THE DRAWING IS THE PROPERTY OF B.P. BARBER & ASSOCIATES, INC. AND IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART. IT IS ONLY TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN AND IS NOT TO BE USED ON ANY OTHER PROJECT.

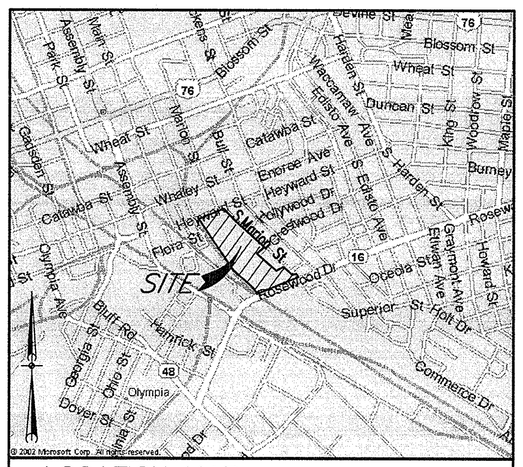
VICINITY MAP

CONSTRUCTION DRAWINGS FOR REPAIR WORK FOR HEYWARD STREET MANHOLE

STATE PROJECT NO.

SHEET INDEX

SHEET	SHEET NO.
COVER SHEET	
GENERAL NOTES AND LEGEND	C1
EXISTING CONDITIONS	C2
SITE PLAN	C3
TRAFFIC CONTROL PLAN	C4
SITE DETAILS	C5



LOCATION MAP SCALE: 1" = 2,000'

OWNER/DEVELOPER

UNIVERSITY OF SOUTH CAROLINA
743 GREENE STREET
COLUMBIA, SC 29208
TELE: 803-777-5811
FAX: 803-777-3126
MS. ANN DERRICK

BID DOCUMENTS

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

SEAL — SOUTH CAROLINA AUTHORIZATION — URS CORPORATION No. C00334 — CERTIFICATE OF — DATE 5-23-13

SEAL — STATE OF SOUTH CAROLINA — PHILIP S. WHITE — No. 23833 — PROFESSIONAL ENGINEER — REGISTERED — SIGNATURE

URS

URS Corporation
101 Research Drive
Columbia, South Carolina 29202
Telephone (803) 254-4400 · Fax (803) 771-6676
www.URSCorp.com

BID DOCUMENTS

MAY 23, 2013

PROJECT NO. 46422914

FILE NO. 36,124-B90

N:\ENGINEERING\46422914\DRAWINGS\BID DRAWINGS\SHEETS\COVER.DWG\PLOTTED: 5/23/2013 10:00:15 AM

THIS DRAWING IS THE PROPERTY OF URS CORPORATION, AND IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART. IT IS ONLY TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY CONTEMPLATED HEREIN AND IS NOT TO BE USED ON ANY OTHER PROJECT.

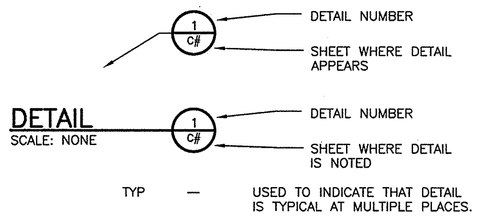
ABBREVIATION WORD

ABBREVIATION	WORD
A	
AGGR	AGGREGATE
&	AND
APPD	APPROVED
APPROX	APPROXIMATE
A	AREA
ASPH	ASPHALT
@	AT
AUTH	AUTHORIZED
AVE	AVENUE
AVG	AVERAGE
AZ	AZIMUTH
B	
BL	BASE LINE
BRG	BEARING
BM	BENCH MARK
BES	BEVELED END SECTION
BET.	BETWEEN
BS	BOTH SIDES
BOT	BOTTOM
B/	BOTTOM OF
BC	BOTTOM CHORD
BDY	BOUNDARY
BRK	BREAK
BRDG	BRIDGE
BLDG	BUILDING
BV	BALL VALVE
BFV	BUTTERFLY VALVE
C	
CALC	CALCULATE
CB	CATCH BASIN
CIP	CAST-IN-PLACE
CI	CAST IRON
CAT.	CATALOG
CEM	CEMENT
CTR	CENTER
CL	CENTERLINE
CG	CENTER OF GRAVITY
C to C	CENTER TO CENTER
CHAM	CHAMFER
CO	CHANGE ORDER
CHAN	CHANNEL
CHK	CHECK
CV	CHECK VALVE
CHD	CHORD
CIR	CIRCLE
CIR	CIRCULAR
CIRC	CIRCUMFERENCE
CO	CLEANOUT
CW	CLOCKWISE
CTD	COATED
COL	COLUMN
COMB.	COMBINATION
CO	COMPANY
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
COND	CONDITION
CONN	CONNECT
CONT	CONTINUOUS
CD	CORD
CORP	CORPORATION
XSECT	CROSS SECTION
CU	CUBIC
CC	CUBIC CENTIMETER
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CU FT	CUBIC FOOT
CU IN.	CUBIC INCH
CU M	CUBIC METER
CU YD	CUBIC YARD
CUR	CURRENT
D	
DEC	DECIMAL
DEG (OR °)	DEGREE
DEPT	DEPARTMENT
DSGN	DESIGN
DET	DETAIL
DEV	DEVELOP
DI	DROP INLET
DIAG	DIAGONAL
DIA (OR ø)	DIAMETER
DIM.	DIMENSION
DISCH	DISCHARGE
DIST	DISTANCE
DO	DITTO
DN	DOWN
DFTG	DRAFTING
DWG	DRAWING
DR	DRIVE
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
E	
EA	EACH
EF	EACH FACE
ES	EACH SIDE
EW	EACH WAY
E	EAST
EFF	EFFECTIVE
ELL	ELBOW
ELEC	ELECTRIC
ELEV	ELEVATION
ENGR	ENGINEER
EQ	EQUAL
EQUIP. (OR EQ)	EQUIPMENT
EQUIV	EQUIVALENT
EST	ESTIMATE
EXP	EXPANSION
EJ	EXPANSION JOINT
EXT	EXTERIOR
F	
FES	FLARED END SECTION
F to F	FACE TO FACE
FT (OR ')	FEET
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FLD	FIELD
FIG.	FIGURE

