY AND TOPOGRAPHICAL SURVEY PREPARED FOR USC UPSTATE BY URS CORPORATION, DATED MARCH 5, 2014.
- ALL ELEVATIONS SHOWN ARE BASED ON:
  - VERTICAL: NAVD 83
  - HORIZONTAL: SOUTH CAROLINA STATE PLANE COORDINATE NAD 83
- VERIFY ALL FIELD CONDITIONS AND THE EXACT LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING DEMOLITION AND CONSTRUCTION. IF CONDITIONS ARE DIFFERENT FROM THAT SHOWN ON THE PLANS, STOP WORK AND NOTIFY THE ENGINEER.
- ALL WORK FOR THE PROJECT SHALL CONFORM TO THE PROJECT SPECIFICATIONS FOUND IN THE PROJECT MANUAL (CONTRACT DOCUMENTS AND SPECIFICATIONS).
- PROMPTLY INFORM THE ENGINEER OF ANY ERROR OR DISCREPANCY DISCOVERED IN THESE DRAWINGS OR SPECIFICATIONS OR CONFLICT BETWEEN THE DRAWINGS OR SPECIFICATIONS.
- ALL EXCESS TOPSOIL FROM THE PROJECT SITES SHALL BE THE PROPERTY OF THE OWNER AND SHALL BE PLACED AT A LOCATION ON CAMPUS DETERMINED BY THE OWNER.

### LEGEND

	EXISTING	NEW
CONTOURS (1' & 2')	---	---
CONTOURS (5' & 10')	---	---
EDGE OF PAVEMENT	---	---
CURB & GUTTER	---	---
CENTERLINE OF ROADWAY	---	---
PROPERTY LINE	---	---
RIGHT-OF-WAY	---	---
LIMITS OF WORK	---	---
ITEMS TO BE DEMOLISHED	---	---
TREE PROTECTION	---	---
TREE	---	---
SILT FENCE	---	---
WETLANDS	---	---
WETLANDS BUFFER	---	---
FENCE LINE	---	---
GUARD RAIL	---	---
TREE LINE	---	---
SURFACE DRAINAGE FLOW	---	---
STORM DRAINAGE	---	---
CATCH BASIN	□ CB	■ CB
DROP INLET	□ DI	■ DI
YARD INLET	□ YI	■ YI
JUNCTION BOX	□ JB	● JB
SANITARY SEWER	---	---
SEWER FORCE MAIN	---	---
SEWER MANHOLE	○ MH	● MH
SEWER VALVE	⊗	⊗
AIR RELEASE MANHOLE	○ ARV	● ARV
SEWER CLEANOUT	○ CO	● CO
WATER LINE	---	---
FIRE HYDRANT	⊕ FH	◆ FH
WATER METER	□ WM	■ WM
WATER VALVE	⊗ WV	⊗ WV
GAS LINE	---	---
GAS VALVE	⊗ GV	⊗ GV
UNDERGROUND ELECTRIC	---	

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 URS PROJECT: 14423272, DRAWINGS: BID, DRAWINGS SHEETS: DITCH SECTION, MAINTENANCE AND REPAIRS, 6/27/2014, 8:56:03 AM



**SITE H**  
SCALE: 1"=30'

**NOTES**

- BURNING OF ANY MATERIAL, DEBRIS, OR TRASH ON SITE WILL NOT BE PERMITTED.
- ALL DEMOLITION DEBRIS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS AND SPECIFICATIONS, LATEST REVISION. IN ADDITION TO INFORMATION OBTAINED FROM SITE VISITS AND A FIELD SURVEY, THE EXISTING UNDERGROUND UTILITIES SHOWN HEREIN ARE BASED ON A COMBINATION OF AVAILABLE SOURCE INFORMATION PROVIDED BY OTHERS, INCLUDING AS-BUILT DRAWINGS AND EXISTING UTILITIES RECORDS AND/OR MAPS. A CONCERTED EFFORT TO LOCATE ALL EXISTING UTILITIES WAS MADE. HOWEVER, LOCATION OF UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE AND FOR INFORMATION PURPOSES ONLY. THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED AND ANY AND ALL DAMAGES RESULTING FROM THE FAILURE TO DO SO SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER. CONTACT PALMETTO UTILITY PROTECTION SERVICE (PUPS) AND OTHER LOCAL AND REGIONAL UTILITY COMPANIES AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION FOR LOCATION OF UTILITIES.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES WITHIN THE PROJECT LIMITS.
- PROTECT FROM DAMAGE EXISTING STRUCTURES, UTILITIES, ETC. THAT ARE TO REMAIN OR TO BE SALVAGED. REPAIR ANY DAMAGE TO EXISTING STRUCTURES, UTILITIES, ETC. TO ORIGINAL CONDITION, AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND BE PREPARED TO ADEQUATELY CARE FOR AND SAFEGUARD HIMSELF AND THE OWNER FROM DAMAGE.
- KEEP ALL ROADS ADJACENT TO THE SITE CLEAN DURING CONSTRUCTION.
- ALL EXISTING INLETS, GRATES, ETC. WITHIN LIMITS OF WORK SHALL RECEIVE INLET PROTECTION SUITABLE FOR THE INLET TYPE.
- CONTRACTOR SHALL COORDINATE WITH OWNER THE REMOVAL AND OR RELOCATION OF EXISTING SIGNAGE AND LIGHT POLES. STORE SALVAGEABLE EQUIPMENT ON APPROVED SITE AREA.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND OBTAINING APPROVAL OF ALL TRAFFIC CONTROL PLANS.

**KEY NOTES**

- REMOVE EXISTING CONCRETE HEADWALL
- SAWCUT AND REMOVE EXISTING STORM DRAINAGE
- REMOVE RIP-RAP, CONTRACTOR TO PLACE MATERIAL ON POND SLOPE, SEE SHEET 3 FOR LOCATION

3 DAYS BEFORE DIGGING AT USC UPSTATE CALL:

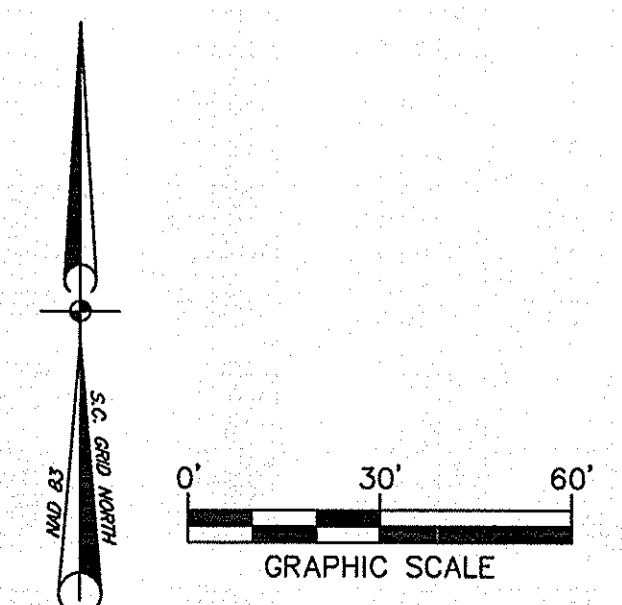
**South Carolina 811**  
Call 811 Before You Dig

1. PALMETTO UTILITY PROTECTION SERVICE, INC. (PUPS)  
2. METRO WATER: 1-864-503-0822

ALL UTILITIES MAY NOT BE A MEMBER OF PUPS, COORDINATE WITH LOCAL UTILITY COMPANIES FOR MARKING OF THEIR UTILITIES ALSO.

**CONTROL POINTS**

CP#5  
FH BOLT  
ELEVATION = 831.34'  
NORTHING = 1154484.6153'  
EASTING = 1710292.5825'



REVISIONS	
NO.	DESCRIPTION

APPROVALS

PROJECT ENG.	MDI	DATE
DESIGNED BY:	MDI	
DRAWN BY:	EHM	
CHECKED BY:	BET	
APPROVED:	BET	

6/16/14

CERTIFICATE OF PROFESSIONAL ENGINEERING

URS CORPORATION  
No. 25138  
Professional Engineer  
6/16/14

**URS**  
101 Research Drive  
Columbia, South Carolina 29203  
Telephone (803) 254-4400 • Fax (803) 771-6676  
www.URSCorp.com

**EXISTING CONDITIONS AND DEMOLITION PLAN**

SHEET TITLE

DATE: JUNE 6, 2014 SCALE: 1"=30'

USC UPSTATE  
DITCH SECTION  
MAINTENANCE AND REPAIRS  
PREPARED FOR  
THE UNIVERSITY OF  
SOUTH CAROLINA  
SPARTANBURG COUNTY SOUTH CAROLINA

