

FILE LOCATION: P:\1815\06-06-033\01-033\Civil.dwg TAB NAME: Cover USER: Cit SAV: 8/14/2017 12:38 PM PLOT: 8/15/2017 1:29 PM

**GENERAL NOTES:**

- A. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.
- B. CONTRACTOR SHALL BE RESPONSIBLE FOR RAZING AND REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED. REF. SITE WORK SPECIFICATIONS.
- C. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- D. THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- E. ALL CONSTRUCTION IN STATE HIGHWAY DEPARTMENT RIGHT-OF-WAY SHALL BE COORDINATED WITH THE HIGHWAY DEPARTMENT RESIDENT MAINTENANCE ENGINEER. SPECIFICATIONS ADOPTED BY USA DEPARTMENT OF TRANSPORTATION, MARCH 1, 1993, AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT.
- F. ALL SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE RELEVANT UTILITY COMPANY OR REGULATORY AUTHORITY, AND THE SPECIFICATIONS FOR THE CONSTRUCTION OF THE EXISTING IMPROVEMENTS WHICH ARE BEING ALTERED OR REPLACED. CONTRACTOR SHALL CONTACT THE ENGINEER FOR SPECIFICATION SECTIONS FOR ITEMS SUCH AS LANDSCAPING AND IRRIGATION THAT ARE AFFECTED BY THE WORK BUT NOT COMPLETELY DETAILED OR SPECIFIED ON THESE PLANS.
- G. CONSTRUCTION TO BE IN COMPLIANCE WITH THE CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS.

**WETLANDS NOTICE:**

ANY DEVELOPMENT, EXCAVATION, CONSTRUCTION, OR FILLING IN A U.S. CORPS OF ENGINEERS DESIGNATED WETLAND IS SUBJECT TO LOCAL, STATE AND FEDERAL APPROVALS. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND/OR RESTRICTIONS AND ANY VIOLATION WILL BE SUBJECT TO FEDERAL PENALTY. THE CONTRACTOR SHALL HOLD THE OWNER/ DEVELOPER, THE ENGINEER AND THE LOCAL GOVERNING AGENCIES HARMLESS AGAINST SUCH VIOLATION.

**WARRANTY/DISCLAIMER:**

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

**NOTICE TO BIDDERS:**

ALL QUESTIONS REGARDING THE PREPARATION OF THE GENERAL CONTRACTOR'S BID SHALL BE DIRECTED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE. SUBCONTRACTORS MUST DIRECT THEIR QUESTIONS THROUGH THE GENERAL CONTRACTOR. THE CONSULTING ARCHITECT AND/OR THE CONSULTING ENGINEER SHALL NOT BE CONTACTED DIRECTLY WITHOUT PRIOR AUTHORIZATION FROM THE OWNER/DEVELOPER.

**FLOOD CERTIFICATION:**

THIS PROPERTY LIES IN UNSHADED ZONE "X" AND DOES NOT LOCATE WITHIN ANY PRESENTLY ESTABLISHED 100-YEAR FLOOD PLAIN, AS SHOWN BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP FOR THE CITY OF BROKEN ARROW, WAGONER COUNTY, OKLAHOMA, COMMUNITY PANEL NUMBER 40145C0095J EFFECTIVE DATE SEPTEMBER 30, 2016.

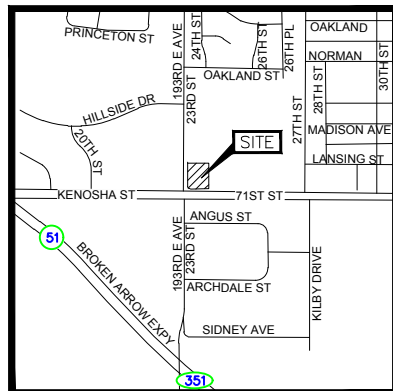
**BENCHMARKS:**

BM-1 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP  
ELEVATION=732.73'

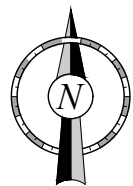
**IMPERVIOUS CALCULATIONS:**

TOTAL SITE AREA: 79,070 S.F.  
EXISTING IMPERVIOUS AREA: 66,376 S.F.  
PROPOSED IMPERVIOUS AREA: 71,991 S.F.  
TOTAL IMPERVIOUS INCREASE: 5,615 S.F.

# SITE DEVELOPMENT PLANS FOR QUIKTRIP STORE #0033 2400 E. KENOSHA ST. BROKEN ARROW, OK



**Vicinity Map**  
Not to Scale



**MUNICIPAL CONTACT LIST:**

CITY OF BROKEN ARROW		
<u>INCOG</u> 2 WEST 2ND STREET #800 TULSA, OK 74103 TEL: (918) 579-9470 FAX: (918) 583-1024 CONTACT: SUSAN MILLER	<u>DEVELOPMENT SERVICES DEPARTMENT</u> 220 S. 1ST STREET BROKEN ARROW, OK 74012 TEL: (918) 259-2400 EXT. 5426 CONTACT: MICHAEL SKATES	<u>AEP/PSO</u> 212 E. 6TH STREET TULSA, OK 74102 TEL: (918) 250-6211
<u>CITY OF BROKEN ARROW ENGINEERING DEPARTMENT</u> 485 NORTH POPLAR AVENUE BROKEN ARROW, OK, 74013 TEL: (918) 259-7000 EXT. 5414 CONTACT: ALEX MILLS, P.E., CFM	<u>TRANSPORTATION DEPARTMENT</u> 1500 E. JOLIET BROKEN ARROW, OK 74012 TEL: (918) 259-4550 FAX: (918) 251-8799 CONTACT: JAMES MCNABB	<u>ONG</u> 5848 E. 15TH STREET TULSA, OK 74112-6402 TEL: (918) 831-8259
<u>CITY FIRE DEPARTMENT</u> 1101 N. 6TH STREET BROKEN ARROW, OK 74012 TEL: (918) 259-2400 EXT. 6355 CONTACT: JEREMY MOORE	<u>CITY WATER UTILITIES</u> 220 S. 1ST STREET BROKEN ARROW, OK 74012 TEL: (918) 259-7000 EXT. 7375 CONTACT: ANTHONY DANIEL	<u>AT&amp;T</u> 5303 E. 71ST STREET TULSA, OK 74136 TEL: (918) 596-6422
		<u>COX COMMUNICATIONS INC.</u> 11811 E. 51ST STREET TULSA, OK 74145 TEL: (918) 286-4716

**PROJECT CONTACT LIST:**

<u>SURVEYOR OF RECORD</u> SISEMORE WEISZ & ASSOCIATES, INC. DEAN ROBINSON, P.L.S. 6111 EAST 32ND PLACE TULSA, OKLAHOMA 74135 TEL: (918) 665-3600 FAX: (918) 665-8668	<u>QT REAL ESTATE PROJECT MANAGER</u> QUIKTRIP CORPORATION CARLY GOODNIGHT 4705 SOUTH 129TH EAST AVENUE TULSA, OKLAHOMA, 74134 TEL: (918)615-7137 EMAIL: CGOODNIG@QUIKTRIP.COM
<u>ENGINEER OF RECORD</u> AAB ENGINEERING, LLC ALAN BETCHAN, P.E. CFM PO BOX 2136, SAND SPRINGS OKLAHOMA, 74063 TEL: (918) 514-4283 FAX: (918) 514-4288	<u>QT CIVIL PROJECT MANAGER</u> QUIKTRIP CORPORATION TIM KELLY, P.E. 4705 SOUTH 129TH EAST AVENUE TULSA, OKLAHOMA 74134 TEL: (918)615-7432 EMAIL: TKELLY@QUIKTRIP.COM

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C110	GRADING PLAN
C111	DETAILED GRADING PLANS
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C540	DRAINAGE DETAILS
L100	LANDSCAPE PLAN
L110	IRRIGATION PLANS
L500	LANDSCAPE DETAILS
L510	IRRIGATION DETAILS



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
Engineering • Surveying  
P.O. Box 2136  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4283  
Fax: (918) 514-4288

**QuikTrip No. 0033**  
2400 E. KENOSHA ST.  
BROKEN ARROW, OK



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PROTOTYPE: P-91 (05/02/2017)
DIVISION: BROKEN ARROW
VERSION: 001
DESIGNED BY: AAB
DRAWN BY: KMT
REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET ISSUE DATE:

SHEET TITLE:  
COVER SHEET  
DD# XXXXXX

SHEET NUMBER:  
**C001**



1-800-522-6543

BENCHMARKS	
ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP	ELEVATION=732.73'

EXISTING ITEMS	
	UNDERGROUND CABLE
	OVERHEAD ELECTRIC
	GAS LINE (PLUS SIZE/TYPE ON PLANS)
	SANITARY SEWER LINE (PLUS SIZE/TYPE ON PLANS)
	STORM SEWER LINE ( $\geq 12"$ ) (PLUS SIZE/TYPE ON PLANS)
	WATER LINE (PLUS SIZE/TYPE ON PLANS)
	UTILITY PEDESTAL/RISE-PLUS TYPE OF UTILITY
	UTILITY POLE-PLUS TYPE OF UTILITY
	UTILITY POLE W/LIGHT
	UTILITY POLE W/TRANSFORMER
	UTILITY MANHOLE (PLUS TYPE/FL'S)
	UTILITY METER (PLUS TYPE)
	UTILITY VALVE (PLUS TYPE)
	UTILITY CLEAN OUT (PLUS TYPE/SIZE)
	GUY WIRE
	LIGHT POLE (PLUS # HEADS/DIRECTION SHOWN GRAPHICALLY)
	FIRE HYDRANT
	SINGLE POST SIGN (PLUS TYPE/VERBIAGE)
	TRAFFIC SIGNAL W/MAST ARM
	TRAFFIC SIGNAL
	TRAFFIC CONTROL BOX
	MAIL BOX
	MONITOR WELL
	MPD (MULTIPLE PRODUCT DISPENSER)
	BOLLARD
	PROPERTY R/W LINE (QT NET)
	SECTION LINE
	CURB LINE
	EDGE OF ASPHALT
	EDGE OF CONCRETE
	WALL
	EXISTING STRUCTURE (PLUS MATERIAL SF, # STORIES)
	UNDERGROUND STORAGE TANK (PLUS SIZE/PRODUCT IF AVAILABLE)
	ABOVEGROUND STORAGE TANK (HORIZONTAL) (PLUS SIZE/PRODUCT IF AVAILABLE)
	ABOVEGROUND STORAGE TANK (VERTICAL) (PLUS SIZE/PRODUCT IF AVAILABLE)

EXISTING LEGEND (ITEMS TO BE REMOVED)	
	WATER LINE
	SANITARY SEWER LINE
	GAS LINE
	TOP OF CURB AND GUTTER
	LIGHT POLE
	UTILITY METER
	UTILITY MANHOLE
	POWER POLE
	POWER POLE W/TRANSFORMER
	GUY WIRE
	CONCRETE (PAVEMENT/SIDEWALK)
	ASPHALT
	SANITARY SEWER CLEANOUT
	AIR CONDITIONING UNIT
	DOWN SPOUT
	MULTIPLE PRODUCT DISPENSER WITH CANOPY COLUMNS AND BOLLARDS



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
Engineering • Surveying  
P.O. Box 2198  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4283  
Fax: (918) 514-4288

**QuikTrip No. 0033**  
2400 E. KENOSHA ST.  
BROKEN ARROW, OK



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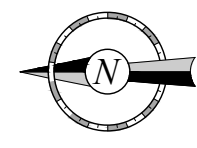
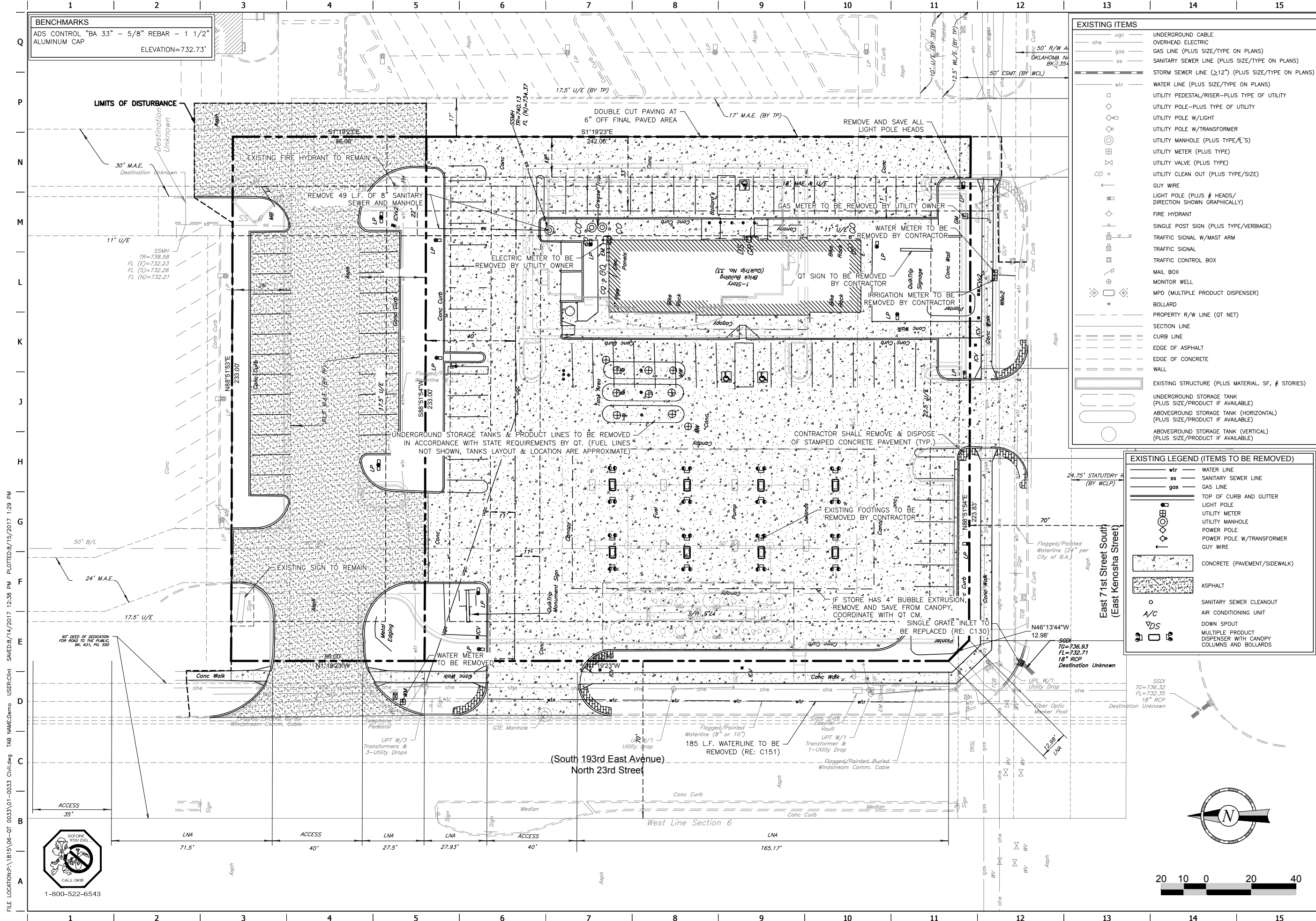
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DIVISION: BROKEN ARROW
VERSION: 001
DESIGNED BY: AAB
DRAWN BY: KMT
REVIEWED BY:

