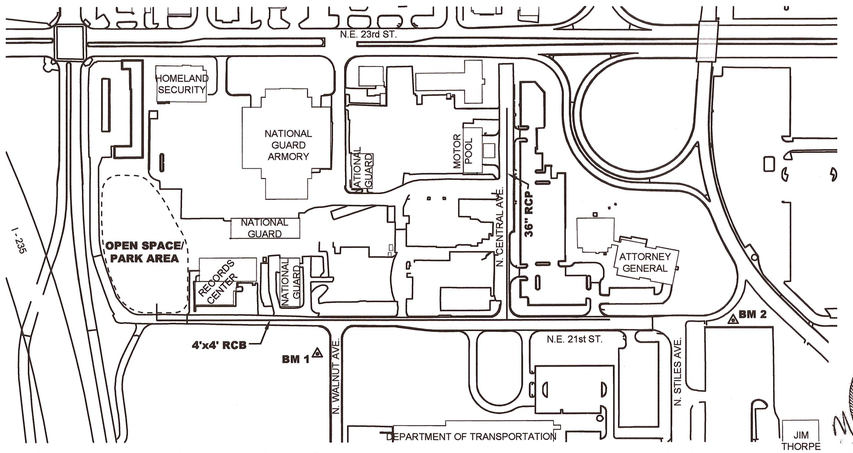
PROJECT NO. DD-0782



DRAINAGE IMPROVEMENT PLANS
STATE CAPITOL COMPLEX
N.E. 21st STREET, OKLAHOMA CITY, OKLAHOMA

SURVEY CONTROL				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM1	179076.97	2114686.07	1216.08	5/8" CAPPED I.P.
BM2	179165.26	2115784.00	1234.10	5/8" CAPPED I.P.
SC02	181590.33	2115263.46	1213.33	1/2" CAPPED I.P.
SC03	178222.49	2115140.77	1236.45	1/2" CAPPED I.P.
GRANDYS	184976.64	2116359.08	1195.31	1/2" CAPPED I.P.
421NE13	175975.97	2115968.14	1267.88	1/2" CAPPED I.P.

RECORD DRAWINGS
ORIGINAL DRAWINGS WAS SIGNED AND SEALED BY REZA KHAKPOUR P.E.,CFM 19959 DATED 8-28-2012. DRAWINGS REVISIONS WERE SIGNED AND SEALED BY MICHAEL JUDD P.E. DATED 11-19-2013.

TO THE BEST KNOWLEDGE OF THE ENGINEER, THESE DRAWINGS HAVE BEEN CONFORMED TO THE ACTUAL CONSTRUCTION OF THE IMPROVEMENTS BASED ON INFORMATION SUPPLIED BY THE OWNER, CONTRACTOR, AND RESIDENT PROJECT REPRESENTATIVE.

MICHAEL R. JUDD (12260) — 1/23/2015 DATE

LICENSED PROFESSIONAL ENGINEER — MICHAEL R. JUDD — 12260 — OKLAHOMA
Nov. 19, 2013
REV. 2

SUMMARY OF QUANTITIES				
ITEM NO.	ITEM	UNIT	QUANTITY	AS-BUILT
	EROSION AND SEDIMENT CONTROL			
1	SWPPP DOCUMENTATION AND MANAGEMENT	L.SUM	1	
2	TEMPORARY CONSTRUCTION ENTRANCE	EA.	2	
3	SILT FENCE	L.F.	2200	
4	TEMPORARY SEEDING	AC	4.65	
5	CURB INLET FILTER AMT SEDIMENT BARRIER	EA.	5	
	DEMOLITION			
6	CLEARING AND GRUBBING	L.SUM	1	
7	ASPHALT REMOVAL	S.Y.	3748	
8	CHAIN LINK SECURITY FENCE AND GATE REMOVAL	L.F.	530	
	EARTHWORK			
9	UNCLASSIFIED EXCAVATION	C.Y.	2160	
10	EMBANKMENT	C.Y.	1400	
11	BEDDING MATERIAL	C.Y.	2500	
12	TYPE A TOPSOIL	L.SUM	1	
13	SLAB SOD	S.Y.	8900	
	PAVEMENT			
14	P.C. CONCRETE	C.Y.	625	
15	REINFORCING STEEL	LB.	32910	
16	ASPHALT	TON	410	
	STORM DRAINAGE			
17	PRECAST 4'X4' REINFORCED CONCRETE BOX	L.F.	1216	
18	12'X4' PRECAST REINFORCED CONCRETE JUNCTION BOX W/4'X4' RISER	EA.	1	
19	6'X6' PRECAST REINFORCED CONCRETE JUNCTION BOX W/4' DIA. RISER	EA.	1	
20	4'X4' PRECAST REINFORCED CONCRETE JUNCTION BOX W/4'X4' RISER	EA.	4	
21	PRECAST REINFORCED CONCRETE CATCH BASIN W/2 GRATES	EA.	2	
22	5' DIA MANHOLE	EA.	2	
23	18" REINFORCED CONCRETE PIPE	L.F.	6	
24	24" REINFORCED CONCRETE PIPE	L.F.	176	
25	36" REINFORCED CONCRETE PIPE	L.F.	637	
26	48" REINFORCED CONCRETE PIPE	L.F.	30	
27	36" PRECAST CONCRETE END SECTION	EA.	1	
28	CONCRETE END TREATMENT (4-24" RCP)	EA.	1	
29	RELOCATE/ADJUST UTILITIES	L.SUM	1	
30	CONSTRUCTION TRAFFIC CONTROL	L.SUM	1	
31	(PL) TRAFFIC ITEMS	L.SUM	1	
32	PORTABLE LONGITUDINAL BARRIER	L.F.	900	

GENERAL CONSTRUCTION NOTES

1. ALL CIVIL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF OKLAHOMA CITY STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION, UNLESS OTHERWISE SPECIFIED OR AS SHOWN ON THE PLANS. ODOT STANDARDS SHALL BE USED WHEN CITY OF OKLAHOMA CITY STANDARDS ARE NOT APPLICABLE.
2. THE CONTRACTOR SHALL GIVE NOTICE TO THE CITY, IN WRITING, FOURTEEN (14) DAYS BEFORE WORK ON THIS PROJECT BEGINS.
3. NO PAYMENT WILL BE MADE FOR THE REMOVAL OF ABANDONED UTILITY PIPE LINES THAT INTERFERE WITH CONSTRUCTION. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
4. ALL WORK AND/OR MATERIALS NOT CLASSIFIED AS A "CONTRACT PAY ITEM" SHALL BE CONSIDERED INCIDENTAL AND THE COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS WHICH ARE CLASSIFIED FOR PAYMENT.
5. THE CONTRACTOR SHALL SEAL ANY CRACK THAT DEVELOPS IN THE PAVEMENT SURFACE PRIOR TO FINAL INSPECTION. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
6. TREES OUTSIDE THE TOE OF FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE APPROVAL OF THE ENGINEER.
7. (CAUTION) THE LOCATION AND DEPTH OF ALL UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED WITH THE FOLLOWING AGENCIES:
   THE LOCAL COUNTY CLERK'S OFFICE
   THE LOCAL CITY GOVERNMENT'S OFFICE
   THE "CALL OKIE" NOTIFICATION CENTER: (405) 840-5032 OR (800) 522-6543
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING DRAINAGE STRUCTURES TO REMAIN IN PLACE, AND SHALL REPAIR SUCH DAMAGES AT NO ADDITIONAL COST TO THE OWNER.
10. ALL MATERIAL REMOVED, INCLUDING BUT NOT LIMITED TO DRAINAGE STRUCTURES, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER, UNLESS OTHERWISE SPECIFIED.
11. FILL AREA TO BE COMPACTED TO 95% PROCTOR DENSITY IN LIFTS NOT TO EXCEED 1 FOOT.
12. RCP WITH "O" RINGS, HDPE PIPES AND PVC PIPES WITH "GASKETS" SHALL BE INSTALLED UNDER STREETS AND ROADWAYS, NEXT TO CURBS, UNDER DETENTION POND EMBANKMENTS, AND BETWEEN HOUSES. ALL JOINTS ON RCP, HDPE PIPE, AND PVC SHALL BE WRAPPED WITH TWO FEET WIDE FILTER FABRIC STRIP AROUND THE JOINT AND OVERLAPPING TWO FEET.
13. COMPACTION OF TRENCH BACKFILL IN PAVED AREAS SHALL BE A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL LANDSCAPING IN AS GOOD OR BETTER CONDITION THAN EXISTING LANDSCAPING.
15. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OR REPAIR OF ALL PRIVATE AND PUBLIC UTILITIES DAMAGED DURING CONSTRUCTION.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING ALL DISTURBED AREAS TO DRAIN AS GOOD OR BETTER THAN EXISTING CONDITIONS.
18. ALL P.C. CONCRETE PAVEMENT, CURBS, DRIVEWAYS AND SIDEWALKS DISTURBED BY THE PROJECT SHALL BE REPLACED WITH HIGH EARLY STRENGTH (HES) CONCRETE, 3500 PSI MIN.
19. TYPE A SALVAGED TOPSOIL PER ODOT STANDARDS AND SPECIFICATIONS.
20. RELOCATE/ADJUST UTILITIES SHALL INCLUDE, BUT NOT LIMITED TO, ELECTRIC, FIBER OPTIC, TELEPHONE AND CABLE TELEVISION LINES.
21. BEDDING MATERIAL IS MEASURED BY O.D.O.T. STANDARD PIPE BEDDING. INCLUDES 6" OF STD. BEDDING MATERIAL TO BE USED IN THE INSTALLATION OF THE 4'x4' RCB.
22. TACK COAT IS INCLUDED IN THE PRICE BID FOR ASPHALT.
23. STRUCTURAL EXCAVATION IS INCLUDED IN THE PRICE BID FOR UNCLASSIFIED EXCAVATION.

CONTRACTOR NOTES

1. CONTRACTOR SHALL GIVE LEIDOS (SAIC) ENGINEERING AT LEAST 48 HR'S PRIOR NOTICE TO ANY MAJOR CONSTRUCTION PHASES. PHASES WILL BE DECIDED / DISCUSSED AT THE PRE-WORK CONFERENCE. CONTRACTOR SHALL ALLOW LEIDOS (SAIC) ENGINEERING, LLC AT LEAST 7 DAYS FOR APPROVAL OF SHOP DRAWINGS, TESTING OF MATERIALS, ETC PRIOR TO CONSTRUCTION. LEIDOS, (SAIC) ENGINEERING, LLC HAS AUTHORITY TO STOP WORK IN CASE OF A FAILED TEST.

EROSION CONTROL NOTES

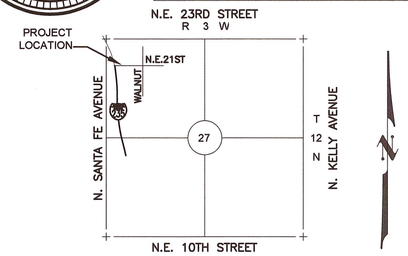
1. THE CONTRACTOR SHALL INSTALL ALL THE EROSION CONTROL DEVICES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ALL EROSION CONTROL DEVICES DAMAGED DUE TO CONSTRUCTION.
3. A COPY OF THE EROSION CONTROL SITE PLAN MUST BE ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE INSPECTOR UPON REQUEST.
4. CONSTRUCTION ACTIVITIES THAT RESULT IN LAND DISTURBANCE OF EQUAL TO OR GREATER THAN ONE (1) ACRE, OR LESS THAN ONE (1) ACRE IF THEY ARE PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE THAT TOTALS AT LEAST ONE (1) ACRE MUST ALSO OBTAIN A PERMIT FROM ODEQ (FORM 605-002a) FOR STORM WATER DISCHARGE FROM CONSTRUCTION ACTIVITIES.

UTILITY COMPANY CONTACTS			
UTILITY	COMPANY	CONTACT	PHONE NUMBER
CABLE TV	COX COMMUNICATIONS	MARK BOWLING	405-417-4064
COMMUNICATIONS	AT&T	LEE MARSH	405-291-3169
FIBER OPTICS	STATE OF OKLAHOMA	ALLEN STEVENSON	405-521-6460
FIBER OPTICS	MCI/VERIZON	RYAN ROBERTS	580-579-0735
* FIBER OPTICS	OKLAHOMA STATE FINANCE	RALPH SMITH	405-521-3901
ELECTRIC	OG&E	SHAUN McALISTER	405-919-6160
NATURAL GAS	ONG	TOMMY BROWN	405-556-6411
WATER	OKC LINE MAINTENANCE	ALLEN TOTTEN	405-297-2066

* CONTACT RALPH SMITH PRIOR TO COMMENCEMENT OF UTILITY RELOCATION.

REVISION		
DESCRIPTION		DATE
ADDED 18" RCP AND CONTRACTOR NOTE	1	11/04/13

The City of
OKLAHOMA CITY
Public Works Department



LOCATION MAP

SHEET NO.	DESCRIPTION
G-001	COVER SHEET
G-002	ABBREVIATIONS AND SURVEY LEGEND
VF101	EXISTING SITE CONDITIONS 1
VF102	EXISTING SITE CONDITIONS 2
CD101	DEMOLITION PLAN 1
CD102	DEMOLITION PLAN 2
CE101	EROSION CONTROL PLAN
CE601	STORM WATER MANAGEMENT PLAN
CG201	STORM DRAIN LINE 1, 2A & 2B PLAN AND PROFILE
CG202	STORM DRAIN LINE 2 PLAN AND PROFILE
CG203	STORM DRAIN LINE 3 PLAN AND PROFILE
CT001	TRAFFIC CONTROL NOTES
CT101	CONSTRUCTION TRAFFIC CONTROL - PHASE 1
CT102	CONSTRUCTION TRAFFIC CONTROL - PHASE 1
CT103	CONSTRUCTION TRAFFIC CONTROL - PHASE 2
CT104	CONSTRUCTION TRAFFIC CONTROL - PHASE 2
CT105	CONSTRUCTION TRAFFIC CONTROL - PHASE 3
CT106	CONSTRUCTION TRAFFIC CONTROL - PHASE 3
CT107	CONSTRUCTION TRAFFIC CONTROL - SIGN DETAILS
CT108	CONSTRUCTION TRAFFIC CONTROL - STRIPING
ERO-D1	OKC EROSION CONTROL STANDARDS
ERO-D2	OKC EROSION CONTROL STANDARDS
D-010	OKC STORM WATER EROSION AND SEDIMENT CONTROL PROCEDURES
D-102	OKC GRATED STREET INLET DETAIL
D-201	OKC STANDARD MASONRY MANHOLE
D-203	OKC STANDARD REINFORCED CONCRETE JUNCTION BOX FOR 36" TO 72" REINFORCED CONCRETE PIPE
D-301	OKC STANDARD RFCB-1C-B
D-408	OKC STANDARD PREFABFRICATED CULVERT SECTIONS
CET4D-3	ODOT CULVERT END TREATMENT
SPI-4	ODOT STANDARD PIPE INSTALLATION
SPB-1	ODOT STANDARD PIPE BEDDING
FHTCP-3	ODOT FILL HEIGHT TABLES
SBI-4	ODOT STANDARD BOX INSTALLATION

ONE CALL UTILITY LOCATION NUMBER

840-5032
1-800-522-6543

This number is to be used for information on the location of underground utilities. Contact this number and other numbers in the plans prior to any excavation.

SAIC
From Science to Solutions
SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC
9400 N BROADWAY
OKLAHOMA CITY, OK 73114
405-478-5353
www.saic.com
CERT. OF AUTH. NO. 3722 P.E./L.S.
EXP. 06/30/14

SUBMITTAL DATES TO OKC

Check Print #1 Date:
Check Print #2 Date:
Final Plans Date:

CONSTRUCTION MUST BEGIN WITHIN ONE (1) YEAR FROM THE DATE OF APPROVAL, OR THAT APPROVAL IS WITHDRAWN.

PREPARED BY:

M. REZA KHAKPOUR, P.E.

EGISTERED PROFESSIONAL ENGINEER
OK #19959, EXPIRES 5/31/2014

CONSULTING ENGINEER — LICENSED PROFESSIONAL ENGINEER — MOHAMMAD REZA KHAKPOUR — 19959 — OKLAHOMA
8/28/2012
Exp: 5/31/2014

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Field Checked by: Date:
Checked by: Date:
Checked by: Date:
Checked by: Date:

APPROVED:

City Engineer Date:

STATE CAPITOL COMPLEX | SHEET G-001 | PROJECT NO. DD-0782

ABBREVIATIONS

A	ABAN.	ABANDONED
	ABUT.	ABUTMENT
	ACC.	ACCESS
	AC.	ACRE
	ADD'L.	ADDITIONAL
	ADJ.	ADJUST
	ADT	AVERAGE DAILY TRAFFIC
	AE	AIR–ENTRAINED
	AGGR.	AGGREGATE
	A.I.	AREA INLET
	AHD.	AHEAD
	ALT.	ALTERNATE
	ALUMN.	ALUMINUM
	APPR.	APPROACH
	APPL.	APPLICATION
	APPROX.	APPROXIMATE
	APR.	APRON
	ASB.	ASBESTOS
	ASPH.	ASPHALT
	ASP.	ASPHALT
	AVE.	AVENUE
	AVG.	AVERAGE
	AZ.	AZIMUT
B	BL	BLOCK LINE; BASE LINE
	BAL.	BALANCE
	BBL.	BARREL
	BDY.	BOUNDARY
	BEG.	BEGIN
	BIT.	BITUMINOUS
	BK.	BACK
	BKWL.	BACKWALL
	BLDG.	BUILDING
	BLK.	BLOCK
	BLVD.	BOULEVARD
	B.M.	BENCH MARK
	B.O.P.	BEGINNING OF PROJECT
	BRG.	BEARING
	B.S.	BACK SIGHT
	B.W.	BARBED WIRE
C	C.	CENTER
	CL	CENTERLINE
	CGMP	CORRUGATED GALVANIZED METAL PIPE
	CGMPA	CORRUGATED GALVANIZED METAL PIPE ARCH
	C & G	CURB & GUTTER
	CIP	CAST IRON PIPE
	CL.	CLASS
	CLR.	CLEAR
	CMP	CORRUGATED METAL PIPE
	CO.	COUNTY
	CONC.	CONCRETE
	CONST.	CONSTRUCT
	CONTR.	CONTRACTOR
	COOR.	COORDINATE
	COR.	CORNER
	CORP.	CORPORATE; CORPORATION
	C.R.L.	CONSTRUCTION REFERENCE LINE
	CU.	CUBIC
	CULT.	CULTIVATED
	CULV.	CULVERT
D	D	DEGREE OF CURVE
	D.A.	DRAINAGE AREA
	DBL.	DOUBLE
	DEMO.	DEMOLISH / DEMOLITION
	D.I.	DROP INLET
	DIA.	DIAMETER
	DIFF.	DIFFERENCE
	DIM.	DIMENSION
	DIP	DUCTILE IRON PIPE
	DIST.	DISTANCE
	DR.	DRIVE
	DWL.	DOWEL
E	E.	CURVE EXTERNAL DISTANCE; EAST
	EA.	EACH
	ELEV.	ELEVATION
	ELEC.	ELECTRIC
	EMB.	EMBANKMENT
	ENGR.	ENGINEER
	ENTR.	ENTRANCE
	E.O.P.	END OF PROJECT
	EQ.	EQUAL; EQUATION
	EQUIV.	EQUIVALENT
	EST.	ESTIMATE
	E.W.	EACH WAY
	EXC.	EXCAVATION; EXCEPTION
	EXP.	EXPANSION
	EXT.	EXTEND; EXTENSION; EXTREME
F	FDC	FIRE DEPARTMENT CONNECTION
	FE.	FENCE
	F.G.	FINNISH GRADE
	F.H.	FIRE HYDRANT
	FIN.	FINISH
	FL	FLOW LINE
	FLR.	FLOOR
	FRTG.	FRONTAGE
	F.S.	FORE SIGHT
	FT.	FOOT; FEET
	FTG.	FOOTING
	FWD.	FORWARD
G	GA.	GAGE
	GAL.	GALLON
	GALV.	GALVANIZED
	GAR.	GARAGE
	G.I.P.	GALVANIZED IRON PIPE
	G.L.	GROUND LINE
	GND.	GROUND
	GPM.	GALLONS PER MINUTE
	GR.	GRADE
	GRND.	GROUND
H	HDWL.	HEADWALL
	H.E.S.	HIGH EARLY STRENGTH
	H.I.	HEIGHT OF INSTRUMENT
	HORIZ.	HORIZONTAL
	H.P.	HIGH PRESSURE
	HR.	HOUR
	H.R.	HANDRAIL
	HSE.	HOUSE
	HT.	HEIGHT
	H.W.	HIGH WATER
	HWY.	HIGHWAY
	HYD.	HYDRANT
I	I.D.	INSIDE DIAMETER
	IN.	INCH
	INCL.	INCLUDE
	INFO.	INFORMATION
	INV.	INVERT
	I.P.	IRON PIN
J	JCT.	JUNCTION
	JT.	JOINT
	JTS.	JOINTS
K	K.	RATE OF VERTICAL CURVATURE
L	L.	LENGTH OF CURVE
	LB.	POUND
	L.F.	LINEAR FEET
	LONG.	LONGITUDINAL
	L.P.	LOW POINT or LIGHT POLE
	LT.	LEFT
	L.W.	LOW WATER
M	MATL.	MATERIAL
	MAX.	MAXIMUM
	MECH.	MECHANICAL
	MFGR.	MANUFACTURER
	M.H.	MANHOLE
	MIN.	MINIMUM
	MISC.	MISCELLANEOUS
	MON	MONUMENT
	M.J.	MECHANICAL JOINT
	M.P.H.	MILES PER HOUR
	MTR.	METER
N	N.	NORTH
	NO.	NUMBER
	N.T.S.	NOT TO SCALE
O	O.C.	ON CENTER
	O.C.E.W.	ON CENTER EACH WAY
	O.D.	OUTSIDE DIAMETER
	O.H.	OVERHEAD
	ORIG.	ORIGINAL
P	P.C.	POINT OF CURVATURE
	P.C.B.	PRESTRESSED CONCRETE BEAM
	P.C.C.	POINT OF COMPOUND CURVE
	P.C.CONC.	PORTLAND CEMENT CONCRETE
	PERF.	PERFORATED
	P.I.	POINT OF INTERSECTION; PLASTICITY INDEX
	P.K. NAIL	PARKER–KALON MASONRY NAIL
	PL	PROPERTY LINE
	P.O.C.	POINT ON CURVE
	P.O.S.T.	POINT ON SUB–TANGENT
	P.O.T.	POINT ON TANGENT
	P.P.	POWER POLE
	P & P	PLAN AND PROFILE
	PR.	PAIR
	P.R.C.	POINT OF REVERSE CURVE
	PROJ.	PROJECT
	PROP.	PROPERTY
	P.S.I.	POUNDS PER SQUARE INCH
	P.T.	POINT OF TANGENCY
	PVC.	POLYVINYL–CHLORIDE
	PVMT.	PAVEMENT
	PWR.	POWER
Q	Q.	DISCHARGE (CFS)
	QTR.	QUARTER
	QTY.	QUANTITY
R	R.	RADIUS
	R.C.B.	REINFORCED CONCRETE BOX
	R.C.P	REINFORCED CONCRETE PIPE
	RD.	ROAD; ROOF DRAIN
	RDY.	ROADWAY
	REF.	REFERENCE
	REINF.	REINFORCED
	REQ'D.	REQUIRED
	RET.	RETAINING
	REV.	REVISE; REVISED
	RND.	ROUND
	R.P.	REFERENCE POINT
	R.R.	RAILROAD
	RT.	RIGHT
	R/W	RIGHT OF WAY
	RY.	RAILWAY
S	S.	SOUTH
	SAN.	SANITARY
	SD.	STORM DRAIN
	S.D.	SIDE DRAIN; SIGHT DISTANCE
	SCHED.	SCHEDULE
	SEC.	SECTION
	SERV.	SERVICE
	SGL.	SINGLE
	S.H.	STATE HIGHWAY
	SHT.	SHEET
	SHLDR.	SHOULDER
	SIG.	SIGNAL
	SIM.	SIMILAR
	S.J.	SAW JOINT
	SL	SECTION LINE
	SP.	SPECIAL
	SPEC.	SPECIFICATIONS
	SQ.	SQUARE
	SRVY.	SURVEY
	S.S.	SANITARY SEWER
	ST.	STREET
	STA.	STATION
	STAB.	STABILIZED
	STD.	STANDARD
	STL.	STEEL
	STR.	STRUCTURE
	SURF.	SURFACE
	S.W.	SIDEWALK
	SWR.	SEWER
T	T.	TANGENT; TOWNSHIP; THICKNESS
	T.B.	TOP OF BOX
	T.B.M.	TEMPORARY BENCH MARK
	T.B.S.C.	TRAFFIC BOUND SURFACE COURSE
	T.C.	TOP OF CURB
	TEL.	TELEPHONE; TELECOMUNICATION
	TEMP.	TEMPORARY
	THRU.	THROUGH
	TOPO.	TOPOGRAPHY
	T.P.	TURNING POINT; TOP OF PIPE
	T.R.	TOP OF RAIL
	TRAF.	TRAFFIC
	TRANS.	TRANSFORMER
	TYP.	TYPICAL
U	U.S.C.&G.S.	UNITED STATES COAST & GEODETIC SURVEY
	U.S.G.S.	UNITED STATES GEOLOGICAL SURVEY
V	V.G.	VALLEY GUTTER
	VAR.	VARIABLE; VARIES
	V.C.	VERTICAL CURVE
	V.C.P.	VITRIFIED CLAY PIPE
	VEH.	VEHICLE
	VERT.	VERTICAL
	VOL.	VOLUME
W	W.	WEST
	W/	WITH
	W/O	WITHOUT
	W.M.	WATER METER
	WGT.	WEIGHT
	WWF.	WELDED WIRE FABRIC
X	XFMR.	TRANSFORMER
	X–SEC	CROSS SECTION
	X–ING	CROSSING
Y	YD.	YARD
	YR.	YEAR

NOTE:
ABBREVIATIONS SHOWN ARE GENERAL ABBREVIATIONS USED DURING THE PREPARATION OF CONSTRUCTION DOCUMENTS. NOT ALL ABBREVIATIONS WILL BE USED WITHIN THESE DOCUMENTS.

SURVEY LEGEND

	TREE
MH TOP=1193.56 / CATCH BASIN TOP=1190.65	MANHOLE
	STORM DRAIN INLET
SDx	STORM DRAIN
EUG	ELECTRIC LINE UNDERGROUND
Ex	ELECTRIC LINE OVERHEAD
Gx	GAS LINE
SS	SANITARY SEWER LINE
T	TELEPHONE LINE UNDERGROUND
FO	FIBER OPTIC LINE
CTV	CABLE TELEVISION LINE
W	WATER LINE
	FENCE
	GUARD RAIL
	CURB AND GUTTER
	CURB
LP	LIGHT POLE
PP	POWER POLE
DG	DOWN GUY
TS	TRAFFIC SIGNAL POLE
C–BOX	TRAFFIC SIGNAL CONTROL BOX
PB	TRAFFIC SIGNAL PULL BOX
C–RISER	TELEPHONE RISER
WV	WATER VALVE
FH	FIRE HYDRANT
GV	GAS VALVE
S	SIGN
GP	GUARD POST/BOLLARD
IP	SURVEY POINT
1230	CONTOUR

NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D
1	1/21/15	RECORD DRAWING		

SAIC
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9400 N BROADWAY
OKLAHOMA CITY, OK 73114
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CERT. OF AUTH. # 3722, EXP. 06/30/2014

DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX
OKLAHOMA CITY, OKLAHOMA

ABBREVIATIONS AND SURVEY LEGEND

DESIGNED BY	RCC
DRAWN BY	RCC
CHECKED BY	DGC
APPROVED BY	MRK

DATE	8/1/12
SCALE	NOT TO SCALE
PROJECT NUMBER	4050702104
SHEET	G–002
REV	
OF	

SUMMARY OF QUANTITIES				
ITEM NO.	ITEM	UNIT	QUANTITY	AS-BUILT
	EROSION AND SEDIMENT CONTROL			
1	SWPPP DOCUMENTATION AND MANAGEMENT	L.SUM	1	
2	TEMPORARY CONSTRUCTION ENTRANCE	EA.	2	
3	SILT FENCE	L.F.	2200	
4	TEMPORARY SEEDING	AC	4.65	
5	CURB INLET FILTER AMT SEDIMENT BARRIER	EA.	5	
	DEMOLITION			
6	CLEARING AND GRUBBING	L.SUM	1	
7	ASPHALT REMOVAL	S.Y.	2950	
8	CHAIN LINK SECURITY FENCE AND GATE REMOVAL	L.F.	530	
	EARTHWORK			
9	UNCLASSIFIED EXCAVATION	C.Y.	16200	
10	EMBANKMENT	C.Y.	1400	
11	BEDDING MATERIAL	C.Y.	1950	
12	TYPE A TOPSOIL	L.SUM	1	
13	SLAB SOD	S.Y.	8900	
	PAVEMENT			
14	P.C. CONCRETE	C.Y.	355	
15	REINFORCING STEEL	LB.	32910	
16	ASPHALT	TON	236	
	STORM DRAINAGE			
17	PRECAST 4'X4' REINFORCED CONCRETE BOX	L.F.	1216	
18	12'X4' PRECAST REINFORCED CONCRETE JUNCTION BOX W/4'X4' RISER	EA.	1	
19	6'X6' PRECAST REINFORCED CONCRETE JUNCTION BOX W/4' DIA. RISER	EA.	1	
20	4'X4' PRECAST REINFORCED CONCRETE JUNCTION BOX W/4'X4' RISER	EA.	4	
21	PRECAST REINFORCED CONCRETE CATCH BASIN W/2 GRATES	EA.	2	
22	5' DIA MANHOLE	EA.	2	
23	24" REINFORCED CONCRETE PIPE	L.F.	176	
25	36" REINFORCED CONCRETE PIPE	L.F.	637	
26	48" REINFORCED CONCRETE PIPE	L.F.	30	
27	36" PRECAST CONCRETE END SECTION	EA.	1	
28	CONCRETE END TREATMENT (4-24" RCP)	EA.	1	
29	RELOCATE/ADJUST UTILITIES	L.SUM	1	
30	CONSTRUCTION TRAFFIC CONTROL	L.SUM	1	
31	(PL) TRAFFIC ITEMS	L.SUM	1	
32	PORTABLE LONGITUDINAL BARRIER	L.F.	900	

GENERAL CONSTRUCTION NOTES

1. ALL CIVIL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF OKLAHOMA CITY STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION, UNLESS OTHERWISE SPECIFIED OR AS SHOWN ON THE PLANS. ODOT STANDARDS SHALL BE USED WHEN CITY OF OKLAHOMA CITY STANDARDS ARE NOT APPLICABLE.
2. THE CONTRACTOR SHALL GIVE NOTICE TO THE CITY, IN WRITING, FOURTEEN (14) DAYS BEFORE WORK ON THIS PROJECT BEGINS.
3. NO PAYMENT WILL BE MADE FOR THE REMOVAL OF ABANDONED UTILITY PIPE LINES THAT INTERFERE WITH CONSTRUCTION. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
4. ALL WORK AND/OR MATERIALS NOT CLASSIFIED AS A "CONTRACT PAY ITEM" SHALL BE CONSIDERED INCIDENTAL AND THE COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS WHICH ARE CLASSIFIED FOR PAYMENT.
5. THE CONTRACTOR SHALL SEAL ANY CRACK THAT DEVELOPS IN THE PAVEMENT SURFACE PRIOR TO FINAL INSPECTION. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
6. TREES OUTSIDE THE TOE OF FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE APPROVAL OF THE ENGINEER.
7. (CAUTION) THE LOCATION AND DEPTH OF ALL UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED WITH THE FOLLOWING AGENCIES:
   THE LOCAL COUNTY CLERK'S OFFICE
   THE LOCAL CITY GOVERNMENT'S OFFICE
   THE "CALL OKIE" NOTIFICATION CENTER: (405) 840-5032 OR (800) 522-6543
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING DRAINAGE STRUCTURES TO REMAIN IN PLACE, AND SHALL REPAIR SUCH DAMAGES AT NO ADDITIONAL COST TO THE OWNER.
10. ALL MATERIAL REMOVED, INCLUDING BUT NOT LIMITED TO DRAINAGE STRUCTURES, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER, UNLESS OTHERWISE SPECIFIED.
11. FILL AREA TO BE COMPACTED TO 95% PROCTOR DENSITY IN LIFTS NOT TO EXCEED 1 FOOT.
12. RCP WITH "O" RINGS, HDPE PIPES AND PVC PIPES WITH "GASKETS" SHALL BE INSTALLED UNDER STREETS AND ROADWAYS, NEXT TO CURBS, UNDER DETENTION POND EMBANKMENTS, AND BETWEEN HOUSES. ALL JOINTS ON RCP, HDPE PIPE, AND PVC SHALL BE WRAPPED WITH TWO FEET WIDE FILTER FABRIC STRIP AROUND THE JOINT AND OVERLAPPING TWO FEET.
13. COMPACTION OF TRENCH BACKFILL IN PAVED AREAS SHALL BE A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL LANDSCAPING IN AS GOOD OR BETTER CONDITION THAN EXISTING LANDSCAPING.
15. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OR REPAIR OF ALL PRIVATE AND PUBLIC UTILITIES DAMAGED DURING CONSTRUCTION.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING ALL DISTURBED AREAS TO DRAIN AS GOOD OR BETTER THAN EXISTING CONDITIONS.
18. ALL P.C. CONCRETE PAVEMENT, CURBS, DRIVEWAYS AND SIDEWALKS DISTURBED BY THE PROJECT SHALL BE REPLACED WITH HIGH EARLY STRENGTH (HES) CONCRETE, 3500 PSI MIN.
19. TYPE A SALVAGED TOPSOIL PER ODOT STANDARDS AND SPECIFICATIONS.
20. RELOCATE/ADJUST UTILITIES SHALL INCLUDE, BUT NOT LIMITED TO, ELECTRIC, FIBER OPTIC, TELEPHONE AND CABLE TELEVISION LINES.
21. BEDDING MATERIAL IS MEASURED BY O.D.O.T. STANDARD PIPE BEDDING. INCLUDES 6" OF STD. BEDDING MATERIAL TO BE USED IN THE INSTALLATION OF THE 4'x4' RCB.
22. TACK COAT IS INCLUDED IN THE PRICE BID FOR ASPHALT.
23. STRUCTURAL EXCAVATION IS INCLUDED IN THE PRICE BID FOR UNCLASSIFIED EXCAVATION.

SURVEY CONTROL				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM1	179076.97	2114686.07	1216.08	5/8" CAPPED I.P.
BM2	179165.26	2115784.00	1234.10	5/8" CAPPED I.P.
SC02	181590.33	2115263.46	1213.33	1/2" CAPPED I.P.
SC03	178222.49	2115140.77	1236.45	1/2" CAPPED I.P.
GRANDYS	184976.64	2116359.08	1195.31	1/2" CAPPED I.P.
421NE13	175975.97	2115968.14	1267.88	1/2" CAPPED I.P.

TRAFFIC NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION.
2. A WORK ZONE PERMIT MUST BE OBTAINED FROM THE TRAFFIC MANAGEMENT DIVISION AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF WORK AND/OR PLACING OR REMOVING ANY BARRICADES OR MODIFYING EXISTING TRAFFIC CONTROL DEVICES. CALL (405) 297-2531 TO OBTAIN AN APPLICATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS THAT WILL BE IN CONFLICT WITH PROPOSED WORK.
4. SEE SHEET CT-001

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL ALL THE EROSION CONTROL DEVICES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ALL EROSION CONTROL DEVICES DAMAGED DUE TO CONSTRUCTION.
3. A COPY OF THE EROSION CONTROL SITE PLAN MUST BE ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE INSPECTOR UPON REQUEST.
4. CONSTRUCTION ACTIVITIES THAT RESULT IN LAND DISTURBANCE OF EQUAL TO OR GREATER THAN ONE (1) ACRE, OR LESS THAN ONE (1) ACRE IF THEY ARE PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE THAT TOTALS AT LEAST ONE (1) ACRE MUST ALSO OBTAIN A PERMIT FROM ODEQ (FORM 605-002a) FOR STORM WATER DISCHARGE FROM CONSTRUCTION ACTIVITIES.

UTILITY COMPANY CONTACTS			
UTILITY	COMPANY	CONTACT	PHONE NUMBER
CABLE TV	COX COMMUNICATIONS	MARK BOWLING	405-417-4064
COMMUNICATIONS	AT&T	LEE MARSH	405-291-3169
FIBER OPTICS	STATE OF OKLAHOMA	ALLEN STEVENSON	405-521-6460
FIBER OPTICS	MCI/VERIZON	RYAN ROBERTS	580-579-0735
* FIBER OPTICS	OKLAHOMA STATE FINANCE	RALPH SMITH	405-521-3901
ELECTRIC	OG&E	SHAUN McALISTER	405-919-6160
NATURAL GAS	ONG	TOMMY BROWN	405-556-6411
WATER	OKC LINE MAINTENANCE	ALLEN TOTTEN	405-297-2066

* CONTACT RALPH SMITH PRIOR TO COMMENCEMENT OF UTILITY RELOCATION.

NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D
1	1/21/15	RECORD DRAWING		

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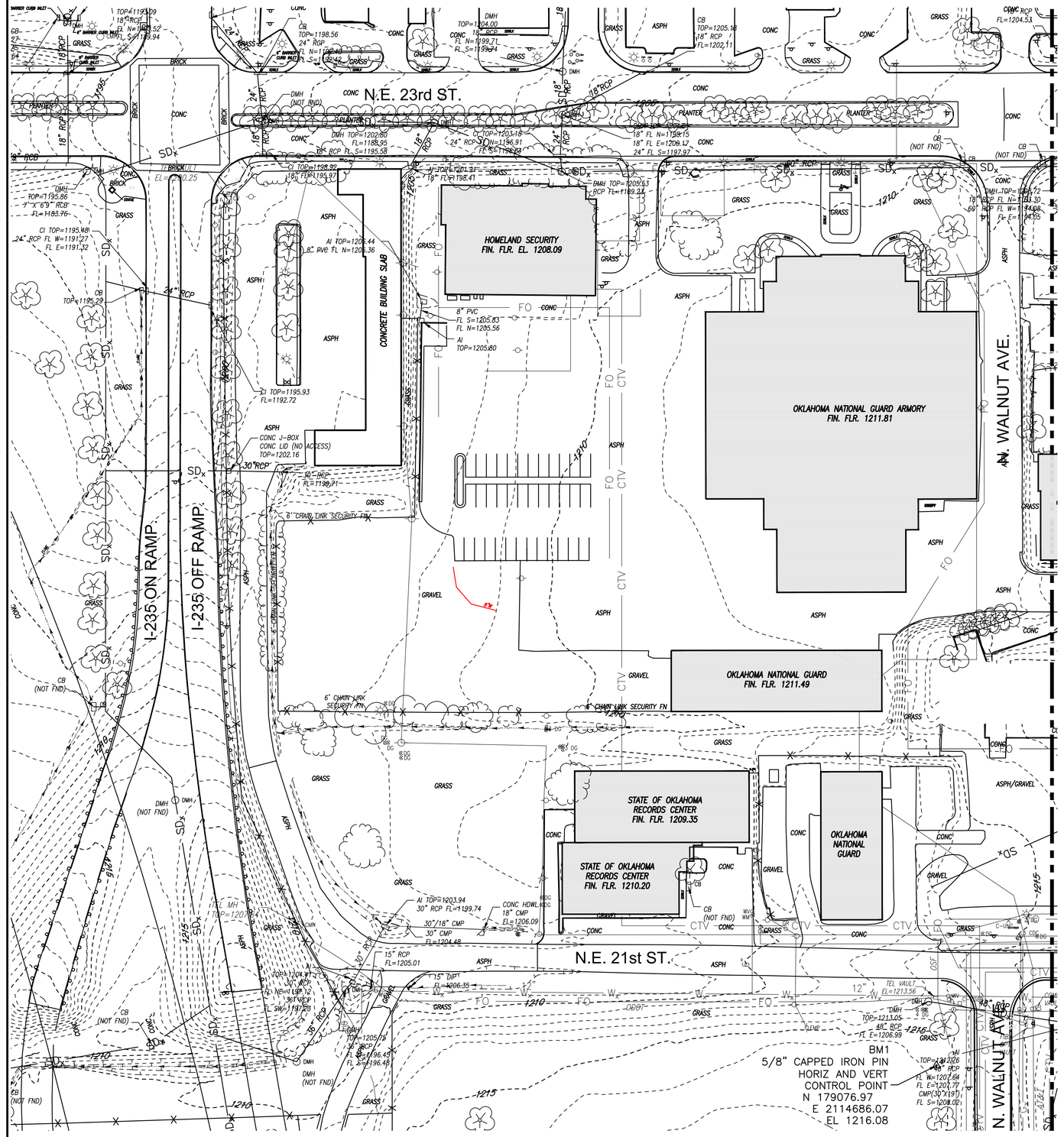
CERT. OF AUTH. # 3722, EXP. 06/30/2014

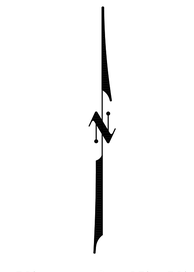
DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX OKLAHOMA CITY, OKLAHOMA

PAY ITEMS AND NOTES

DESIGNED BY	RCC
DRAWN BY	RCC
CHECKED BY	DGC
APPROVED BY	MRK

DATE	8/1/12
SCALE	NOT TO SCALE
PROJECT NUMBER	4050702104
SHEET	G-003
REV	
OF	





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421NE13	175975.97	2115968.14	1267.88	1/2" CAPPED I.P.