**STATE PROJECT NO. H34-9544-JM-E**

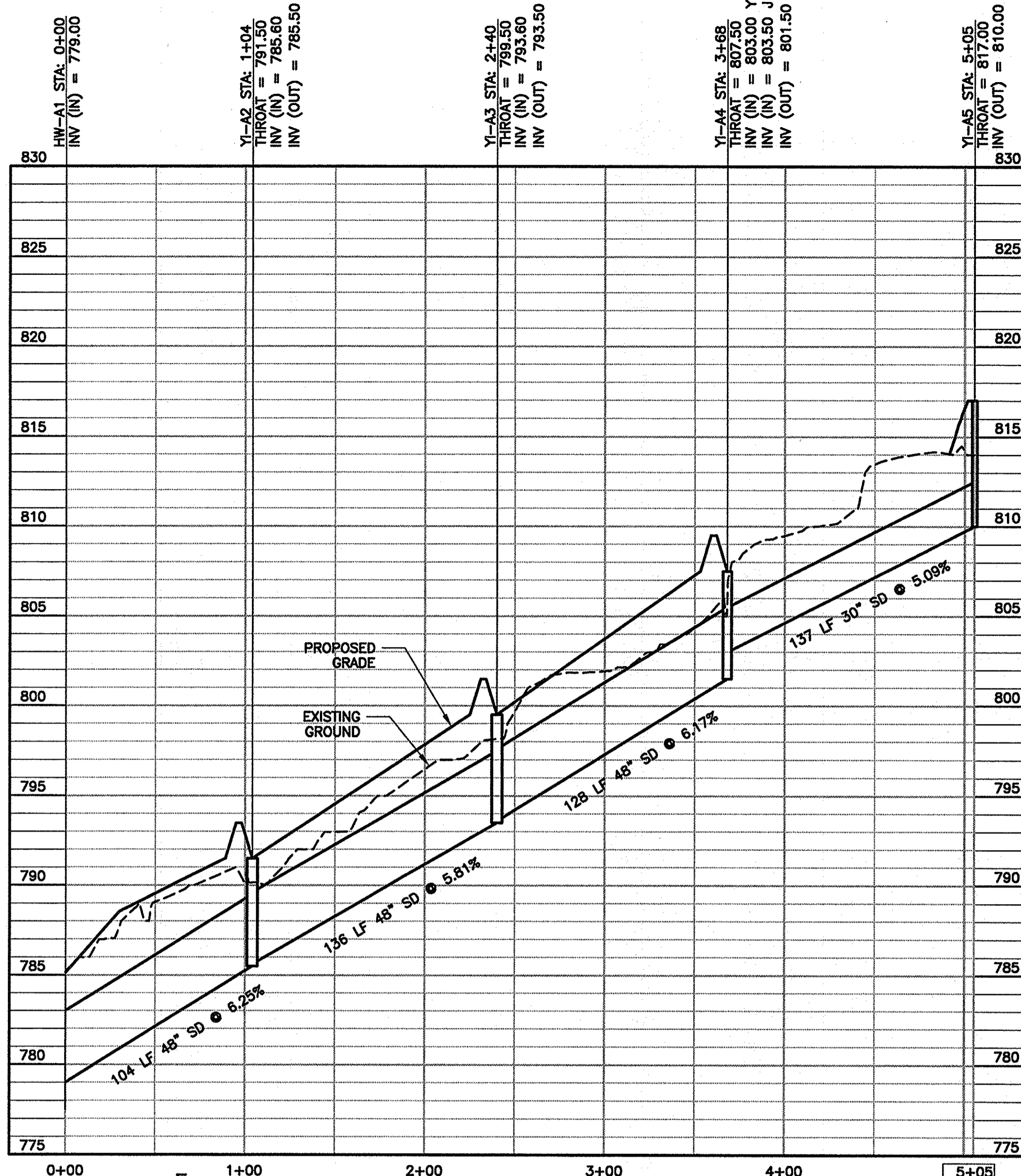
**BID DOCUMENTS**

THESE DOCUMENTS ARE FOR THE PURPOSE OF SOLICITATION OF BIDS AND ARE NOT FOR USE FOR CONSTRUCTION

DWG NAME	SHEET
N.B. NO.	2
REF.	OF
PROJECT NO. 46423272	5

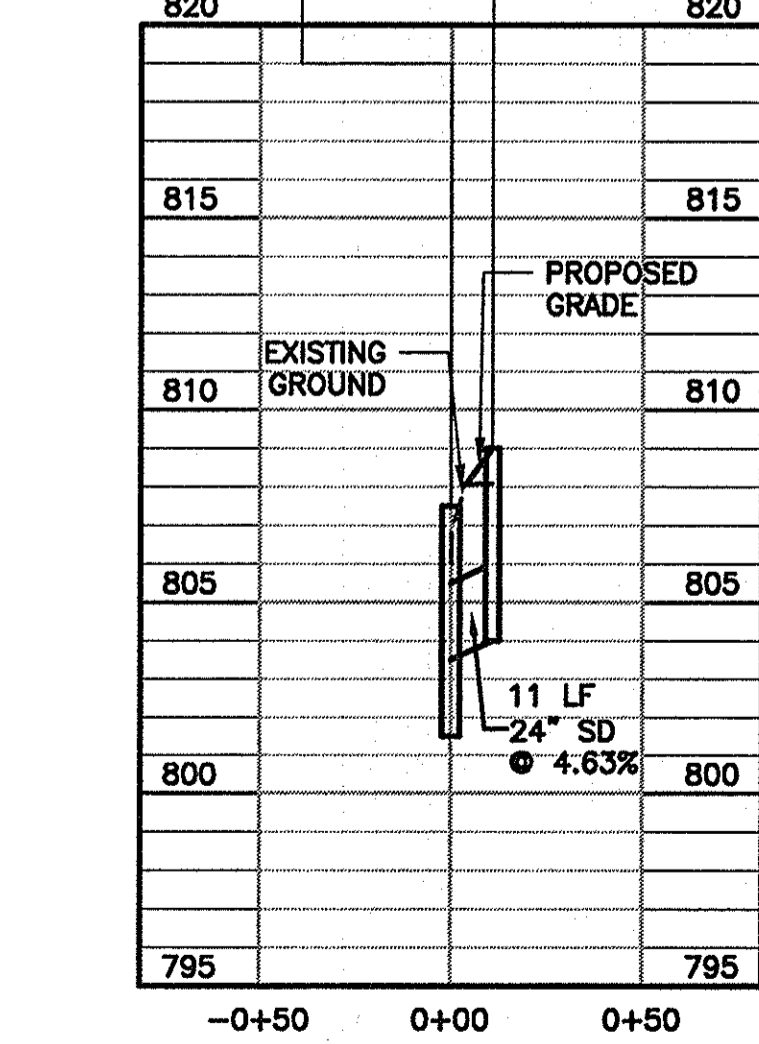
FILE NO. 36,307-B91

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**SD-A**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

YI-A1 STA: 0+00 THROAT = 795.00 INV (IN) = 779.00	YI-A2 STA: 1+04 THROAT = 791.50 INV (IN) = 785.60 INV (OUT) = 785.50	YI-A3 STA: 2+40 THROAT = 799.50 INV (IN) = 793.60 INV (OUT) = 793.50	YI-A4 STA: 3+68 THROAT = 807.50 INV (IN) = 803.00 INV (OUT) = 803.50 INV (OUT) = 801.50	YI-A5 STA: 5+05 THROAT = 817.00 INV (OUT) = 810.00
---	---	---	---	--

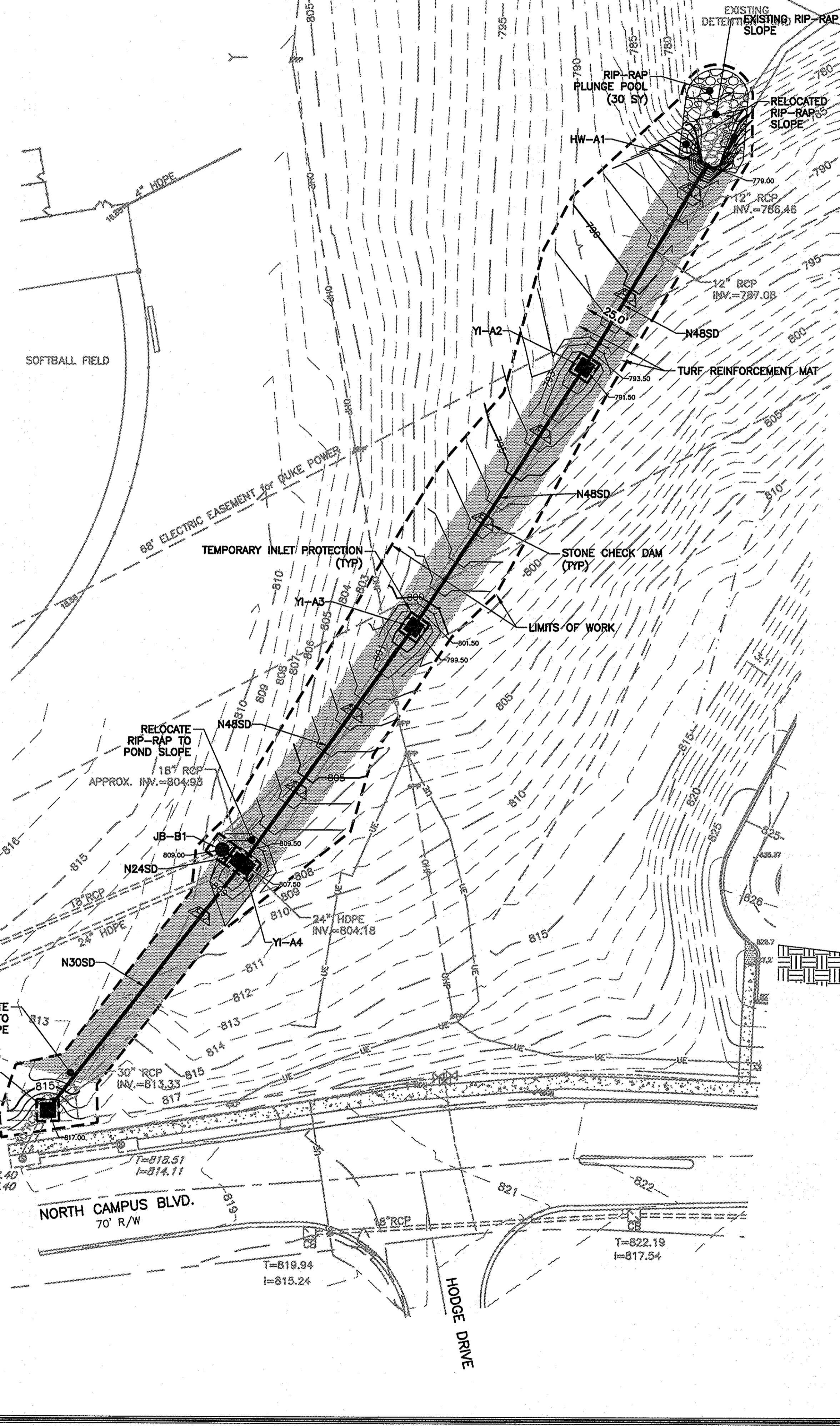


**SD-B**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

YI-A1 STA: 3+68 THROAT = 807.50 INV (IN) = 803.00 INV (OUT) = 801.50	YI-A5 STA: 3+69 THROAT = 809.00 INV (OUT) = 804.00
---	--

**NOTES**

1. ALL PIPE LENGTHS ARE TO CENTER OF BOX
2. MAINTAIN MINIMUM 1' COVER ON ALL STORM DRAIN PIPES

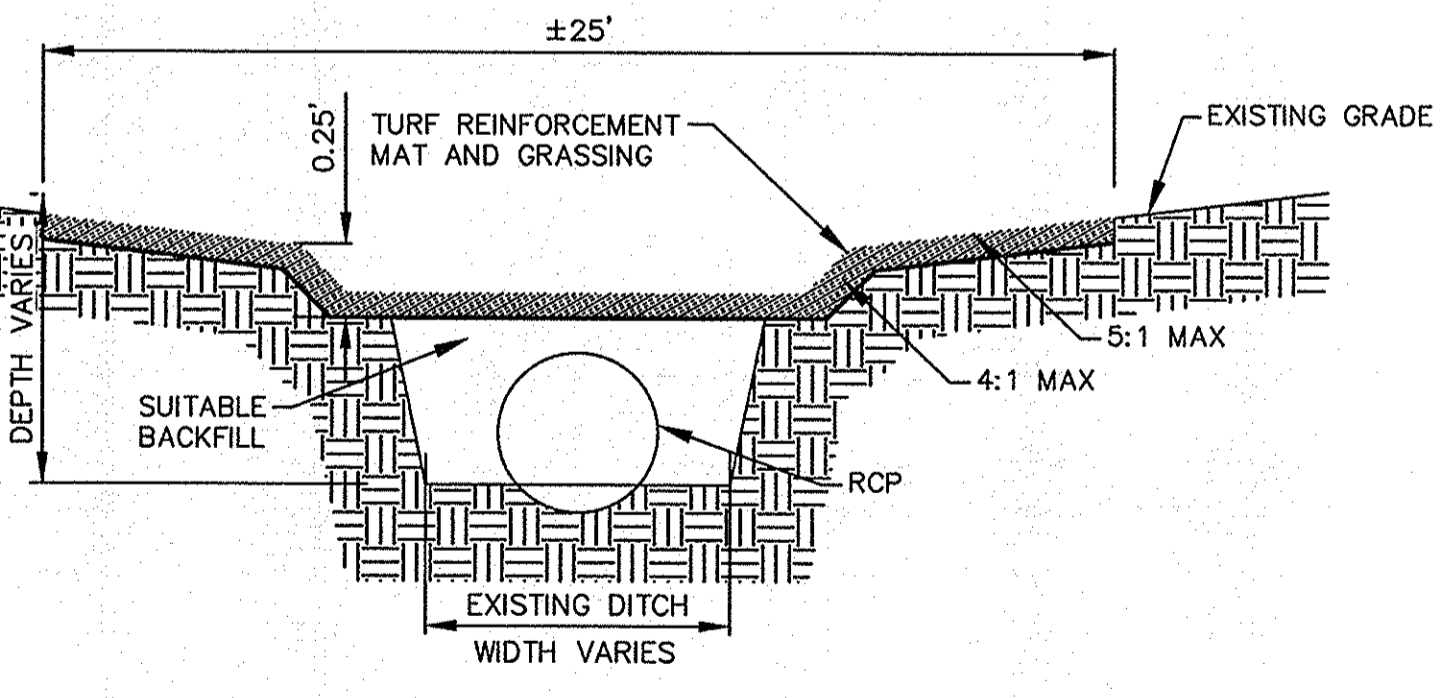


**STAKING NOTES**

1. VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF ANY DIFFERING SITE CONDITIONS ARE NOTED.
2. ALL WORK AND MATERIALS SHALL CONFORM TO SPARTANBURG COUNTY AND SCDHEC REGULATIONS AND SPECIFICATIONS, LATEST REVISION AT BEGINNING OF CONSTRUCTION.