REV	DATE	DESCRIPTION

SHEET TITLE:  
DEMOLITION PLAN

SHEET NUMBER:  
**C030**

CONSTRUCTION SET ISSUE DATE:



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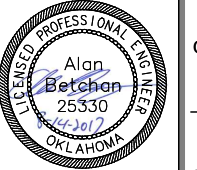


BENCHMARKS	
ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP	ELEVATION=732.73'

SITE LIGHTING FIXTURE TABLE		
TYPE	HEIGHT	QUANTITY
☐	22'	6
☐	22'	2
☐	22'	1
☐	22'	2

EXISTING LEGEND	
	UNDERGROUND CABLE
	OVERHEAD ELECTRIC
	GAS LINE (PLUS SIZE/TYPE ON PLANS)
	SANITARY SEWER LINE (PLUS SIZE/TYPE ON PLANS)
	STORM SEWER LINE (≥12") (PLUS SIZE/TYPE ON PLANS)
	WATER LINE (PLUS SIZE/TYPE ON PLANS)
	UTILITY PEDESTAL/RISER-PLUS TYPE OF UTILITY
	UTILITY POLE-PLUS TYPE OF UTILITY
	UTILITY POLE W/TRANSFORMER
	UTILITY MANHOLE (PLUS TYPE/RE'S)
	UTILITY METER (PLUS TYPE)
	UTILITY VALVE (PLUS TYPE)
	UTILITY CLEAN OUT (PLUS TYPE/SIZE)
	GUY WIRE
	LIGHT POLE (PLUS # HEADS/DIRECTION SHOWN GRAPHICALLY)
	FIRE HYDRANT
	SINGLE POST SIGN (PLUS TYPE/VERBIAGE)
	TRAFFIC SIGNAL W/MAST ARM
	TRAFFIC SIGNAL
	TRAFFIC CONTROL BOX
	MAIL BOX
	MONITOR WELL
	MPD (MULTIPLE PRODUCT DISPENSER)
	BOLLARD
	PROPERTY R/W LINE (QT NET)
	SECTION LINE
	CURB LINE
	EDGE OF ASPHALT
	EDGE OF CONCRETE
	WALL
	EXISTING STRUCTURE (PLUS MATERIAL, SF, # STORIES)

SITE LEGEND	
	BOUNDARY LINE
	CONCRETE CURB AND GUTTER
	QT ACCENT CONCRETE
	MOUNTABLE CURB W/RADIUS PROTECTOR
	PARKING SPACE INDICATOR
	AREA LIGHT
	MULTIPLE PRODUCT DISPENSER WITH CANOPY COLUMNS AND BOLLARDS
	FUEL SYSTEM ACCESS MANWAY



PROJECT NO.:  
**AAB Engineering, LLC**  
  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CAGE318 Exp. June 30, 2018  
 Office: (918) 514-4283  
 Fax: (918) 514-4288

**QuikTrip No. 0033**  
 2400 E. KENOSHA ST.  
 BROKEN ARROW, OK



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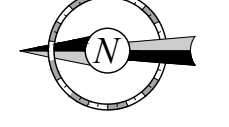
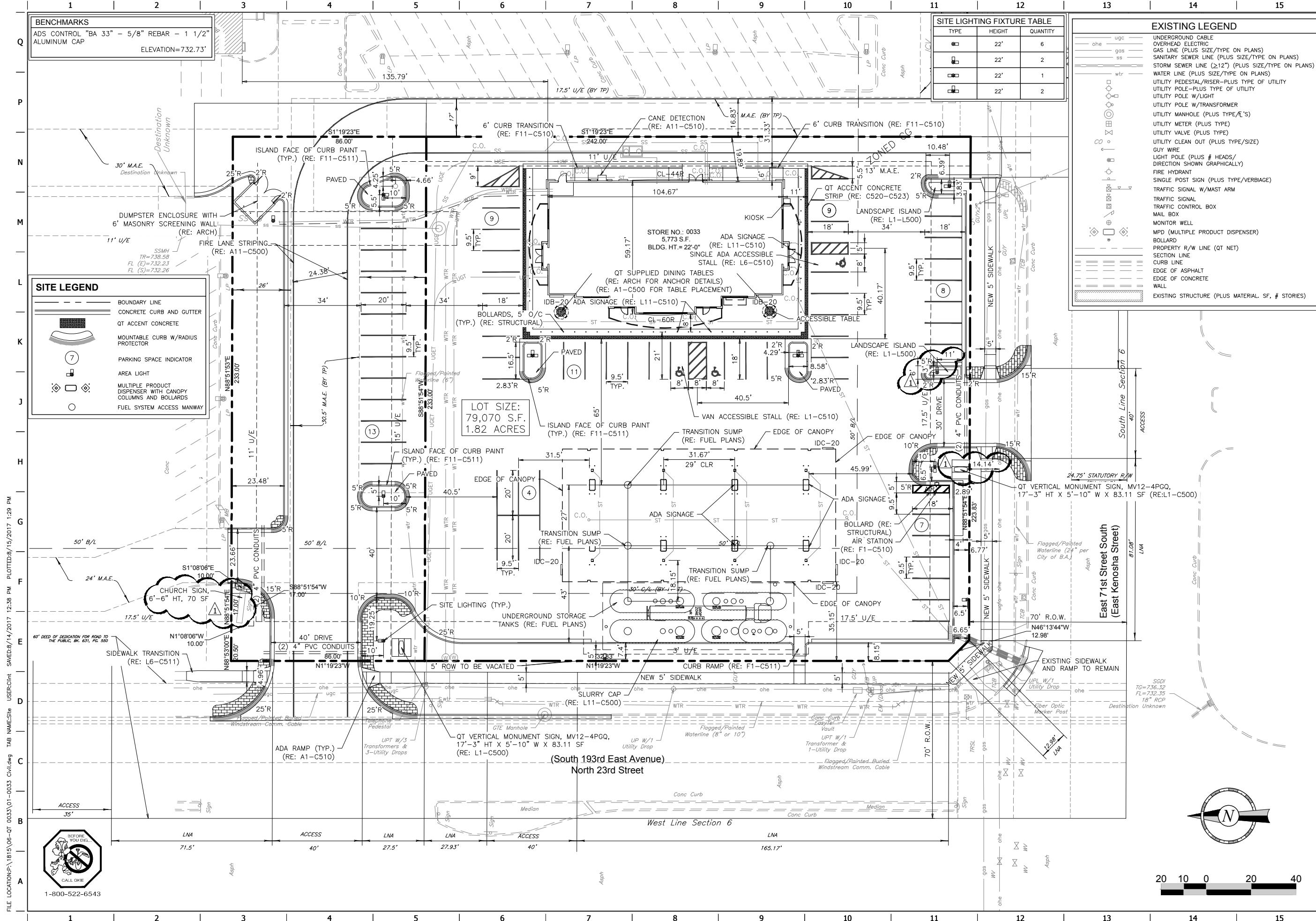
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 DIVISION: BROKEN ARROW  
 VERSION: 001  
 DESIGNED BY: AAB  
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REV	DATE	DESCRIPTION	REV. SIGN NAME	QT SIGN & LIGHT LOCATION
1	1/24/17			

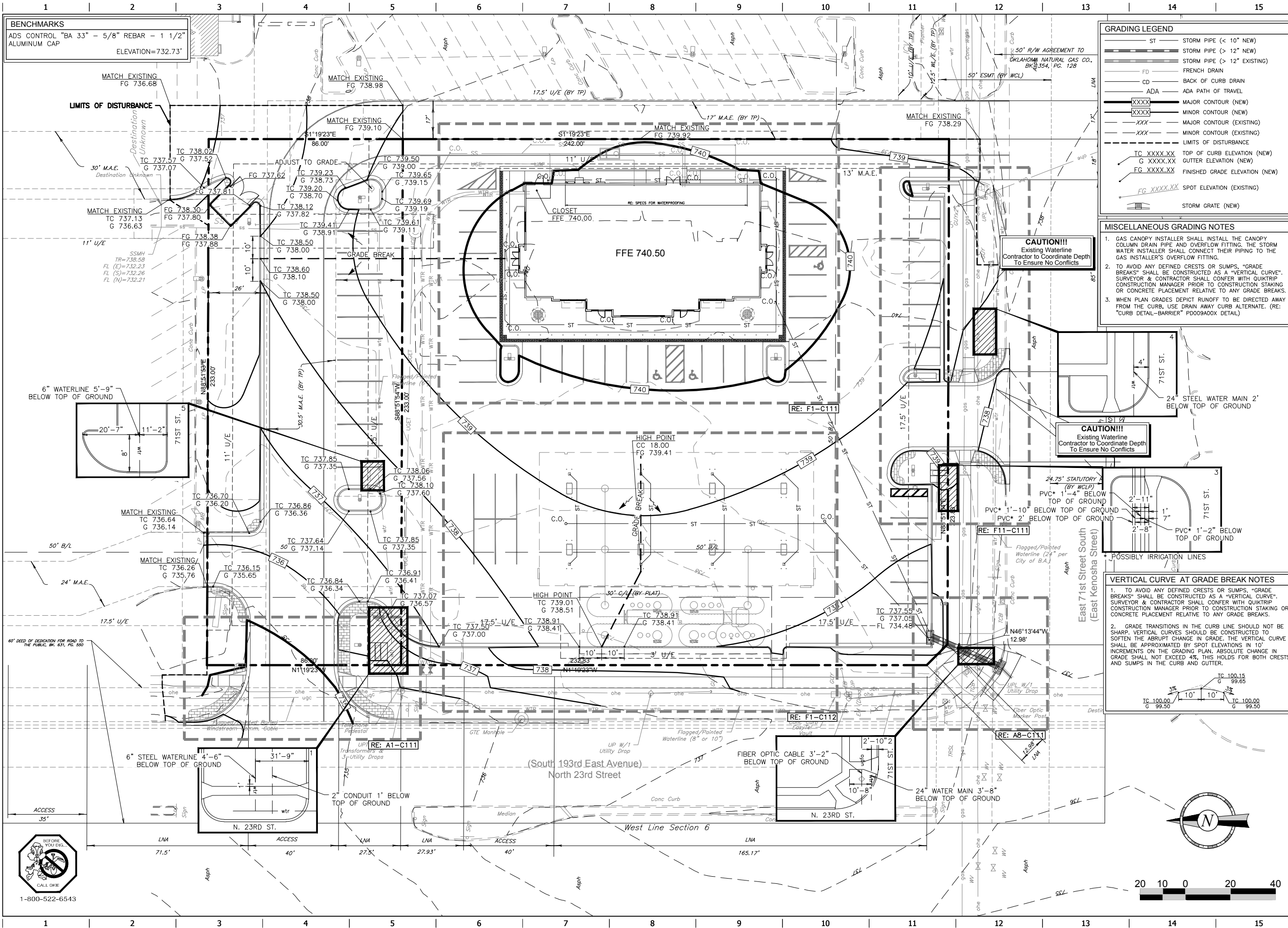
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 SITE PLAN

SHEET NUMBER:  
**C100**



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**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2"  
 ALUMINUM CAP  
 ELEVATION=732.73'

**GRADING LEGEND**

ST	STORM PIPE (< 10" NEW)
ST	STORM PIPE (> 12" NEW)
ST	STORM PIPE (> 12" EXISTING)
FD	FRENCH DRAIN
CD	BACK OF CURB DRAIN
ADA	ADA PATH OF TRAVEL
XXXX	MAJOR CONTOUR (NEW)
XXXX	MINOR CONTOUR (NEW)
XXX	MAJOR CONTOUR (EXISTING)
XXX	MINOR CONTOUR (EXISTING)
---	LIMITS OF DISTURBANCE
TC XXXX.XX	TOP OF CURB ELEVATION (NEW)
G XXXX.XX	GUTTER ELEVATION (NEW)
FG XXXX.XX	FINISHED GRADE ELEVATION (NEW)
FG XXXX.XX	SPOT ELEVATION (EXISTING)
SG	STORM GRATE (NEW)

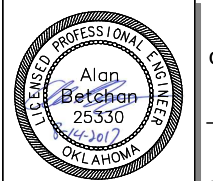
- MISCELLANEOUS GRADING NOTES**
- GAS CANOPY INSTALLER SHALL INSTALL THE CANOPY COLUMN DRAIN PIPE AND OVERFLOW FITTING. THE STORM WATER INSTALLER SHALL CONNECT THEIR PIPING TO THE GAS INSTALLER'S OVERFLOW FITTING.
  - TO AVOID ANY DEFINED CRESTS OR HUMPS, "GRADE BREAKS" SHALL BE CONSTRUCTED AS A "VERTICAL CURVE". SURVEYOR & CONTRACTOR SHALL CONFER WITH QUIKTRIP CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION STAKING OR CONCRETE PLACEMENT RELATIVE TO ANY GRADE BREAKS.
  - WHEN PLAN GRADES DEPIC RUNOFF TO BE DIRECTED AWAY FROM THE CURBS, USE DRAIN AWAY CURB ALTERNATE. (RE: "CURB DETAIL-BARRIER" P009A00X DETAIL)

**CAUTION!!!**  
 Existing Waterline  
 Contractor to Coordinate Depth  
 To Ensure No Conflicts

**CAUTION!!!**  
 Existing Waterline  
 Contractor to Coordinate Depth  
 To Ensure No Conflicts

**VERTICAL CURVE AT GRADE BREAK NOTES**

- TO AVOID ANY DEFINED CRESTS OR HUMPS, "GRADE BREAKS" SHALL BE CONSTRUCTED AS A "VERTICAL CURVE". SURVEYOR & CONTRACTOR SHALL CONFER WITH QUIKTRIP CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION STAKING OR CONCRETE PLACEMENT RELATIVE TO ANY GRADE BREAKS.
- GRADE TRANSITIONS IN THE CURB LINE SHOULD NOT BE SHARP. VERTICAL CURVES SHOULD BE CONSTRUCTED TO SOFTEN THE ABRUPT CHANGE IN GRADE. THE VERTICAL CURVE SHALL BE APPROXIMATED BY SPOT ELEVATIONS IN 10' INCREMENTS ON THE GRADING PLAN. ABSOLUTE CHANGE IN GRADE SHALL NOT EXCEED 4%. THIS HOLDS FOR BOTH CRESTS AND HUMPS IN THE CURB AND GUTTER.