UNDERGROUND UTILITY NOTE:

1. THE LOCATIONS OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE.
2. ALL UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED AND MARKED PRIOR TO EXCAVATION, BORING, PROBING OR DRILLING.
3. THE LOCATION OF UNDERGROUND UTILITIES IS BASED ON SURFACE EVIDENCE AND/OR SURFACE STRUCTURES IN COMBINATION WITH INFORMATION PROVIDED TO THE SURVEYOR SUCH AS DESIGN AND/OR AS-BUILT DRAWINGS.
4. NO EXCAVATION, PROBING NOR OTHER FORM OF SUBSURFACE EXPLORATION WAS PERFORMED TO LOCATE OR VERIFY UNDERGROUND UTILITIES OR STRUCTURES.
5. THE ACTUAL LOCATIONS OF UNDERGROUND UTILITIES AND/OR STRUCTURES MAY VARY FROM THE LOCATIONS SHOWN HEREON.
6. ADDITIONAL UNDERGROUND UTILITIES AND/OR STRUCTURES MAY BE PRESENT; i.e. SOME UTILITIES AND/OR STRUCTURES MAY BE MISSING FROM THIS (THESE) DRAWINGS.

NOTES:

1. HORIZONTAL COORDINATES AND ELEVATIONS ARE IN UNITED STATES SURVEY FEET. HORIZONTAL CONTROL IS BASED ON THE OKLAHOMA NE COORDINATE SYSTEM (NORTH ZONE 3501). (NAD 1983). ELEVATIONS ARE IN FEET ABOVE SEA LEVEL USING THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
2. HORIZONTAL AND VERTICAL DATUMS BASED ON CONTROL POINTS PROVIDED BY CITY OF OKLAHOMA CITY. CIVIL ENGINEERING DEPT. POINTS USED WERE: "236R" AND "266"
3. THE AVERAGE COMBINED SCALE FACTOR FOR THE PROJECT IS: 0.99996389
4. LOCATION OF UNDERGROUND UTILITIES THAT COULD NOT BE FIELD LOCATED WERE TRANSFERRED FROM EXISTING MAPPING PROVIDED BY OKLAHOMA DEPARTMENT OF TRANSPORTATION AND CITY OF OKLAHOMA CITY OTHER UTILITIES MAY EXIST IN THE PROJECT AREA.
5. BASE MAPPING, DATED JULY 2, 2008, PERFORMED BY AERIAL DATA SERVICES.

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DRAINAGE IMPROVEMENT
PLANS FOR THE STATE
CAPITOL COMPLEX
OKLAHOMA CITY, OKLAHOMA

EXISTING SITE CONDITIONS 1

DESIGNED BY	DFB
DRAWN BY	CAS/BPH
CHECKED BY	RCC
APPROVED BY	MRK

DATE	8/1/12
SCALE	1" = 50'
PROJECT NUMBER	4050702104
SHEET	VF101
REV	
OF	

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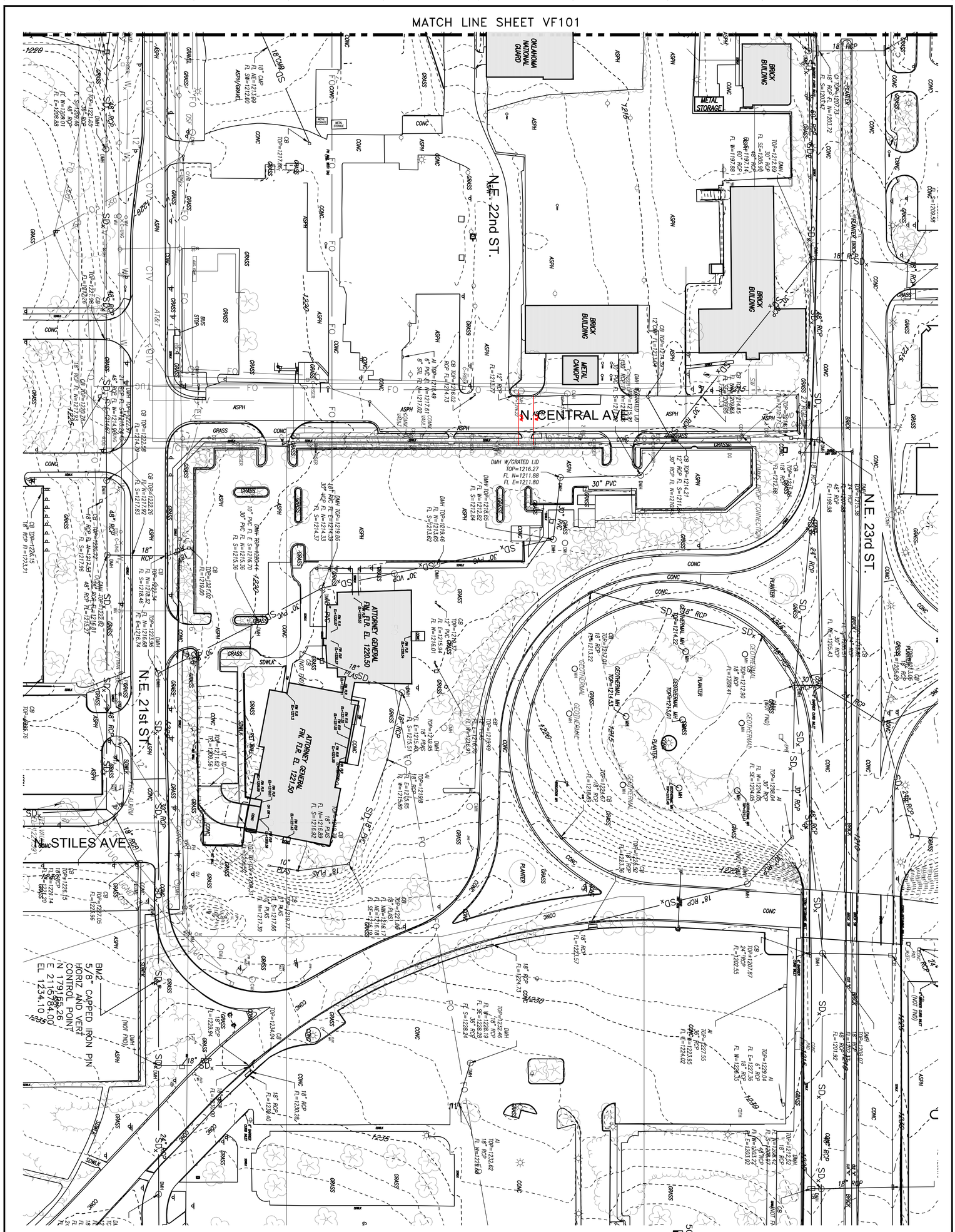

DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX OKLAHOMA CITY, OKLAHOMA

EXISTING SITE CONDITIONS 2

SHEET	VF102
OF	
REV	1
DATE	8/1/12
SCALE	1" = 50'
PROJECT NUMBER	4050702104

DESIGNED BY	DFB
DRAWN BY	CAS/BPH
CHECKED BY	RCC
APPROVED BY	MRK

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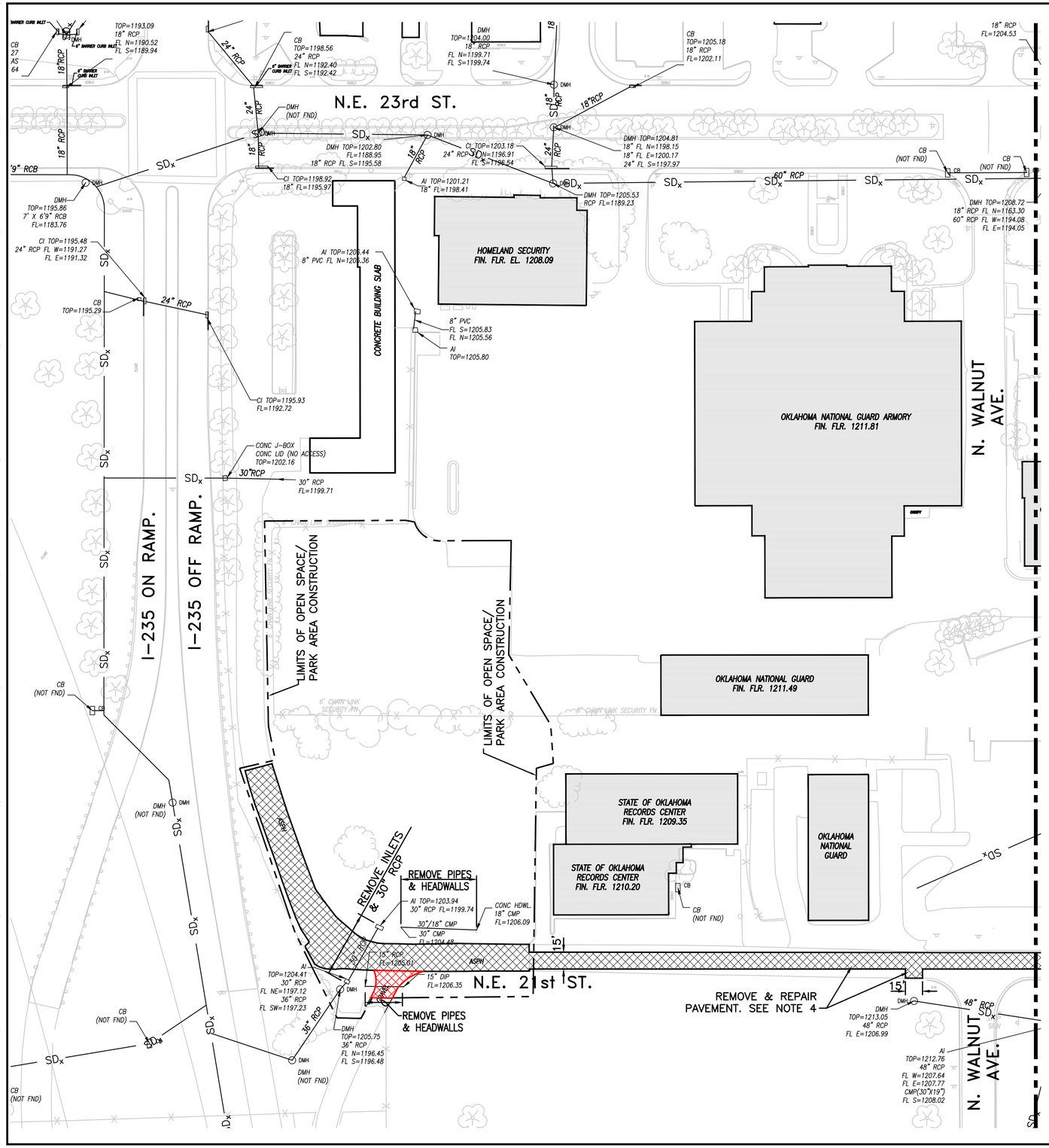

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DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX OKLAHOMA CITY, OKLAHOMA

DEMOLITION PLAN 1

DESIGNED BY	DFB
DRAWN BY	CAS/BPH
CHECKED BY	RCC
APPROVED BY	MRK

DATE	8/1/12
SCALE	1" = 50'
PROJECT NUMBER	4050702104
SHEET	CD101
REV	
OF	

DEMOLITION NOTES:

1. CLEAR AND GRUB EXISTING VEGETATION WITHIN LIMITS OF OPEN SPACE/PARK AREA CONSTRUCTION.
2. REMOVE ALL EXISTING ABOVE GROUND SITE FEATURES WITHIN LIMITS OF OPEN SPACE/ PARK AREA CONSTRUCTION.
3. COORDINATE RELOCATION OF OVERHEAD ELECTRIC LINES AND APPURTENANCES WITHIN THE LIMITS OF OPEN SPACE/PARK AREA CONSTRUCTION WITH OG&E.
4. SEE OKLAHOMA CITY STANDARD DETAIL SHEET D-201 FOR PAVEMENT REPAIR DETAIL.

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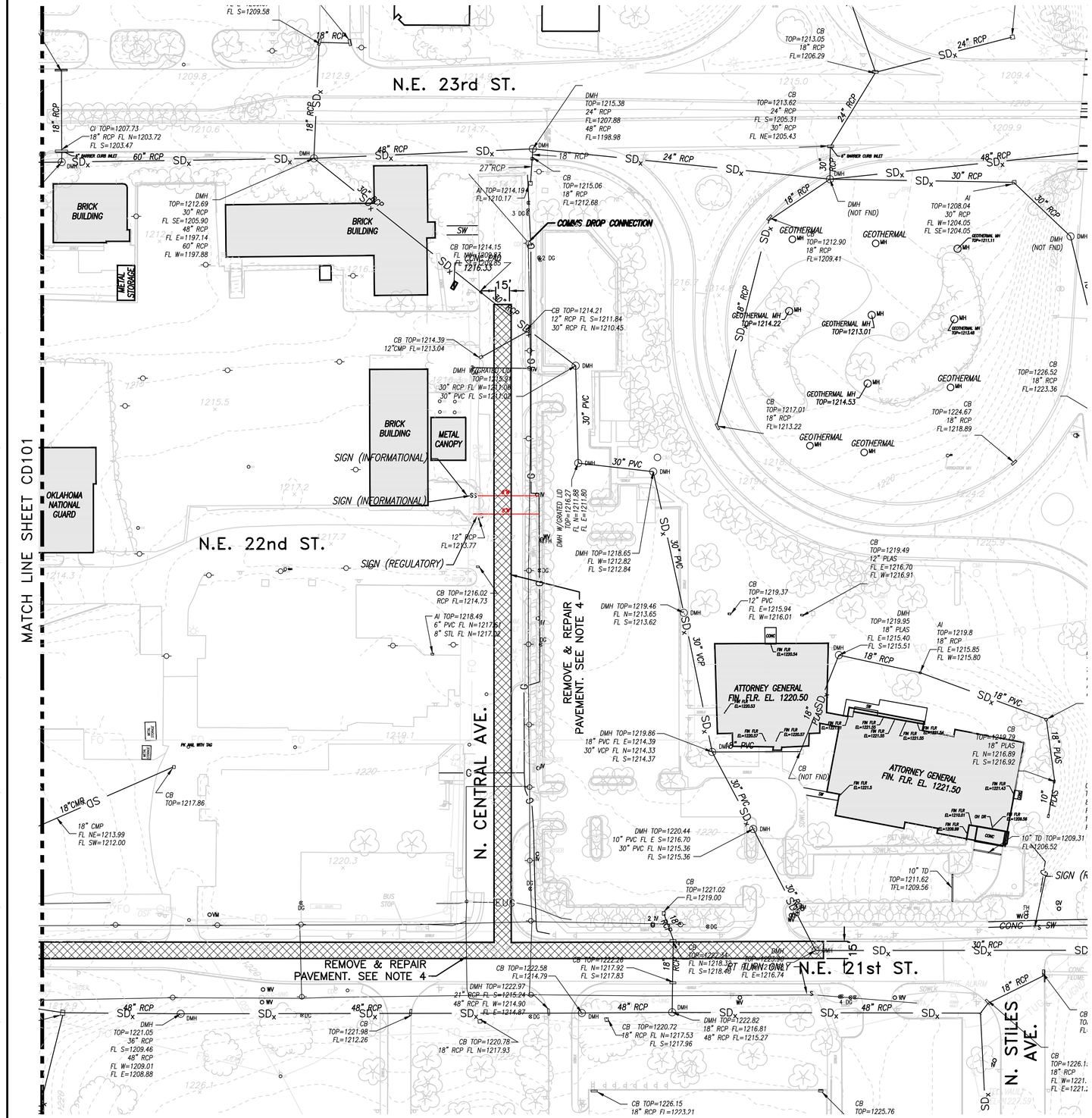

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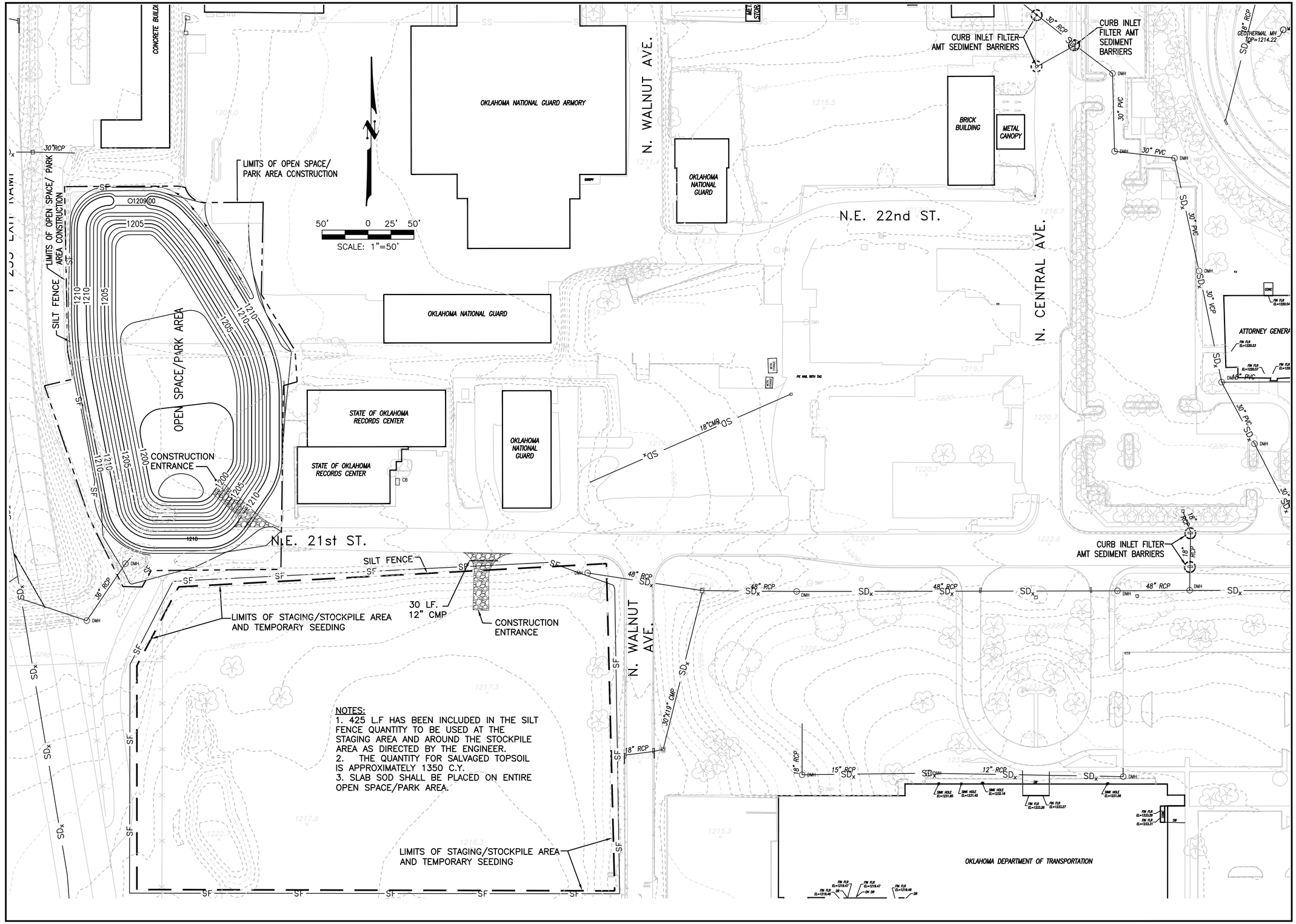
DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX OKLAHOMA CITY, OKLAHOMA

DEMOLITION PLAN 2

DESIGNED BY	DFB
DRAWN BY	CAS/BPH
CHECKED BY	RCC
APPROVED BY	MRK
DATE	8/1/12
SCALE	1" = 50'
PROJECT NUMBER	4050702104
SHEET	CD102
REV	
OF	



NOTES:
1. 425 L.F HAS BEEN INCLUDED IN THE SILT FENCE QUANTITY TO BE USED AT THE STAGING AREA AND AROUND THE STOCKPILE AREA AS DIRECTED BY THE ENGINEER.
2. THE QUANTITY FOR SALVAGED TOPSOIL IS APPROXIMATELY 1350 C.Y.
3. SLAB SOD SHALL BE PLACED ON ENTIRE OPEN SPACE/PARK AREA.

NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D
1	1/21/15	RECORD DRAWING		

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DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX OKLAHOMA CITY, OKLAHOMA

EROSION CONTROL PLAN

DESIGNED BY	MRK
DRAWN BY	RCC
CHECKED BY	MRJ
APPROVED BY	RGW

DATE	8/1/12
SCALE	1" = 50'
PROJECT NUMBER	4050702104
SHEET	CE101
REV	
OF	

STORMWATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: N.E. 21ST STREET FROM I-235 ON/OFF RAMPS EAST TO N. STILES AVENUE.

PROJECT DESCRIPTION: INSTALLATION OF 1216 L.F. OF PREFABRICATED 4'x4' RCB.
INSTALLATION OF 637 L.F. 36" RCP.
CONSTRUCTION OF POND
INSTALLATION OF 176 LF. 24" RCP
INSTALLATION OF 30 LF. 48" RCP

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

1. INSTALL INLET PROTECTION
2. INSTALL SILT FENCE
3. INSTALL SLAB SOD ON POND AFTER CONSTRUCTION OF POND
4. STABILIZE ALL DISTURBED AREAS
5. REMOVE SILT FENCE WHEN SITE IS STABILIZED

AREA TO BE DISTURBED: 4.65 ACRES

OFFSITE AREA TO BE DISTURBED: 0 ACRES
(FOR CONTRACTOR USE)

WEIGHTED RUNOFF COEFFICIENT
Before Construction: 0.9
After Construction: 0.9

NAME OF RECEIVING WATERS: DEEP FORK

NOTE: THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE CHARACTERISTICS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- [X] TEMPORARY SEEDING
- [X] PERMANENT SODDING, SPRIGGING OR SEEDING
- [X] VEGETATIVE MULCHING
- [ ] SOIL RETENTION BLANKET
- [X] PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 21 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- [X] STABILIZED CONSTRUCTION EXIT
- [X] TEMPORARY SILT FENCE
- [ ] TEMPORARY SILT DIKES
- [ ] TEMPORARY BALE BARRIERS
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- [ ] ROCK FILTER DAMS
- [ ] TEMPORARY SLOPE DRAIN
- [ ] PAVED DITCH W/ DITCH LINER PROTECTION
- [ ] TEMPORARY DIVERSION CHANNELS
- [ ] TEMPORARY SEDIMENT BASINS
- [ ] TEMPORARY SEDIMENT TRAPS
- [ ] TEMPORARY SEDIMENT FILTERS
- [ ] TEMPORARY SEDIMENT REMOVAL
- [ ] RIP RAP
- [X] INLET SEDIMENT FILTER
- [ ] TEMPORARY BRUSH SEDIMENT BARRIERS
- [ ] SANDBAG BERMS
- [ ] TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- [X] HAUL ROADS DAMPENED FOR DUST CONTROL
- [X] LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- [X] EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:
ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:
A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN SHOULD BE PREPARED BY THE CONTRACTOR WITH INPUT FROM THE DESIGNER, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORMS THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:
103.05 BONDING REQUIREMENTS
104.10 FINAL CLEAN UP
104.14 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES
106.08 STORAGE AND HANDLING MATERIAL
107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20 STORM WATER MANAGEMENT
220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLUTION PREVENTION AND CONTROL
221 TEMPORARY SEDIMENT CONTROL

IN ADDITION:
"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION.

NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D
1	1/21/15	RECORD DRAWING		

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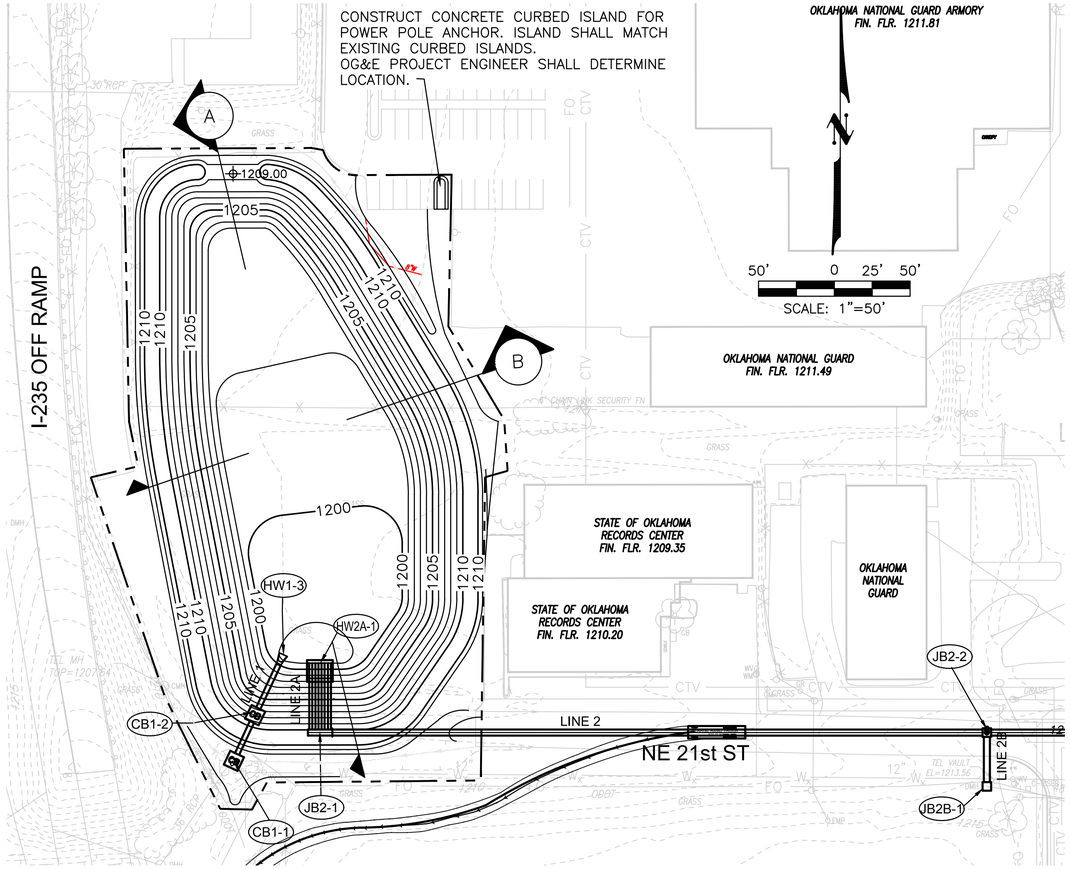
CERT. OF AUTH. # 3722, EXP. 06/30/2014

DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX
OKLAHOMA CITY, OKLAHOMA
STORM WATER MANAGEMENT PLAN

DESIGNED BY	MRK
DRAWN BY	RCC
CHECKED BY	DGC
APPROVED BY	RGW

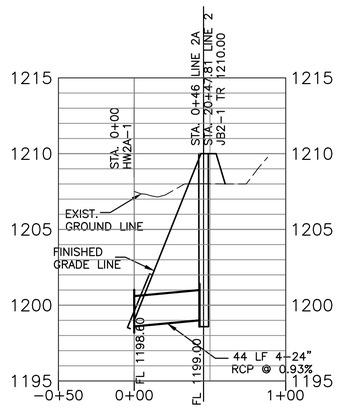
DATE	8/1/12
SCALE	NOT TO SCALE
PROJECT NUMBER	4050702104
SHEET	CE601
REV	
OF	



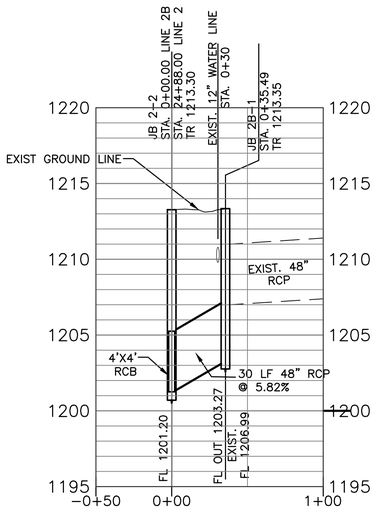
LINES 1, 2A & 2B PLAN

STORM DRAIN STRUCTURE SCHEDULE						
LINE	STRUCTURE	TYPE	NORTHING	EASTING	STANDARD DETAIL	NOTE
1	CB1–1	CATCH BASIN	179,149.24	2,114,181.96	OKC D–102	2 GRATES (NO HOODS) *
1	CB1–2	CATCH BASIN	179,188.45	2,114,182.24	OKC D–102	2 GRATES (NO HOODS)
1	HW1–3	HEADWALL	179,219.59	2,114,214.85	OKC D–408	P.C.E.S.
2	JB2–1	JUNCTION BOX	179,167.75	2,114,238.91	OKC D–203	12'X4' W/4'X4'RISER
2	JB2–2	JUNCTION BOX	179,167.75	2,114,679.06	OKC D–203	4'X4' W/4'X4'RISER
2	JB2–3	JUNCTION BOX	179,167.75	2,115,186.82	OKC D–203	4'X4' W/4'X4'RISER
2	JB2–4	JUNCTION BOX	179,167.75	2,115,459.35	OKC D–203	4'X4' W/4'X4'RISER
2A	HW2A–1	HEADWALL	179,213.62	2,114,238.87	ODOT CET 4D–3	4–24" RCP
2B	JB2B–1	JUNCTION BOX	179,132.28	2,114,679.06	OKC D–203	6'X6' W/4' DIA. RISER
3	MH3–1	MANHOLE	179,442.95	2,115,186.82	OKC D–201	5' DIA.
3	MH3–2	MANHOLE	179,725.17	2,115,186.82	OKC D–201	5' DIA. *

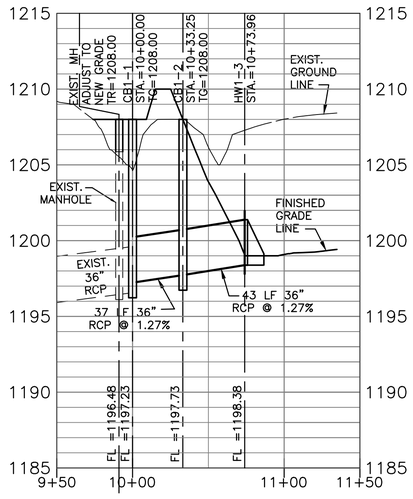
* REMOVE AND REPLACE EXISTING STRUCTURE



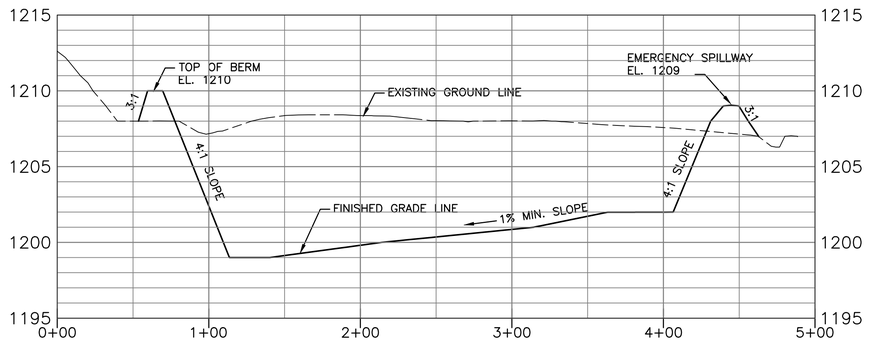
LINE 2A PROFILE



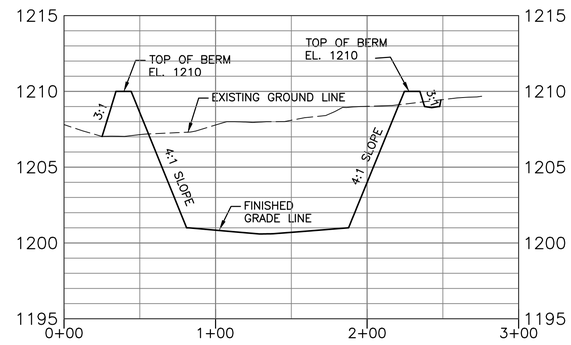
LINE 2B PROFILE



LINE 1 PROFILE



A SECTION



B SECTION

NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D
1	1/21/15	RECORD DRAWING		

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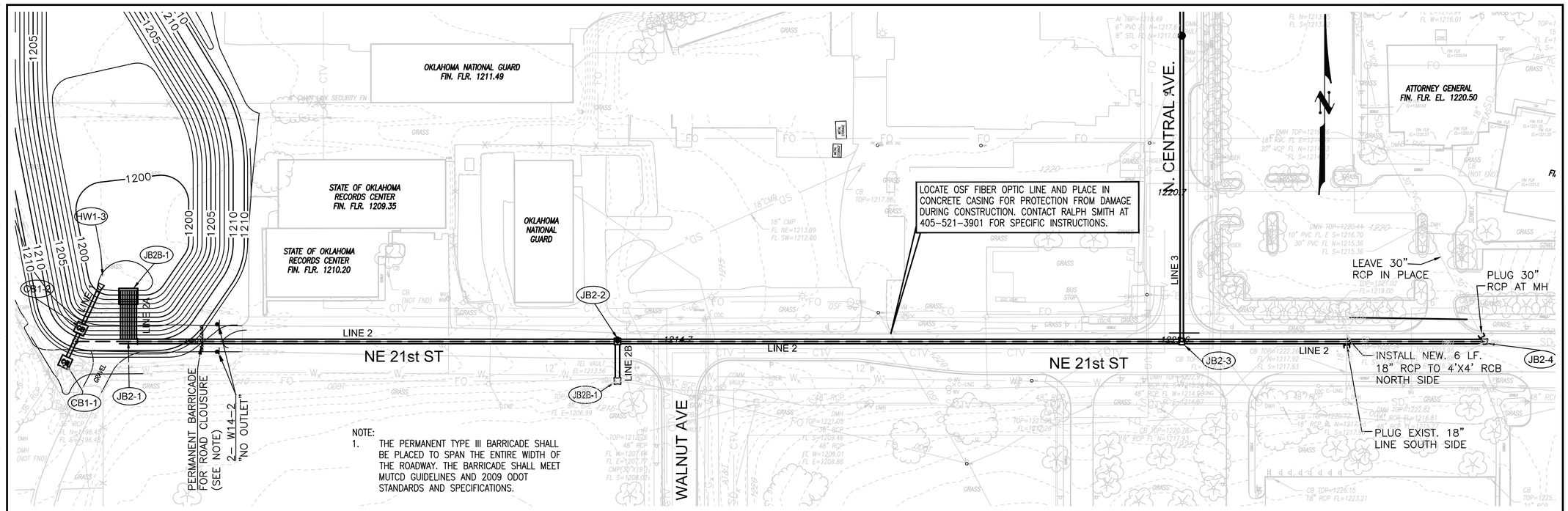
CERT. OF AUTH. # 3722, EXP. 06/30/2014

DRAINAGE IMPROVEMENT
PLANS FOR THE STATE
CAPITOL COMPLEX
OKLAHOMA CITY, OKLAHOMA

STORM DRAINS 1, 2A & 2B
PLAN AND PROFILE

DESIGNED BY	MRK
DRAWN BY	RCC
CHECKED BY	MRJ
APPROVED BY	RGW

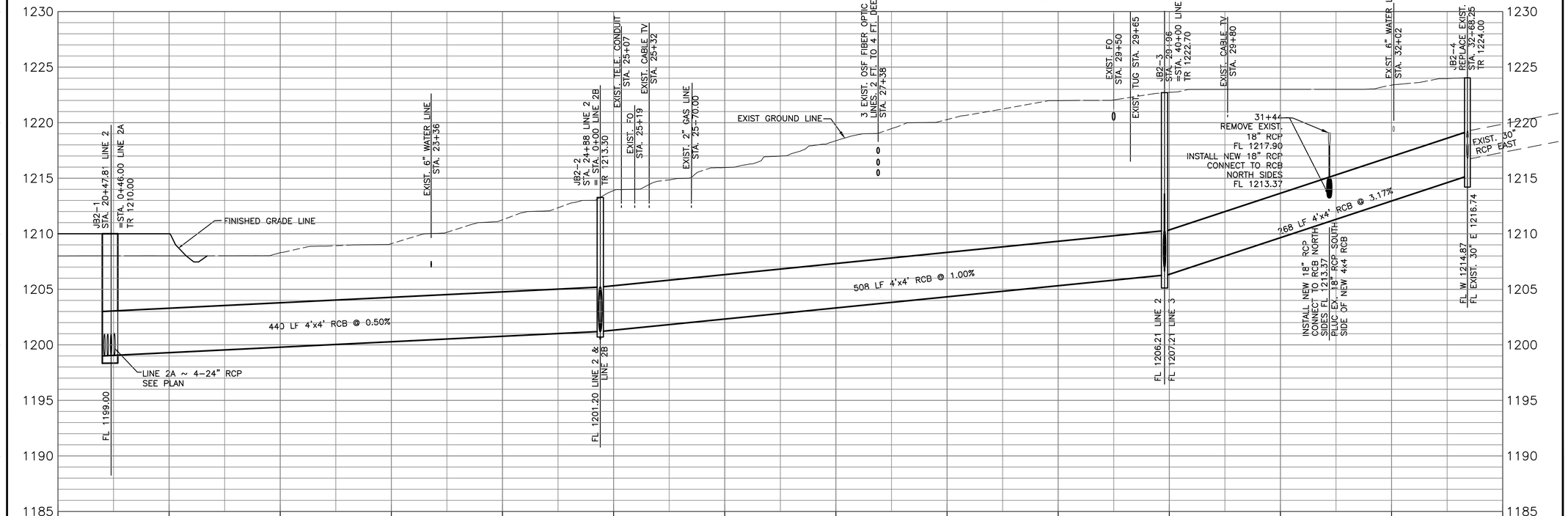
DATE	8/1/12
SCALE	1"=50'H, 1"=5'V
PROJECT NUMBER	4050702104
SHEET	CG201
REV	
OF	



NOTE:
1. THE PERMANENT TYPE III BARRICADE SHALL BE PLACED TO SPAN THE ENTIRE WIDTH OF THE ROADWAY. THE BARRICADE SHALL MEET MUTCD GUIDELINES AND 2009 ODOT STANDARDS AND SPECIFICATIONS.