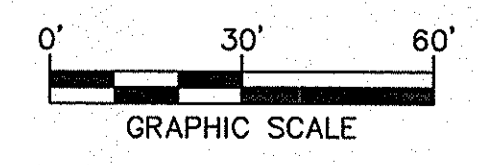
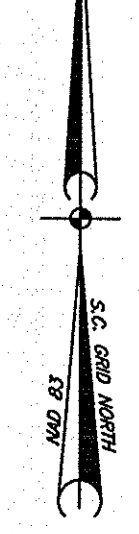
**GRADING NOTES**

1. ALL ELEVATIONS ARE BASED ON REFERENCED BENCHMARK DATUM.
2. WHEN GRADING BETWEEN CONTOURS AND BETWEEN POINTS OF SPOT ELEVATIONS, GRADE ON A UNIFORM SLOPE.
3. BEFORE BEGINNING GRADING WORK ON SITE, STAKE SILT FENCE AS SHOWN ON THE PLANS. AS SEDIMENT BUILDS UP AROUND SILT FENCE, REMOVE SEDIMENT AND REPLACE WHERE EROSION HAS TAKEN PLACE.
4. INSTALL AND MAINTAIN TEMPORARY EROSION CONTROL MEASURES UNTIL STABILIZATION IS ACHIEVED.
5. PROMPTLY INFORM THE ENGINEER OF ANY ERROR OR DISCREPANCIES DISCOVERED IN THE DRAWINGS OR SPECIFICATIONS OR CONFLICT BETWEEN THE DRAWINGS OR SPECIFICATIONS IN ORDER FOR CORRECTIONS TO BE MADE.
6. ALL WORK AND MATERIALS MUST CONFORM TO SPARTANBURG COUNTY AND SCDHEC REGULATIONS AND SPECIFICATIONS, LATEST REVISION AT BEGINNING OF CONSTRUCTION.
7. CLEAR ALL BRUSH, STUMPS AND OTHER ORGANIC MATERIAL FROM AREAS TO BE FILLED.
8. REMOVE ALL UNSUITABLE MATERIAL (MUCK OR NON-COMPACTABLE MATERIAL) FROM AREAS TO BE FILLED AS DETERMINED BY ENGINEER.
9. GRADE BENEATH ROADWAYS AND PARKING SHALL BE COMPLETED TO FINAL GRADE AS SHOWN ON THE DRAWINGS LESS THE PAVEMENT SECTION THICKNESS. FINISH SURFACES TO WITHIN 0.10' ABOVE OR BELOW THE REQUIRED GRADE OR APPROVED CROSS SECTION FOR THE REMAINDER OF THE SITE REQUIRED.
10. REPAIR ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES ANY LOW AREAS OR "BIRD BATHS" AS DETERMINED BY THE ENGINEER THAT EXIST IN PAVED AREAS OR ADDITIONAL COST TO THE OWNER.
11. FOR ALL GRASSED AREAS, BE RESPONSIBLE FOR REPLACING ERODED SOIL AND GRASS SEED UNTIL AN APPROVED STAND OF GRASS IS ESTABLISHED.
12. EACH SECTION OF PIPE SHALL BE LAID TO SPECIFIED GRADE AND LAID UPGRADE.
13. KEEP ALL ROADS ADJACENT TO SITE CLEAN DURING CONSTRUCTION.
14. ALL NEWLY CONSTRUCTED SLOPES WHICH ARE STEEPER THAN 3 TO 1 MUST BE STABILIZED BY INSTALLATION OF EROSION CONTROL MATTING. OTHER AREAS SUCH AS CHANNEL BOTTOMS, CHANNEL SIDESLOPES, AND SLOPES NEAR SENSITIVE WETLAND AREAS MAY ALSO REQUIRE EROSION CONTROL MATTING WHERE SHOWN ON PLANS. USE NORTH AMERICAN GREEN S150 OR APPROVED EQUAL.
15. ALL VEGETATION TOPSOIL SHALL BE STRIPPED AND STOCKPILED PRIOR TO PLACING FILL. TOPSOIL SHALL BE SPREAD OVER AREAS NOT TO BE PAVED PRIOR TO FINAL GRASSING.
16. ANY TEMPORARY STOCKPILES SHALL HAVE PERIMETER SILT FENCE INSTALLED AT THE BASE OF THE STOCKPILE.
17. PROPOSED FILL SOILS SHALL BE FREE OF ORGANIC MATERIAL, RUBBLE, DEBRIS, HIGHLY PLASTIC CLAYS AND SILTS AND SHALL ADHERE TO THE FILL REQUIREMENTS AND RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
18. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SITE.
19. REMOVE ALL DEBRIS AND OTHER MATERIAL RESULTING FROM DEMOLITION AND DISPOSE OF OFF SITE UNLESS OTHERWISE APPROVED BY OWNER.
20. CONTRACTOR SHALL FIELD VERIFY EXACT ELEVATIONS AT ALL TIE IN LOCATIONS WITH EXISTING FINISHED SURFACES AND SHALL MATCH EXISTING ROAD AND PAVEMENT GRADES AND ENSURE SMOOTH TRANSITION AT ROAD TIE IN LOCATIONS.
21. GRADES SHOWN ARE FINAL SURFACE ELEVATIONS.
22. ENSURE POSITIVE DRAINAGE OF ALL FINISHED GRADE SURFACES.
23. GRASSING SHALL BE APPLIED TO ALL DISTURBED AREAS NOT STABILIZED WITH ASPHALT, CONCRETE OR LANDSCAPED WITH PLANT MATERIALS.
24. ALL UTILITY BOXES, MANHOLES, VALVES, METER BOXES, INLETS, CLEANOUTS ETC. SHALL BE FIELD ADJUSTED TO MATCH FINISHED GRADE.
25. ALL YARD INLETS, CATCH BASINS, DROP INLETS AND CURB INLETS ARE TO BE STAMPED WITH "NO-DUMPING-DRAINS TO WATERWAY" OR APPROVED EQUAL.



**STORM DRAINAGE WITH GRASSED SWALE**

**DETAIL**  
SCALE: NONE

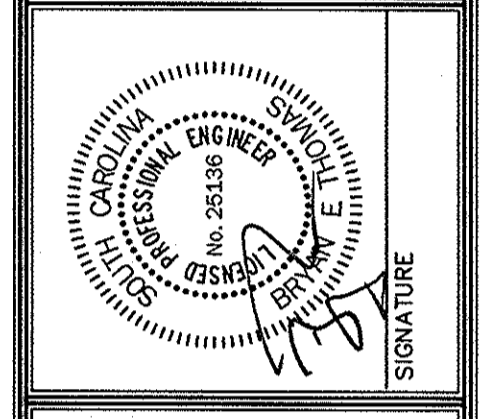
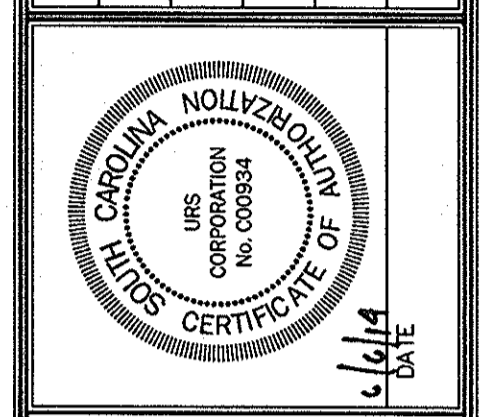


**REVISIONS**

NO.	DESCRIPTION	DATE	BY

**APPROVALS**

PROJECT ENG.	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED:



**URS**  
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**SITE IMPROVEMENT PLAN**

USC UPSTATE DITCH SECTION MAINTENANCE AND REPAIRS PREPARED FOR THE UNIVERSITY OF SOUTH CAROLINA SOUTH CAROLINA SPARTANBURG COUNTY

**STATE PROJECT NO. H34-9544-JM-E**  
**BID DOCUMENTS**  
THESE DOCUMENTS ARE FOR THE PURPOSE OF SOLICITATION OF BIDS AND ARE NOT FOR USE FOR CONSTRUCTION

DWG NAME	SHEET
N.B. NO.	3
REF.	OF
PROJECT NO. 46423272	5

FILE NO. 36,307-B91

# SEDIMENT AND EROSION CONTROL NOTES

## GENERAL NOTES

- ALL ELEVATIONS ARE BASED ON MEAN SEA LEVEL DATUM.
- CONTRACTOR SHALL, FOR ALL GRADED AREAS, BE RESPONSIBLE FOR REPLACING ERODED SOIL AND GRASS SEED UNTIL AN APPROVED STAND OF GRASS IS ESTABLISHED.
- CONTRACTOR SHALL, BEFORE BEGINNING GRADING WORK ON SITE, STAKE SILT FENCE AND INSTALL ALL PERIMETER CONTROLS AS SHOWN ON THIS PLAN.
- CONTRACTOR SHALL BE AWARE OF EXISTING UTILITY LINES DURING PIPE LINE INSTALLATION. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES SUCH AS THE LOCAL ELECTRIC COMPANY, AT&T, ETC. FOR LOCATION OF OTHER UTILITIES NOT SHOWN ON PLAN. CALL PALMETTO UTILITIES PROTECTION SERVICES (888-721-7877) FOR UNDERGROUND UTILITY LINES LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- PROMPTLY INFORM THE ENGINEER OF ANY ERROR OR DISCREPANCIES DISCOVERED IN THE DRAWINGS OR SPECIFICATIONS OR CONFLICTS BETWEEN THE DRAWING AND SPECIFICATIONS IN ORDER FOR CORRECTIONS TO BE MADE.
- ALL WORK AND MATERIALS MUST CONFORM WITH SPARTANBURG COUNTY REGULATIONS AND SPECIFICATIONS, LATEST REVISIONS AT THE BEGINNING OF CONSTRUCTION.
- ALL NEWLY CONSTRUCTED SLOPES WHICH ARE STEEPER THAN 2.5 TO 1 MUST BE STABILIZED BY INSTALLATION OF EROSION CONTROL MATTING. OTHER AREAS SUCH AS CHANNEL BOTTOMS, CHANNEL SIDESLOPES, AND SLOPES NEAR SENSITIVE WETLAND AREAS MAY ALSO REQUIRE EROSION CONTROL MATTING WHERE SHOWN ON PLANS. USE NORTH AMERICAN GREEN S150 OR APPROVED EQUAL. EQUAL PRODUCTS MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- PROVIDE A TEMPORARY STONE SPLASH PAD AT ALL FIRE HYDRANTS OR OTHER POINTS OF DISCHARGE DURING TESTING OF THE WATER DISTRIBUTION SYSTEM.
- PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES AS MAY BE REQUIRED TO CONTROL SOIL EROSION DURING OFF SITE UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.
- ALL AREAS WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- INSTALL PERMANENT VEGETATIVE COVER AND THE LONG-TERM EROSION PROTECTION MEASURES OR STRUCTURES AS SOON AS PRACTICAL IN THE DEVELOPMENT PROCESS.
- PROVIDE FOR HANDLING OF THE INCREASED RUNOFF CAUSED BY CHANGED SOIL AND SURFACE CONDITIONS. USE EFFECTIVE MEANS TO CONSERVE EXISTING ON-SITE SOIL INCLUDING THE USE OF DIVERSION DITCHES, GRASSED WATERWAYS AND STORM SEWERS.
- PLACE SILT FENCE BARRIERS AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. SILT BARRIERS SHALL BE MAINTAINED IN PLACE AND IN GOOD CONDITION UNTIL GROUND COVER IS ESTABLISHED. SILT FENCE SHALL BE CLEANED OR REPLACED WHEN SILT ACCUMULATION REACHES 1/3 THE HEIGHT OF THE FENCE. SEDIMENT SHALL BE RESPAID ON SITE.
- ALL DISTURBED AREAS NOT PAVED SHALL BE GRASSED OR LANDSCAPED. USE TEMPORARY PLANT COVER, MULCHING, AND/OR STRUCTURES TO CONTROL RUNOFF AND PROTECT AREA SUBJECT TO EROSION DURING CONSTRUCTION.
- ALL SEDIMENT AND EROSION CONTROLS ARE TO BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. MAINTENANCE OF SEDIMENT TRAPPING SHALL BE PERFORMED AS NECESSARY PER THESE INSPECTIONS. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY.
- ADDITIONAL EROSION CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION TO CONTROL EROSION AND/OR OFF SITE SEDIMENTATION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE STABILITY OF ALL GRADED AND/OR CLEARED AREAS UNTIL PERMANENT GROUND COVER IS ESTABLISHED. ANY AREAS DAMAGED BY EROSION SHALL BE REPAIRED TO ITS ORIGINAL CONDITION AND PROTECTED FROM FURTHER EROSION AT NO ADDITIONAL COST TO THE OWNER.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETED AND THE SITE STABILIZED.