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2136  
 Sand Springs, OK 74063  
 OK CARR6318 Exp. June 30, 2018  
 Office: (918) 514-4283  
 Fax: (918) 514-4288

**QuikTrip No. 0033**  
 2400 E. KENOSHA ST.  
 BROKEN ARROW, OK



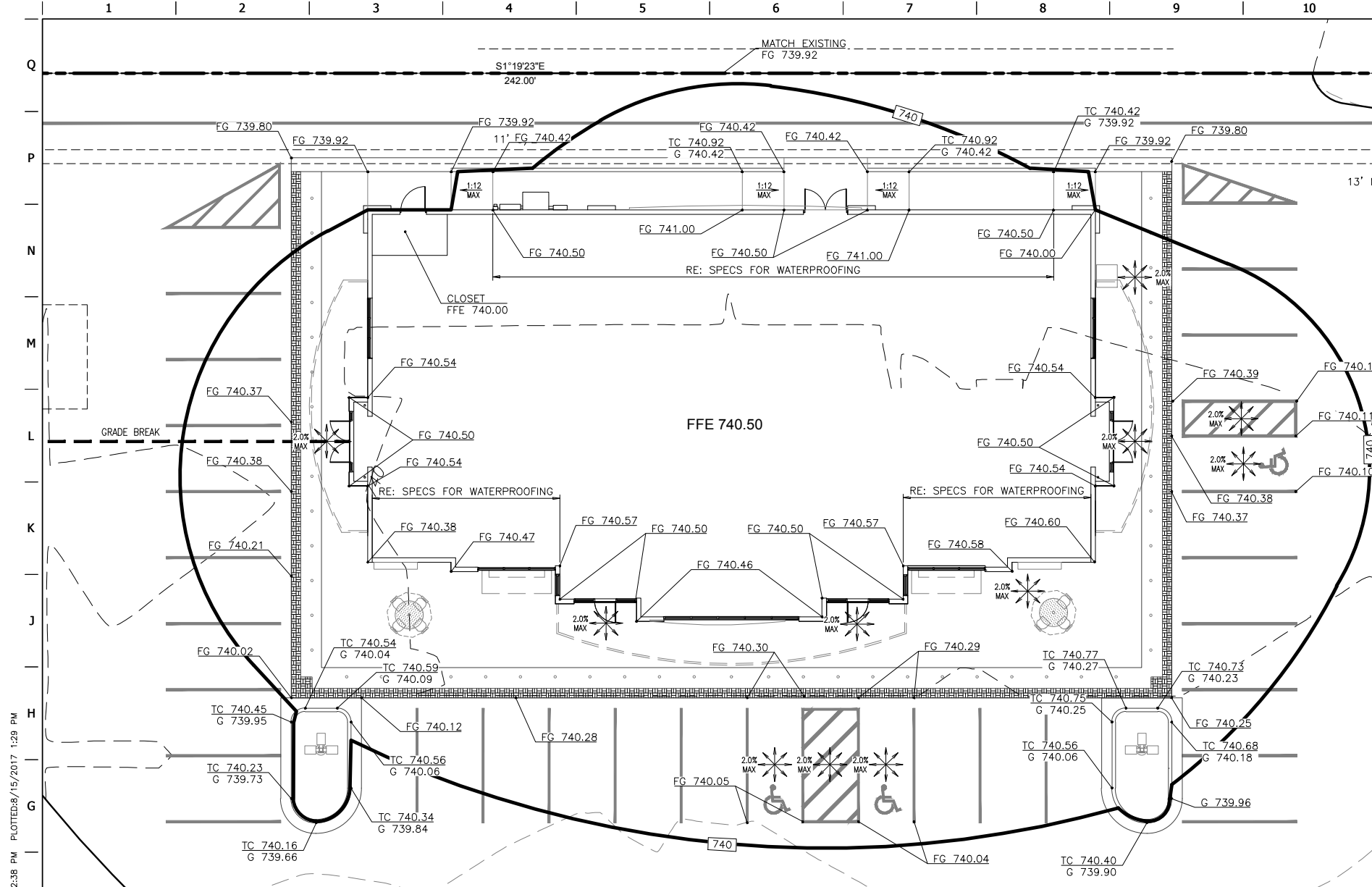
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 DIVISION: BROKEN ARROW  
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REV	DATE	DESCRIPTION

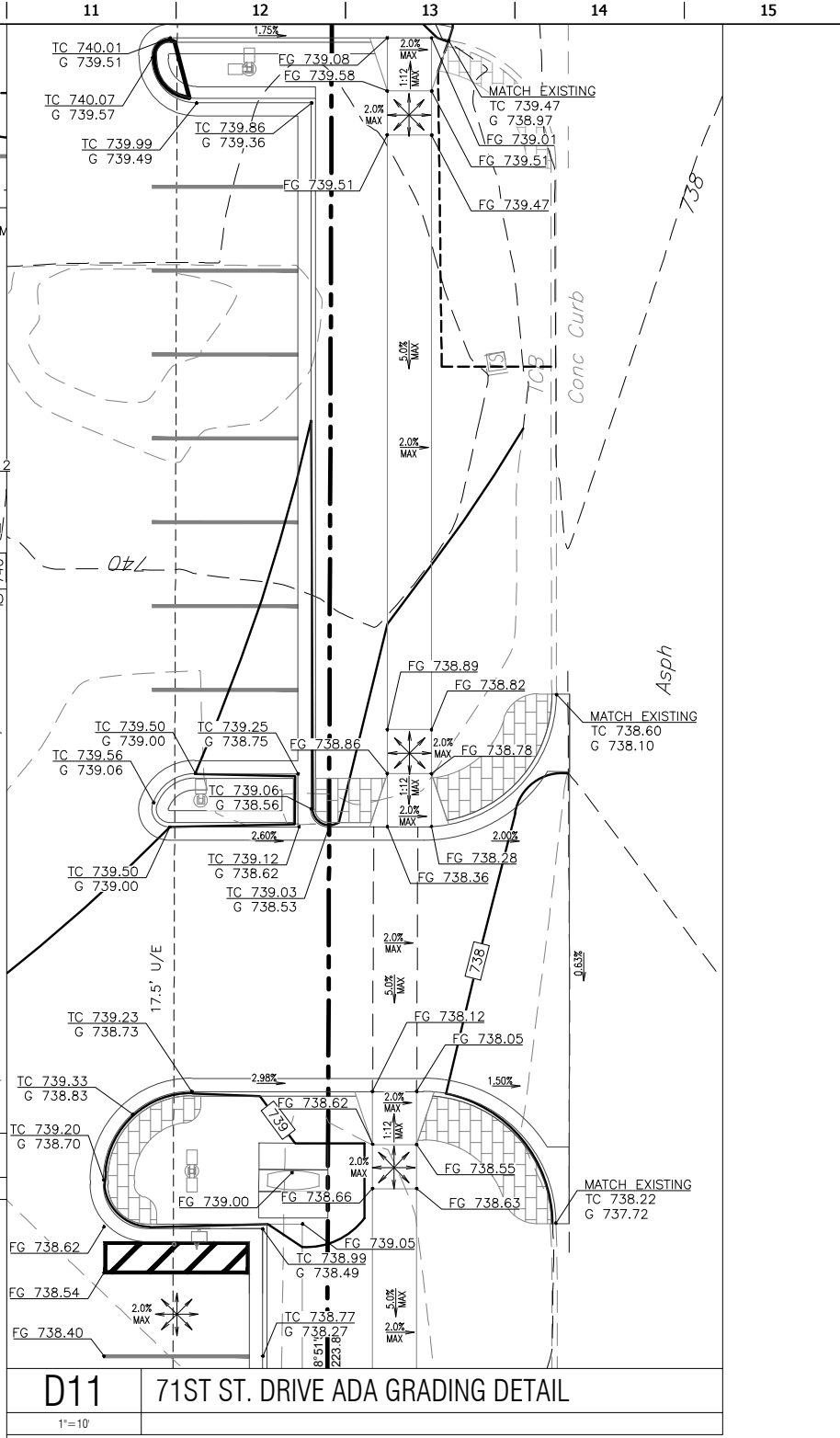
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 GRADING PLAN  
 SHEET NUMBER:  
**C110**

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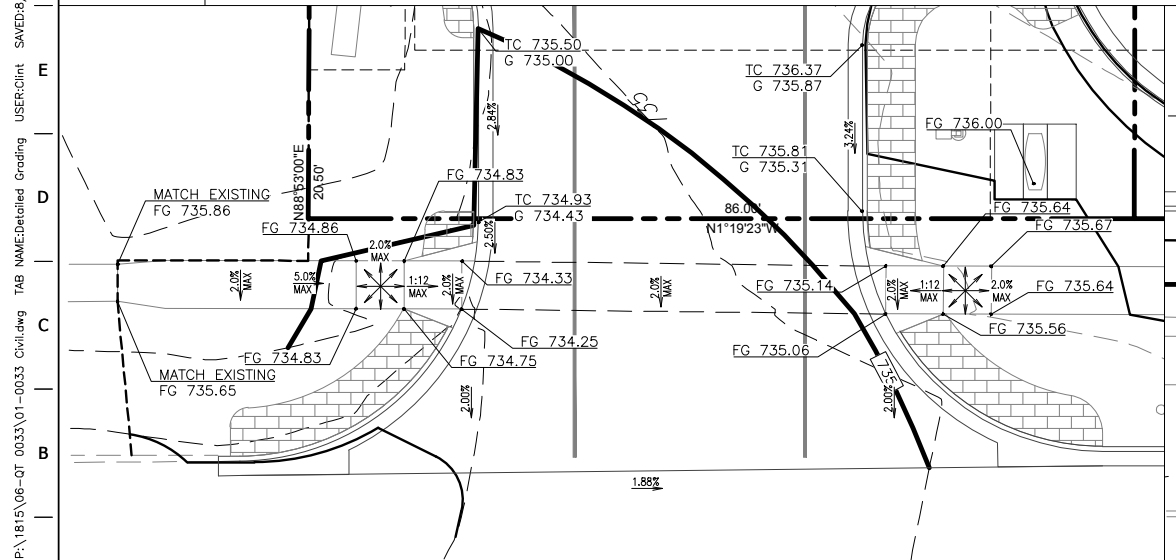




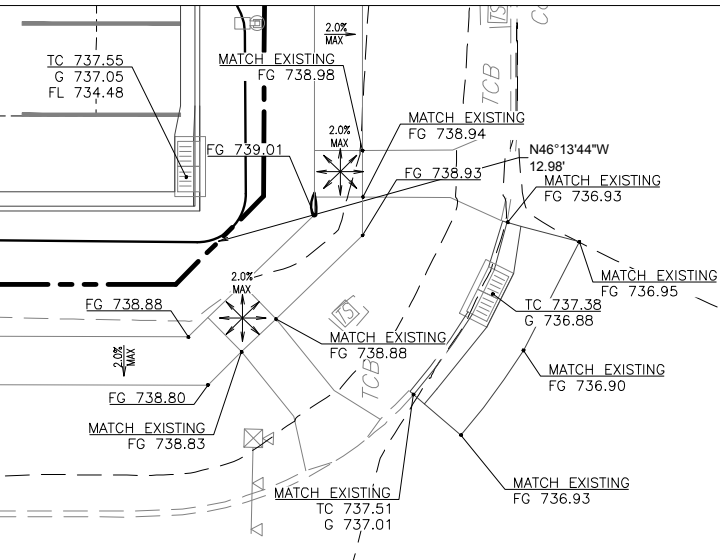
**F1 BUILDING ISLAND GRADING DETAIL**  
1"=10'



**D11 71ST ST. DRIVE ADA GRADING DETAIL**  
1"=10'



**A1 NORTH 23RD STREET DRIVE ADA GRADING DETAIL**  
1"=10'



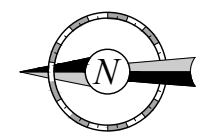
**A8 INTERSECTION ADA GRADING DETAIL**  
1"=10'

**GRADING LEGEND**

- XXXX MAJOR CONTOUR (NEW)
- XXXX MINOR CONTOUR (NEW)
- XXXX MAJOR CONTOUR (EXISTING)
- XXX MINOR CONTOUR (EXISTING)
- LIMITS OF DISTURBANCE
- TC XXXX.XX TOP OF CURB ELEVATION (NEW)
- G XXXX.XX GUTTER ELEVATION (NEW)
- FG XXXX.XX FINISHED GRADE ELEVATION (NEW)
- FG XXXX.XX SPOT ELEVATION (EXISTING)
- STORM GRATE (NEW)

**BENCHMARKS**

ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP ELEVATION=732.73'



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REVIEWED BY:

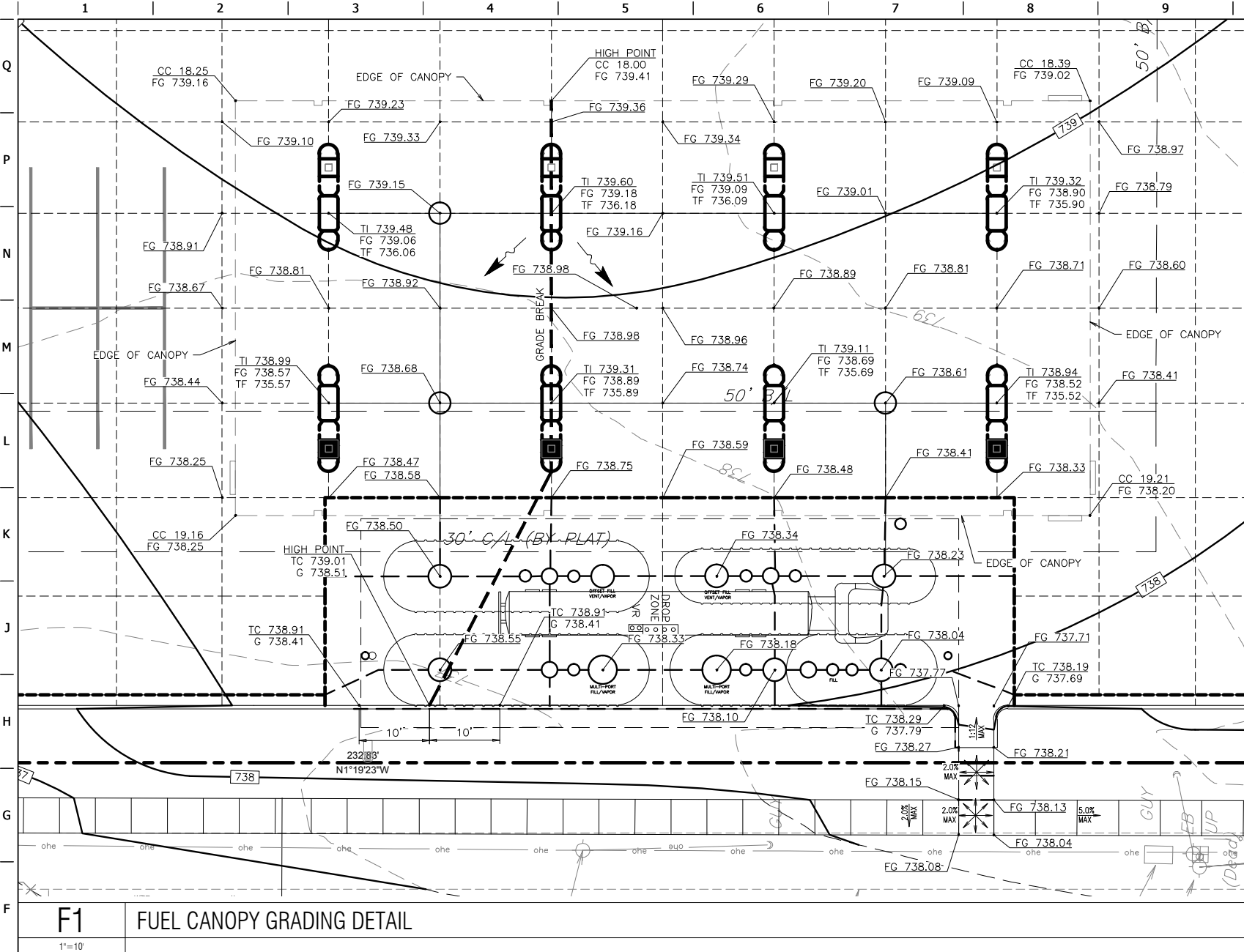
REV	DATE	DESCRIPTION

SHEET TITLE:  
DETAILED GRADING PLANS

SHEET NUMBER:  
**C111**

FILE LOCATION: P:\1815\06-QT 0033\01-0033 Civil.dwg TAB NAME: Detailed Grading USER: kmt SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:29 PM