ABBREVIATION	WORD
F CONT.	
FIL	FILLET
FLT	FILTER
FIN.	FINISH
FF	FINISH FLOOR
FH	FIRE HYDRANT
FLG	FLANGE
FL	FLUID
FWD	FORWARD
FDN	FOUNDATION
FM	FORCEMAIN
FREQ	FREQUENCY
FR	FRONT
G	
GAL	GALLON
GALV	GALVANIZE
GEN	GENERAL
GR	GRADE
GL	GRADE LINE
G	GRAVITY
GRD	GROUND
H	
HDPE	HIGH DENSITY POLYETHYLENE
H.P.	HIGH POINT
HOR	HORIZONTAL
HR	HOUR
HW	HEADWALL
HYD	HYDRAULIC
I	
IN. (OR ")	INCH
IPS	INCHES PER SECOND
INCL	INCLUDE
IND	INDUSTRIAL
INFO	INFORMATION
ID	INSIDE DIAMETER
IF	INSIDE FACE
INT	INTERSECT
INV	INVERT
I	IRON
J	
JCT	JUNCTION
JB	JUNCTION BOX
L	
LAT	LATITUDE
LT	LEFT
L.P.	LOW POINT
M	
MH	MANHOLE
MAN.	MANUAL
MFR	MANUFACTURE
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MED	MEDIAN
MET.	METAL
M	METER
MI	MILES
MPH	MILE PER HOUR
MIN	MINIMUM
MIN (OR ')	MINUTE
MISC	MISCELLANEOUS
MOD	MODEL
MULT	MULTIPLE
N	
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NOM	NEUTRAL
NOR	NORMAL
N	NORTH
NTS	NOT TO SCALE
NO. (OR #)	NUMBER
O	
O/C	ON CENTER
O/S	OFFSET
OP'NG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OA	OVERALL
OHP	OVERHEAD POWER
OVF	OVERFLOW
P	
PERM	PERMANENT
PERP	PERPENDICULAR
PL	PROPERTY LINE
LB (OR #)	POUND
PSI	POUNDS PER SQUARE INCH
PWR	POWER
PFD	PREFERRED
PREP	PREPARE
PRESS.	PRESSURE
PCO	PRESSURE CLEANOUT
PT	PRESSURE TREATED
PROC	PROCESS
PROD	PRODUCTION
PF	PROFILE
PROJ	PROJECT
R	
R	RADIUS
RR	RAILROAD
RECD	RECEIVED
REC	RECORD
REF	REFERENCE
REF L	REFERENCE LINE
RCP	REINFORCED CONCRETE PIPE
REINF	REINFORCING
REM	REMOVE
REQ	REQUIRE
REQD	REQUIRED
REV	REVISION(REVISED)
RJ	RESTRAINED JOINT
RRMP	RAILROAD MILE POST
RT	RIGHT
RH	RIGHT HAND
R/W	RIGHT OF WAY

ABBREVIATION	WORD
S	
SCH	SCHEDULE
SL	SEA LEVEL
SEC (OR ")	SECOND
SECT	SECTION
SD	STORM DRAIN
SHW	STRAIGHT HEADWALL
SIM	SIMILAR
S	SOUTH
SQ	SQUARE
SS	SANITARY SEWER
STD	STANDARD
STA	STATION
SUR	SURFACE
SY	SQUARE YARD
SYM	SYMBOL
SW	SIDEWALK
T	
TAN.	TANGENT
TPR	TAPER
THK	THICK
KIP	THOUSAND POUND
T/	TOP OF
TOT	TOTAL
TYP	TYPICAL
U	
U	UNIT
UNO	UNLESS NOTED OTHERWISE
V	
V	VALVE
VAR	VARIABLE
VERT	VERTICAL
VOL	VOLUME
W	
WT	WEIGHT
W	WEST
W	WIDTH
W/	WITH
Y	
YD	YARD
YH	YARD HYDRANT
YI	YARD INLET
YR	YEAR

DETAIL REFERENCES

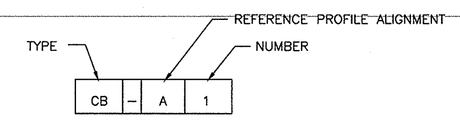


TYP — USED TO INDICATE THAT DETAIL IS TYPICAL AT MULTIPLE PLACES.