## GRASSING NOTES

### GRASSING NOTES

- SEED THESE AREAS IMMEDIATELY UPON COMPLETION OF GRADING OR CONSTRUCTION AND CLEAN-UP OPERATIONS.
  - SLOPES GREATER THAN FOUR HORIZONTAL TO ONE VERTICAL.
  - UTILITY RIGHTS-OF-WAY ADJACENT TO STREAM BANKS.
- AREAS READY FOR PLANTING BETWEEN AUGUST 16 AND FEBRUARY 28 SHALL BE PLANTED WITH A TEMPORARY COVER OF SCHEDULE NO. 2. AT THE ACCEPTABLE SEASONS FOR PLANTING SCHEDULE NO. 1, THE TURF SHALL BE DESTROYED BY REWORKING THE SOIL, AND SCHEDULE NO. 1 SEEDING ESTABLISHED AS SPECIFIED HEREIN.
- USE RATE A LBS. PER 1000 SQ. FT. ON SLOPES OVER 5' HORIZONTAL TO 1' VERTICAL IN HEIGHT AND USE RATE B LBS. PER 1000 SQ. FT. ON SLOPES LESS THAN 5' HORIZONTAL TO 1' VERTICAL.
- SEE GRASSING SPECIFICATIONS (SECTION 02930) FOR ADDITIONAL REQUIREMENTS.

### GRASSING SCHEDULES:

GRASSING SCHEDULE NO. 1 - PLANTING DATES MARCH 1 TO AUGUST 15:

COMMON NAME OF SEED	RATE A	RATE B
RYE GRAIN	1	1
COMMON BERMUDA (HULLED)	0	1.5
SERICEA LESPEDEZA (CLAY SOILS)	1	0
WEEPING LOVE GRASS (SANDY SOILS)	1	0
CENTPEDE	0.5	0.5
FERTILIZER	18-25	18-25

GRASSING SCHEDULE NO. 2 - PLANTING DATES AUGUST 16 - FEBRUARY 28:

COMMON NAME OF SEED	RATE A	RATE B
RYE GRAIN	0	1
COMMON BERMUDA (HULLED)	0	1.5
BROWN TOP MILLET	5	0
COMMON BERMUDA (UNHULLED)	0	2.0
FERTILIZER	18-25	18-25

## 14 DAY STABILIZATION CLAUSE

ALL DISTURBED AREAS WHICH ARE TO BE LEFT IDLE FOR A PERIOD OF 14 DAYS OR LONGER ARE TO RECEIVE TEMPORARY VEGETATION OR MULCH.

## EROSION CONTROL MAINTENANCE SCHEDULE

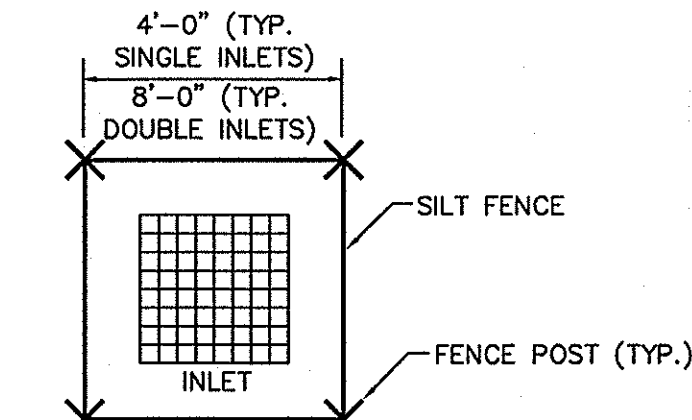
ALL SEDIMENT AND EROSION CONTROLS ARE TO BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS. CONTRACTOR TO DOCUMENT WITH SCDHEC APPROVED INSPECTION REPORTS AND LOGGED IN THE PROJECT SWPPP.

## STANDARD NOTES:

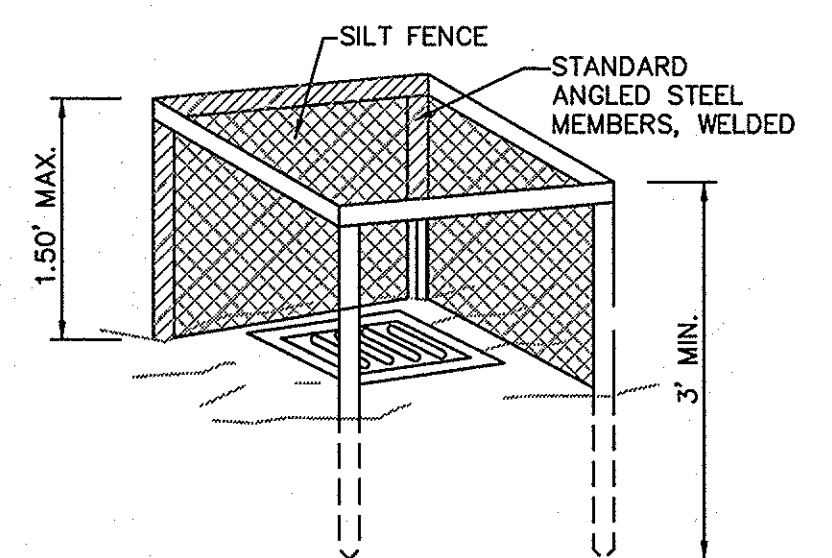
- IF NECESSARY, SLOPES WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
  - WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
  - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, & EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
- ALL SEDIMENT & EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
- PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL COVER AT THE END OF EACH DAY OF CONSTRUCTION ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES & ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS & THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 ET. SEQ. AND SCRI00000.
- TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE STABLE OUTLETS.
- ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
- LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, & BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) & CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
- A COPY OF THE SWPPP, INSPECTION RECORDS & RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
- INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, & WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
- MINIMIZE SOIL COMPACTION & UNLESS INFEASIBLE, PRESERVE TOPSOIL.
- MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT & VEHICLE WASHING, WHEEL WASH WATER & OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
- MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES & EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPs (SEDIMENT BASIN, FILTER BAG, ETC.).
- THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
  - WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY APPROPRIATE CONTROL;
  - WASTEWATER FROM WASHOUT/CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS & OTHER CONSTRUCTION MATERIALS;
  - FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE & EQUIPMENT OPERATION & MAINTENANCE;
  - SOAPS OR SOLVENTS USED IN VEHICLE & EQUIPMENT WASHING
- AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK & MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
- IF EXISTING BMPs NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPs MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
- A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE PERMITMENT HAS APPROVED OTHERWISE.
- CONTRACTORS ARE REQUIRED TO HAVE RAIN GAUGES AT THE CONSTRUCTION SITE AND THE RAIN TOTALS DOCUMENTED FOR REVIEW BY SPARTANBURG COUNTY AND SCDHEC.
- A PRE-CONSTRUCTION CONFERENCE MUST BE HELD WITH SPARTANBURG COUNTY AT LEAST 48 HOURS PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES. THE OWNER, DESIGN ENGINEER AND CONTRACTOR MUST BE PRESENT AND HAVE OBTAINED THE STORMWATER PERMIT, STAMPED APPROVAL PLANS AND THE NOI APPROVAL LETTER FROM SCDHEC BEFORE CALLING SPARTANBURG COUNTY AT 864-595-5320 TO SCHEDULE THIS MEETING.

## CONSTRUCTION AND EROSION AND SEDIMENT CONTROL SEQUENCE

- RECEIVE NOTIFICATION OF NPDES COVERAGE FROM SPARTANBURG COUNTY AND SCDHEC. COORDINATE PRE-CONSTRUCTION MEETING ON-SITE AND NOTIFY SPARTANBURG COUNTY OFFICE AT LEAST 48 HOURS IN ADVANCE OF LAND DISTURBING ACTIVITIES.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, RAIN GAUGE AND PERIMETER SOIL EROSION CONTROL MEASURES. BEGIN PERFORMING WEEKLY SCDHEC SWPPP INSPECTIONS UNTIL SITE IS PERMANENTLY STABILIZED.
- PERFORM DEMOLITION OPERATIONS AS SHOWN ON THE PLANS AND CLEAR AND GRUB SITE IN THE AREAS TO BE DEVELOPED. REMOVE AND DISPOSE OF ITEMS OFFSITE AS APPROPRIATE.
- STRIP AND STOCKPILE TOPSOIL AND STABILIZE STOCKPILES AS NOTED IN THE PLANS AND SPECIFICATIONS.
- PERFORM GRADING OPERATIONS ON THE SITE. INSTALL STORM DRAINAGE IN CONJUNCTION WITH GRADING.
- INSTALL EROSION CONTROL DEVICES AS REQUIRED OR NEEDED AS STORM DRAINAGE STRUCTURES AND THE SITE ARE EXTENDED TO FINISHED GRADE.
- STOCKPILE UNUSED MATERIAL AND STABILIZE AS NOTED ON THE PLANS AS CONSTRUCTION PROGRESSES.
- CONSTRUCT REMAINDER OF THE SITE IMPROVEMENTS.
- APPLY TOPSOIL AND INITIATE PERMANENT VEGETATIVE STABILIZATION MEASURES AS FINAL GRADE IS REACHED IN AREAS TO REMAIN UNDEVELOPED.
- INSPECT AND MAINTAIN ALL STORMWATER CONTROLS AND SEDIMENT AND EROSION CONTROL MEASURES UNTIL THE SITE IS COMPLETELY STABILIZED.
- UPON COMPLETE STABILIZATION OF SITE, REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AND REMOVE SEDIMENT BUILDUP FROM THE STORMWATER SYSTEM.
- SUBMIT TO THE ENGINEER AN AS-BUILT FIELD SURVEY OF ALL STORMWATER IMPROVEMENTS INCLUDING BUT NOT LIMITED TO PIPES, STRUCTURE LOCATIONS, INVERTS, RM/GRADE ELEVATIONS, DETENTION/RETENTION PONDS, EMERGENCY SPILLWAYS AND OUTLET STRUCTURES.
- SUBMIT NOTICE OF TERMINATION (NOT) TO SCDHEC AS APPROPRIATE (BY ENGINEER).

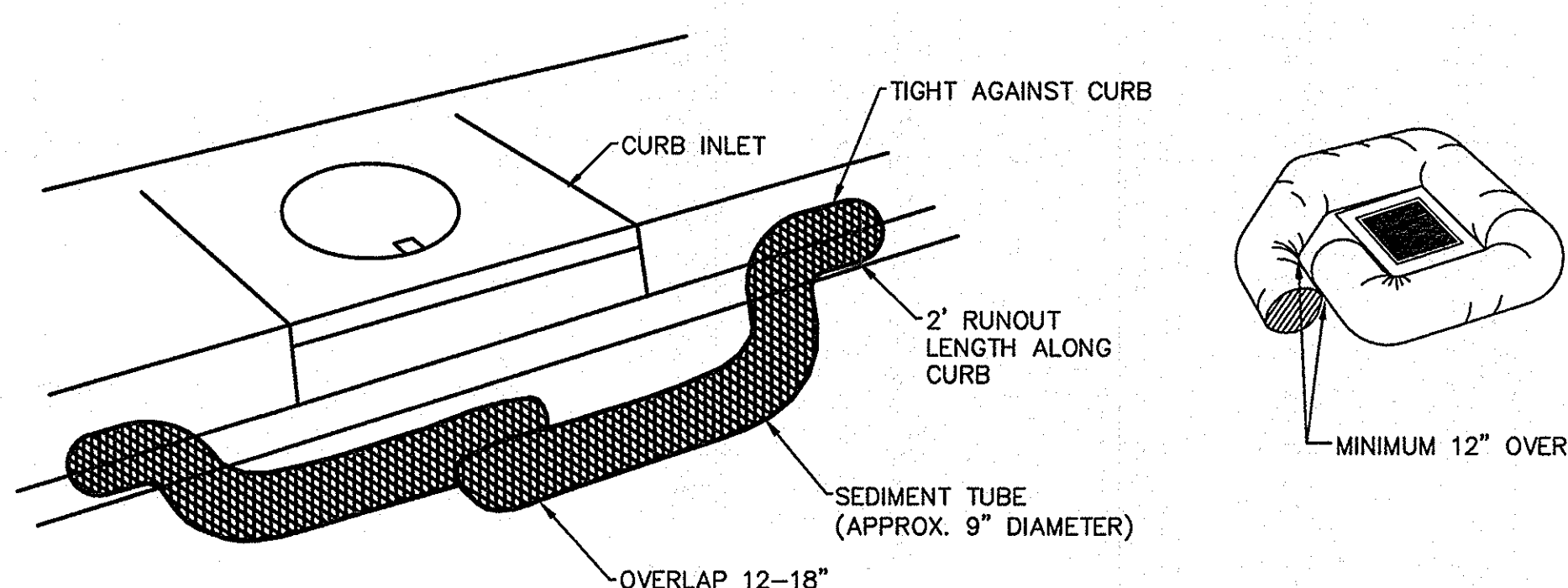


NOTE: TO REMAIN IN PLACE UNTIL SITE IS STABILIZED.