FILE LOCATION: P:\1815\06-01-0033\01-0033 Civil.dwg TAB NAME: Canopy Grading USER: Clint SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:29 PM



**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2"  
 ALUMINUM CAP  
 ELEVATION=732.73'

- GRADING LEGEND**
- XXXX— MAJOR CONTOUR (NEW)
  - XXX--- MINOR CONTOUR (NEW)
  - XXX— MAJOR CONTOUR (EXISTING)
  - XX--- MINOR CONTOUR (EXISTING)
  - - - - - LIMITS OF DISTURBANCE
  - TC XXXX.XX TOP OF CURB ELEVATION (NEW)
  - G XXXX.XX GUTTER ELEVATION (NEW)
  - FG XXXX.XX FINISHED GRADE ELEVATION (NEW)
  - CC XXXX.XX CANOPY CLEARANCE ELEVATION (NEW)
  - FG XXXX.XX FINISHED GRADE ELEVATION (NEW)
  - TI XXXX.XX TOP OF ISLAND ELEVATION (NEW)
  - TP XXXX.XX TOP OF PAVEMENT ELEVATION (NEW)
  - TF XXXX.XX TOP OF FOOTING ELEVATION (NEW)
  - FG XXXX.XX SPOT ELEVATION (EXISTING)
- MISCELLANEOUS GRADING NOTES**
- GAS CANOPY INSTALLER SHALL INSTALL THE CANOPY COLUMN DRAIN PIPE AND OVERFLOW FITTING. THE STORM WATER INSTALLER SHALL CONNECT THEIR PIPING TO THE GAS INSTALLER'S OVERFLOW FITTING.
  - TO AVOID ANY DEFINED CRESTS OR SUMPS, "GRADE BREAKS" SHALL BE CONSTRUCTED AS A "VERTICAL CURVE". SURVEYOR & CONTRACTOR SHALL CONFER WITH QUIKTRIP CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION STAKING OR CONCRETE PLACEMENT RELATIVE TO ANY GRADE BREAKS.
  - WHEN PLAN GRADES DEPICT RUNOFF TO BE DIRECTED AWAY FROM THE CURB, USE DRAIN AWAY CURB ALTERNATE. (RE: "CURB DETAIL-BARRIER" P009A00X DETAIL)



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4293  
 Fax: (918) 514-4288

**QuikTrip No. 0033**  
 2400 E. KENOSHA ST.  
 BROKEN ARROW, OK



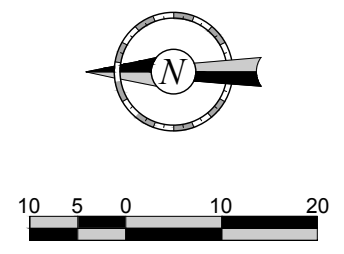
PROTOTYPE: P-91 (05/02/2017)  
 DIVISION: BROKEN ARROW  
 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET ISSUE DATE:

SHEET TITLE:  
 DETAILED CANOPY GRADING  
 PLAN

SHEET NUMBER:  
**C112**

**F1 FUEL CANOPY GRADING DETAIL**  
 1"=10'





**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2"  
 ALUMINUM CAP  
 ELEVATION=732.73'

**ADA GRADING LEGEND**

— ADA — ADA PATH OF TRAVEL (RE: HATCHING FOR RUNNING & CROSS SLOPE REQUIREMENT)

HATCH INDICATES AREAS OF FEDERALLY MANDATED 2% MAXIMUM CROSS SLOPE IN ALL DIRECTIONS WHEN MEASURED WITH A 2' SMART LEVEL. THESE AREAS WILL BE FIELD VERIFIED BY THE OWNER. AREAS OUT OF COMPLIANCE WILL BE REMOVED AND REPLACED BY THE CONTRACTOR. (RE: GRADING PLAN SHEETS C110, C111 & C112 FOR SPECIFIC GRADES)

HATCH INDICATES AREAS OF FEDERALLY MANDATED 2% MAXIMUM CROSS SLOPE AND 5% MAXIMUM RUNNING SLOPE WHEN MEASURED WITH A 2' SMART LEVEL. WHEN ADJACENT STREET GRADES EXCEED 5% AND SIDEWALKS ARE CONTAINED WITHIN THE PUBLIC R/W, THEN SIDEWALK RUNNING SLOPE CAN MATCH STREET GRADES. THESE AREAS WILL BE FIELD VERIFIED BY THE OWNER. AREAS OUT OF COMPLIANCE WILL BE REMOVED AND REPLACED BY THE CONTRACTOR. (RE: GRADING PLAN SHEET C110, C111 & C112 FOR SPECIFIC GRADES)

HATCH INDICATES AREAS OF FEDERALLY MANDATED 2% MAXIMUM CROSS SLOPE AND 1:12 MAXIMUM RUNNING SLOPE WHEN MEASURED WITH A 2' SMART LEVEL. THESE AREAS WILL BE FIELD VERIFIED BY THE OWNER. AREAS OUT OF COMPLIANCE WILL BE REMOVED AND REPLACED BY THE CONTRACTOR. (RE: GRADING PLAN SHEET C110, C111 & C112 FOR SPECIFIC GRADES)

**ALAN BETCHAN**  
 LICENSED PROFESSIONAL ENGINEER  
 OKLAHOMA

PROJECT NO.: \_\_\_\_\_

**AAB Engineering, LLC**  
  
 Engineering • Surveying  
 P.O. Box 2136  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4283  
 Fax: (918) 514-4288

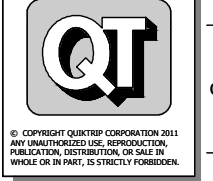
**ADA GENERAL NOTES**

- ANY REQUEST BY A GOVERNING AUTHORITY OR INSPECTOR TO ALTER THE ADA COMPLIANCE DETAILS OR REQUIREMENTS DEPICTED IN THE QUIKTRIP PLANS AND SPECIFICATIONS MUST BE DIRECTED TO THE QUIKTRIP CONSTRUCTION MANAGER FOR AUTHORIZATION. ANY CHANGES MADE BY A PRIMARY OR SUB-CONTRACTOR WITHOUT AUTHORIZATION FROM THE QUIKTRIP CONSTRUCTION MANAGER AND LATER FOUND TO BE NON-COMPLIANT WITH THE DETAILS AS SHOWN IN THE QUIKTRIP PLANS AND SPECIFICATIONS WILL BE REMOVED AND REPLACED AND MADE FULLY COMPLIANT REGARDLESS OF MAGNITUDE AT THE PRIMARY AND/OR SUB-CONTRACTOR'S EXPENSE. THE PRIMARY SHALL FOLLOW THE RFI PROCESS IN ESTABLISHING THE APPROVAL OR DENIAL OF CHANGES TO ADA RELATED DETAILS OR MOUNTING DIMENSIONS.
- RE: GRADING PLAN SHEETS C110, C111 & C112 FOR FINAL GRADES.
- ALL NEW SIDEWALKS (INCLUDING SIDEWALKS TO BE REMOVED & REPLACED) SHALL NOT EXCEED 2% CROSS SLOPE & 5% RUNNING SLOPE. FOR SIDEWALKS CONTAINED WITHIN THE PUBLIC R/W AND WHEN ADJACENT STREET GRADES EXCEED 5%, THEN SIDEWALK RUNNING SLOPES MAY MATCH STREET GRADES.
- 1/8" MAXIMUM DEPTH TO TOP OF SEALANT AND 1/8" MAXIMUM PROTRUSION TO TOP OF SEALANT ALONG ADA ACCESS ROUTES. (RE: PAVING DETAIL PD042A003)
- PRIVATE PROPERTY RAMPS SHALL HAVE THE FACE OF THE CURB TRANSITIONS PAINTED YELLOW (RE: DETAIL AD015A002)

**PARKING REQUIREMENTS**

PARKING REQUIRED:	49
PARKING PROVIDED:	70
ACCESSIBLE PARKING REQUIRED:	3
ACCESSIBLE PARKING PROVIDED:	3

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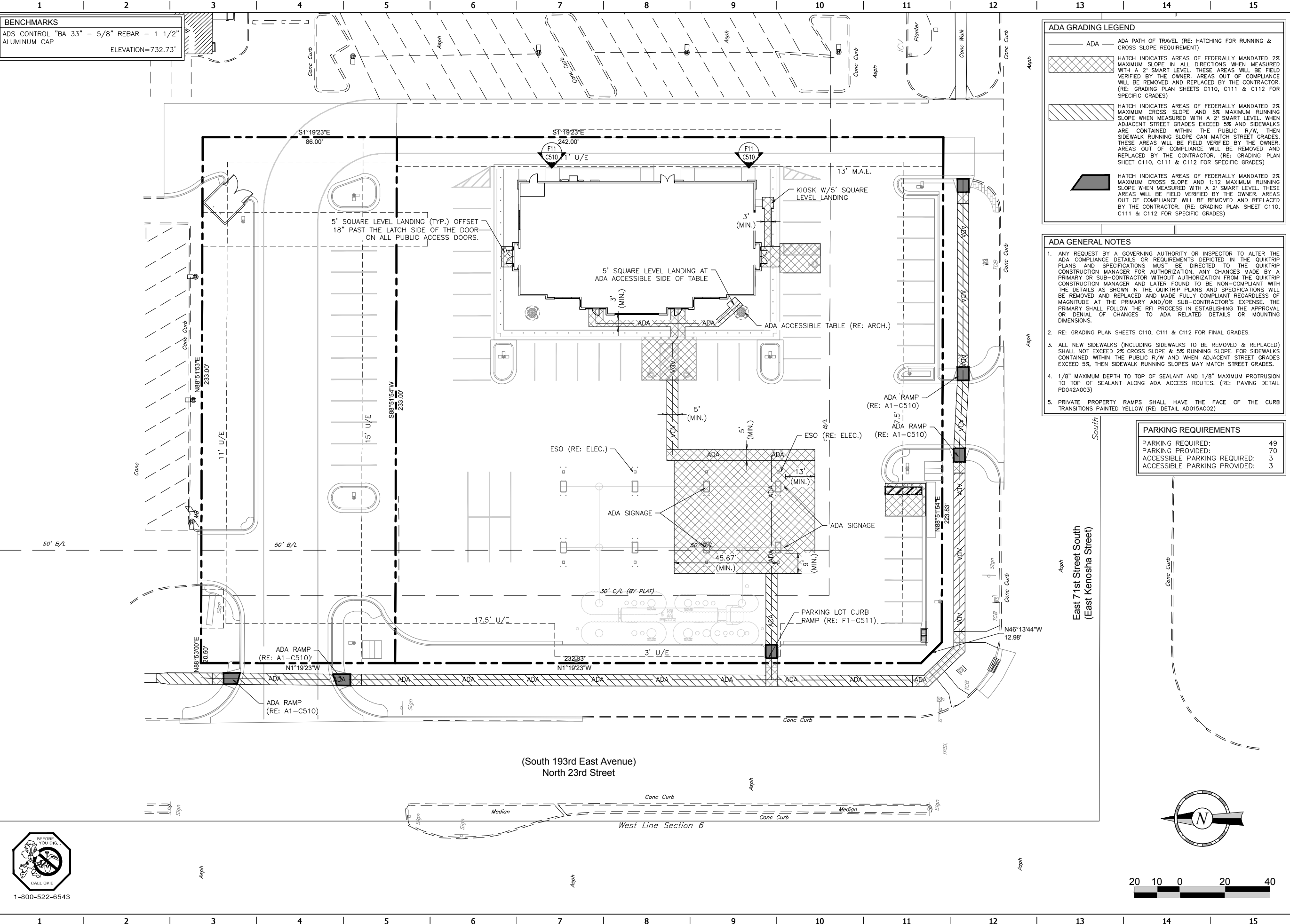
PROTOTYPE: P-91 (05/02/2017)  
 DIVISION: BROKEN ARROW  
 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION

CONSTRUCTION SET ISSUE DATE: \_\_\_\_\_

**SHEET TITLE:**  
 ADA COMPLIANCE  
 REFERENCE PLAN

**SHEET NUMBER:**  
 C113



FILE LOCATION: P:\1815106-01-0033\01-0033\Civil.dwg TAB NAME: ADA USER: chrt SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:29 PM



**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP  
 ELEVATION=732.73'

**STRUCTURE SUMMARY TABLE**

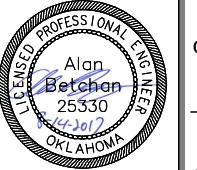
<b>a</b>	CICI DES. 2
<b>b</b>	DOUBLE GRATE DROP INLET (RE: F1-C540)

**STORM SEWER LEGEND**

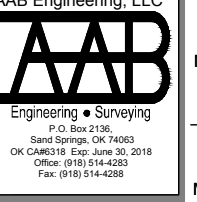
ST	STORM PIPE (< 10" NEW)
CD	BACK OF CURB DRAIN
---	STORM PIPE (> 12" NEW)
---	STORM PIPE (> 12" EXISTING)
---	MAJOR CONTOUR (NEW)
---	MAJOR CONTOUR (EXISTING)
---	MINOR CONTOUR (NEW)
---	MINOR CONTOUR (EXISTING)
---	STORM GRATE (NEW)

**STORM SEWER GENERAL NOTES**  
**STORM SEWER INSTALLATION CONSIDERATIONS**  
 PRIOR TO THE CONSTRUCTION OF, OR CONNECTION TO ANY STORM DRAIN OR ANY OTHER ELEVATION SENSITIVE UTILITY, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTIONS AND ALL UTILITY CROSSINGS. THE CONTRACTOR SHALL INFORM THE ENGINEER AND THE OWNER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. THE ENGINEER AND OWNER WILL BE HELD HARMLESS IN THE EVENT THE ENGINEER AND OWNER ARE NOT NOTIFIED OF A DESIGN CONFLICT.

ALL STORM SEWERS SHOWN ARE PRIVATE UNLESS OTHERWISE NOTED.