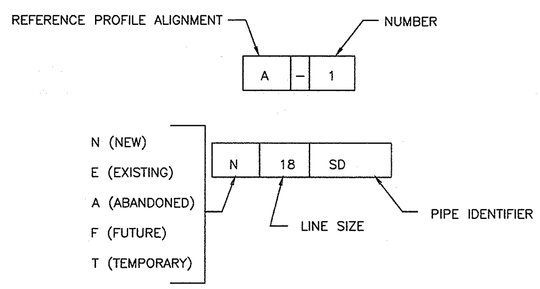
MATERIALS

- EXISTING GRADE
- FINISHED GRADE
- GRANULAR FILL (ROCK/GRAVEL)
- CONCRETE
- REGULAR DUTY ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- RIP RAP

STRUCTURE



PIPING



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:

•

1. ALL ELEVATIONS SHOWN ARE BASED ON NAVD88.
2. VERIFY UTILITY LOCATIONS AND ELEVATIONS BEFORE CONSTRUCTION. IF CONDITIONS DIFFER SIGNIFICANTLY FROM THOSE SHOWN ON THE PLANS, NOTIFY THE ENGINEER IMMEDIATELY.
3. LIMITS OF DISTURBANCE = ACRES.

LEGEND

	EXISTING	NEW
CONTOURS (1' & 2')	802	802
CONTOURS (5' & 10')	800	800
EDGE OF PAVEMENT		
CURB & GUTTER		
CENTERLINE OF ROADWAY		
PROPERTY LINE		
RIGHT-OF-WAY		
LIMITS OF DISTURBANCE		
SILT FENCE		SF
WETLANDS		
WETLANDS BUFFER		
FENCE LINE	X	XX
GUARD RAIL		
TREE LINE		
SURFACE DRAINAGE FLOW		
STORM DRAINAGE	18" RCP	N18SD
CATCH BASIN	CB	CB
DROP INLET	DI	DI
YARD INLET	YI	YI
JUNCTION BOX	JB	JB
SANITARY SEWER	8S	N8S
SEWER FORCE MAIN	8FM	N8FM
SEWER MANHOLE	MH	
SEWER VALVE		
AIR RELEASE MANHOLE	ARV	
SEWER CLEANOUT	CO	CO
WATER LINE	12W	N12W
FIRE HYDRANT	FH	FH
WATER METER	WM	
WATER VALVE	WV	
GAS LINE	2G	N2G
GAS VALVE	GV	
UNDERGROUND POWER	UP	
OVERHEAD POWER	OHP	
SIGN		
POWER POLE	PP	
GUY WIRE		
GUY POLE	GP	
LAMP POLE	LMP	
SERVICE POLE	SP	
LIGHT POLE	LP	
ELECTRIC MANHOLE	E	
ELECTRIC TRANSFORMER	TRN	
ELECTRIC BOX	EBOX	
UNDERGROUND TELEPHONE	UT	
TELEPHONE PEDESTAL	TPED	
TELEPHONE MANHOLE	TMH	
UNDERGRD. CABLE TV	CTV	
CABLE TV PEDESTAL	CTV PED	
MAIL BOX	MB	
UNDERGRD. FIBER OPTIC LINE	U-FOC	
UNDERGRD. TRAFFIC LOOP	U-TL	
SOIL BORING	SB#	

BID DOCUMENTS

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

REVISIONS

NO.	DESCRIPTION	DATE	BY

APPROVALS

PROJECT ENG: CCS
DESIGNED BY: CCS
DRAWN BY: EHM
CHECKED BY: CCS
APPROVED: CCS

SOUTH CAROLINA AUTHORIZATION CERTIFICATE OF URS CORPORATION No. C00934

DATE 5-23-13

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 23833 CHRIS SCHUCK

SIGNATURE

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

SHEET TITLE

GENERAL NOTES, LEGEND, SYMBOLS & ABBREVIATIONS

DATE: MAY 23, 2013 SCALE: 1"=10'