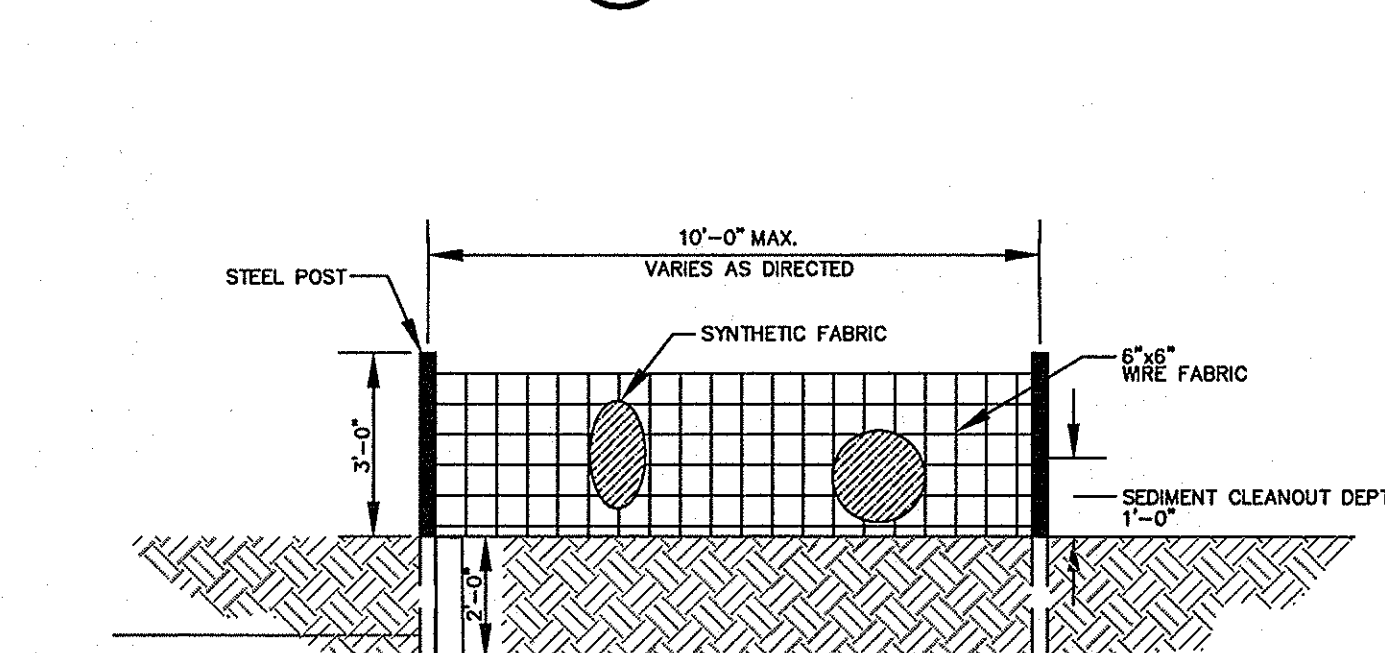
TEMPORARY INLET PROTECTION - FILTER FABRIC

DETAIL 1 SCALE: NONE TYP

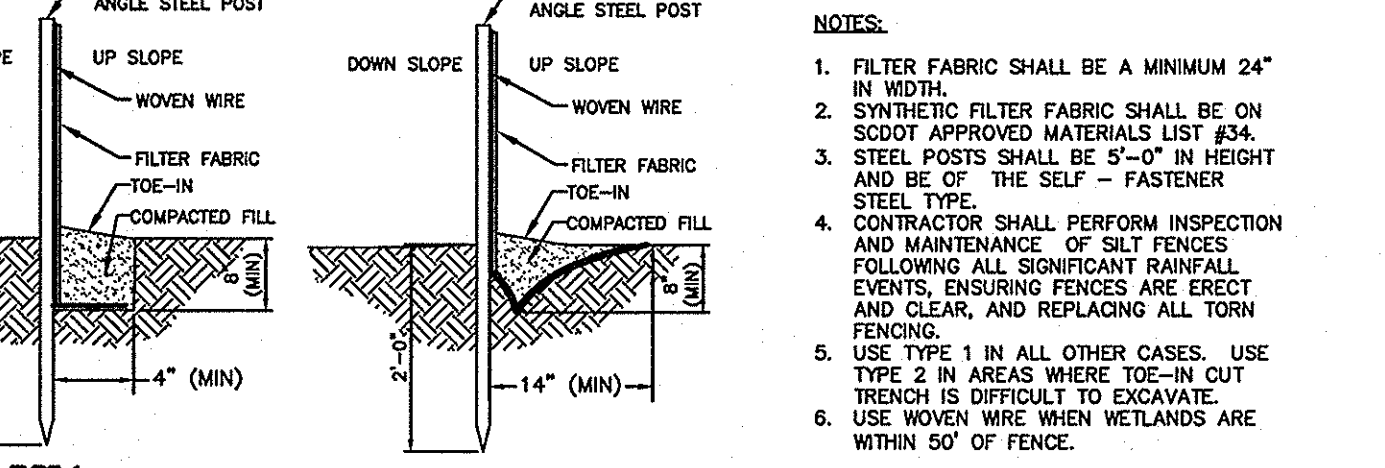


TEMPORARY INLET PROTECTION - SEDIMENT TUBE

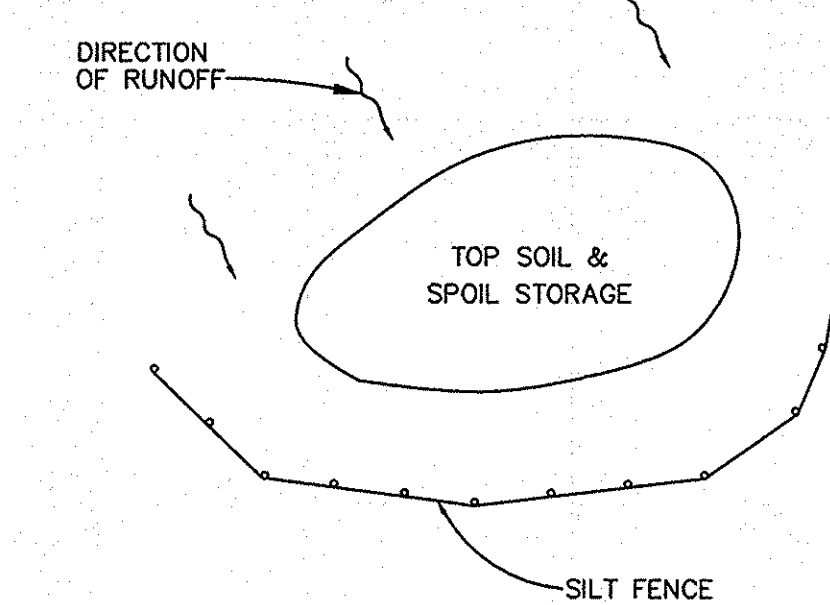
- NOTES:
- PLACE AN ADEQUATE NUMBER OF SEDIMENT TUBES AROUND AN INLET TO PROVIDE COMPLETE PROTECTION. LEAVE APPROXIMATELY 3"-6" BETWEEN THE SEDIMENT TUBE AND THE INLET OR GRATE.
  - ENDS SHOULD OVERLAP 12-18 INCHES. SIDES SHOULD BE PRESSED TIGHTLY TO CURB.
  - USE SMALL ROCK BAGS TO HOLD TUBES IN PLACE IN PAVED AREAS. USE WOOD STAKES TO SECURE TUBES IN PLACE IN UNPAVED AREAS.
  - INSPECT INLET PROTECTION DEVICE BEFORE AND AFTER RAIN EVENTS, AND WEEKLY THROUGHOUT THE RAINY SEASON. DURING EXTENDED RAIN EVENTS, INSPECT AT LEAST ONCE EVERY 24 HOURS.
  - REMOVE AND PROPERLY DISPOSE OF ACCUMULATED SILT AND DEBRIS TO ALLOW FOR PROPER FUNCTION OF DEVICE.
  - COMPLY WITH ALL MANUFACTURERS SPECIFICATIONS AND INSTRUCTIONS.



SILT FENCE WITH WIRE FABRIC

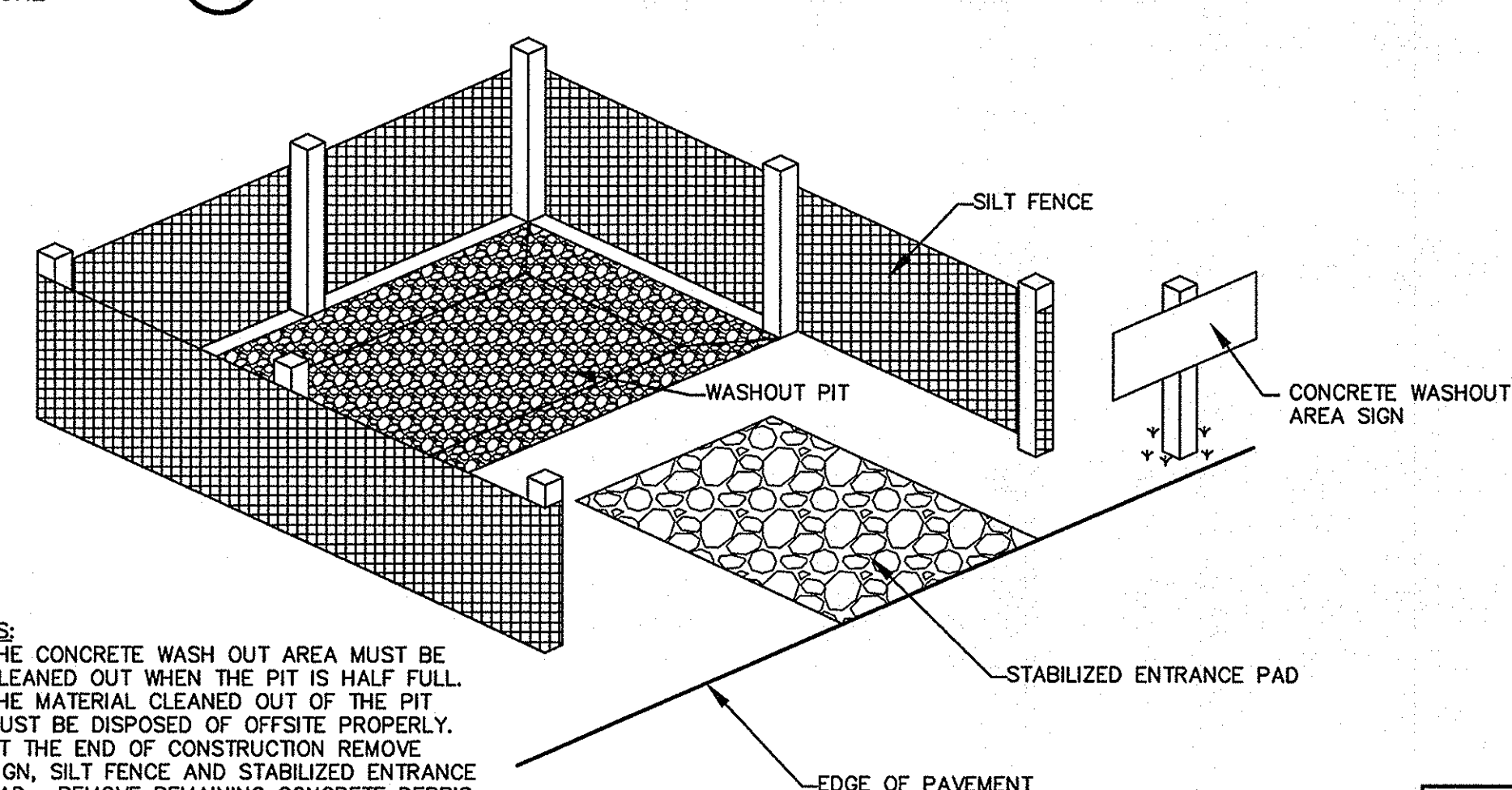


DETAIL 3 SCALE: NONE TYP



TOP SOIL & SPOIL STORAGE

DETAIL 3 SCALE: NONE TYP



CONCRETE WASHOUT AREA

DETAIL 1 SCALE: NONE TYP

- NOTES:
- THE CONCRETE WASH OUT AREA MUST BE CLEANED OUT WHEN THE PIT IS HALF FULL.
  - THE MATERIAL CLEANED OUT OF THE PIT MUST BE DISPOSED OF OFFSITE PROPERLY.
  - AT THE END OF CONSTRUCTION REMOVE SIGN, SILT FENCE AND STABILIZED ENTRANCE PAD. REMOVE REMAINING CONCRETE DEBRIS FROM PIT, FILL PIT, COMPACT SOIL AND STABILIZE AREA.