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**AAB Engineering, LLC**



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REV	DATE	DESCRIPTION

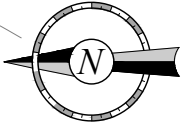
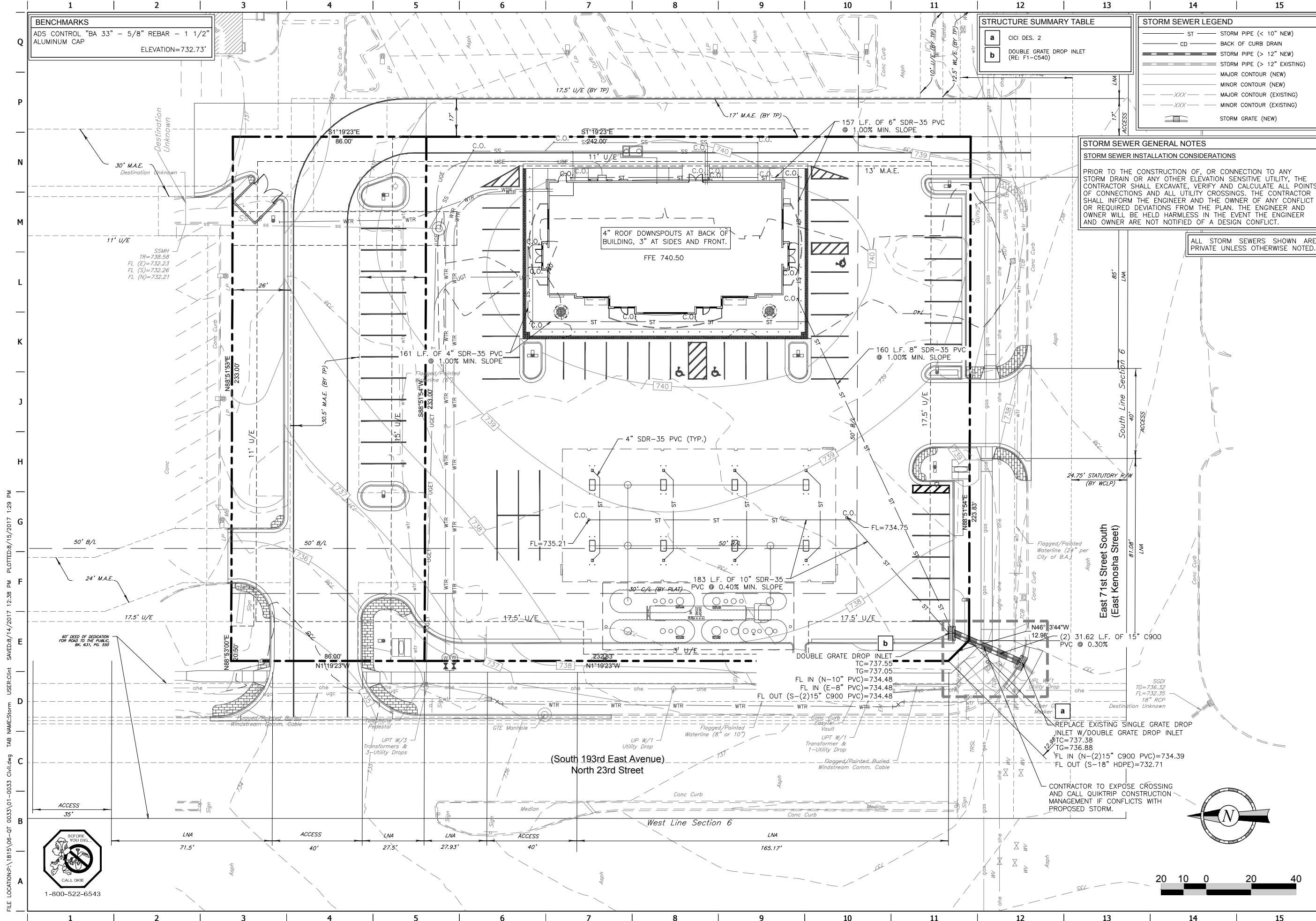
SHEET TITLE:

STORM PLAN

SHEET NUMBER:

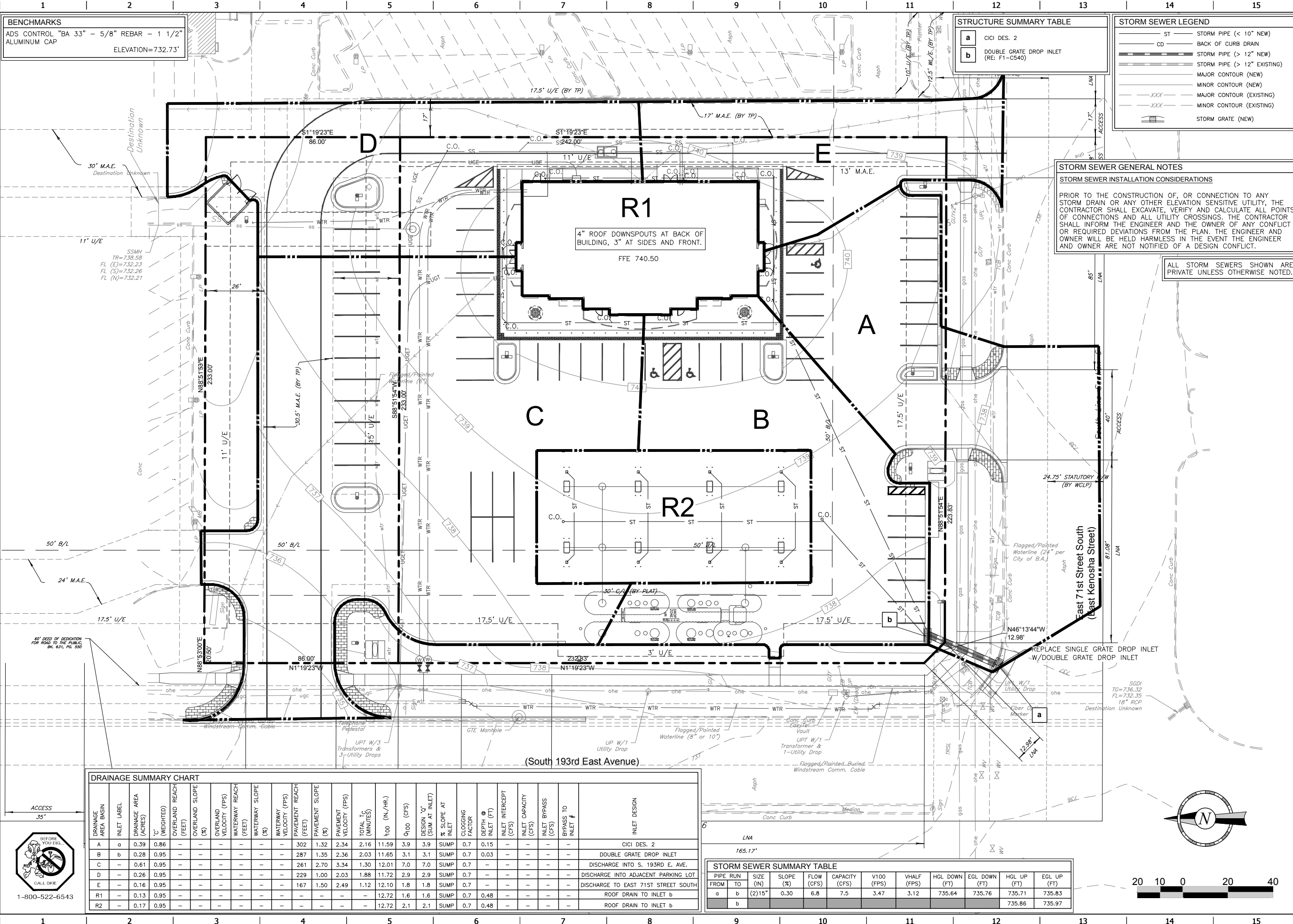
C120

CONSTRUCTION SET ISSUE DATE:



FILE LOCATION: P:\1815\06-OT 0033\01-0033 Civil.dwg TAB NAME: Storm USER: Clint SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:29 PM





**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP  
 ELEVATION=732.73'

STRUCTURE SUMMARY TABLE	
a	CICI DES. 2
b	DOUBLE GRATE DROP INLET (RE: F1-C540)

STORM SEWER LEGEND	
ST	STORM PIPE (< 10" NEW)
CD	BACK OF CURB DRAIN
---	STORM PIPE (> 12" NEW)
---	STORM PIPE (> 12" EXISTING)
---	MAJOR CONTOUR (NEW)
---	MAJOR CONTOUR (EXISTING)
---	MINOR CONTOUR (NEW)
---	MINOR CONTOUR (EXISTING)
---	STORM GRATE (NEW)

**STORM SEWER GENERAL NOTES**  
**STORM SEWER INSTALLATION CONSIDERATIONS**  
 PRIOR TO THE CONSTRUCTION OF, OR CONNECTION TO ANY STORM DRAIN OR ANY OTHER ELEVATION SENSITIVE UTILITY, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTIONS AND ALL UTILITY CROSSINGS. THE CONTRACTOR SHALL INFORM THE ENGINEER AND THE OWNER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. THE ENGINEER AND OWNER WILL BE HELD HARMLESS IN THE EVENT THE ENGINEER AND OWNER ARE NOT NOTIFIED OF A DESIGN CONFLICT.

ALL STORM SEWERS SHOWN ARE PRIVATE UNLESS OTHERWISE NOTED.

DRAINAGE SUMMARY CHART																								
DRAINAGE AREA BASIN	INLET LABEL	DRAINAGE AREA (ACRES)	C' (WEIGHTED)	OVERLAND REACH (FEET)	OVERLAND SLOPE (%)	OVERLAND VELOCITY (FPS)	WATERWAY REACH (FEET)	WATERWAY SLOPE (%)	WATERWAY VELOCITY (FPS)	PAVEMENT REACH (FEET)	PAVEMENT SLOPE (%)	PAVEMENT VELOCITY (FPS)	TOTAL Tc (MINUTES)	Q100 (CFS)	Q10 (CFS)	DESIGN Q' (SUM AT INLET)	% SLOPE AT INLET	CLOGGING FACTOR	DEPTH @ INLET (FT)	INLET INTERCEPT (CFS)	INLET CAPACITY (CFS)	INLET BYPASS (CFS)	BYPASS TO INLET #	INLET DESIGN
A	a	0.39	0.86	-	-	-	-	-	-	302	1.32	2.34	2.16	11.59	3.9	3.9	SUMP	0.7	0.15	-	-	-	-	CICI DES. 2
B	b	0.28	0.95	-	-	-	-	-	-	287	1.35	2.36	2.03	11.65	3.1	3.1	SUMP	0.7	0.03	-	-	-	-	DOUBLE GRATE DROP INLET
C	-	0.61	0.95	-	-	-	-	-	-	261	2.70	3.34	1.30	12.01	7.0	7.0	SUMP	0.7	-	-	-	-	-	DISCHARGE INTO S. 193RD E. AVE.
D	-	0.26	0.95	-	-	-	-	-	-	229	1.00	2.03	1.88	11.72	2.9	2.9	SUMP	0.7	-	-	-	-	-	DISCHARGE INTO ADJACENT PARKING LOT
E	-	0.16	0.95	-	-	-	-	-	-	167	1.50	2.49	1.12	12.10	1.8	1.8	SUMP	0.7	-	-	-	-	-	DISCHARGE TO EAST 71ST STREET SOUTH
R1	-	0.13	0.95	-	-	-	-	-	-	-	-	-	-	12.72	1.6	1.6	SUMP	0.7	0.48	-	-	-	-	ROOF DRAIN TO INLET b
R2	-	0.17	0.95	-	-	-	-	-	-	-	-	-	-	12.72	2.1	2.1	SUMP	0.7	0.48	-	-	-	-	ROOF DRAIN TO INLET b

STORM SEWER SUMMARY TABLE											
PIPE RUN	SIZE (IN)	SLOPE (%)	FLOW (CFS)	CAPACITY (CFS)	V100 (FPS)	VHALF (FPS)	HGL DOWN (FT)	HGL UP (FT)			
a	b	(2)15"	0.30	6.8	7.5	3.47	3.12	735.64	735.76	735.71	735.83
b	-	-	-	-	-	-	-	-	-	735.86	735.97

**ALAN BETCHAN**  
 LICENSED PROFESSIONAL ENGINEER  
 OKLAHOMA  
 License No. 25330

PROJECT NO.:  
**AAB Engineering, LLC**  

 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK C#86318 Exp. June 30, 2018  
 Office: (918) 514-4263  
 Fax: (918) 514-4268

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 VERSION: 001  
 DESIGNED BY: AAB  
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 REVIEWED BY:

REV	DATE	DESCRIPTION

CONSTRUCTION SET ISSUE DATE:

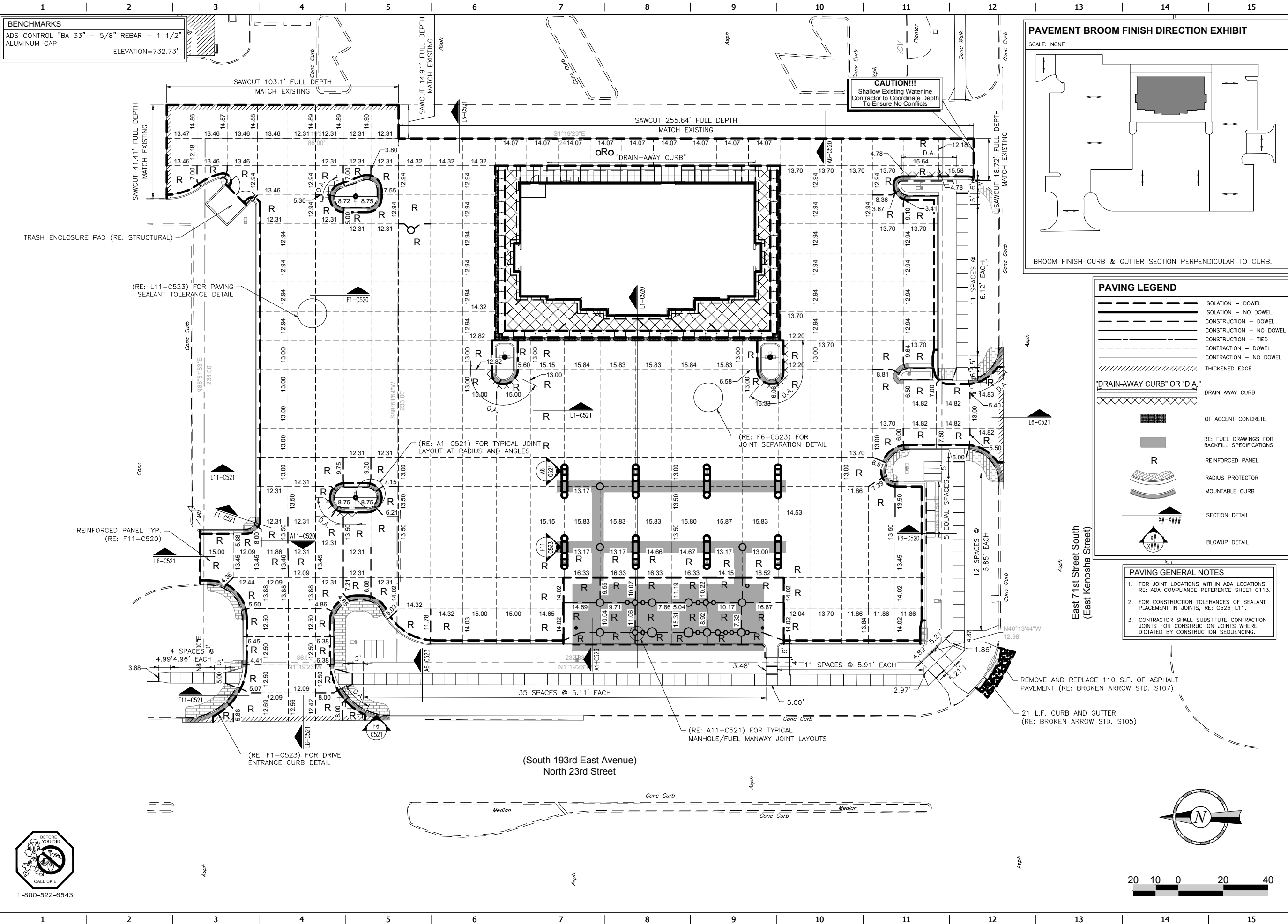
SHEET TITLE:  
 DRAINAGE AREA MAP

SHEET NUMBER:  
**C121**

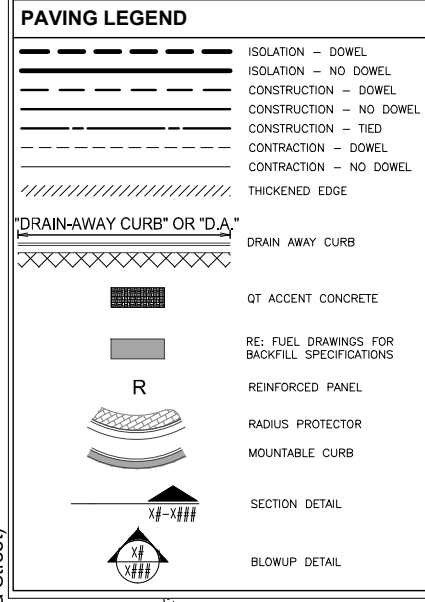
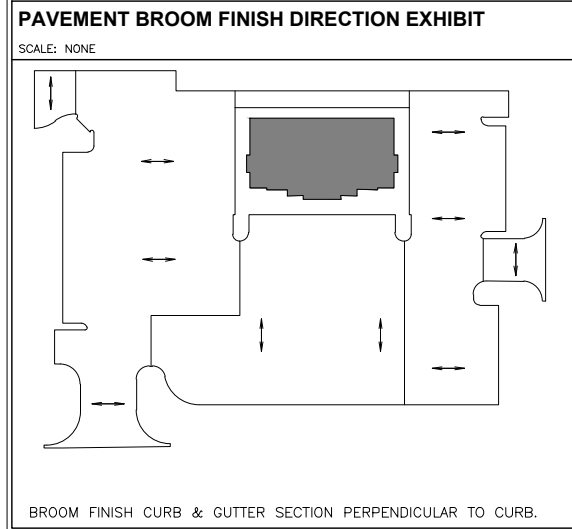
FILE LOCATION: P:\1815\06-0033\01-0033 Civil.dwg TAB NAME: Drainage Area Map USER: gmlt SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:29 PM



**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP  
 ELEVATION=732.73'



FILE LOCATION: P:\1815\06-01-0033\01-0033\01-0033\01-0033.dwg  
 TAB NAME: Paving  
 USER: Cmt  
 SAVED: 08/15/2017 12:38 PM  
 PLOTTED: 08/15/2017 1:29 PM

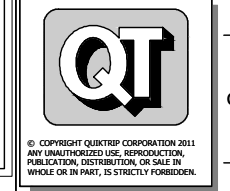


- PAVING GENERAL NOTES**
- FOR JOINT LOCATIONS WITHIN ADA LOCATIONS, RE: ADA COMPLIANCE REFERENCE SHEET C113.
  - FOR CONSTRUCTION TOLERANCES OF SEALANT PLACEMENT IN JOINTS, RE: C523-L11.
  - CONTRACTOR SHALL SUBSTITUTE CONTRACTION JOINTS FOR CONSTRUCTION JOINTS WHERE DICTATED BY CONSTRUCTION SEQUENCING.



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4283  
 Fax: (918) 514-4288

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 DIVISION: BROKEN ARROW  
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REV	DATE	DESCRIPTION

SHEET TITLE:  
 PAVING PLAN  
 SHEET NUMBER:  
**C130**

CONSTRUCTION SET ISSUE DATE:



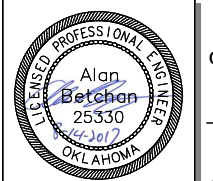
FILE LOCATION: P:\1815\06-01-0033\01-0033 Civil.dwg TAB NAME: Building Paving USER: Clint SWEDB/14/2017 12:38 PM PLOTTED: 8/15/2017 1:29 PM

**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP  
 ELEVATION = 732.73'

**PAVING GENERAL NOTES**  
 1. FOR JOINT LOCATIONS WITHIN ADA LOCATIONS, RE: ADA COMPLIANCE REFERENCE SHEET C113.  
 2. FOR CONSTRUCTION TOLERANCES OF SEALANT PLACEMENT IN JOINTS, RE: C523-L11.  
 3. CONTRACTOR SHALL SUBSTITUTE CONTRACTION JOINTS FOR CONSTRUCTION JOINTS WHERE DICTATED BY CONSTRUCTION SEQUENCING.

**PAVING LEGEND**

	ISOLATION - DOWEL
	ISOLATION - NO DOWEL
	CONSTRUCTION - DOWEL
	CONSTRUCTION - NO DOWEL
	CONSTRUCTION - TIED
	CONSTRUCTION - DOWEL THICKENED EDGE
	CONSTRUCTION - NO DOWEL THICKENED EDGE
	DRAIN AWAY CURB
	QT ACCENT CONCRETE
	REINFORCED PANEL
	RADIUS PROTECTOR
	MOUNTABLE CURB
	SECTION DETAIL
	BLOWUP DETAIL



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4283  
 Fax: (918) 514-4288

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**QT**

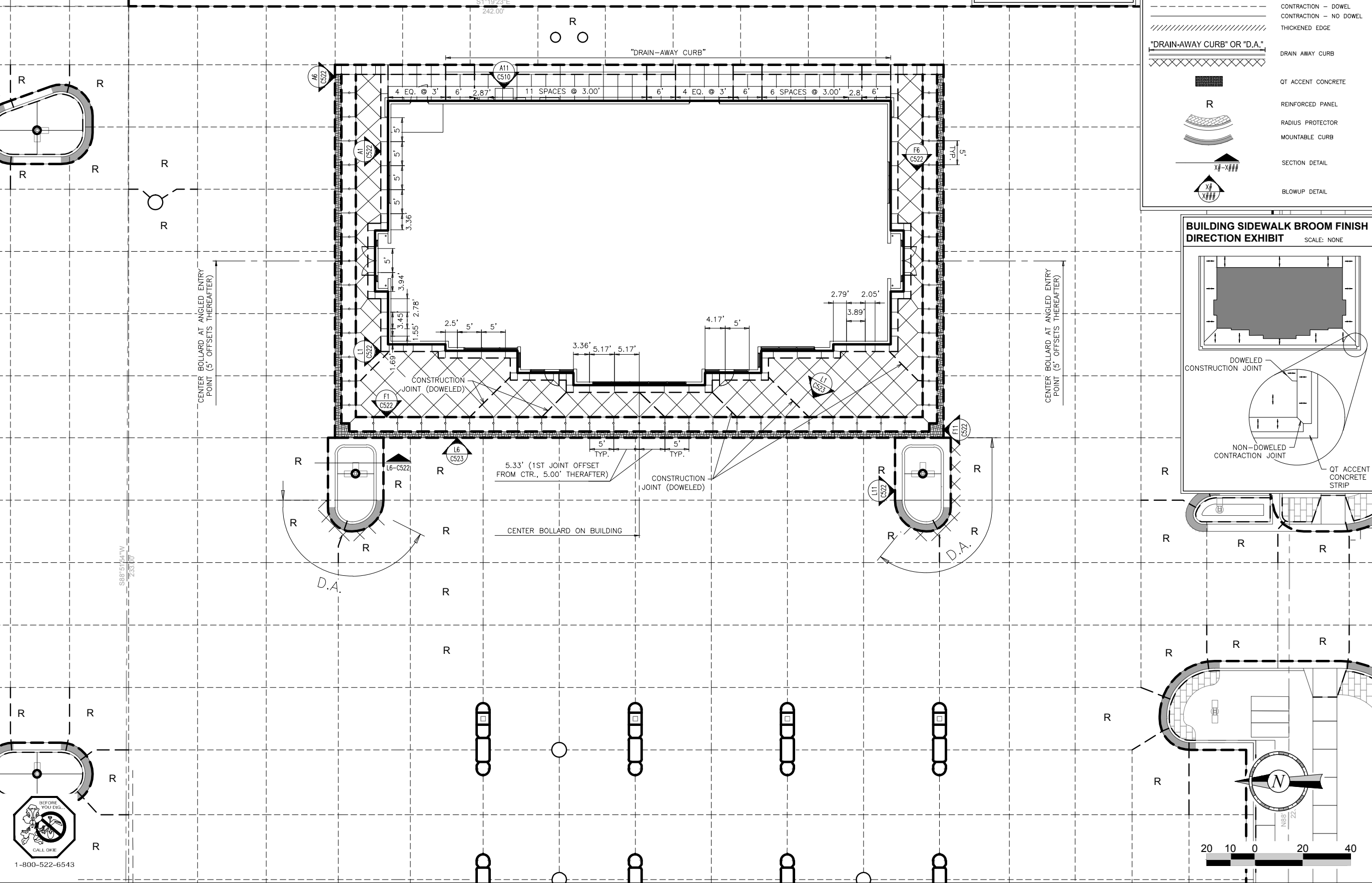
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 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET ISSUE DATE:

SHEET TITLE:  
**BUILDING PAVING PLAN**

SHEET NUMBER:  
**C131**



FILE LOCATION: P:\1815\06-01-0033\01-0033\01-0033\01-0033.dwg TAB NAME: Erosion PH 1 USER: C:\nt\SAVED\B/14/2017 12:38 PM PLOTTED: B/15/2017 1:29 PM

**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP  
 ELEVATION = 732.73'

**ACREAGE SUMMARY**  
 IMPERVIOUS AREA ±1.75 ACRES  
 LANDSCAPE AREA ±0.07 ACRES  
 TOTAL DISTURBED ±1.82 ACRES

**EROSION CONTROL LEGEND**

- XXX--- MAJOR CONTOUR (EXISTING)
- XXX--- MINOR CONTOUR (EXISTING)
- XXX--- STRAW WATTLE (RE: DETAIL A7-C142)
- SF--- SILT FENCE (RE: DETAIL J1-C142)
- --- LIMITS OF DISTURBANCE
- --- DRIVE ENTRANCE BARRICADE
- --- INLET PROTECTION (RE: DETAIL J7-C142)
- --- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE (RE: DETAIL A1-C142)

**OWNERSHIP / CONTRACTOR SUMMARY**

**OWNER / DEVELOPER:**  
 QUIKTRIP CORPORATION  
 4705 SOUTH 129TH EAST AVENUE  
 TULSA, OKLAHOMA, 74134  
 (918) 615-7140

**SITE OPERATOR / GENERAL CONTRACTOR:**  
 TBD

**SUPERINTENDENT:**  
 TBD



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4283  
 Fax: (918) 514-4288

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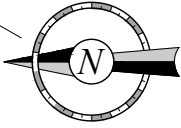
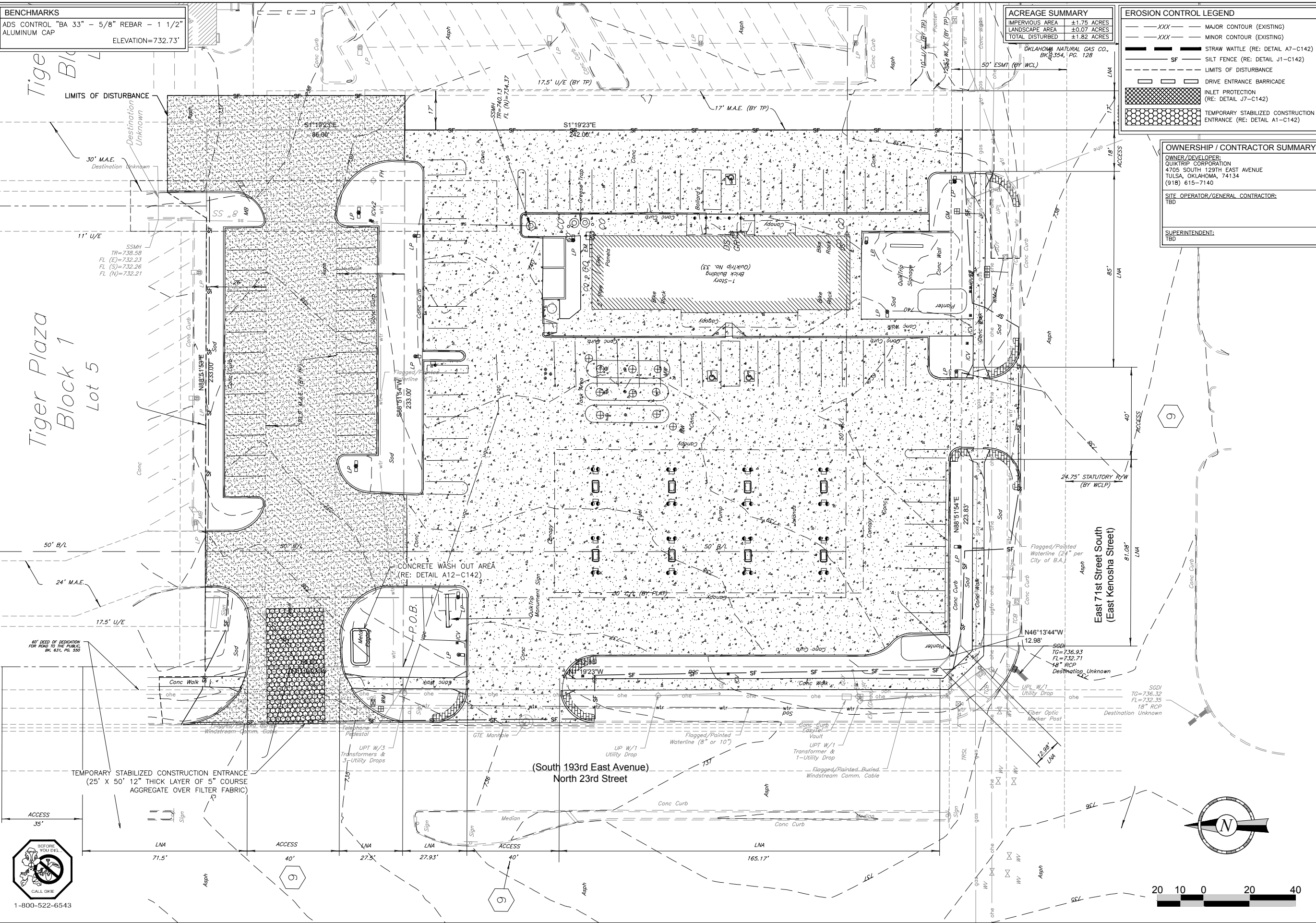
PROTOTYPE: P-91 (05/02/2017)  
 DIVISION: BROKEN ARROW  
 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION

SHEET TITLE:  
 EROSION CONTROL PLAN  
 PHASE 1

SHEET NUMBER:  
**C140**

CONSTRUCTION SET ISSUE DATE:





FILE LOCATION: P:\1815\06-OT 0033\01-0033\Civil.dwg TAB NAME: Erosion PH 2 USER: Clint SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:29 PM

**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP  
 ELEVATION = 732.73'

**ACREAGE SUMMARY**  
 IMPERVIOUS AREA ±1.75 ACRES  
 LANDSCAPE AREA ±0.07 ACRES  
 TOTAL DISTURBED ±1.82 ACRES

**EROSION CONTROL LEGEND**

---XXX---	MAJOR CONTOUR (EXISTING)
---XXX---	MINOR CONTOUR (EXISTING)
---XXX---	MAJOR CONTOUR (NEW)
---XXX---	MINOR CONTOUR (NEW)
---XXX---	STORM GRATE (NEW)
---	STRAW WATTLE (RE: DETAIL A7-C142)
---	SILT FENCE (RE: DETAIL J1-C142)
---	LIMITS OF DISTURBANCE
---	DRIVE ENTRANCE BARRICADE
---	INLET PROTECTION (RE: DETAIL J7-C142)
---	TEMPORARY STABILIZED CONSTRUCTION ENTRANCE (RE: DETAIL A1-C142)

**OWNERSHIP / CONTRACTOR SUMMARY**  
 OWNER/DEVELOPER:  
 QUIKTRIP CORPORATION  
 4705 SOUTH 129TH EAST AVENUE  
 TULSA, OKLAHOMA, 74134  
 (918) 615-7140  
 SITE OPERATOR/GENERAL CONTRACTOR:  
 TBD  
 SUPERINTENDENT:  
 TBD

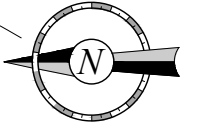
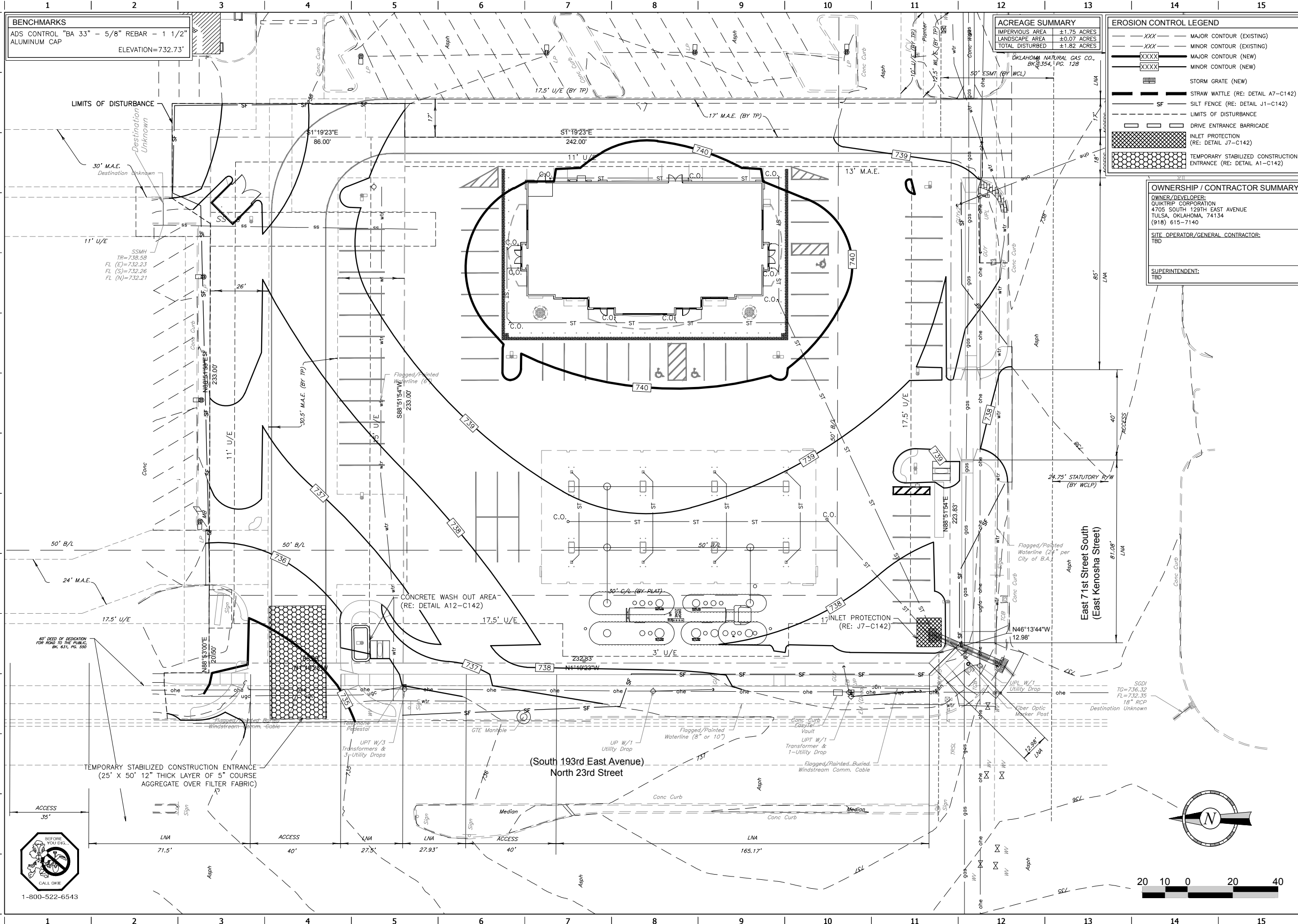
**PROFESSIONAL ENGINEER**  
 Alan Betchan  
 25330  
 OKLAHOMA  
 PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4263  
 Fax: (918) 514-4268

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 2400 E. KENOSHA ST.  
 BROKEN ARROW, OK

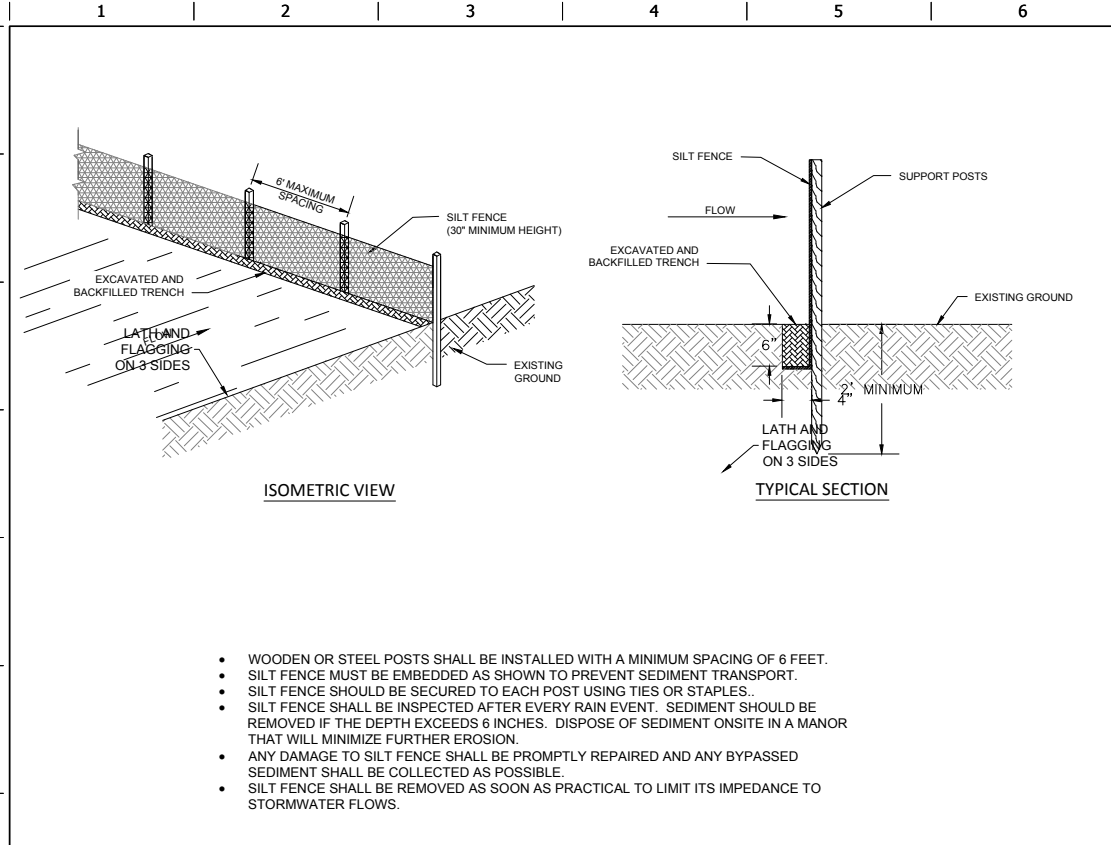
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 DIVISION: BROKEN ARROW  
 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION

CONSTRUCTION SET ISSUE DATE:  
**SHEET TITLE:**  
 EROSION CONTROL PLAN  
 PHASE 2  
**SHEET NUMBER:**  
 C141



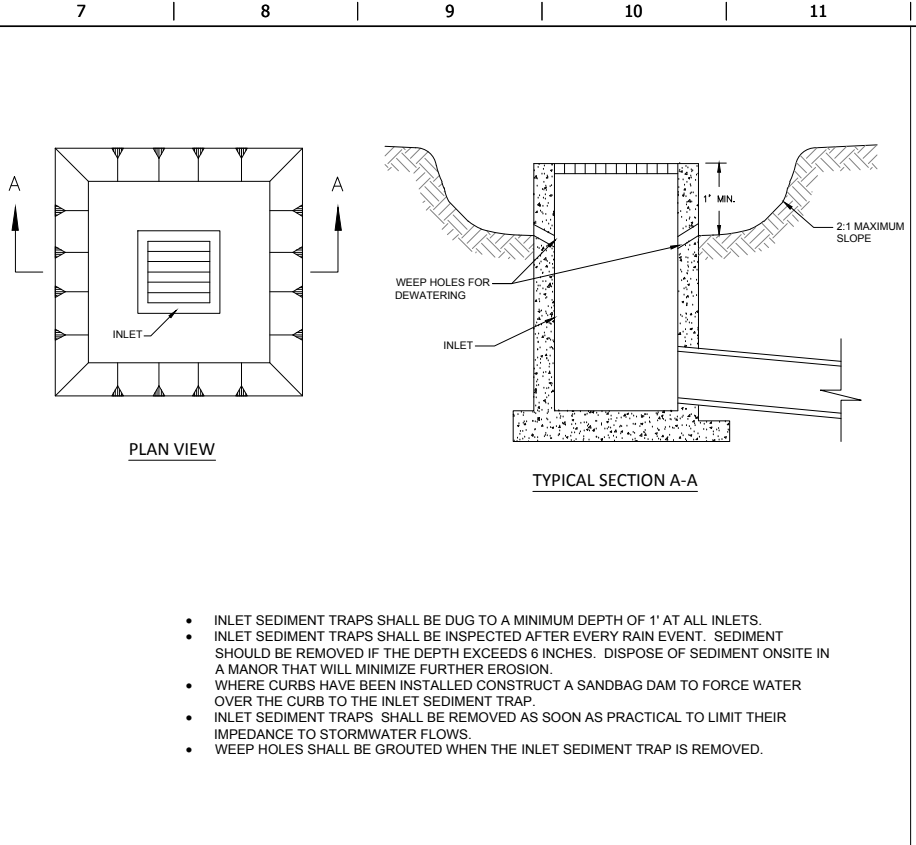
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- WOODEN OR STEEL POSTS SHALL BE INSTALLED WITH A MINIMUM SPACING OF 6 FEET.
- SILT FENCE MUST BE EMBEDDED AS SHOWN TO PREVENT SEDIMENT TRANSPORT.
- SILT FENCE SHOULD BE SECURED TO EACH POST USING TIES OR STAPLES.
- SILT FENCE SHALL BE INSPECTED AFTER EVERY RAIN EVENT. SEDIMENT SHOULD BE REMOVED IF THE DEPTH EXCEEDS 6 INCHES. DISPOSE OF SEDIMENT ON SITE IN A MANNER THAT WILL MINIMIZE FURTHER EROSION.
- ANY DAMAGE TO SILT FENCE SHALL BE PROMPTLY REPAIRED AND ANY BYPASSED SEDIMENT SHALL BE COLLECTED AS POSSIBLE.
- SILT FENCE SHALL BE REMOVED AS SOON AS PRACTICAL TO LIMIT ITS IMPEDANCE TO STORMWATER FLOWS.

**J1** SILT FENCE DETAIL

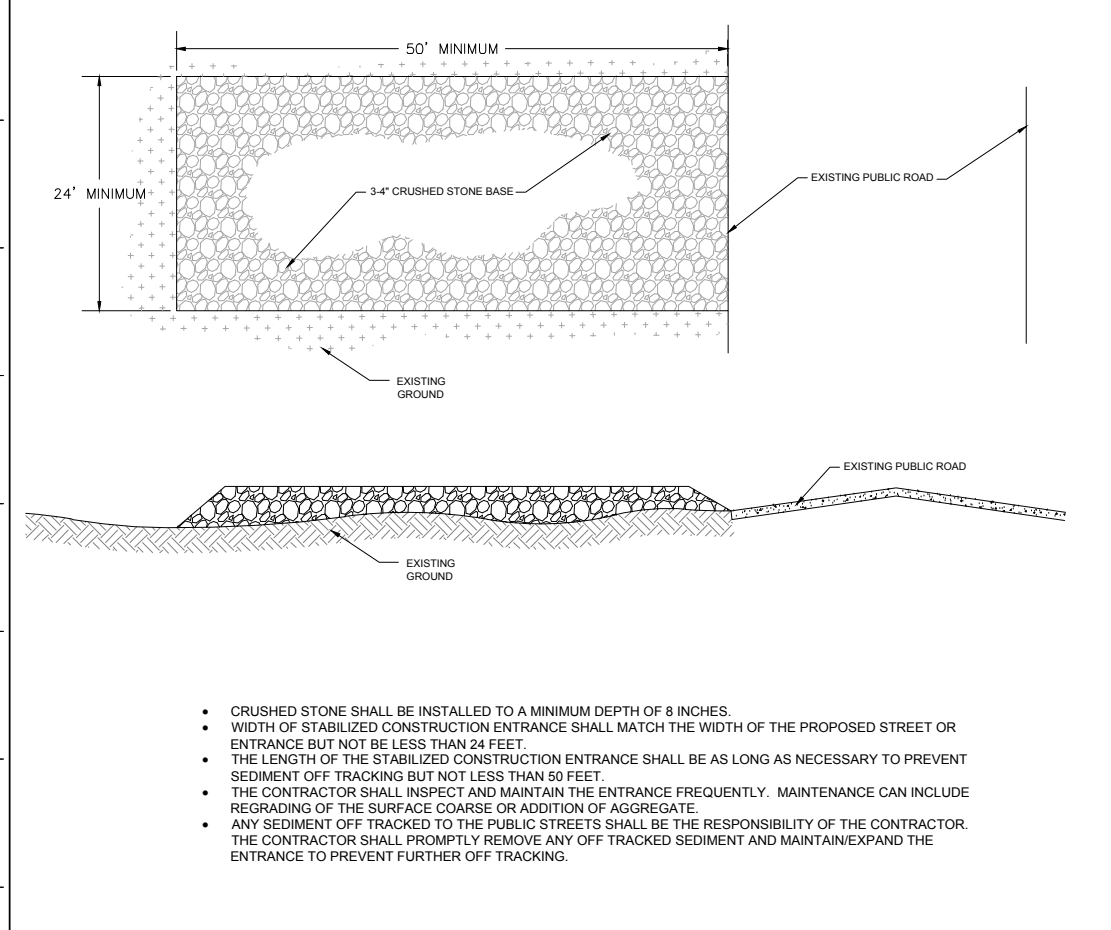
NTS



- INLET SEDIMENT TRAPS SHALL BE DUG TO A MINIMUM DEPTH OF 1' AT ALL INLETS.
- INLET SEDIMENT TRAPS SHALL BE INSPECTED AFTER EVERY RAIN EVENT. SEDIMENT SHOULD BE REMOVED IF THE DEPTH EXCEEDS 6 INCHES. DISPOSE OF SEDIMENT ON SITE IN A MANNER THAT WILL MINIMIZE FURTHER EROSION.
- WHERE CURBS HAVE BEEN INSTALLED CONSTRUCT A SANDBAG DAM TO FORCE WATER OVER THE CURB TO THE INLET SEDIMENT TRAP.
- INLET SEDIMENT TRAPS SHALL BE REMOVED AS SOON AS PRACTICAL TO LIMIT THEIR IMPEDANCE TO STORMWATER FLOWS.
- WEEP HOLES SHALL BE GROUTED WHEN THE INLET SEDIMENT TRAP IS REMOVED.