PROJECT

CONSTRUCTION DRAWINGS FOR

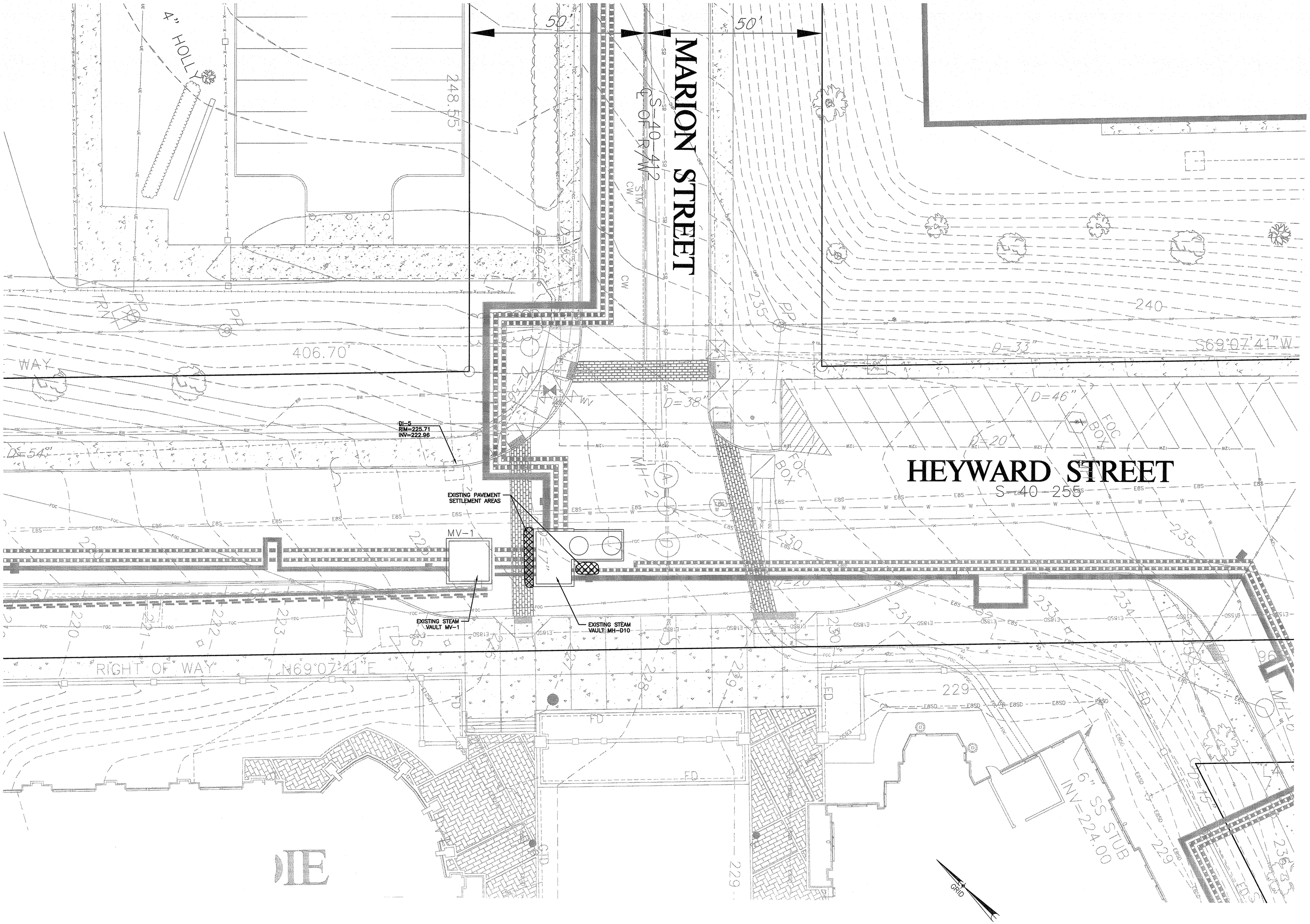
REPAIR WORK FOR HEYWARD STREET MANHOLE

IN THE CITY OF COLUMBIA RICHLAND COUNTY, S.C.

DWG NAME	SHEET
N.B. NO.	C1
REF.	OF
PROJECT NO. 46422914	5

FILE NO. 36.124-B90

THIS DRAWING IS THE PROPERTY OF URS CORPORATION, AND IS NOT TO BE REPRODUCED OR ADDED IN WHOLE OR IN PART. IT IS ONLY TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN AND IS NOT TO BE USED ON ANY OTHER PROJECT



BID DOCUMENTS

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

REVISIONS			
NO.	DESCRIPTION	DATE	BY

APPROVALS
PROJECT ENG: CCS
DESIGNED BY: CCS
DRAWN BY: EHM
CHECKED BY: CCS
APPROVED: CCS

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION URS CORPORATION No. C00594 — DATE 5-23-13

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 23533 — SIGNATURE

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

SHEET TITLE: EXISTING CONDITIONS
DATE: MAY 23, 2013 — SCALE: 1"=10'