LINE 2 PLAN

50' 0 25' 50'
SCALE: 1"=50'



LINE 2 PROFILE

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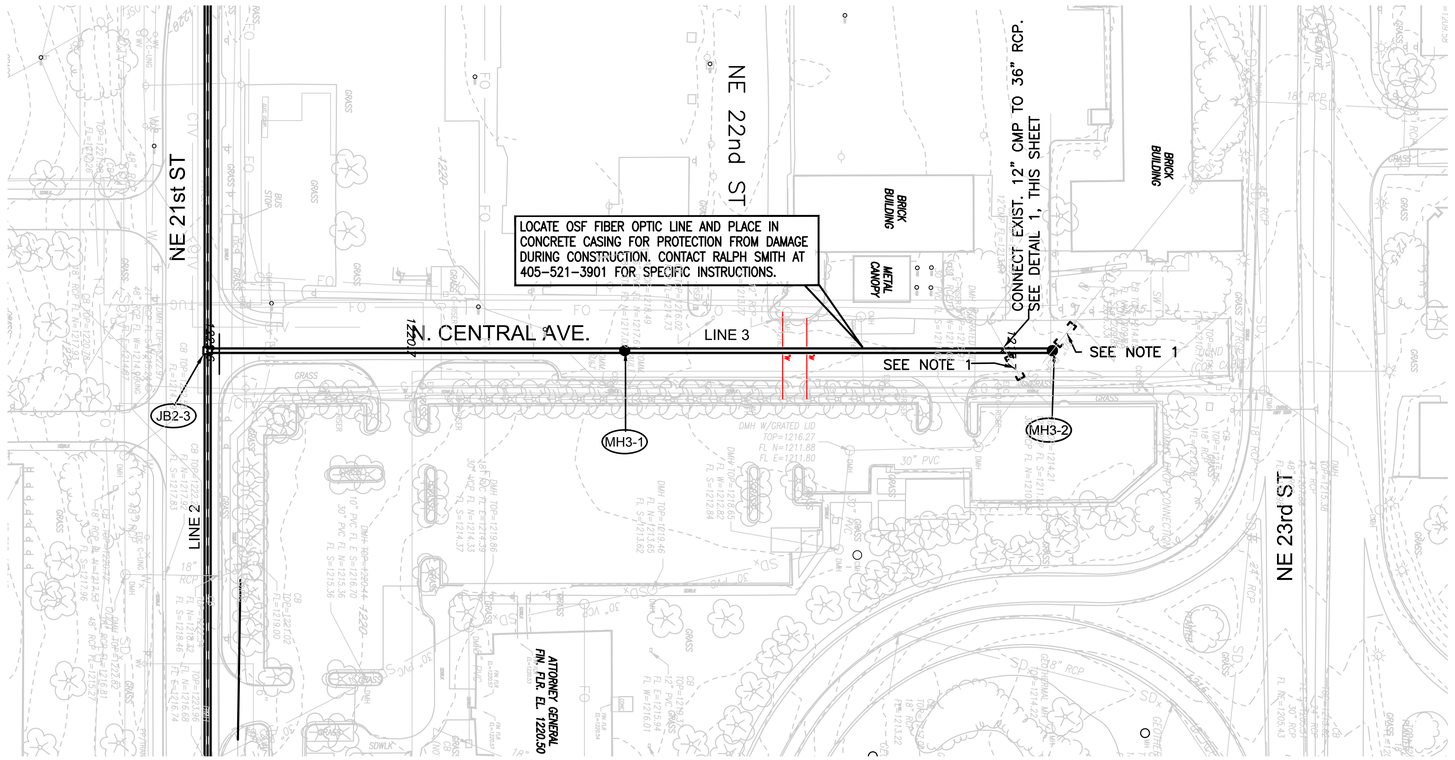
DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX OKLAHOMA CITY, OKLAHOMA

STORM DRAIN LINE 2
PLAN AND PROFILE

DESIGNED BY	MRK
DRAWN BY	RCC
CHECKED BY	MRJ
APPROVED BY	RGW

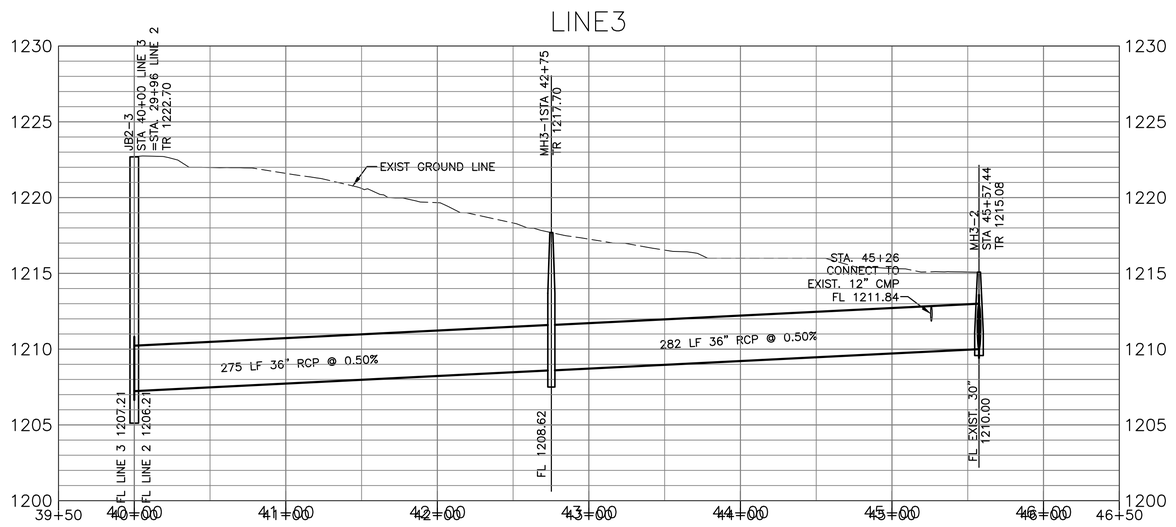
DATE	8/1/12
SCALE	1"=50'H, 1"=5'V
PROJECT NUMBER	4050702104
SHEET	CG202
REV	
OF	



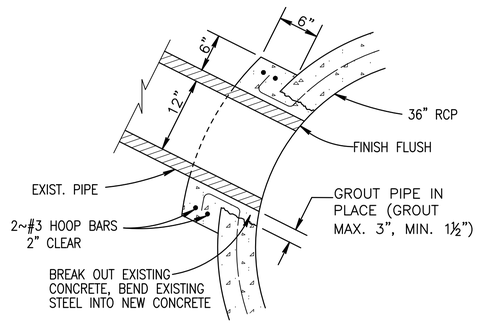
LINE 3 PLAN

NOTE:

1. PRESSURE FILL PIPE WITH LEAN CONCRETE GROUT AND CAP EACH END.



LINE 3 PROFILE



1 PIPE TAP

50' 0 25' 50'

SCALE: 1"=50'

NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D
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DRAINAGE IMPROVEMENT
PLANS FOR THE STATE
CAPITOL COMPLEX
OKLAHOMA CITY, OKLAHOMA

STORM DRAIN LINE 3
PLAN AND PROFILE

DESIGNED BY	MRK
DRAWN BY	RCC
CHECKED BY	MRJ
APPROVED BY	RGW

DATE	5/4/12
SCALE	1"=50'H, 1"=5'V
PROJECT NUMBER	4050702104
SHEET	CG203
REV	
OF	

TRAFFIC NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION.

2. A WORK ZONE PERMIT MUST BE OBTAINED FROM THE TRAFFIC MANAGEMENT DIVISION AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF WORK AND/OR PLACING OR REMOVING ANY BARRICADES OR MODIFYING EXISTING TRAFFIC CONTROL DEVICES. CALL (405) 297–2531 TO OBTAIN AN APPLICATION.

3. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS THAT WILL BE IN CONFLICT WITH PROPOSED WORK.

4. CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND APPLICABLE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THE PROJECT.

5. ALL SIGNS AND BARRICADES THAT ARE SHOWN WITH TYPE "A" LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON–DAYLIGHT HOURS. CONTRACTOR SHOULD REFER TO 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS. QUANTITIES SHOULD ALSO INCLUDE CONSTRUCTION SIGNING AND STRIPING TRAFFIC CONTROL ON CROSS STREETS NOT SHOWN ON THE PLANS.

6. EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE DONE ACCORDING TO STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND AS SHOWN ON TCS STANDARD DRAWINGS.

7. TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.

8. THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PORTABLE LONGITUDINAL BARRIER. QUANTITY INCLUDES SUFFICIENT LENGTH OF PORTABLE LONGITUDINAL BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES. INCLUDED IS THE COST OF RELOCATION.

9. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS THAT WILL BE IN CONFLICT WITH THE PROPOSED WORK. THE CONTRACTOR MUST CALL OKLAHOMA CITY TRAFFIC OPERATIONS AT (405) 297–2085 FOR THE MARKING OF TRAFFIC SIGNAL CONDUIT AND APPURTENANCES AT LEAST TWO (2) WORKING DAYS PRIOR TO STARTING WORK.

10. ALL STRIPING TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE NOTED ON THE PLANS OR STANDARD DRAWINGS. TEMPORARY PAVEMENT MARKINGS PLACED ON FINISHED PAVEMENT, OR EXISTING PAVEMENT TO REMAIN IN PLACE SHALL USE ONE OF THE FOLLOWING METHODS:
    - REMOVABLE PAVEMENT MARKING TAPE
    - CLASS A PAVEMENT MARKERS

    INCLUDED IN THE COST SHALL BE INSTALLATION, MAINTENANCE, AND REMOVAL. THIS ITEM SHALL BE BID ACCORDINGLY.

11. THE TRAFFIC ITEMS SHOWN IN PLAN INCLUDE MATERIAL AND LABOR FOR THE INSTALLATION OF TRAFFIC SIGNING, STRIPING AND PERMANENT BARRICADE FOR ROAD CLOSURE AS PER THE MUTCD AND 2009 ODOT STANDARDS AND SPECIFICATIONS. INCLUDED IN THIS IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1–1 AND SSP1–1–(LATEST REVISION).

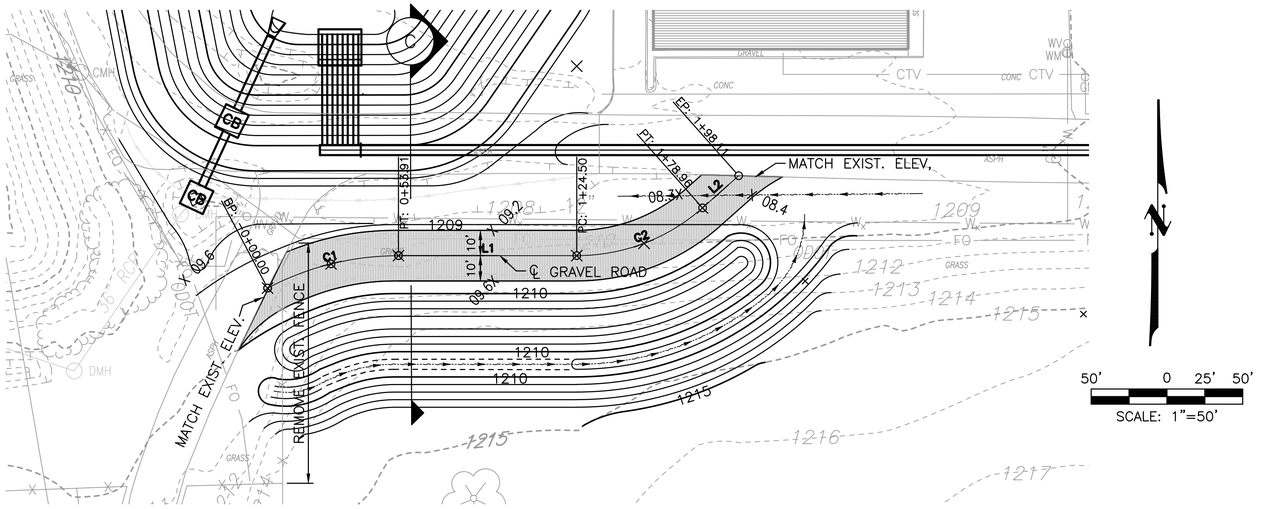
12. ALL REGULATORY SIGNS SHALL HAVE HIGH INTENSITY SHEETING. THE HIGH INTENSITY SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956–(LATEST REVISION) FOR TYPE III SHEETING.

13. ALL WARNING SIGNS SHALL HAVE FLUORESCENT YELLOW SHEETING. THE FLUORESCENT YELLOW SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956–(LATEST REVISION) REQUIREMENTS FOR TYPE VIII SHEETING.

14. INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES, REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE, REMOVAL OF EXISTING FOOTINGS AND REPLACEMENT OF EXISTING DAMAGED STRIPING OR SIGNS.

15. "REMOVAL OF EXISTING SIGNS" SHALL INCLUDE THE REMOVAL OF A COMPLETE SIGN ASSEMBLY WHICH MAY INCLUDE MULTIPLE SIGNS, POSTS, FOOTINGS, AND ANY FOOTINGS ADJACENT TO THE SIGN ASSEMBLY. WHEN APPROVED BY THE ENGINEER, FOOTINGS MAY BE OBLITERATED TO A POINT BELOW GROUND LEVEL IN LIEU OF BEING COMPLETELY REMOVED. THE OLD CONCRETE FOOTING MATERIAL SHALL BE DISPOSED OFF IN A MANNER APPROVED BY THE ENGINEER.

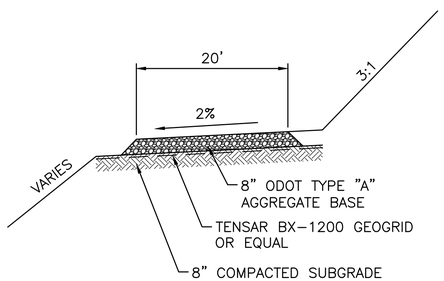
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OCCURRING DURING THE CONSTRUCTION OPERATIONS.



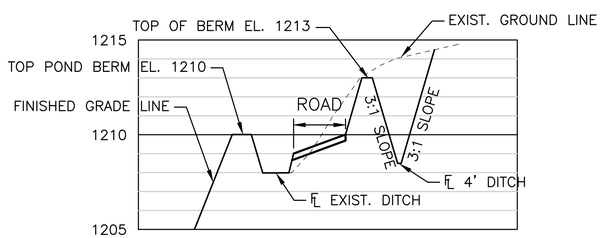
GRAVEL ROAD PLAN

CENTER LINE GRAVEL ROAD

NUMBER	PC STA	NORTHING	EASTING	RADIUS	LENGTH	PT STA	NORTHING	EASTING	LINE/CHORD BEARING
C1	–0+00.00	179113.16	2114210.27	111.080	53.912	0+53.91	179125.9919	2114262.0905	N76° 05' 45.48"E
C2	1+24.50	179125.99	2114332.68	75.000	54.454	1+78.96	179144.9070	2114382.4768	N69° 12' 00.00"E
L1		179125.99	2114262.09		70.592				N90° 00' 00.00"E
L2		179144.91	2114382.48		19.154				N48° 24' 00.00"E



TYPICAL SECTION – GRAVEL ROAD



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NO.	DATE	DESCRIPTION OF REVISION OR ISSUE	BY	APP'D
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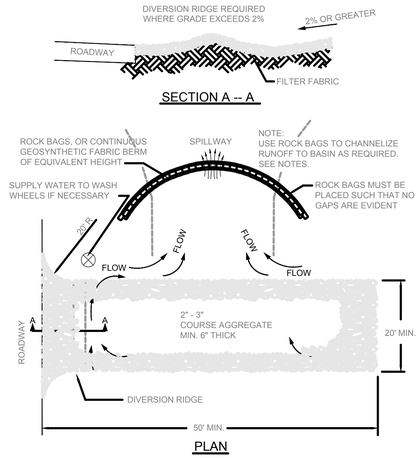
CERT. OF AUTH. # 3722, EXP. 06/30/2014

DRAINAGE IMPROVEMENT PLANS FOR THE STATE CAPITOL COMPLEX OKLAHOMA CITY, OKLAHOMA

TRAFFIC CONTROL NOTES

DESIGNED BY	MRK
DRAWN BY	RCC
CHECKED BY	DGC
APPROVED BY	MRK

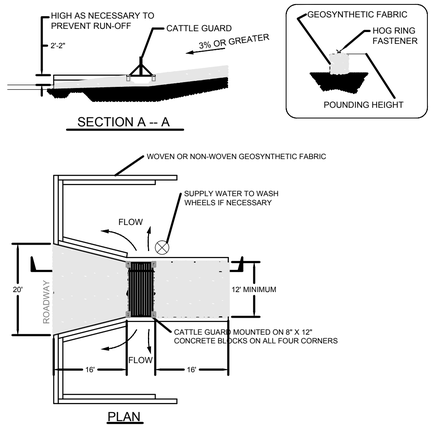
DATE	8/1/12
SCALE	AS SHOWN
PROJECT NUMBER	4050702104
SHEET	CT001
REV	
OF	



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. ROCK BAGS OR SANDBAGS SHALL BE PLACED SUCH THAT NO GAPS ARE EVIDENT. SEE NOTES ERO-03.

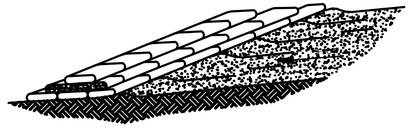
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE / EXIT



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE A MOUNTED CATTLE GUARD AND SEDIMENT PONDS TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3 WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON THE CATTLE GUARD. FIRST WASH ONE SET OF TIRES THEN, MOVE FORWARD TO WASH THE SECOND SET OF TIRES. THE GUARD IS TO BE MOUNTED ON 8" X 12" CEMENT BLOCK ON AN AREA OF STABILIZED CRUSHED STONE WITH A DRAIN INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN ON BOTH SIDES.

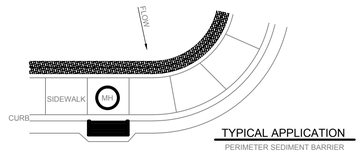
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE / EXIT FOR STEEP GRADES

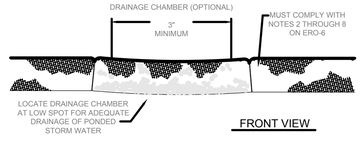


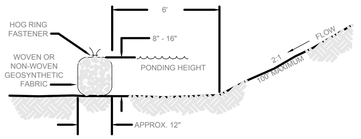
NOTES:

1. A 'REASONABLE' DESIGN SIZE PARTICLE MUST BE SELECTED.
2. SIZE DISTRIBUTION OR UPSTREAM SOIL PARTICLES MUST BE EVALUATED.
3. INFLOW AND OUTFLOW FROM THE SYSTEM FOR A SPECIFIC FREQUENCY STORM MUST BE KNOWN.
4. POND VOLUME IS DIRECTLY PROPORTIONAL TO THE DISCHARGE RATE OF THE SYSTEM.
5. POND VOLUME IS INVERSELY PROPORTIONAL TO THE MASS OF THE DESIGN SIZE SUSPENDED PARTICLE.
6. A SYSTEM MUST PROVIDE SUFFICIENT FLOW TO ALLOW FOR DEPOSITION OF DESIGN PARTICLES.
7. THE PONDING HEIGHT MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.
8. ROCK BAG SILT BARRIER SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE POUNDING EFFICIENCY.
9. PLACE ROCK BAG SUCH THAT NO GAPS ARE EVIDENT.
10. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
11. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

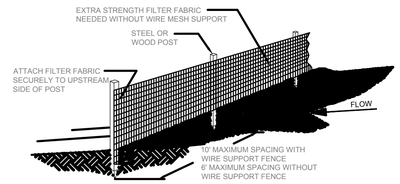
ROCK BAG SILT FENCE

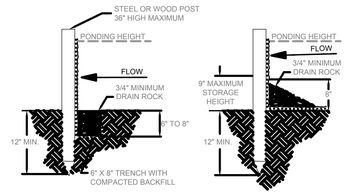






CONTINUOUS SILT FENCE

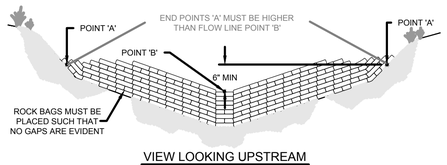


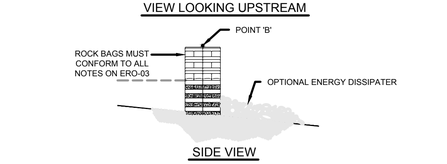


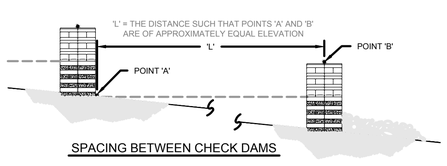
NOTES:

1. MUST BE INSTALLED PROPERLY TO AVOID NOTICE OF VIOLATION.
2. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE POUNDING EFFICIENCY.
3. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
4. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

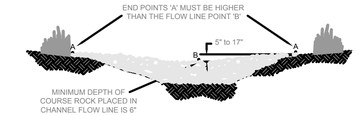
FILTER FABRIC SILT FENCE

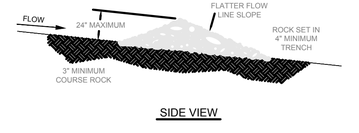


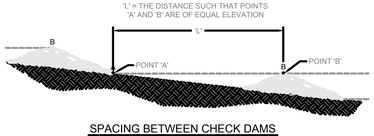




ROCK BAG CHECK DAMS

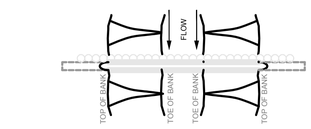


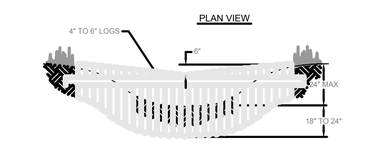




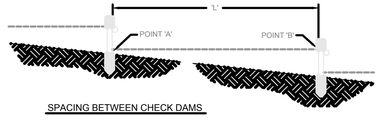
D-50 OF ROCK (MM)	DOWNSTREAM FLOWLINE SLOPE OF STRUCTURE (M / M) 0.35 0.30 0.25 0.20 0.15 0.10 MAXIMUM WATER DEPTH OVER ROCK (MM)					
75	15	18	20	25	33	48
150	30	36	41	50	66	100

ROCK CHECK DAMS



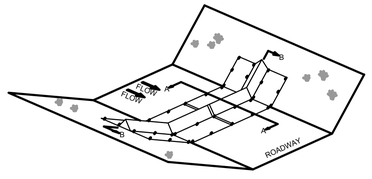


'L' = THE DISTANCE SUCH THAT POINT 'A' AND POINT 'B' ARE ON APPROXIMATELY EQUAL ELEVATION



NOTE: KEY THE ENDS OF THE CHECK DAM INTO THE CHANNEL BANK. LOGS SHALL BE PRESSURE TREATED IF GRADE STRUCTURE IS INTENDED TO BE PERMANENT.