REVISIONS	
NO.	DESCRIPTION

APPROVALS

PROJECT ENGR	DESIGNED BY	DRAWN BY	CHKD BY	APPROVED BY

CERTIFICATE OF QUALITY

DATE: 6/6/14

U.S. REGISTERED PROFESSIONAL ENGINEER

RES. NO. 29138

STATE OF SOUTH CAROLINA

DATE: 6/6/14

U.S. REGISTERED PROFESSIONAL ENGINEER

RES. NO. 29138

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DATE: 6/6/14

U.S. REGISTERED PROFESSIONAL ENGINEER

RES. NO. 29138

STATE OF SOUTH CAROLINA

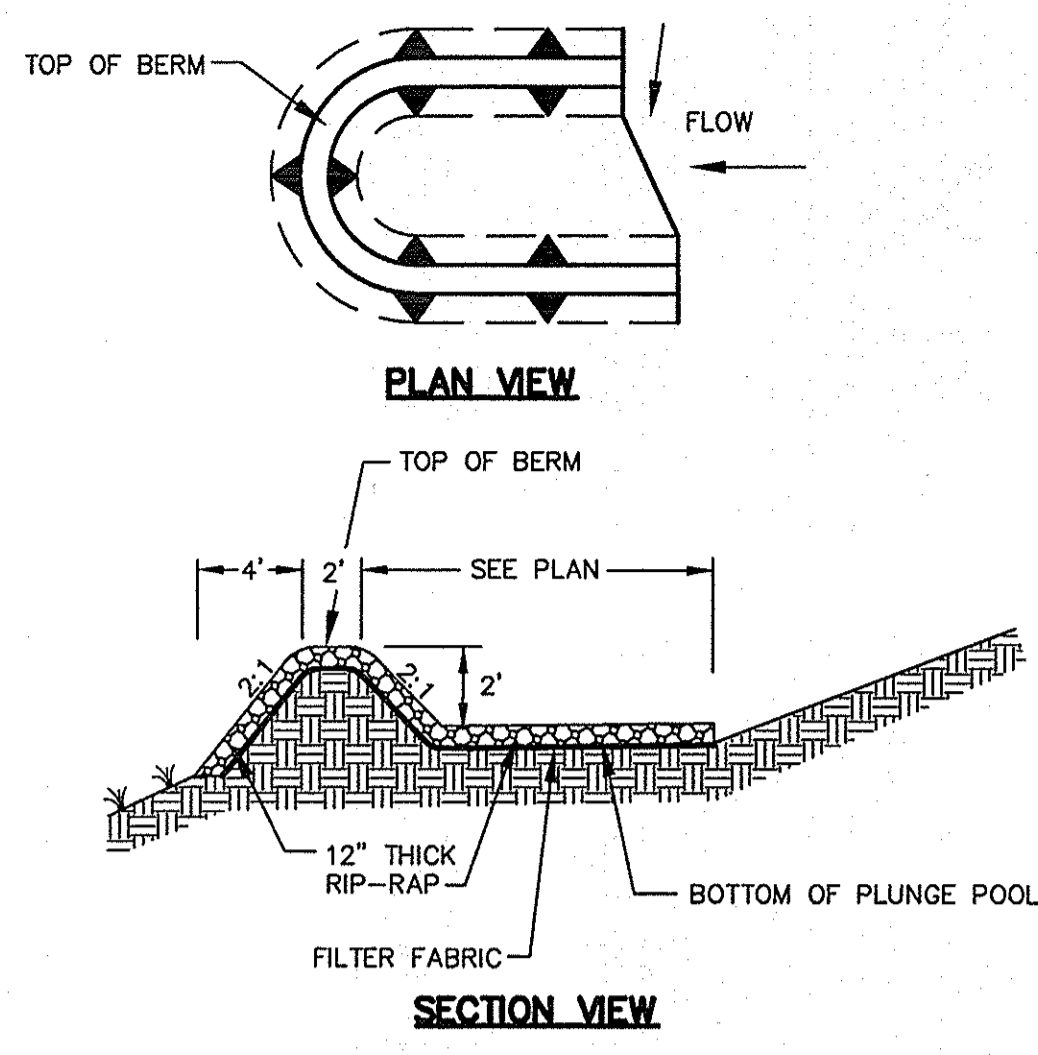
DATE: 6/6/14

U.S. REGISTERED PROFESSIONAL ENGINEER

RES. NO. 29138

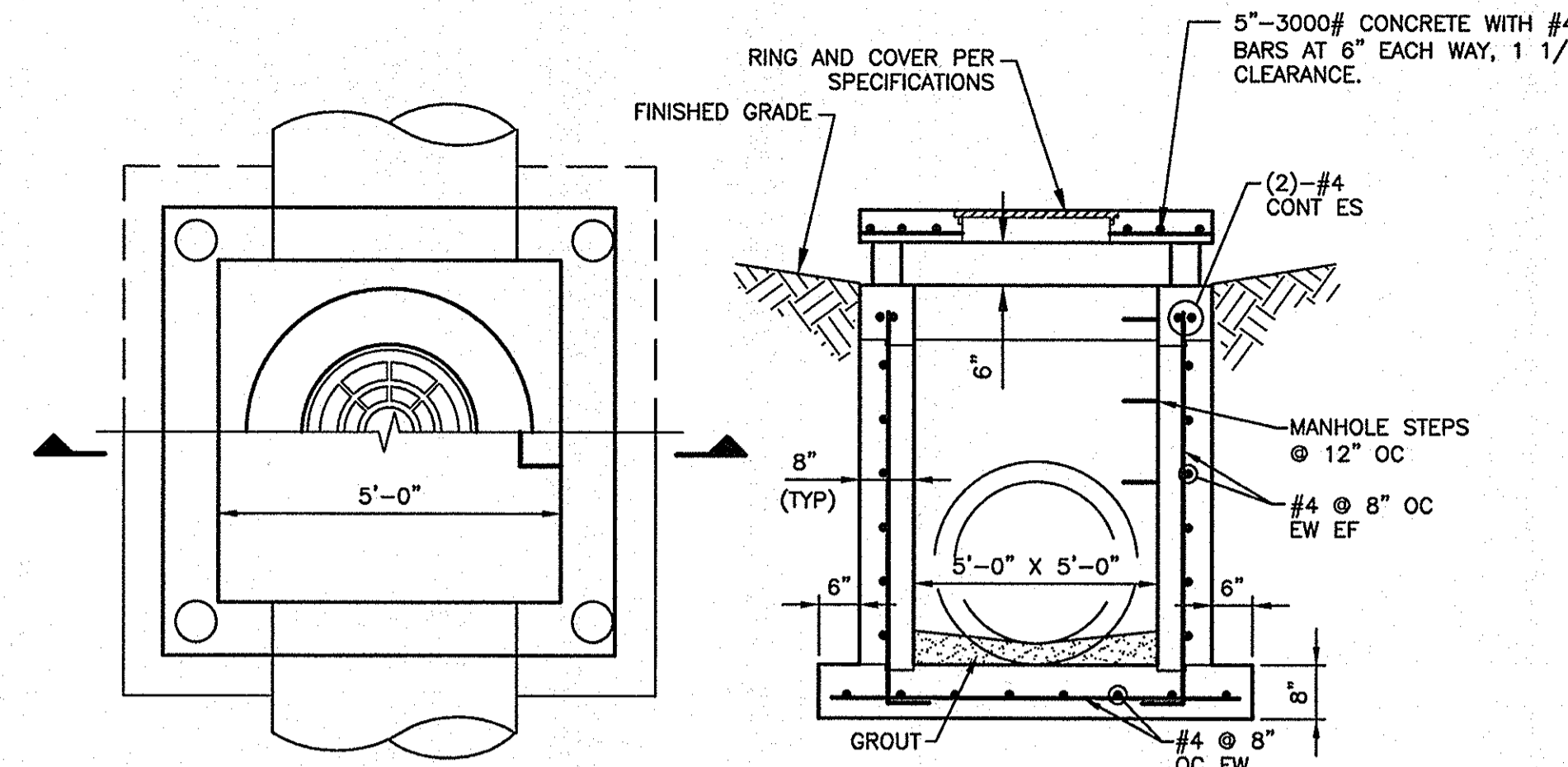
STATE OF SOUTH CAROLINA

DATE: 6/6/14



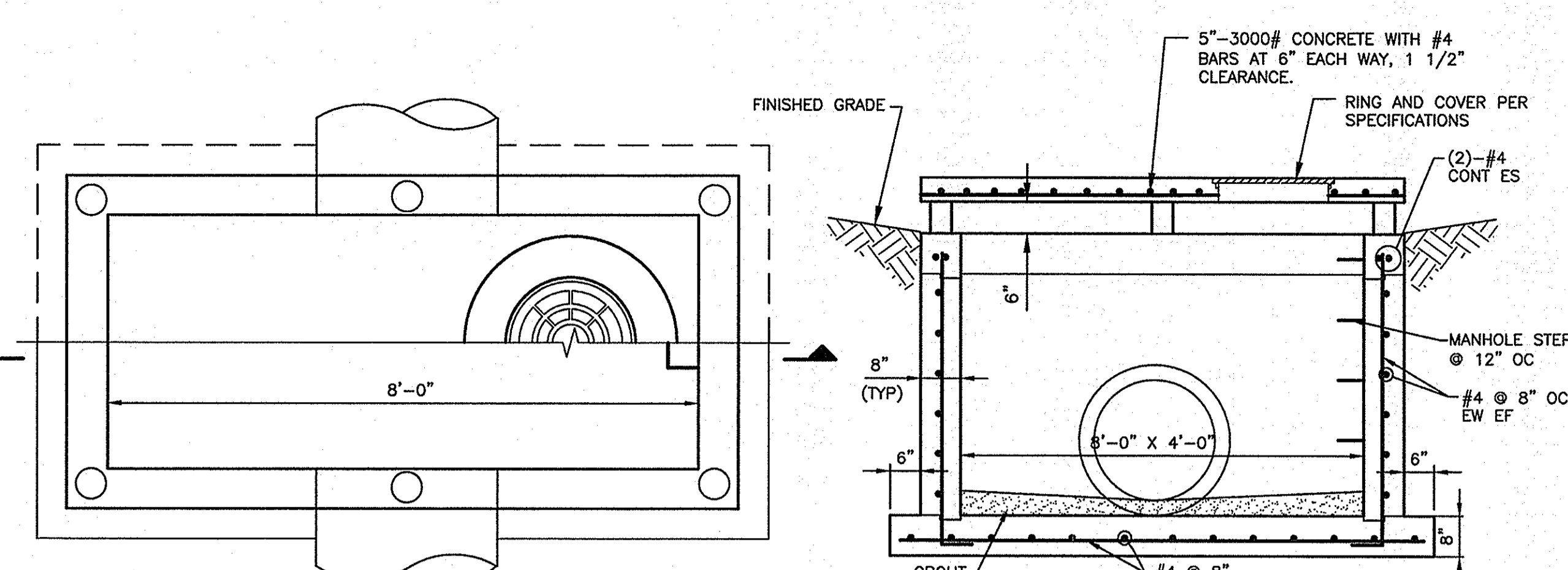