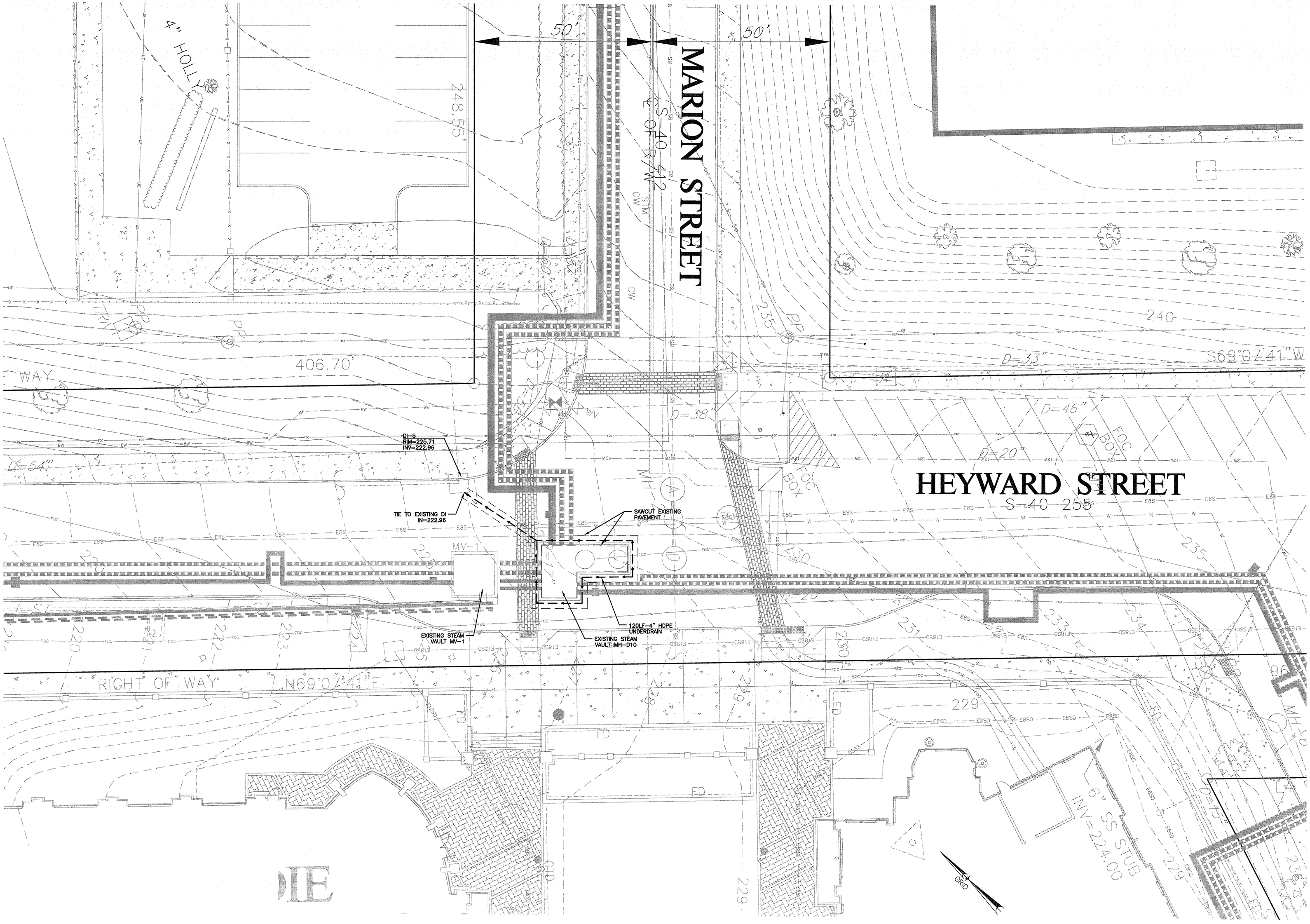
PROJECT
CONSTRUCTION DRAWINGS FOR
REPAIR WORK FOR HEYWARD STREET MANHOLE
IN THE CITY OF COLUMBIA — RICHLAND COUNTY, S.C.

DWG NAME	SHEET
N.B. NO.	C2
REF.	OF
PROJECT NO. 46422914	5

FILE NO. 36,124-B90

A:\ARCHITECT\46422914\DRAWINGS\EXISTING CONDITIONS.DWG 5/23/2013 11:21:06 AM
R:\PROJECTS\46422914\DRAWINGS\BID DRAWINGS\SHEETS\C02 EXISTING CONDITIONS.DWG 5/23/2013 11:21:06 AM

THIS DRAWING IS THE PROPERTY OF URS CORPORATION, AND IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART. IT IS ONLY TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY INDICATED HEREIN AND IS NOT TO BE USED ON ANY OTHER PROJECT.