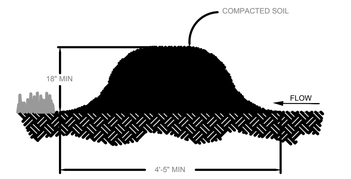
LOG CHECK DAM



NOTES:

1. STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTERS OF THE 7' UNIT AS SHOWN IN DETAILS.
2. POINT 'A' MUST BE HIGHER THAN POINT 'B' TO ENSURE THAT THE WATER FLOWS OVER THE DAM AND NOT AROUND THE ENDS.

EROSION BLANKETS & TURF REINFORCEMENT MATS SILT DAM INSTALLATION



NOTES:

1. INSPECT AND REPAIR EARTH DIKE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

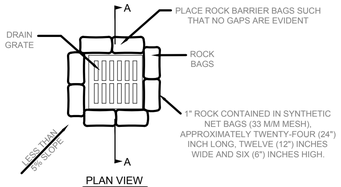
TYPICAL EARTH DIKE

OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

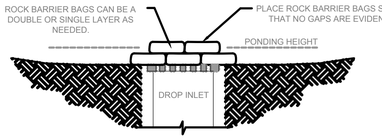
EROSION CONTROL STANDARDS

APPROVED BY: PAUL H. BRUM, P.E. CITY ENGINEER	DATE 2-16-01	DRAWN: V.S.C.	DATE: 02/14/01	DWG. N0. ERO-D1

E:/CITY/ACAD2000-ERO/ERO-D1.DWG VSC 02/14/01



PLAN VIEW

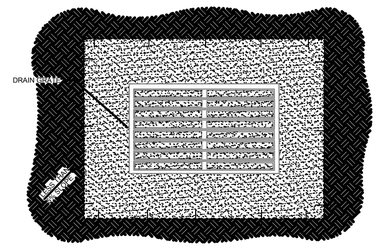


SECTION A-A

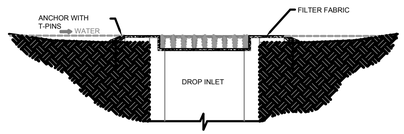
NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%.)
2. A "REASONABLE" DESIGN SIZE PARTICLE TO CAPTURE MUST BE SELECTED.
3. SIZE DISTRIBUTION OF UPSTREAM SOIL PARTICLES MUST BE EVALUATED.
4. INFLOW AND OUTFLOW FROM THE SYSTEM FOR A SPECIFIC FREQUENCY STORM MUST BE KNOWN.
5. POND VOLUME IS DIRECTLY PROPORTIONAL TO THE DISCHARGE RATE OF WATER FROM THE SYSTEM.
6. POND VOLUME IS INVERSELY PROPORTIONAL TO THE MASS OF THE DESIGN SIZE SUSPENDED PARTICLE.
7. A SYSTEM MUST PROVIDE SUFFICIENT FLOW TO ALLOW FOR DEPOSITION OF DESIGN SIZE PARTICLES.
8. THE PONDING HEIGHT MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

ROCK BAG DROP INLET SEDIMENT BARRIER



PLAN VIEW

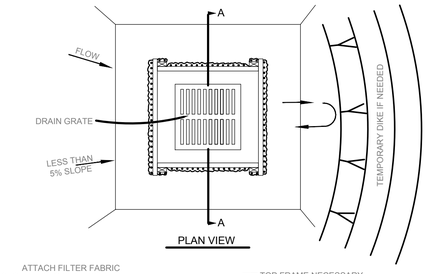


SECTION

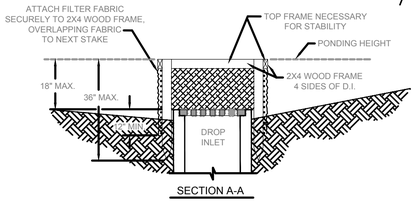
NOTE:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. USE T-PINS TO ANCHOR FIBER MAT INTO THE SOIL.

FILTER MAT DROP INLET SEDIMENT BARRIER



PLAN VIEW

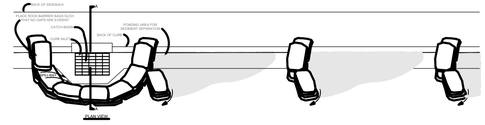


SECTION A-A

NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%.)
2. USE 2X4 WOOD OR EQUIVALENT METAL STAKES, 3' MINIMUM LENGTH.
3. INSTALL 2X4 WOOD TOP FRAME TO INSURE STABILITY.
4. THE TOP OF THE FRAME (PONDING HEIGHT), MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY-PASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

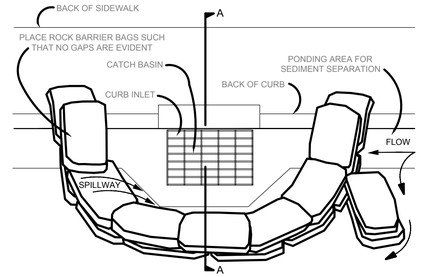
SILT FENCE DROP INLET SEDIMENT BARRIER



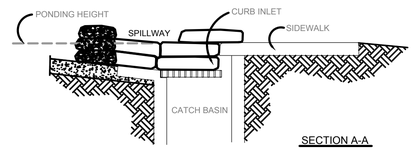
NOTES:

1. A 'REASONABLE' DESIGN SIZE PARTICLE TO CAPTURE MUST BE SELECTED.
2. SIZE DISTRIBUTION OF UP STREAM SOIL PARTICLES MUST BE EVALUATED.
3. INFLOW AND OUTFLOW FROM THE SYSTEM FOR A SPECIFIC FREQUENCY STORM MUST BE KNOWN.
4. POND VOLUME IS DIRECTLY PROPORTIONAL TO THE DISCHARGE RATE OF WATER FROM SYSTEM.
5. POND VOLUME IS INVERSELY PROPORTIONAL TO THE MASS OF THE DESIGN SIZE SUSPENDED PARTICLE.
6. A SYSTEM MUST PROVIDE SUFFICIENT FLOW TO ALLOW FOR DEPOSITION OF DESIGN PARTICLES.
7. THE PONDING HEIGHT MUST BE BELOW THE GROUND ELEVATION DOWNSLOP TO PREVENT RUNNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSIDE OF THE STRUCTURE.
8. PLACE CURB TYPE ROCK BAG BARRIER WITH EXTRA FLOW BARRIERS ON STREET WHERE FLOW IS HEAVIER, PLACE AS MANY AS NEEDED.
9. BAGS OF WOVEN GEOTEXTILE FABRIC, FILLED WITH GRAVEL MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
10. LEAVE ONE SANDBAG GAP IN THE TOP ROW ON THE SIDE AWAY FROM FLOW, TO PROVIDE A SPILLWAY; OR IN THE CENTER IF PONDING IS NEEDED ON BOTH SIDES.
11. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY

ROCKBAG INLET BARRIER WITH FLOW CHECK BARRIERS



PLAN VIEW

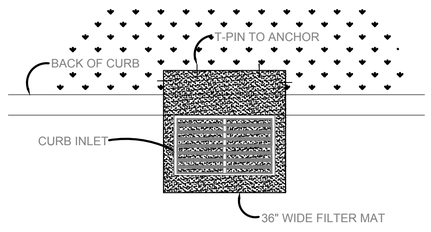


SECTION A-A

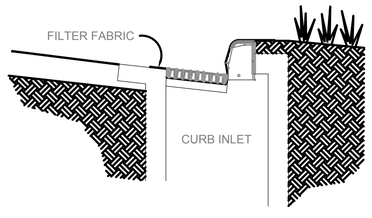
NOTES:

1. ALL ROCK BAG BARRIERS MUST AGREE WITH THE NOTES ON PREVIOUS PAGE.
2. PLACE CURB TYPE ROCK BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNNOFF.
3. BAGS OF WOVEN GEOTEXTILE FABRIC, FILLED WITH GRAVEL MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
4. LEAVE ONE SANDBAG GAP IN THE TOP ROW ON THE SIDE AWAY FROM FLOW, TO PROVIDE A SPILLWAY; OR IN THE CENTER IF PONDING IS NEEDED ON BOTH SIDES.
5. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY

ROCK BAG CURB INLET BARRIER



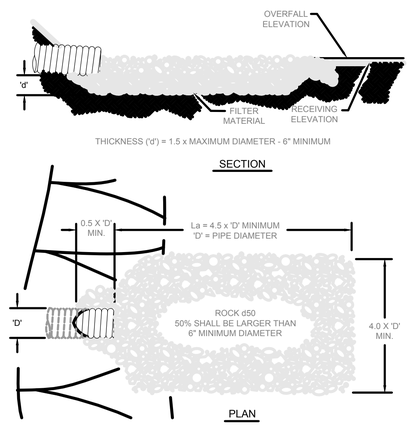
PLAN VIEW



NOTES:

1. USE FILTER MAT SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET, WITH MINIMAL NEED, WHERE WATER CAN FILTER AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

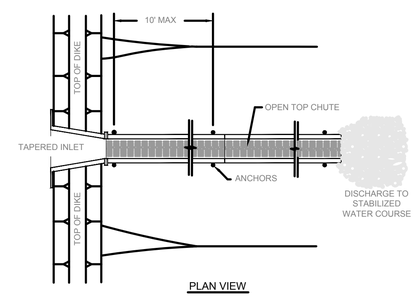
CURB INLET FILTER AMT SEDIMENT BARRIER



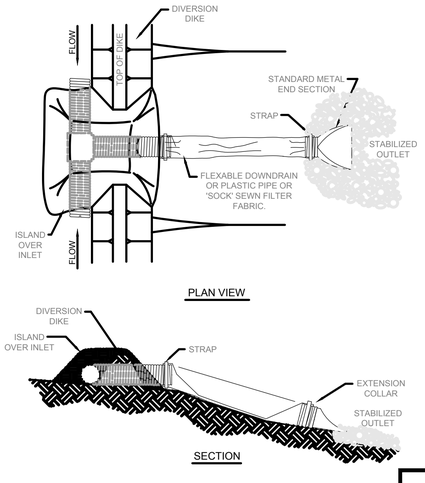
NOTES:

1. 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
2. APRON SHALL BE AT A ZERO GRADE AND ALIGNED STRAIGHT.
3. FILTER MATERIAL SHALL BE FILTER FABRIC OR 6" THICK MINIMUM GRADED GRAVEL LAYER.

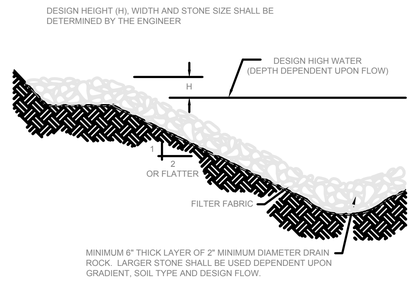
ENERGY DISSIPATER



OVERSIDE DRAIN



SLOPE DRAIN



TYPICAL SECTION

ROCK LINED CHANNEL

OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

EROSION CONTROL STANDARDS

APPROVED BY:
PAUL H. BRUM, P.E.
CITY ENGINEER
DATE 2-16-01

DRAWN:	DATE:	DWG. N0.
V.S.C.	02/14/01	ERO-D2

E:/CITY/ACAD2000-ERO/ERO-D2.DWG VSC 02/14/01

STORM WATER MANAGEMENT
EROSION AND SEDIMENT CONTROL NOTES

GENERAL NOTES

The following are requirements to be followed by the Contractor during all phases of the project. Please note that this construction will be accomplished under the provisions of the National Pollutant Discharge Elimination System (NPDES) of the U.S. Environmental Protection Agency (EPA). A Storm Water Pollution Prevention Plan (SWP3) must be prepared for this project in conformance with EPA regulations (Code of Federal Regulations (CFR) 40, Part 122) and Oklahoma Department of Environmental Quality (ODEQ) General Permit (OKR-10). The Contractor will be responsible for compliance with the OPDES permit and the SWP3, as well as with all provisions of the plans and specifications. It will also be the Contractor's responsibility to prevent soil or sediment loss from the construction site. The Contractor shall not leave the site until all erosion control, sediment control, and storm water management practices are in place; have been inspected and found satisfactory; and all temporary practices have been properly removed.

STORM WATER MANAGEMENT

The project must be designed to provide positive post-construction control of storm water runoff from the site [using gutters, curbs, inlets, piping, and outlets to the receiving stream]. The erosion and sediment control measures discussed below will also provide some temporary storm water controls. During the course of construction, the contractor will install and maintain storm water controls in the sequence specified herein to provide comprehensive management of storm water for a project of this nature.

EROSION AND SEDIMENT CONTROL

The project must be designed to minimize adverse off-site effects of soil erosion and resulting sediment loss through the use of proper construction techniques; and by installing both temporary and permanent management practices. All soil-disturbing activities performed by the Contractor will be accomplished in such manner as to prevent loss of sediment from the construction site during rainfall events. To accomplish this, the following specific steps will be taken during construction:

1 Immediately after mobilization but prior to initiation any soil-disturbing activities, the Contractor will install all specified perimeter controls on the site. These practices have been designed to trap all sediment produced during soil-disturbing activities, and to prevent off-site damage. It is recognized that some site preparation may be required to properly install these practices.

2 The recommended sequence for the installation and removal of erosion and sediment control measures is as follows: perimeter control measures (silt barriers and fencing) installed at designated areas; cleaning of street during construction; site grading (including temporary slope stabilization) as needed; installation of utilities; building construction; paving; final grading; installation of sod or vegetative materials; building construction; paving; final grading; installation of sod or vegetative materials; removal of temporary practices and perimeter controls; and site cleanup.

3 During all soil-disturbing activities, the Contractor will take appropriate steps using accepted construction methods to minimize exposure of unprotected soil and other construction materials to rainfall. Particular care must be exercised when dealing with topsoil stockpiles, fill material, or soil on slopes. The Contractor will maintain a date log of all soil disturbance activities or major grading operations, and of all management practice or control measure installations.

4 If, during the course of construction, any area of soil (including stockpiles) remains exposed for more than fourteen calendar days without suitable erosion control, then temporary stabilization measures should be installed unless soil-disturbing activities are planned on such areas within an additional seven calendar days. Suitable temporary stabilization measures are perimeter controls and silt barriers (such as rock bags, sand bags, and silt fencing) along all side-slope and down-slope borders of the disturbed area. Note that perimeter controls alone may not be successful; movement of large amounts of sediment produced by heavy rain on exposed soil could overwhelm such measures.

5 At the Contractor's discretion, additional temporary erosion control practices (such as rock bags, sand bag barriers, and silt fences) may be installed along any down-slope of side-slope perimeter of a soil-disturbed area to prevent sediment movement. Anchored erosion control matting, mulches, or other acceptable methods may also be installed to stabilize any unprotected slopes during construction, and hold them to the appropriate grade.

As site conditions warrant, the Contractor may also choose to modify the type or arrangement of specified practices to improve their effectiveness. As with any other project changes, the Contractor must present all proposed modifications to the Project Engineer for approval prior to installation.

6 The Contractor will inspect all specified practices at least once every fourteen calendar days, and after all rainfall events to insure that each specified practice remains intact. Any damage noted during such inspections shall be repaired promptly to restore the practice to original specifications. The Contractor will be responsible for maintenance of all erosion and sediment control practices as specified in the plans, including periodic regrading, and final grading after removal of all such practices.

7 When water is used for dust control or to promote vegetation, the Contractor will prevent the escape of this water and any sediment it may carry from the construction site.

8 Care must be exercised to prevent excessive off-site tracking of mud or sediment by construction vehicles. In addition to the specified gravel entrance, properly graveled transition areas should be established at all temporary site exits to assist in mud removal from departing vehicles. The Contractor shall be responsible for cleaning the street daily, or as directed by the City, when mud is tracked onto the street from the construction site.

9 During the site cleanup prior to the possession date, each temporary practice will be completely removed and the area finished to the appropriate post-project condition. This involves final grading, and installation of sod or grass seed on all bare soil areas. A minimum vegetation density of seventy percent, or an equivalent sediment stabilization measure (geotextiles, mulches, or gabions), is required until vegetation is established.

OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STORM WATER EROSION AND SEDIMENT CONTROL PROCEDURES

APPROVED: DATE 11/7/06
DENNIS CLOWERS, P.E.
CITY ENGINEER

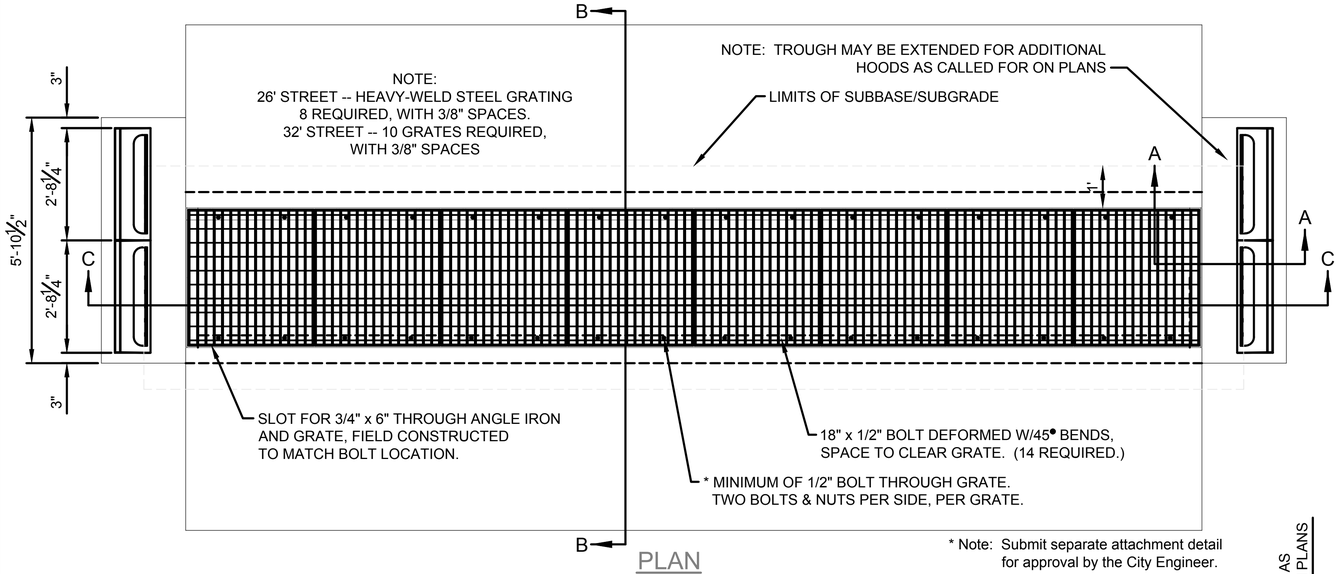
DRAWN:	DATE:	DWG. N0.
V.S.C.	11/07/06	D-010

E:/CITY/ACAD2000-STD/D-010.DWG VSC 11/17/06

QUANTITIES OF ANGLE IRON FOR CURB INLETS		
# OF CAST HOODS	# OF PIECES	LENGTH OF 3" x 3" ∠
2 - 0	1	5' - 1 5/8"
2 - 1	1	10' - 6 1/8"
2 - 2	1	15' - 10 5/8"
2 - 3	2	10' - 6 1/8"

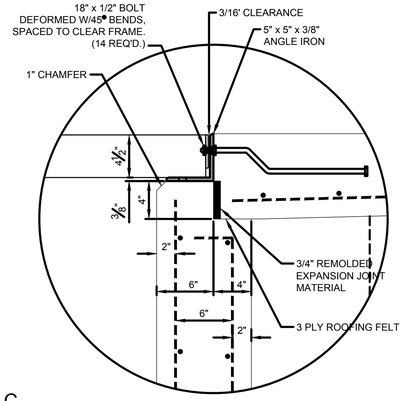
VARIABLE DIMENSION FOR ALL CURB CASTINGS			
	A	B	C
6" CURB FACE	7"	11 3/8"	8 1/4"
8" CURB FACE	9"	13 3/8"	10 1/4"

INLET CAPACITIES (CFS)		
STREET WIDTH	IKG GRATE	
	SUMP	ON GRADE (NOT IN SUMP)
26'	112	67
32'	140	84

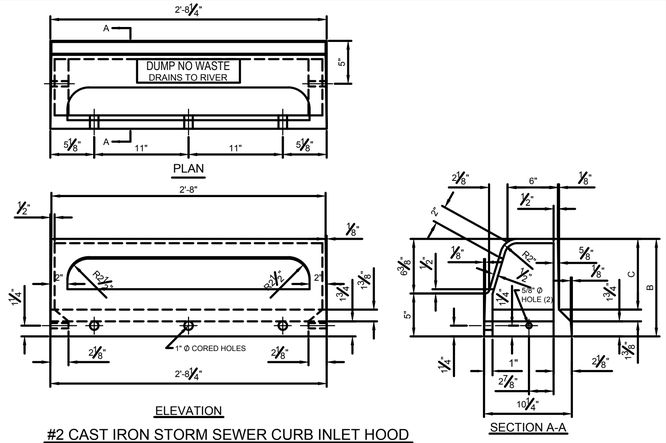


PLAN

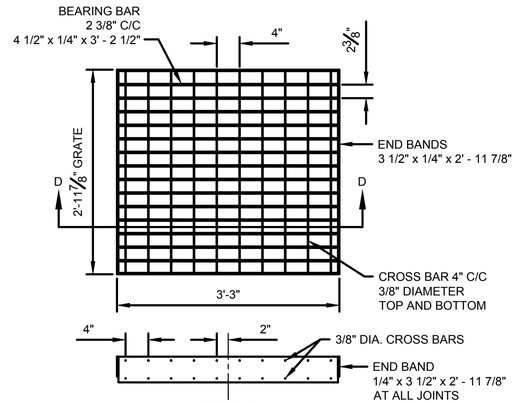
* Note: Submit separate attachment detail for approval by the City Engineer.



DETAIL "A"
ALTERNATE "A" ONLY

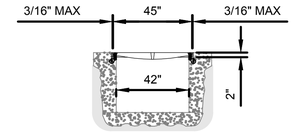


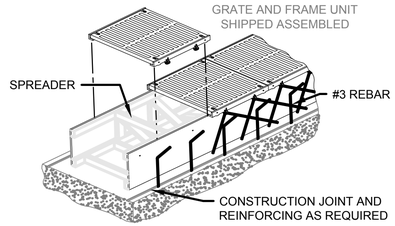
#2 CAST IRON STORM SEWER CURB INLET HOOD



16 BEARING BARS 4 1/2" X 1/4" x 3' - 2 1/2" LONG SPACED AT 2 3/8" C/C.
OVERALL DIMENSIONS 3' - 3" X 2' - 11 7/8" ARRANGED WITH 4 1/2" X 1/4" BEARING BARS
3' - 2 1/2" LONG WITH END BANDING 3 1/2" 1/4" END BANDS 2' 11 7/8" LONG & 3/8"
CROSS BARS TOP AND BOTTOM, 4" C/C SPACED AS SHOWN.

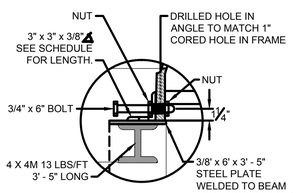
IKG INDUSTRIES IRVING HEAVY - WELD
GALVANIZED STEEL GRATING TYPE HE
ALTERNATE "A" ONLY





NEENAH FOUNDRY -- Type R-4999-NX w/ Type C Frame
OR APPROVED EQUIVALENT

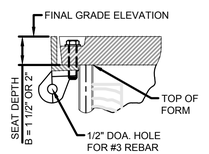
ALTERNATE "B" ONLY
To be installed as per manufacturer's specifications.



DETAIL "B"

NOTE: ANGLE IRON TO BE BOLTED TO CURB WITH 3(3/4" x 6") MACHINE BOLTS IN EACH CURB SECTION

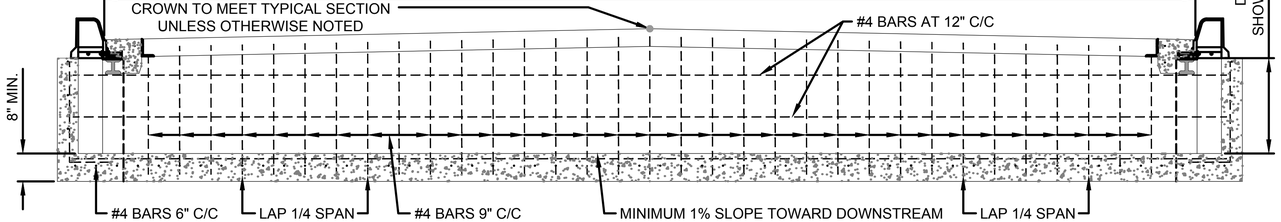
ALTERNATE "A" ONLY



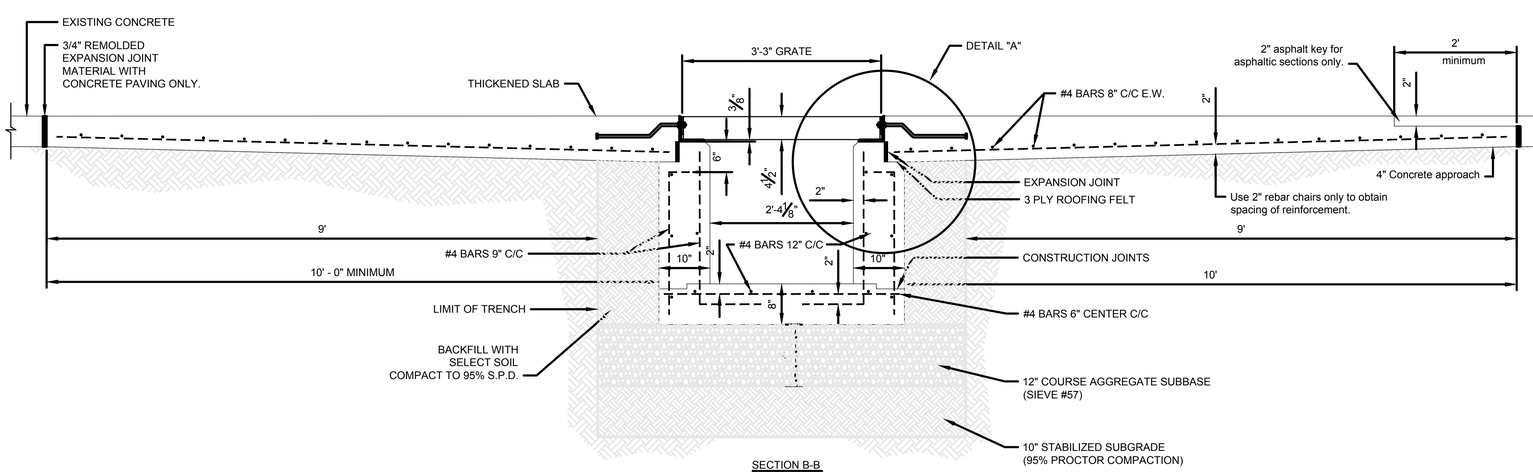
DETAIL "B"

For dimensions chart see 102-a06

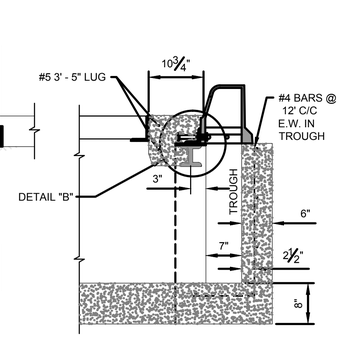
ALTERNATE "B" ONLY



LONGITUDINAL SECTION C-C



SECTION B-B



SECTION A-A
DETAIL FOR IRVING GRATE

OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

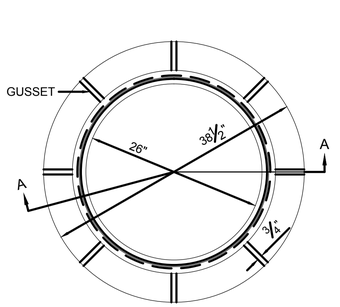
GRATED STREET INLET DETAIL

APPROVED BY: DENNIS CLOWERS, P.E. CITY ENGINEER — DATE: 07/31/09

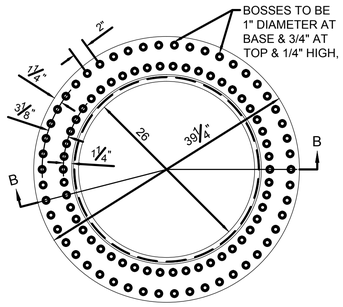
DRAWN:	DATE:	DWG. NO.
V.S.C.	07/31/09	D-102

E:/CITY/ACAD2000-STD/D-102.DWG VSC 08/31/09

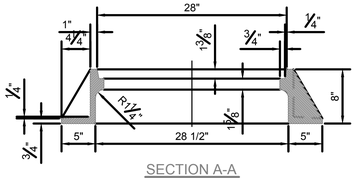
E:/CITY/ACAD2000-STD/D-102.DWG VSC 07/31/09



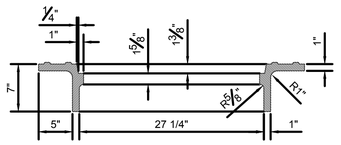
PLAN



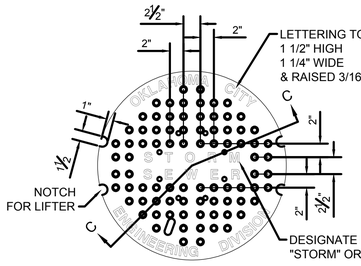
PLAN

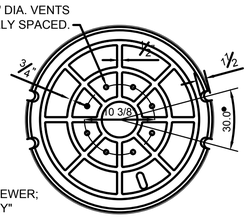


SECTION A-A

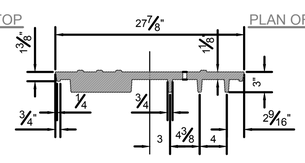


SECTION B-B





PLAN OF TOP



PLAN OF UNDERSIDE

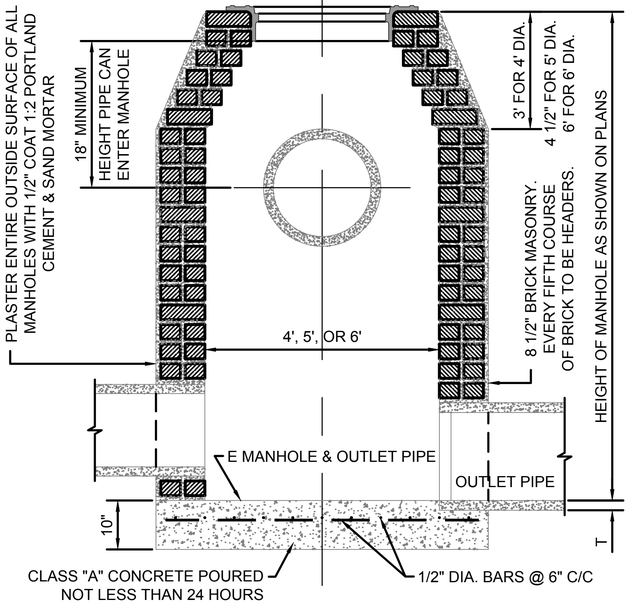
PLAN OF UNDERSIDE

GENERAL NOTES:

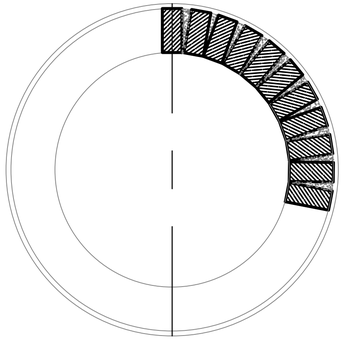
1. CASTINGS TO CONFORM TO THE A.S.T.M. SPECIFICATIONS FOR GRAY IRON CASTINGS, SERIAL DESIGNATION A 48-28.
2. WHEN EACH COVER IS PLACED IN ANY POSITION IN ITS ASSOCIATED FRAME, THE SIDE PLAY IN ANY DIRECTION SHALL NOT EXCEED 1/8".
3. TYPE A FRAMES SHALL BE USED ON PAVED STREETS AND ALLEYS.
4. TYPE A FRAMES SHALL BE USED ON UNPAVED STREETS AND ALLEYS.
5. NO WORDING OF MARKINGS OF ANY KIND OTHER THAN THOSE SHOWN ON THIS STANDARD WILL BE PERMITTED ON THESE CASTINGS.
6. THE AVERAGE WEIGHT OF CASTINGS WILL NOT BE LESS THAN 98% OF WEIGHTS SHOWN.
7. REVERSIBLE FRAME AND COVER D-204, MAY BE USED IN LIEU OF FRAME AND COVER SHOWN ON D-201.

CASTING WEIGHTS

"A" RING ONLY	347 LBS.
"B" RING ONLY	392 LBS.
COVER ONLY	251 LBS.
TOTAL TYPE "A"	598 LBS.
TOTAL TYPE "B"	643 LBS.

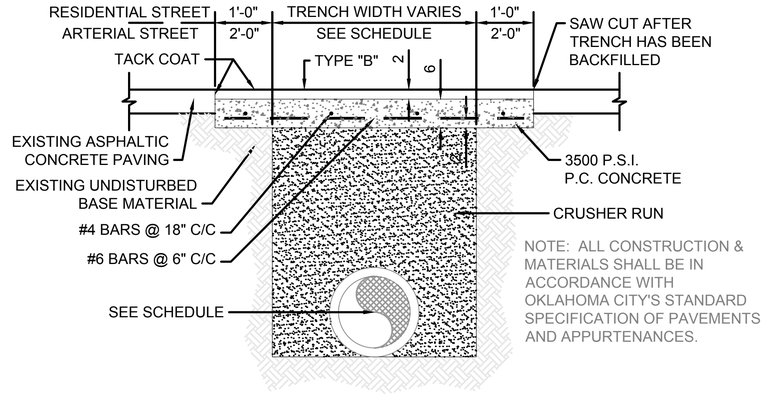


ELEVATION

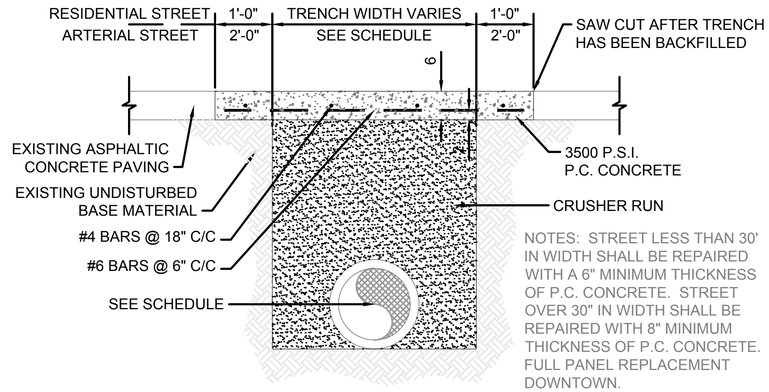


PLAN

DETAIL OF STANDARD MASONRY MANHOLE



TYPICAL PERMANENT REPAIR SECTION FOR ASPHALT CONCRETE PAVING



TYPICAL PERMANENT REPAIR SECTION FOR P.C. CONCRETE PAVING

TRENCH WIDTH SCHEDULE					
PIPE SIZE I.D.	12" OR LESS	15" TO 21"	24" TO 30"	33" TO 54"	60" & OVER
TRENCH WIDTH (W/O SHORING)	24"	O.D. + 12"	O.D. + 18"	O.D. + 15"	O.D. + 15"
TRENCH WIDTH (W/ SHORING)	36"	O.D. + 24"	O.D. + 30"	O.D. + 30"	O.D. + 36"

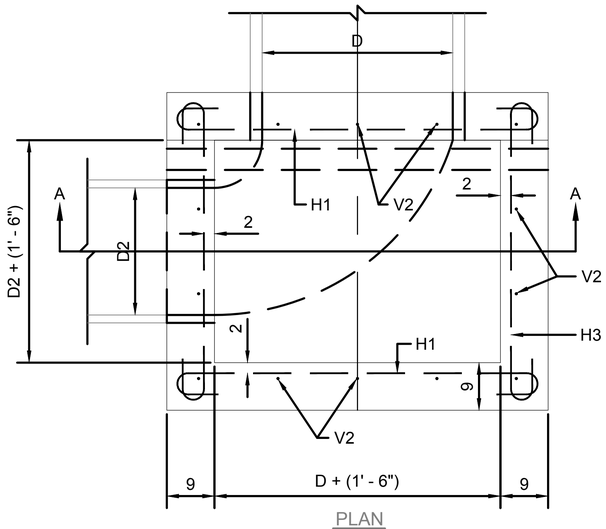
OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STANDARD MASONRY MANHOLE

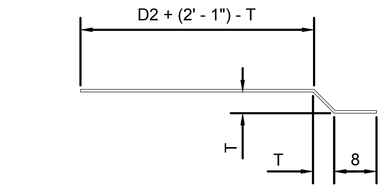
APPROVED: DATE: 11/7/06
CRAIG GLOWERS, P.E.
CITY ENGINEER

DRAWN:	DATE:	DWG. N0.
V.S.C.	11/07/06	D-201

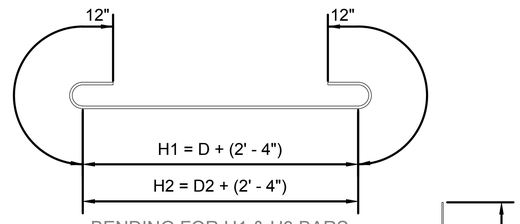
E:/CITY/ACAD2000-STD/D-201.DWG VSC 11/07/06