**RIP-RAP PLUNGE POOL**

**DETAIL 1**  
SCALE: NONE



**YARD INLET (YI-A2, YI-A3, YI-A5)**

**DETAIL 4**  
SCALE: NONE

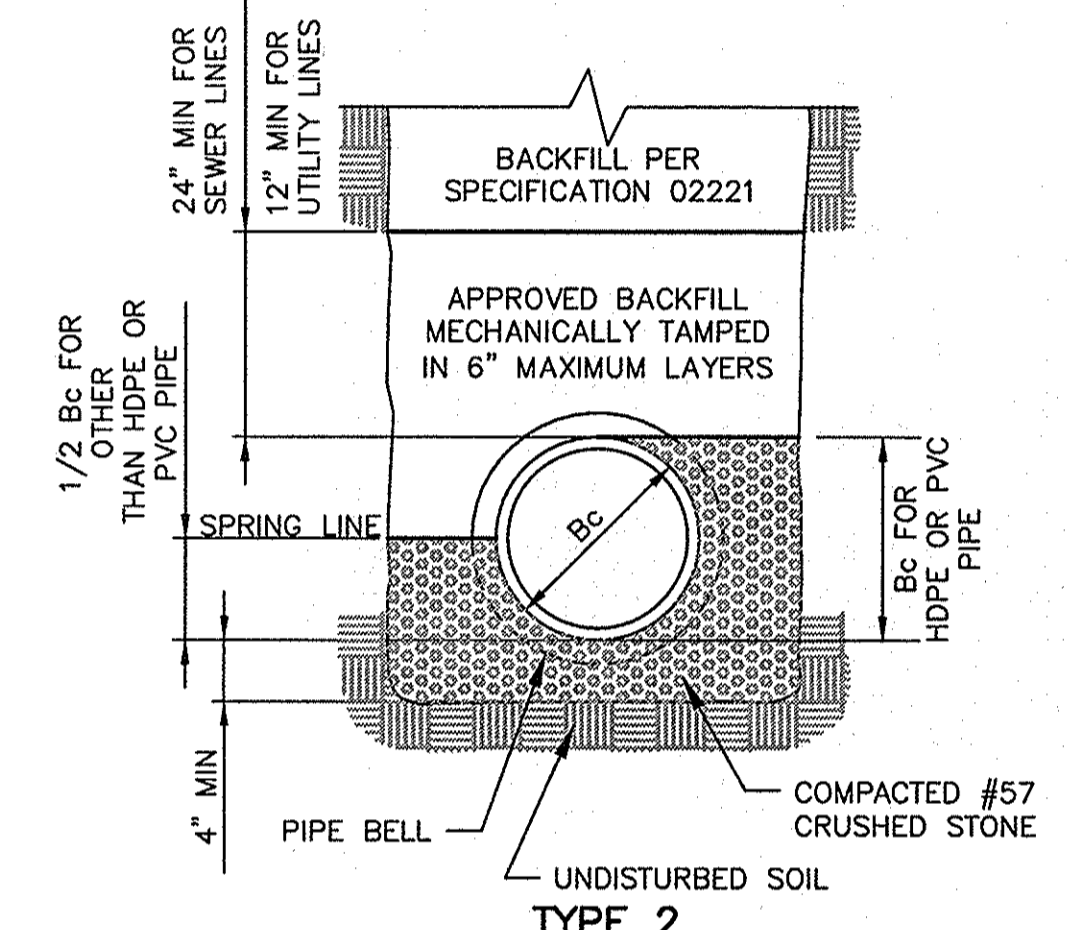


**YARD INLET (YI-A4)**

**DETAIL 7**  
SCALE: NONE

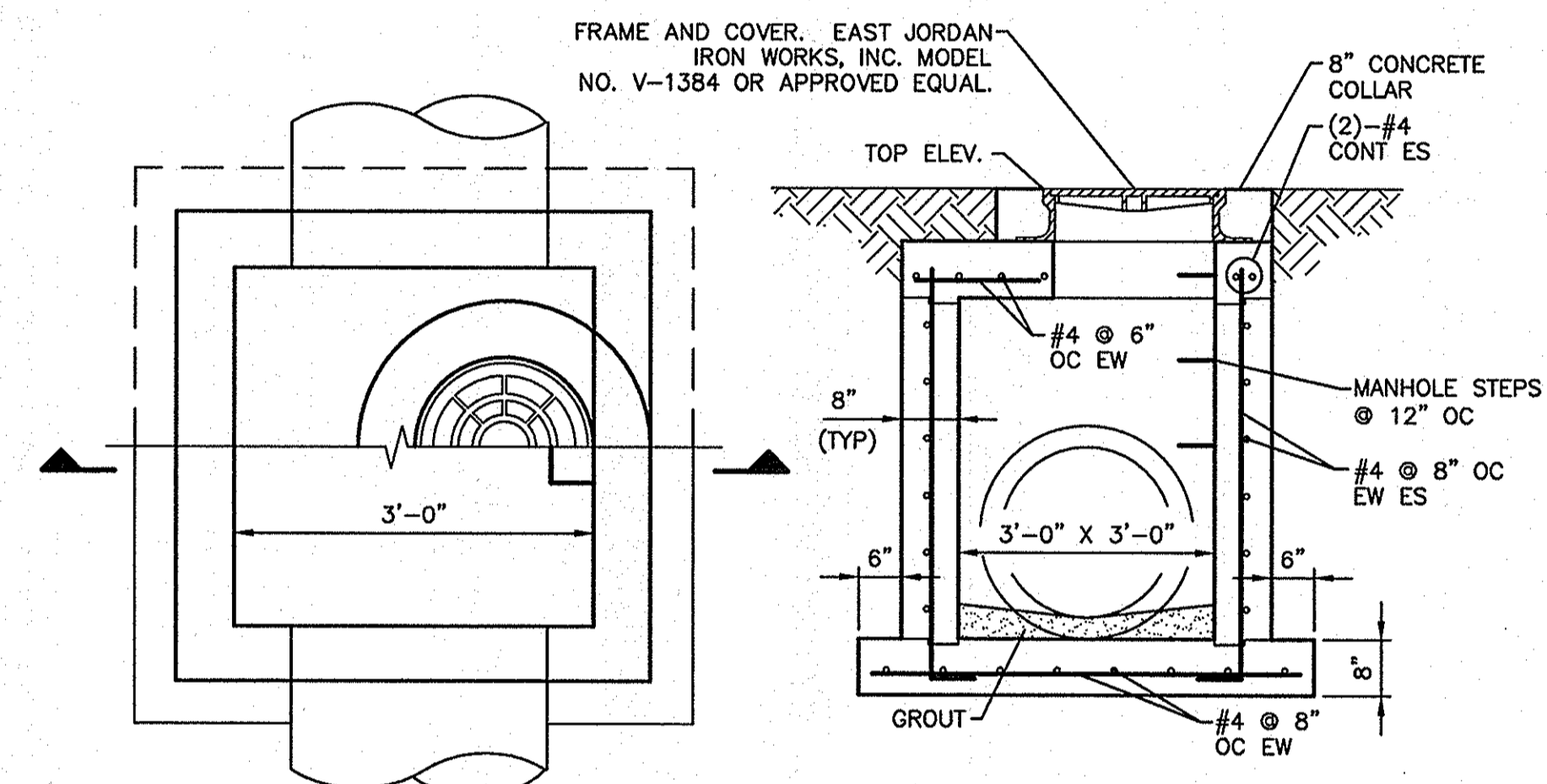
**NOTES:**  
1. FOR PIPES OVER 24" I.D. MAKE LENGTH & WIDTH OF DI = O.D. OF PIPE + 6" EACH SIDE.  
2. USE AT YI-A2, YI-A3, YI-A5.  
3. REFERENCE SCDOT STD. DWG 719-009-01 FOR TOP SLAB (COVER) AND THROAT LEGS.

**NOTES:**  
1. FOR PIPES OVER 24" I.D. MAKE LENGTH & WIDTH OF DI = O.D. OF PIPE + 6" EACH SIDE.  
2. USE AT YI-A4.  
3. REFERENCE SCDOT STD. DWG 719-009-01 FOR TOP SLAB (COVER) AND THROAT LEGS.