BID DOCUMENTS

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

REVISIONS

NO.	DESCRIPTION	DATE	BY

APPROVALS

PROJECT ENG:	CCS
DESIGNED BY:	CCS
DRAWN BY:	EHM
CHECKED BY:	CCS
APPROVED:	CCS

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION URS CORPORATION No. C000294

DATE 5-23-13

STATE OF SOUTH CAROLINA PROFESSIONAL ENGINEER No. 23833 REGISTERED CHRISTOPHER C. SMITH

SIGNATURE

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

SHEET TITLE: SITE PLAN

DATE: MAY 23, 2013 SCALE: 1"=10'

PROJECT

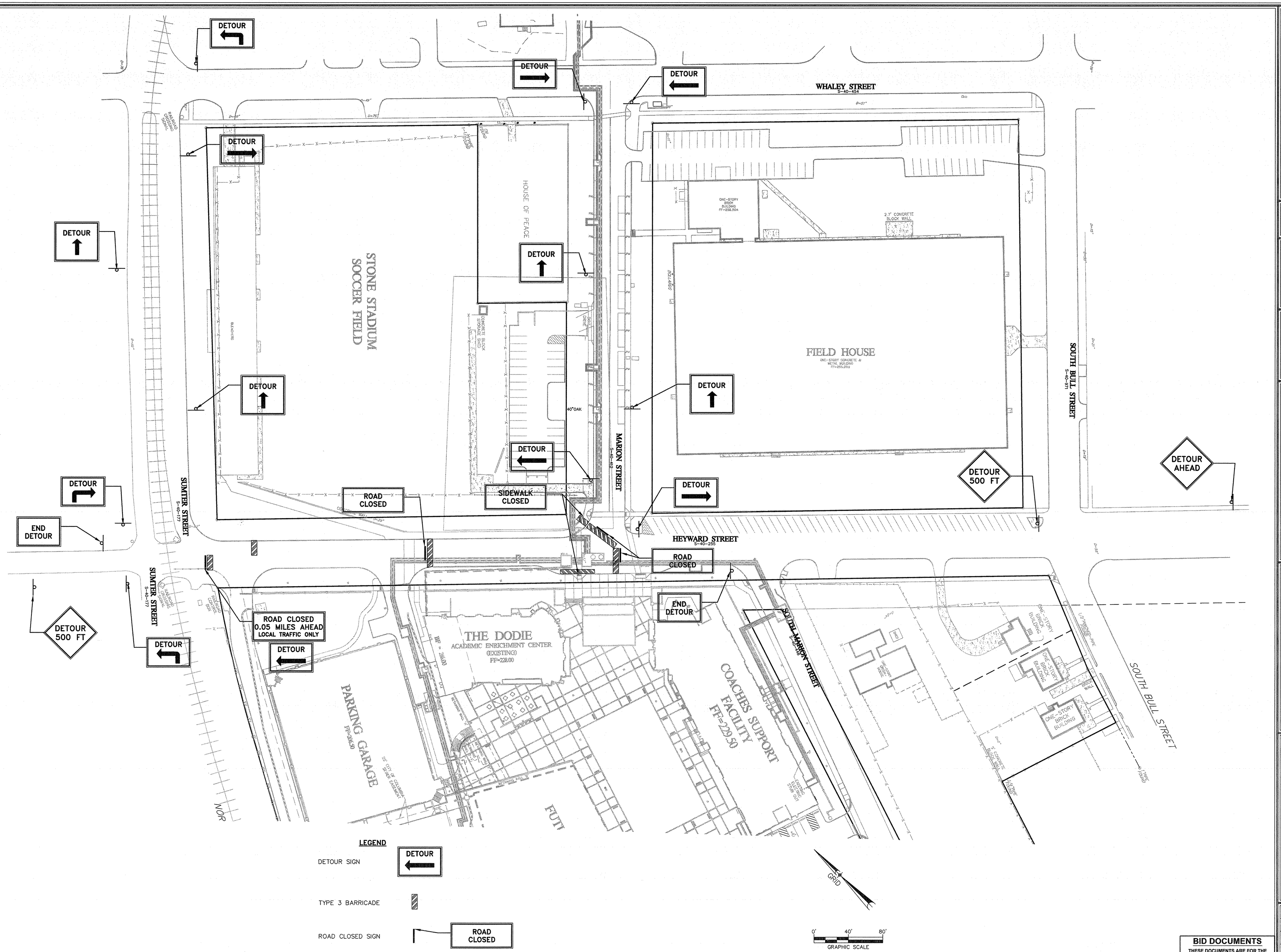
CONSTRUCTION DRAWINGS FOR
REPAIR WORK FOR HEYWARD STREET MANHOLE
IN THE CITY OF COLUMBIA RICHLAND COUNTY, S.C.