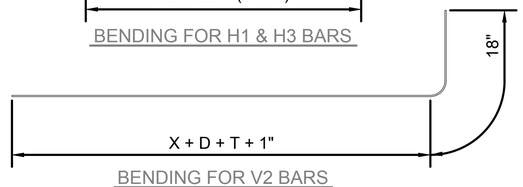
PLAN



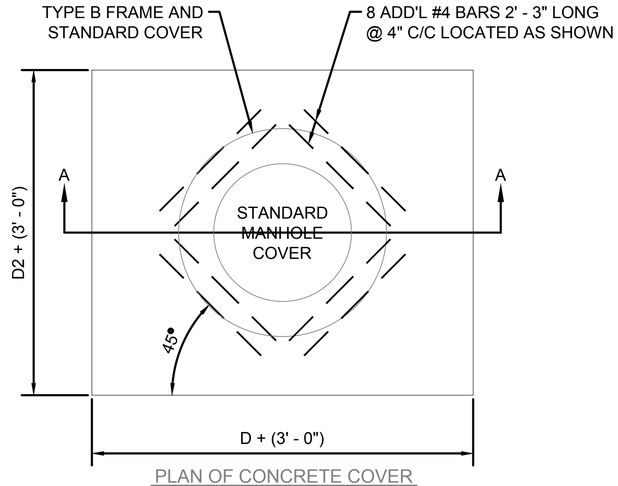
BENDING FOR H2 BARS



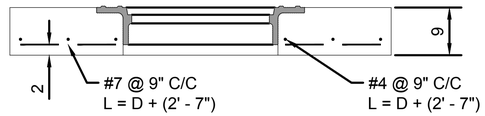
BENDING FOR H1 & H3 BARS



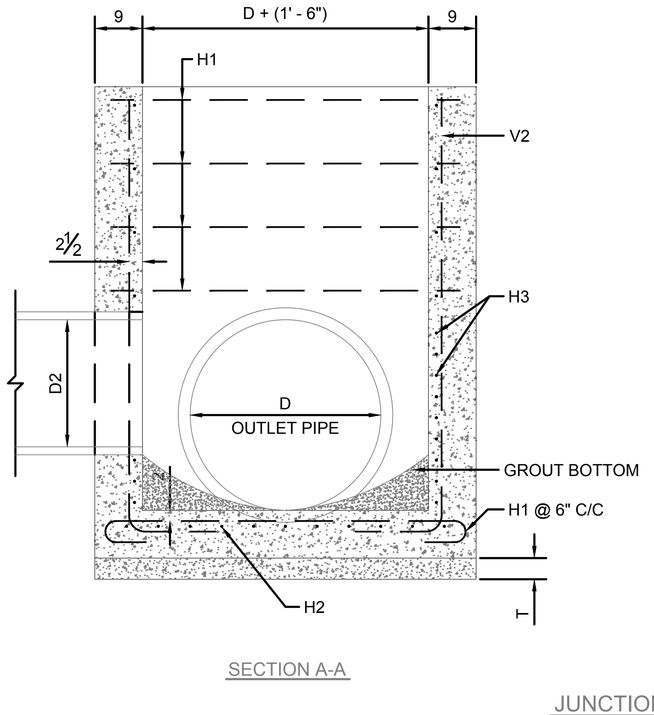
BENDING FOR V2 BARS



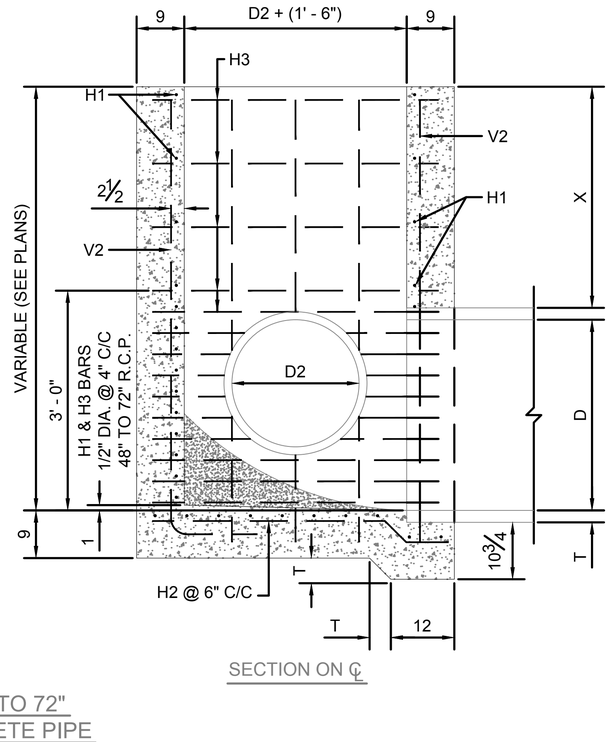
PLAN OF CONCRETE COVER



SECTION A-A



SECTION A-A



SECTION ON ℄

JUNCTION BOX 36" TO 72"
REINFORCED CONCRETE PIPE

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH OKLAHOMA CITY STANDARD SPECIFICATIONS.

2. ALL EXPOSED CONCRETE SURFACES SHALL HAVE A CARBORUNDUM FINISH.

3. ALL EXPOSED CONCRETE SURFACES SHALL HAVE A 3/4" CHAMFER

4. ALL REINFORCED STEEL SHALL BE 1/2" DIAMETER, EXCEPT AS NOTED. ALL HORIZONTAL BARS SHALL BE SPACED AS SHOWN. (18" MAXIMUM)

5. MAXIMUM DEPTHS OF BOXES FOR 48" TO 72" R.C.P. SHALL BE AS FOLLOWS: 48" - 18'; 54" - 16'; 60" - 12'; 72" - 10'.

6. REINFORCED CONCRETE PIPE SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M-170 (ASTM C-78) CLASS III UNLESS OTHERWISE DESIGNATED.

7. WALL THICKNESS (DIMENSION "T") OF PIPES SHOWN, ARE FROM "WALL B" COLUMN OF A.A.S.H.T.O. TABLES.

D	36"	42"	48"	54"	60"	66"	72"
T	4"	4 1/2"	5"	5 1/2"	6"	6 1/2"	7"

8. DIMENTION D2 IS THE DIAMETER OF THE LARGEST PIPE ENTERING THE JUNCTION BOX THROUGH THE SIDE.

9. DIMENTION "X" DEPENDS ON THE DEPTHS AS CALLED FOR IN THE PLANS.

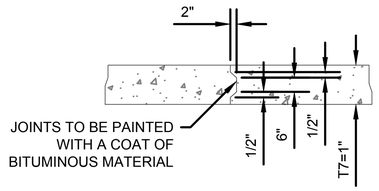
OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STANDARD REINFORCED CONCRETE JUNCTION BOX FOR 36" TO 72" REINFORCED CONCRETE PIPE

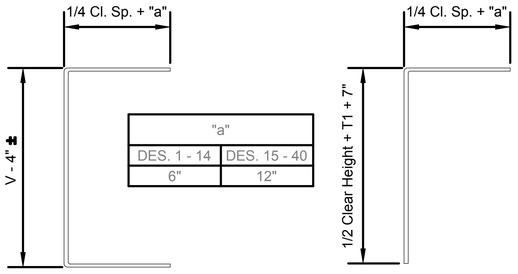
APPROVED BY
PAUL FLORUM, P.E.
CITY ENGINEER
DATE: 7-11-01

DRAWN:	DATE:	DWG. N0.
V.S.C.	04/16/01	D-203

E:/CITY/ACAD2000/STD/D-203.DWG VSC 04/16/01



DETAIL OF CONSTRUCTION JOINT

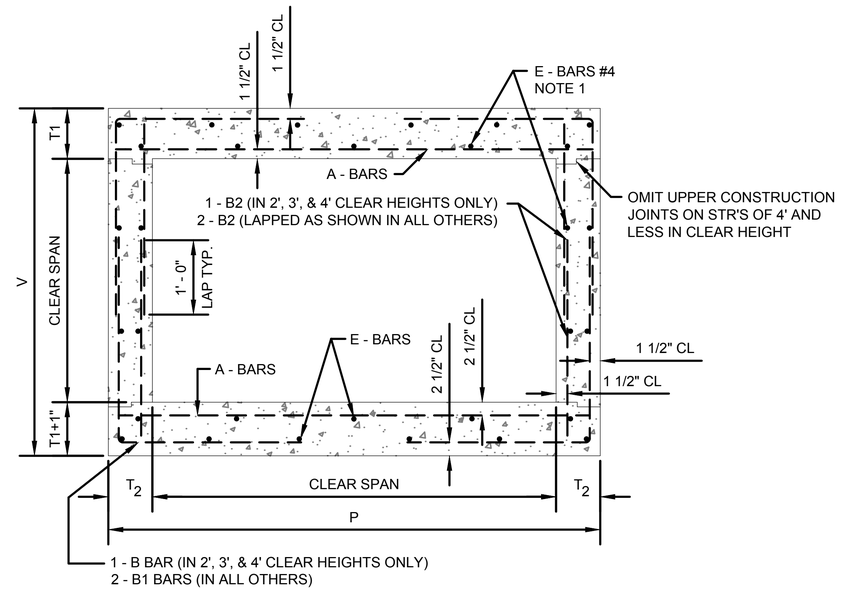


B - BAR
(SEE TABLE FOR TOTAL LENGTH)

B1 - BAR
(SEE TABLE FOR TOTAL LENGTH)

LIVE LOAD HS 20

Note:
R.C.B. DESIGN FOR FILL FROM 0' TO 8'.



TYPICAL BARREL SECTION

* 0' - 9" ✣ ADDED TO EACH BAR FOR LAP.
1 SPACING FOR BOTTOM OF TOP SLAB. ALL OTHERS @ 18" MAXIMUM

R.C.B. DESIGN FOR FILL FROM 0' TO 8'.

CLEAR SPAN	CLEAR HEIGHT	AREA SQ. FT.	DES NO.	DIMENSIONS				REINFORCING														QUANTITIES FOR ONE PEDESTAL		QUANTITIES PER LINEAR FT. OF BARREL	
								A - BARS			B - BARS			B1 - BARS			B2 - BARS			E - BARS #4					
				T1	T2	V	P	SIZE	SPC.	LNG.	SIZE	SPC.	LNG.	SIZE	SPC.	LNG.	SIZE	SPC.	LENGTH	NO	1	STEEL - LB.	CONC. C.Y.	STEEL - LB.	CONC. C.Y.
2'	2	4	1	6"	6"	3' - 1"	3' - 0"	#5	9"	2' - 8"	#4	15"	4' - 9"				#4	18"	2 @ 2' - 9"	19	9 1/4"	30	.21	27.64	.194
3'	2	6	2	6 1/4"	6"	3' - 1 1/2"	4' - 0"	#6	10 1/2"	3' - 8"	#4	11 1/2"	5' - 4"				#4	18"	2 @ 2' - 10"	21	8"	30	.28	36.85	.241
	2.5	7.5	3	6 1/4"	6"	3' - 7 1/2"	4' - 0"	#6	10"	3' - 8"	#4	11 1/2"	5' - 10"				#4	18"	2 @ 3' - 4"	21	8"	30	.28	38.35	.259
	3	9	4	6 1/4"	6"	4' - 1 1/2"	4' - 0"	#6	10"	3' - 8"	#4	11 1/2"	6' - 4"				#4	18"	2 @ 3' - 10"	21	8"	30	.28	39.49	.278
4'	2	8	5	7"	6"	3' - 3"	5' - 0"	#6	9"	4' - 8"	#4	10 1/2"	5' - 11"				#4	18"	2 @ 2' - 11"	23	8 3/4"	40	.35	45.68	.305
	2.5	10	6	7"	6"	3' - 9"	5' - 0"	#6	9"	4' - 8"	#4	10 1/2"	6' - 5"				#4	18"	2 @ 3' - 5"	23	8 3/4"	40	.35	46.88	.324
	3	12	7	7"	6"	4' - 3"	5' - 0"	#6	9"	4' - 8"	#4	9 1/2"	6' - 11"				#4	18"	2 @ 3' - 11"	27	8 3/4"	40	.35	50.77	.342
	4	16	8	7"	6"	5' - 3"	5' - 0"	#6	8 1/2"	4' - 8"	#4	12"	7' - 11"				#4	18"	2 @ 4' - 11"	27	8 3/4"	40	.35	52.80	.379
5'	2	10	9	7 1/2"	6"	3' - 4"	6' - 0"	#6	8"	5' - 8"	#4	10 1/2"	6' - 6"				#4	18"	2 @ 3' - 0"	26	8"	50	.42	56.54	.370
	3	15	10	7 1/2"	6"	4' - 4"	6' - 0"	#6	8"	5' - 8"	#4	11"	7' - 6"				#4	18"	2 @ 4' - 0"	30	8"	50	.42	60.07	.407
	4	20	11	7 1/2"	6"	5' - 4"	6' - 0"	#6	7 1/2"	5' - 8"	#4	12"	8' - 6"				#4	18"	2 @ 5' - 0"	30	8"	50	.42	63.08	.444
	5	25	12	7 1/2"	6"	6' - 4"	6' - 0"	#6	7"	5' - 8"				#4	12"	5' - 6"	#4	18"	4 @ 3' - 9" *	34	8"	50	.42	73.26	.481
6'	3	18	13	8"	6"	4' - 5"	7' - 0"	#6	7"	6' - 8"	#4	11"	8' - 1"				#4	18"	2 @ 4' - 1"	31	8 1/2"	60	.49	70.45	.478
	4	24	14	8"	7"	5' - 5"	7' - 2"	#6	7"	6' - 10"	#4	10 1/2"	9' - 1"				#4	18"	2 @ 5' - 1"	31	8 1/2"	60	.50	74.27	.548
	5	30	15	8"	8"	6' - 5"	7' - 4"	#6	7 1/2"	7' - 0"				#5	10 1/2"	6' - 3"	#4	18"	4 @ 3' - 10" *	39	8 1/2"	60	.51	83.94	.631
	6	36	16	8"	8"	7' - 5"	7' - 4"	#6	7 1/2"	7' - 0"				#5	10 1/2"	6' - 9"	#4	18"	4 @ 4' - 4" *	39	8 1/2"	60	.51	86.22	.680
8'	3	24	17	9"	8"	4' - 7"	9' - 4"	#7	10"	9' - 0"	#5	9 1/2"	10' - 3"				#4	18"	2 @ 4' - 3"	37	9"	80	.65	99.66	.694
	4	32	18	9"	8"	5' - 7"	9' - 4"	#7	9 1/2"	9' - 0"	#5	11"	11' - 3"				#4	18"	2 @ 5' - 3"	37	9"	80	.65	101.48	.744
	5	40	19	9"	8"	6' - 7"	9' - 4"	#7	9"	9' - 0"				#5	11"	6' - 10"	#4	18"	4 @ 3' - 11" *	41	9"	80	.65	114.52	.793
	6	48	20	9"	9"	7' - 7"	9' - 6"	#7	9 1/2"	9' - 2"				#5	10"	7' - 4"	#4	18"	4 @ 4' - 5" *	41	9"	80	.66	119.32	.890
	7	56	21	9"	9"	8' - 7"	9' - 6"	#7	9 1/2"	9' - 2"				#5	10"	7' - 10"	#4	18"	4 @ 4' - 11" *	45	9"	80	.66	125.38	.945
	8	64	22	9"	9"	9' - 7"	9' - 6"	#7	9"	9' - 2"				#5	10"	8' - 4"	#4	18"	4 @ 5' - 4" *	49	9"	80	.66	133.91	1.001
10'	3	30	23	10"	8"	4' - 9"	11' - 4"	#7	9"	11' - 0"	#5	8 1/2"	11' - 5"				#4	18"	2 @ 4' - 5"	47	8 3/4"	90	.79	128.89	.882
	4	40	24	10"	8"	5' - 9"	11' - 4"	#7	8 1/2"	11' - 0"	#5	9"	12' - 5"				#4	18"	2 @ 5' - 5"	47	8 3/4"	90	.79	134.25	.931
	5	50	25	10"	8"	6' - 9"	11' - 4"	#7	8"	11' - 0"				#5	10"	7' - 5"	#4	18"	4 @ 4' - 0" *	51	8 3/4"	90	.79	145.78	.981
	6	60	26	10"	9"	7' - 9"	11' - 6"	#7	8 1/2"	11' - 2"				#5	9"	7' - 11"	#4	18"	4 @ 4' - 6" *	51	8 3/4"	90	.80	150.58	1.078
	7	70	27	10"	9"	8' - 9"	11' - 6"	#7	8 1/2"	11' - 2"				#5	9 1/2"	8' - 5"	#4	18"	4 @ 5' - 0" *	55	8 3/4"	90	.80	154.43	1.133
	8	80	28	10"	9"	9' - 9"	11' - 6"	#7	8"	11' - 2"				#5	10"	8' - 11"	#4	18"	4 @ 5' - 6" *	59	8 3/4"	90	.80	162.32	1.189
	9	90	29	10"	9"	10' - 9"	11' - 6"	#7	8"	11' - 2"				#5	10"	9' - 5"	#4	15"	4 @ 6' - 0" *	59	8 3/4"	90	.80	167.86	1.244
	10	100	30	10"	9"	11' - 9"	11' - 6"	#7	8"	11' - 2"				#5	10"	9' - 11"	#4	9 1/2"	4 @ 6' - 6" *	63	8 3/4"	90	.80	182.15	1.300
	12	120	31	10"	9"	13' - 9"	11' - 6"	#7	8"	11' - 2"				#5	10"	10' - 11"	#5	8 1/2"	4 @ 7' - 6" *	67	8 3/4"	90	.80	212.06	1.411
12'	5	60	32	11"	9"	6' - 11"	13' - 6"	#8	10 1/2"	13' - 2"				#5	8 1/2"	8' - 0"	#4	18"	4 @ 4' - 1" *	54	9 1/4"	110	.94	170.78	1.235
	6	72	33	11"	9"	7' - 11"	13' - 6"	#8	10 1/2"	13' - 2"				#5	9"	8' - 6"	#4	18"	4 @ 4' - 7" *	54	9 1/4"	110	.94	171.86	1.290
	7	84	34	11"	9"	8' - 11"	13' - 6"	#8	10"	13' - 2"				#5	9 1/2"	9' - 0"	#4	18"	4 @ 5' - 1" *	58	9 1/4"	110	.94	179.57	1.346
	8	96	35	11"	9"	9' - 11"	13' - 6"	#8	10"	13' - 2"				#5	9 1/2"	9' - 6"	#4	18"	4 @ 5' - 7" *	62	9 1/4"	110	.94	185.78	1.401
	9	108	36	11"	9"	10' - 11"	13' - 6"	#8	10"	13' - 2"				#5	9 1/2"	10' - 0"	#4	12"	4 @ 6' - 1" *	66	9 1/4"	110	.94	197.39	1.457
	10	120	37	11"	10"	11' - 11"	13' - 8"	#8	10"	13' - 4"				#5	9"	10' - 6"	#4	12"	4 @ 6' - 7" *	66	9 1/4"	110	.94	205.54	1.586
	11	132	38	11"	10"	12' - 11"	13' - 8"	#8	10"	13' - 4"				#5	9"	11' - 0"	#4	11"	4 @ 7' - 1" *	70	9 1/4"	110	.95	214.05	1.648
	12	144	39	11"	10"	13' - 11"	13' - 8"	#8	10"	13' - 4"				#5	8 1/2"	11' - 6"	#5	11 1/2"	4 @ 7' - 7" *	70	9 1/4"	110	.95	232.96	1.709
	14	168	40	11"	11"	15' - 11"	13' - 10"	#8	10 1/2"	13' - 6"				#6	10"	12' - 6"	#5	8 1/2"	4 @ 8' - 7" *	78	9 1/4"	110	.96	275.12	1.931

NOTES:

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE OKLAHOMA CITY STANDARD SPECIFICATIONS.

REINFORCING STEEL IN BOTTOM SLAB (FOOTING) SHALL BE SUPPORTED ON BAR CHAIRS. CHAIRS SHALL BE SUPPORTED ON TIMBER PLANK OR CLASS "C" CONCRETE STRIPS PLACED AT 4" CENTERS.

REINFORCING STEEL IN TOP SLAB SHALL BE SUPPORTED ON SLAB SPACERS.

REINFORCING STEEL IN THE WALLS SHALL BE HELD IN PLACE BY METAL CHAIRS. MAXIMUM SPACING OF THE CHAIRS SHALL BE 6'.

COST OF METAL CHAIRS, WOOD PLANK OR CONCRETE STRIPS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

OKLAHOMA CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STANDARD RFCB - 1C - B

APPROVED BY:
PAUL HOGRUM, P.E.
CITY ENGINEER
DATE: 7-11-01

DRAWN:	DATE:	DWG. N0.
V.S.C.	04/21/01	D-301

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