**CLASS "B" BEDDING**

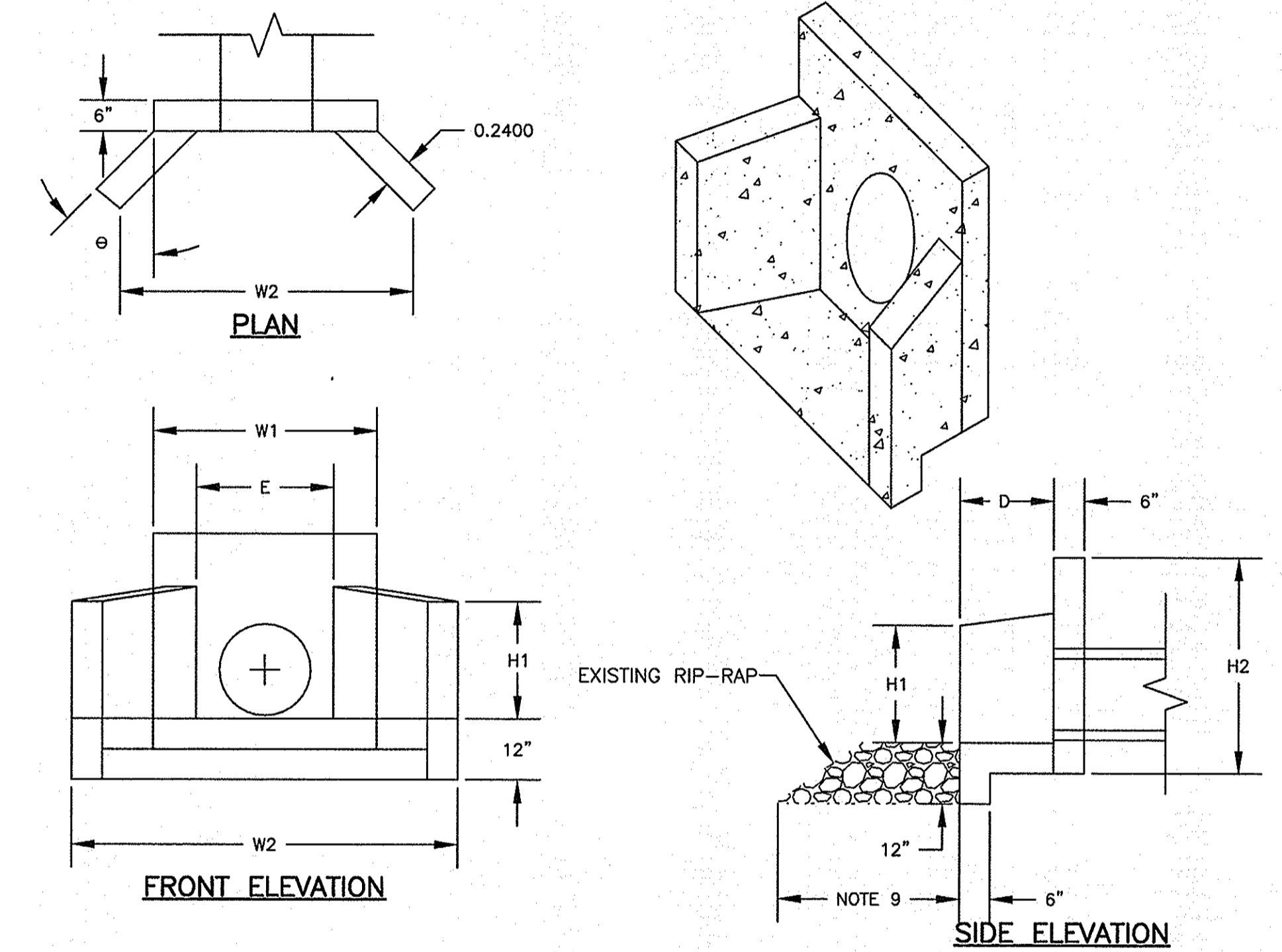
**DETAIL 2**  
SCALE: NONE



**JUNCTION BOX (JB)**

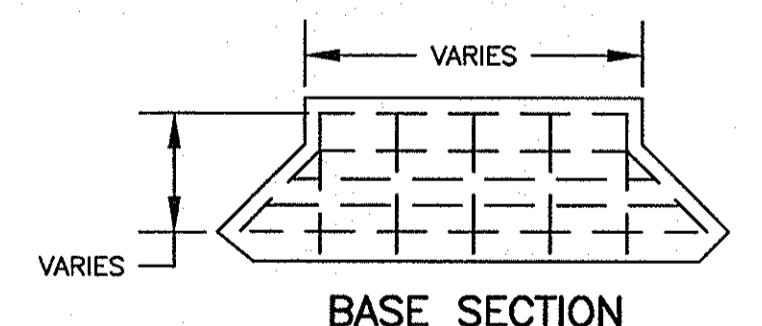
**DETAIL 5**  
SCALE: NONE

**NOTE:**  
FOR PIPES OVER 24" I.D. MAKE LENGTH & WIDTH OF J.B. = O.D. OF PIPE + 6" EACH SIDE.

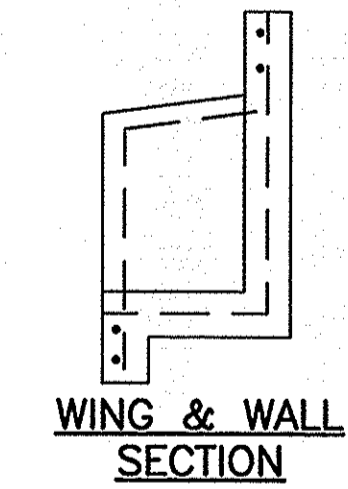


**FRONT ELEVATION**

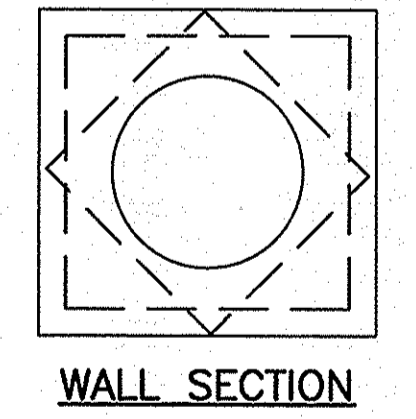
**SIDE ELEVATION**



**BASE SECTION**



**WING & WALL SECTION**



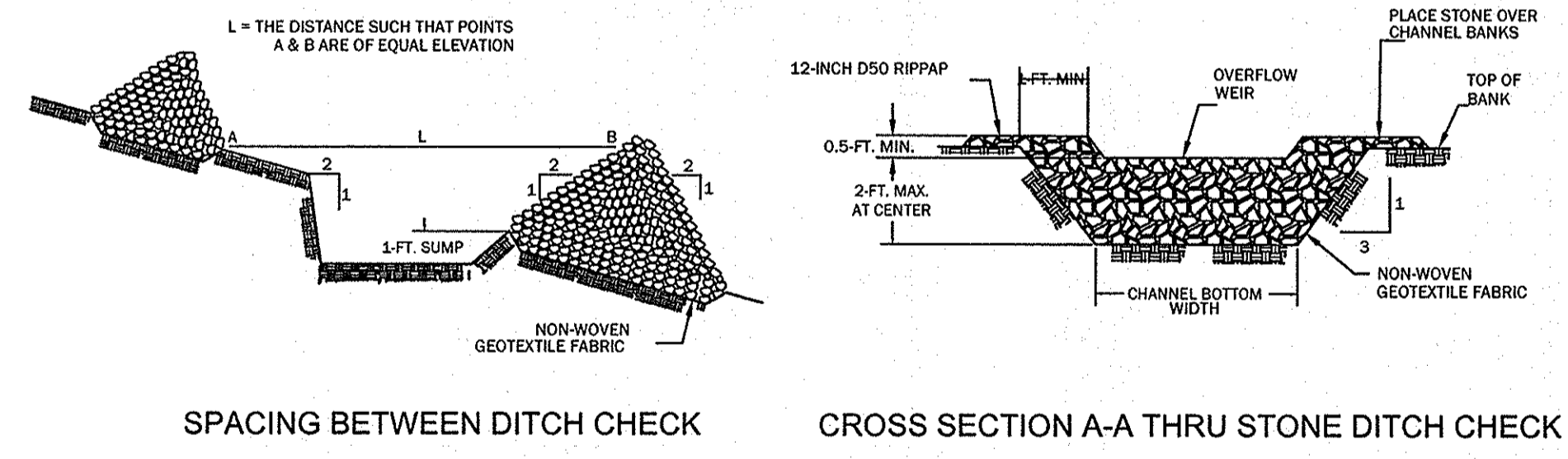
**WALL SECTION**

HEADWALL DIMENSIONS FOR CONCRETE PIPE											
PIPE SIZE ID	REINF.	W1	W2	H1	H2	H3	D	E	WT	θ	S.F. BASE AREA
18"	#4	3'-8"	6'-1"	1'-9"	3'-8"	12"	1'-6"	2'-3"	2,100	45°	9.9
24"	#5	4'-3"	7'-2"	2'-0"	4'-3"	12"	1'-10"	2'-9"	2,850	45°	13.5
36"	#6	5'-8"	10'-10"	3'-3"	5'-9"	12"	2'-11"	4'-4"	5,600	45°	28
48"	#6	6'-7"	12'-6"	3'-8"	6'-8"	14"	3'-4"	5'-3"	7,500	45°	35

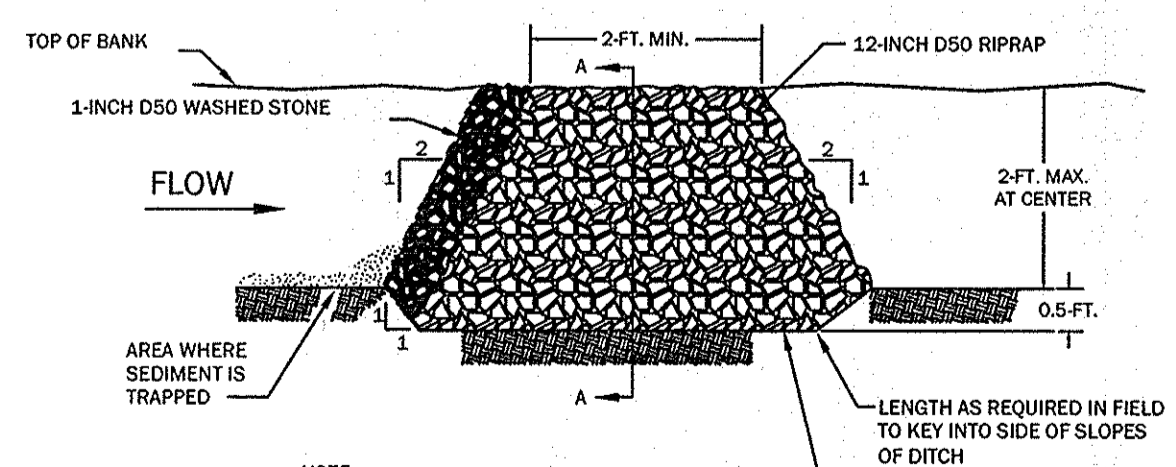
**PRECAST CONCRETE HEADWALL (HW)**

**DETAIL 8**  
SCALE: NONE

**NOTES:**  
1. ALL CONCRETE TO BE 4000 PSI MINIMUM.  
2. REINFORCEMENT STEEL SHALL MEET ASTM 615 GRADE 60 WITH 2" MINIMUM CLEARANCE.  
3. CHAMFER ALL EXPOSED EDGES 3/4".  
4. PRECAST HEADWALL UNIT SHALL BE CAREFULLY POSITIONED ON THE PREPARED FOUNDATION AND PIPE INSERTED INTO HEADWALL OR HEADWALL SLID OVER PIPE AND CHECKED FOR ALIGNMENT.  
5. PIPE SHALL BE GROUTED IN HEADWALL WITH CEMENTIOUS MATERIAL BY CONTRACTOR, BONDING AGENT MAY BE USED IF REQUIRED.  
6. CARE SHALL BE TAKEN DURING HANDLING, BACKFILLING AND COMPACTION TO PREVENT DAMAGE AND MAINTAIN ALIGNMENT. MINOR DAMAGE TO THE UNIT MAY BE REPAIRED BY CONTRACTOR WHEN PERMITTED BY ENGINEER.  
7. ALL DIMENSIONS ARE NOMINAL.  
8. REINFORCEMENT VARIES WITH SIZE OF UNIT.  
9. PROVIDE 6x PIPE DIAMETER (MIN) OF RIP-RAP LINED DITCH.



**CROSS SECTION A-A THRU STONE DITCH CHECK**



**TYPICAL DITCH CHECK SECTION**

**RIP-RAP CHECK DAM**

**DETAIL 3**  
SCALE: NONE

PROVIDE EAST COAST EROSION BLANKETS PRODUCT ECP-2 POLYPROPYLENE TURF REINFORCEMENT MAT. REFERENCE MANUFACTURER'S INSTALLATION GUIDE FOR INSTALLATION INSTRUCTIONS

**TURF REINFORCEMENT MAT**

**DETAIL 6**  
SCALE: NONE

**INSTALLATION:**  
A NON-WOVEN GEOTEXTILE FABRIC SHALL BE INSTALLED OVER THE SOIL SURFACE WHERE THE ROCK DITCH CHECK IS TO BE PLACED. THE BODY OF THE ROCK DITCH CHECK SHALL BE COMPOSED OF 12-INCH D50 RIPRAP. THE UPSTREAM FACE OF THE ROCK DITCH CHECK MAY BE COMPOSED OF 1-INCH D50 WASHED STONE. ROCK DITCH CHECKS SHOULD NOT EXCEED A HEIGHT OF 2- FEET AT THE CENTERLINE OF THE CHANNEL. ROCK DITCH CHECKS SHOULD HAVE A MINIMUM TOP FLOW LENGTH OF 2- FEET. STONE SHOULD BE PLACED OVER THE CHANNEL BANKS TO PREVENT WATER FROM CUTTING AROUND THE DITCH CHECK. THE ROCK MUST BE PLACED BY HAND OR MECHANICAL PLACEMENT (NO DUMPING OF ROCK TO FORM DAM) TO ACHIEVE COMPLETE COVERAGE OF THE DITCH OR SWALE AND TO ENSURE THAT THE CENTER OF THE CHECK IS LOWER THAN THE EDGES. THE MAXIMUM SPACING BETWEEN THE DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

**INSPECTION AND MAINTENANCE:**  
INSPECT ROCK DITCH CHECKS EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCHES OR MORE OF PRECIPITATION. INSPECT FOR SEDIMENT AND DEBRIS ACCUMULATION. INSPECT DITCH CHECK EDGES FOR EROSION AND REPAIR PROMPTLY AS REQUIRED. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 1/3 THE ORIGINAL CHECK HEIGHT. IN THE CASE OF GRASS-LINED DITCHES AND SWALES, ROCK DITCH CHECKS SHOULD BE REMOVED WHEN THE GRASS HAS MATURED SUFFICIENTLY TO PROTECT THE DITCH OR SWALE UNLESS THE SLOPE OF THE SWALE IS GREATER THAN 4%. AFTER CONSTRUCTION IS COMPLETE, ALL STONE SHOULD BE REMOVED BY THE GRADING CONTRACTOR IF VEGETATION WILL BE USED FOR PERMANENT EROSION CONTROL MEASURES. THE AREA BENEATH THE ROCK DITCH CHECKS SHOULD BE SEEDED AND MULCHED IMMEDIATELY AFTER ROCK CHECK DAM REMOVAL.

REVISIONS	
NO.	DESCRIPTION

**APPROVALS**

PROJECT ENGR.	DATE
DESIGNED BY:	
MDJ	
DRAWN BY:	
MDJ	
CHECKED BY:	
EJM	
BET	
APPROVED:	
BET	

**CERTIFICATE OF QUALITY**

DATE: 6/14

**URS**

101 Research Drive  
Columbia, South Carolina 29203  
Telephone (803) 254-4400 • Fax (803) 771-6676  
www.URS Corp.com

**SITE DETAILS**

2 OF 2

DATE: JUNE 6, 2014 SCALE: AS SHOWN

**USC UPSTATE DITCH SECTION MAINTENANCE AND REPAIRS**

PREPARED FOR THE UNIVERSITY OF SOUTH CAROLINA

SOUTH CAROLINA

**STATE PROJECT NO. H34-9544-JM-E**

**BID DOCUMENTS**

THESE DOCUMENTS ARE FOR THE PURPOSE OF SOLICITATION OF BIDS AND ARE NOT FOR USE FOR CONSTRUCTION

.DWG NAME	SHEET
N.B. NO.	5
REF.	OF
PROJECT NO.	5
46423272	

FILE NO. 36,307-891