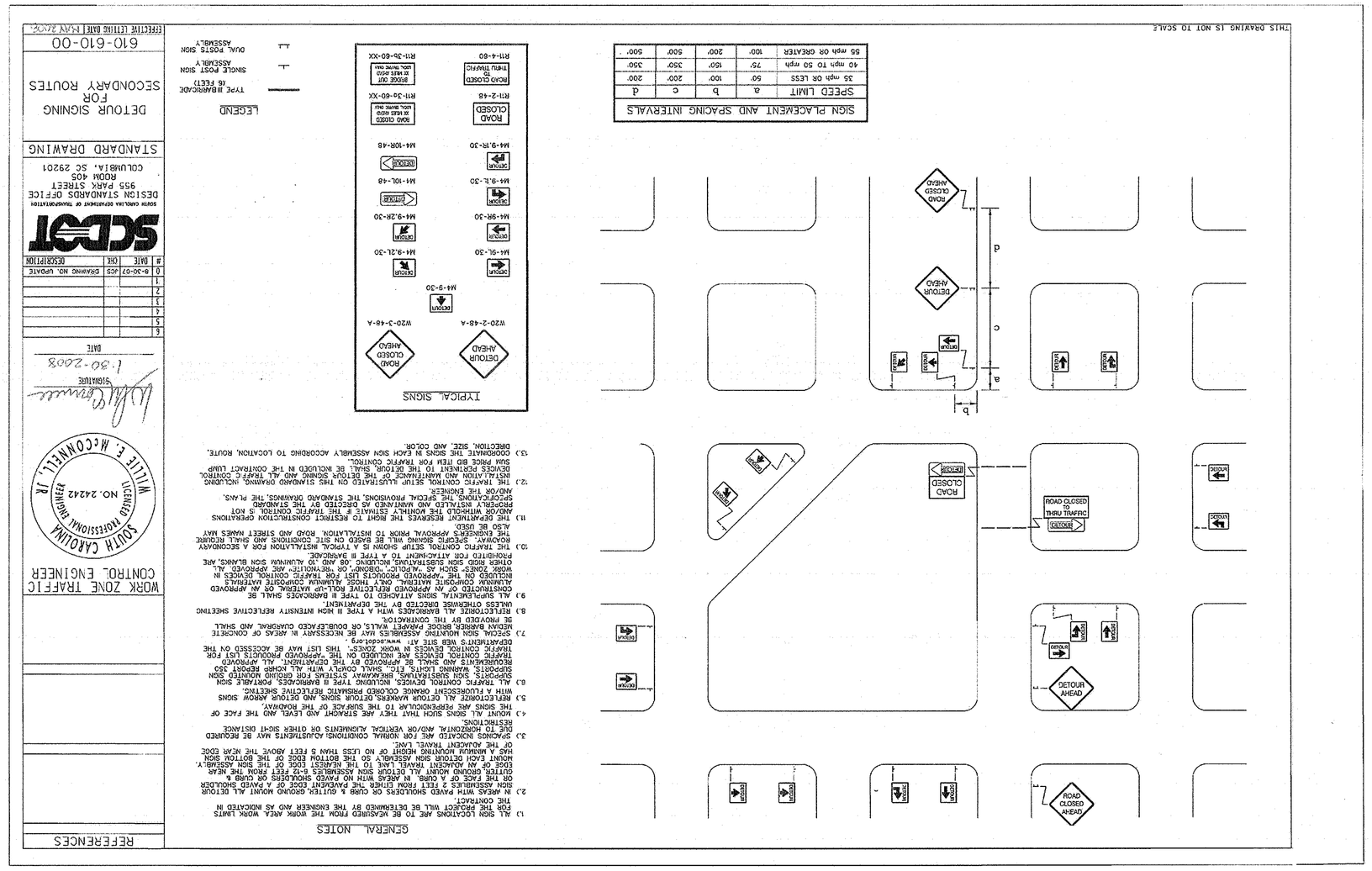
DWG NAME	
N.B. NO.	
REF.	
PROJECT NO. 46422914	
SHEET	C3 OF 5

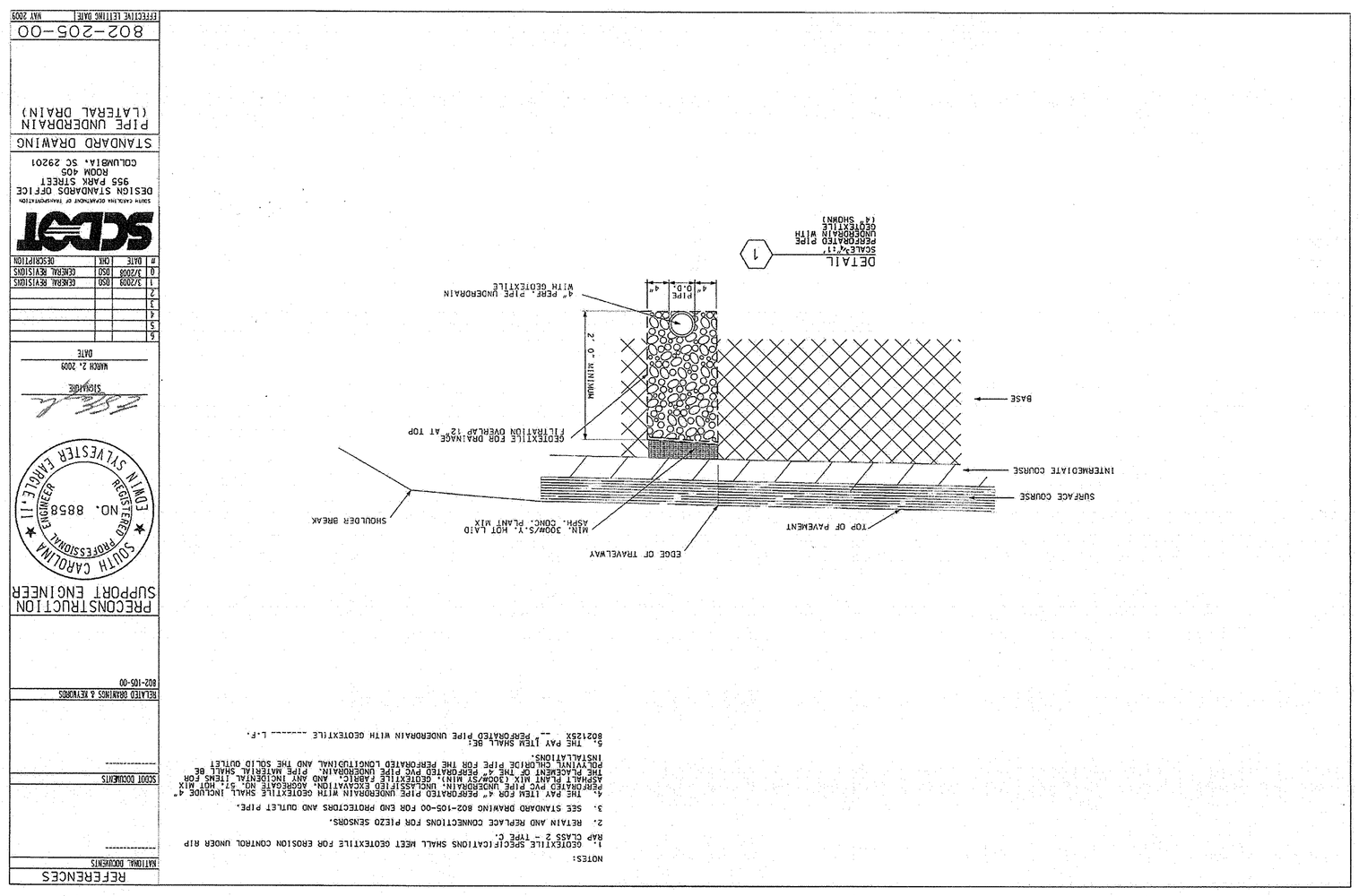
FILE NO. 36,124-B90

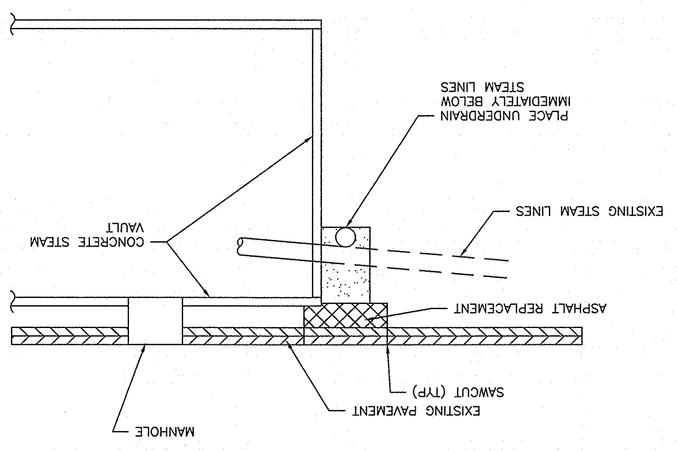
N:\PROJECTS\46422914\DRAWINGS\BID DRAWINGS\SHEETS\C03 SITE PLAN.DWG, 5/23/2013 8:11:24 AM

THIS DRAWING IS THE PROPERTY OF URS CORPORATION, AND IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART. IT IS ONLY TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN, AND IS NOT TO BE USED ON ANY OTHER PROJECT.


DETOUR
DETOUR
DETOUR







URS

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

SEAL
SOUTH CAROLINA
STATE OF SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 33653
JAMES CHRIS WHITE
SIGNATURE
DATE 5-23-13

SOUTH CAROLINA
STATE OF SOUTH CAROLINA
CERTIFICATE OF AUTHORIZATION
CORPORATION No. C00934

APPROVALS	
PROJECT ENG:	CCS
DESIGNED BY:	CCS
DRAWN BY:	EJM
CHECKED BY:	CCS
APPROVED:	CCS

REVISIONS

NO.	DATE	BY	DESCRIPTION

PROJECT

CONSTRUCTION DRAWINGS
FOR
REPAIR WORK FOR HEYWARD STREET MANHOLE

IN THE CITY OF COLUMBIA
RICHLAND COUNTY, S.C.

SHEET TITLE

DETAILS

DATE: MAY 23, 2013
SCALE:

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

.DWG NAME	N.B. NO.	REF.	PROJECT NO.
			46422914

SHEET 5 OF G5

FILE NO. 36.124-B90

THIS DRAWING IS THE PROPERTY OF URS CORPORATION AND IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART, IT IS USED FOR THE SERVICE AND USE SPECIFICALLY ENTITLED HEREON AND IS NOT TO BE USED ON ANY OTHER PROJECT.