**J7** INLET SEDIMENT TRAP DETAIL

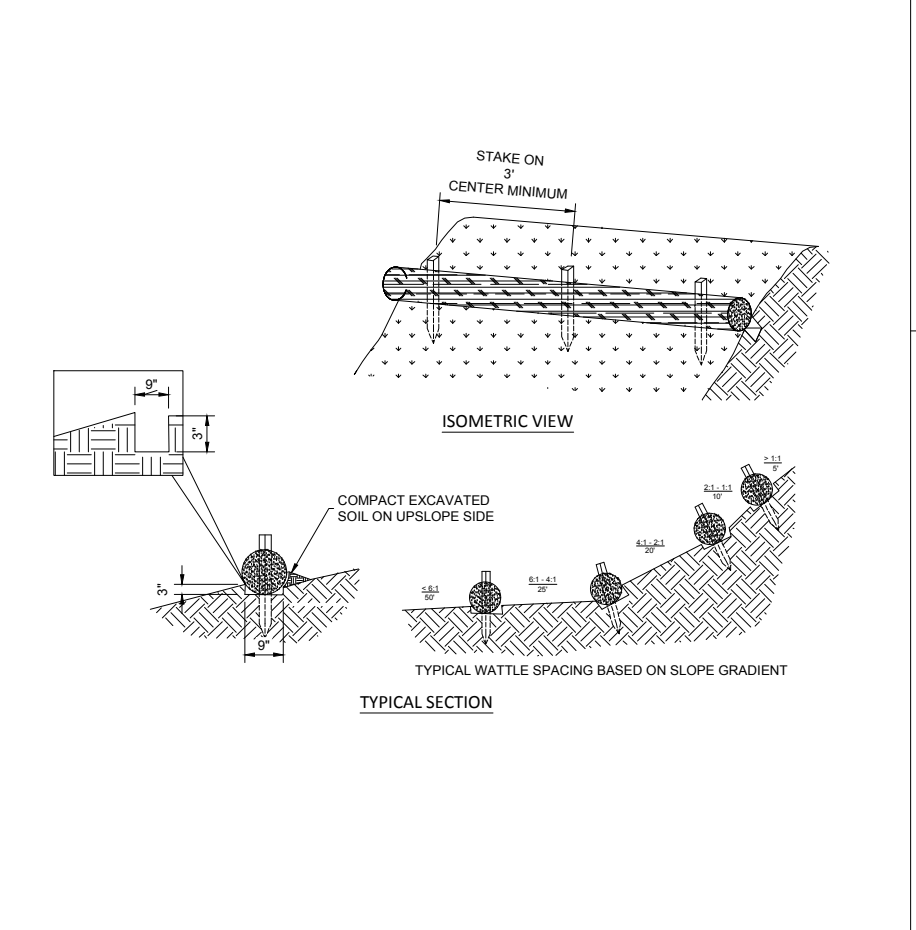
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- CRUSHED STONE SHALL BE INSTALLED TO A MINIMUM DEPTH OF 8 INCHES.
- WIDTH OF STABILIZED CONSTRUCTION ENTRANCE SHALL MATCH THE WIDTH OF THE PROPOSED STREET OR ENTRANCE BUT NOT BE LESS THAN 24 FEET.
- THE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE AS LONG AS NECESSARY TO PREVENT SEDIMENT OFF TRACKING BUT NOT LESS THAN 50 FEET.
- THE CONTRACTOR SHALL INSPECT AND MAINTAIN THE ENTRANCE FREQUENTLY. MAINTENANCE CAN INCLUDE REGRADING OF THE SURFACE COARSE OR ADDITION OF AGGREGATE.
- ANY SEDIMENT OFF TRACKED TO THE PUBLIC STREETS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROMPTLY REMOVE ANY OFF TRACKED SEDIMENT AND MAINTAIN/EXPAND THE ENTRANCE TO PREVENT FURTHER OFF TRACKING.

**A1** STABILIZED CONSTRUCTION ENTRANCE DETAIL

NTS



**A7** STRAW WATTLE

NTS

### TEMPORARY EROSION CONTROL SEEDING

TEMPORARY EROSION CONTROL SHOULD BE IMPLEMENTED ONCE BULK EARTHWORK OPERATIONS ARE COMPLETED TO MINIMIZE EROSION POTENTIAL BEFORE PERMANENT COVER IS ESTABLISHED. TEMPORARY SEEDING MEASURES ARE GENERALLY NECESSARY WHEN SOILS WILL BE DISTURBED IN EXCESS OF 6 MONTHS PRIOR TO PERMANENT SEEDING. DURING PERIODS OF HIGH PRECIPITATION OR IN HIGHLY EROSION SOILS THIS TIMEFRAME MAY BE SHORTER.

- THE CONTRACTOR SHALL ENSURE ALL STRUCTURAL EROSION CONTROL MEASURES, INCLUDING STRAW WATTLES, CHECK DAMS, SILT FENCE, AND INLET SEDIMENT TRAPS, HAVE BEEN IMPLEMENTED PRIOR TO TEMPORARY SEEDING.
- ALL SEED SHALL BE UNIFORMLY DRILLED OR HYDROSEEDED.
- ALL SEEDING IMPLEMENTS SHOULD TRAVEL PATHS PERPENDICULAR TO THE SLOPES TO LIMIT EROSION.
- IF THE SURFACE OF THE SOIL IS NOT LOOSENED FROM RECENT GRADING OPERATIONS IT SHALL BE DISCED PRIOR TO SEEDING.
- AN EVENLY BALANCED FERTILIZER, SUCH AS 10-10-10 OR 13-13-13, SHALL BE APPLIED AT A RATE 450 LBS. PER ACRE (10 LBS PER 1000 SQ. FT.) PRIOR TO SEEDING.
- SHOULD COVER NOT DEVELOP THE CONTRACTOR SHALL RESEED AS NECESSARY TO ESTABLISH SUFFICIENT GROUND COVER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING UNTIL 2 INCHES OF GROWTH HAS BEEN ACHIEVED AND AS NECESSARY TO MAINTAIN TEMPORARY COVER.
- ACCEPTABLE TEMPORARY SEEDING OPTIONS ARE:

### PERMANENT EROSION CONTROL SEEDING

PERMANENT EROSION CONTROL SEEDING SHOULD BE COMPLETED AS SOON AS PRACTICAL TO MINIMIZE EROSION. FOR BEST RESULTS A BLEND OF SEED SHOULD BE USED TO DEVELOP A GROUND COVER BEST ADAPTED TO THE VARIED CLIMATE CONDITIONS FOUND IN OKLAHOMA.

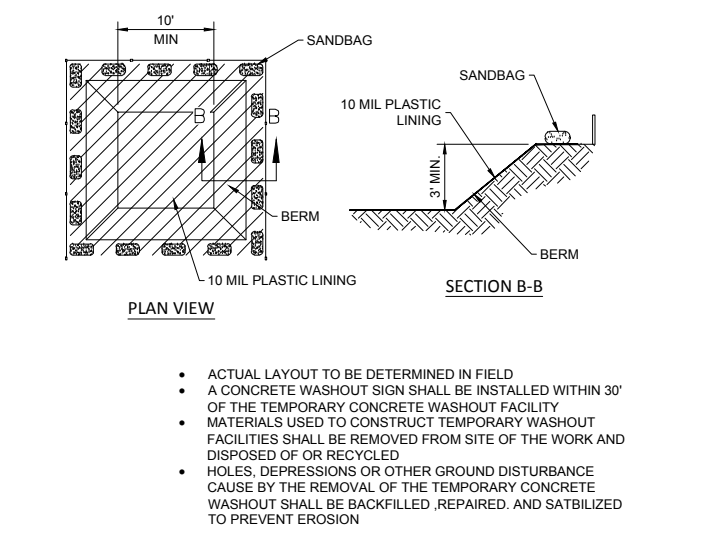
- ALL SEED SHALL BE UNIFORMLY DRILLED OR HYDROSEEDED.
- ALL SEEDING IMPLEMENTS SHOULD TRAVEL PATHS PERPENDICULAR TO THE SLOPES TO LIMIT EROSION.
- AN EVENLY BALANCED FERTILIZER, SUCH AS 10-10-10 OR 13-13-13, SHALL BE APPLIED AT A RATE 450 LBS. PER ACRE (10 LBS PER 1000 SQ. FT.) PRIOR TO SEEDING. FERTILIZER SHOULD BE DISCED EVENLY INTO THE SOIL.
- IF THE SURFACE OF THE SOIL IS NOT LOOSENED FROM RECENT GRADING OPERATIONS IT SHALL BE DISCED PRIOR TO SEEDING.
- SHOULD COVER NOT DEVELOP THE CONTRACTOR SHALL RESEED AS NECESSARY TO ESTABLISH ADEQUATE GROUND COVER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING UNTIL 2 INCHES OF GROWTH HAS BEEN ACHIEVED.
- ACCEPTABLE PERMANENT SEEDING OPTIONS ARE:

SEED TYPE	RATE		PLANTING DATE
	PER ACRE	PER 1000 SQ. FT.	
BERMUDAGRASS	80 LBS.	2.0 LBS.	APR.-JULY
FESCUE	200 LBS.	5.0 LBS.	MAR.-MAY
BUFFALOGRASS	80 LBS.	2.0 LBS.	SEPT.-NOV.
WEEPING LOVEGRASS	40 LBS.	1.0 LB.	APR.-JUNE



1-800-522-6543

BENCHMARKS	
ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2"	ELEVATION=732.73'
ALUMINUM CAP	



- ACTUAL LAYOUT TO BE DETERMINED IN FIELD
- A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY
- MATERIALS USED TO CONSTRUCT TEMPORARY WASHOUT FACILITIES SHALL BE REMOVED FROM SITE OF THE WORK AND DISPOSED OF OR RECYCLED
- HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT SHALL BE BACKFILLED, REPAIRED, AND SATILIZED TO PREVENT EROSION

**A12** CONCRETE WASHOUT DETAIL

NTS

PROJECT NO.:
   
**AAB Engineering, LLC**
  
  
 P.O. Box 2198
   
 Sand Springs, OK 74063
   
 OK CA#6318 Exp. June 30, 2018
   
 Office: (918) 514-4263
   
 Fax: (918) 514-4268

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 BROKEN ARROW, OK

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DESIGNED BY: AAB
DRAWN BY: KMT
REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET ISSUE DATE

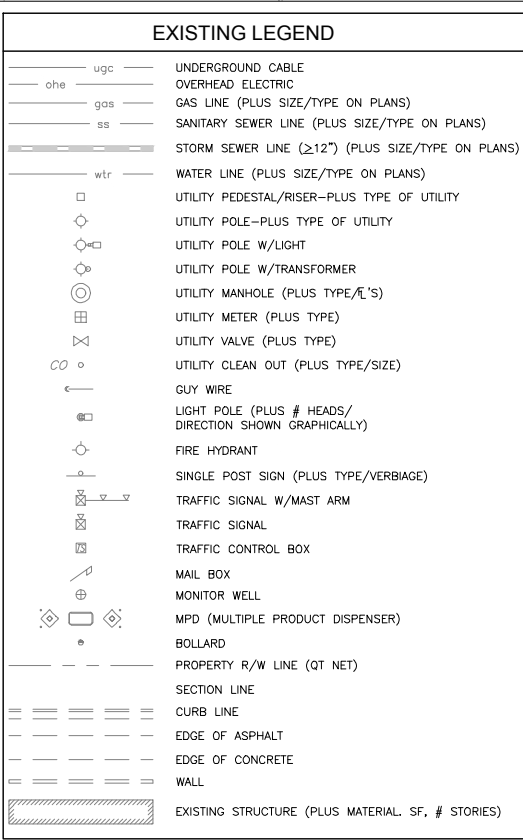
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EROSION CONTROL DETAILS

SHEET NUMBER:  
**C142**

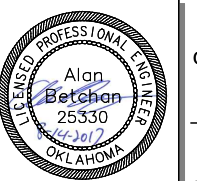
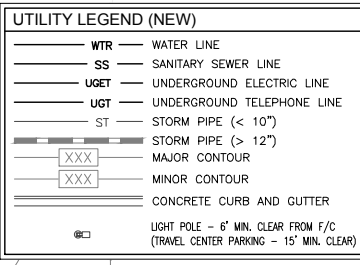


**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2"  
 ALUMINUM CAP  
 ELEVATION=732.73'

**UTILITY GENERAL NOTES**  
**UTILITY INSTALLATION CONSIDERATIONS**  
 PRIOR TO THE CONSTRUCTION OF, OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, OR ANY OTHER ELEVATION SENSITIVE UTILITY, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTIONS AND ALL UTILITY CROSSINGS. THE CONTRACTOR SHALL INFORM THE ENGINEER AND THE OWNER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. THE ENGINEER AND OWNER WILL BE HELD HARMLESS IN THE EVENT THE ENGINEER AND OWNER ARE NOT NOTIFIED OF A DESIGN CONFLICT.  
 AS POSSIBLE, ALL PROPOSED UTILITIES SHALL BE ROUTED THROUGH PERVIOUS AREAS - SPECIFICALLY AVOIDING ON-SITE PAVED AREAS DESIGNATED FOR PARKING, ACCESS, AND VEHICULAR TRAFFIC FLOW.  
 REFER TO THIS SHEET FOR LOCATION, AND SHEETS C530 THRU C531 FOR TRENCHING, BACKFILL, AND PLACEMENT DETAILS.



**CAUTION!!!**  
 Existing Waterline  
 Contractor to Coordinate Depth  
 To Ensure No Conflicts



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2136  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4293  
 Fax: (918) 514-4288

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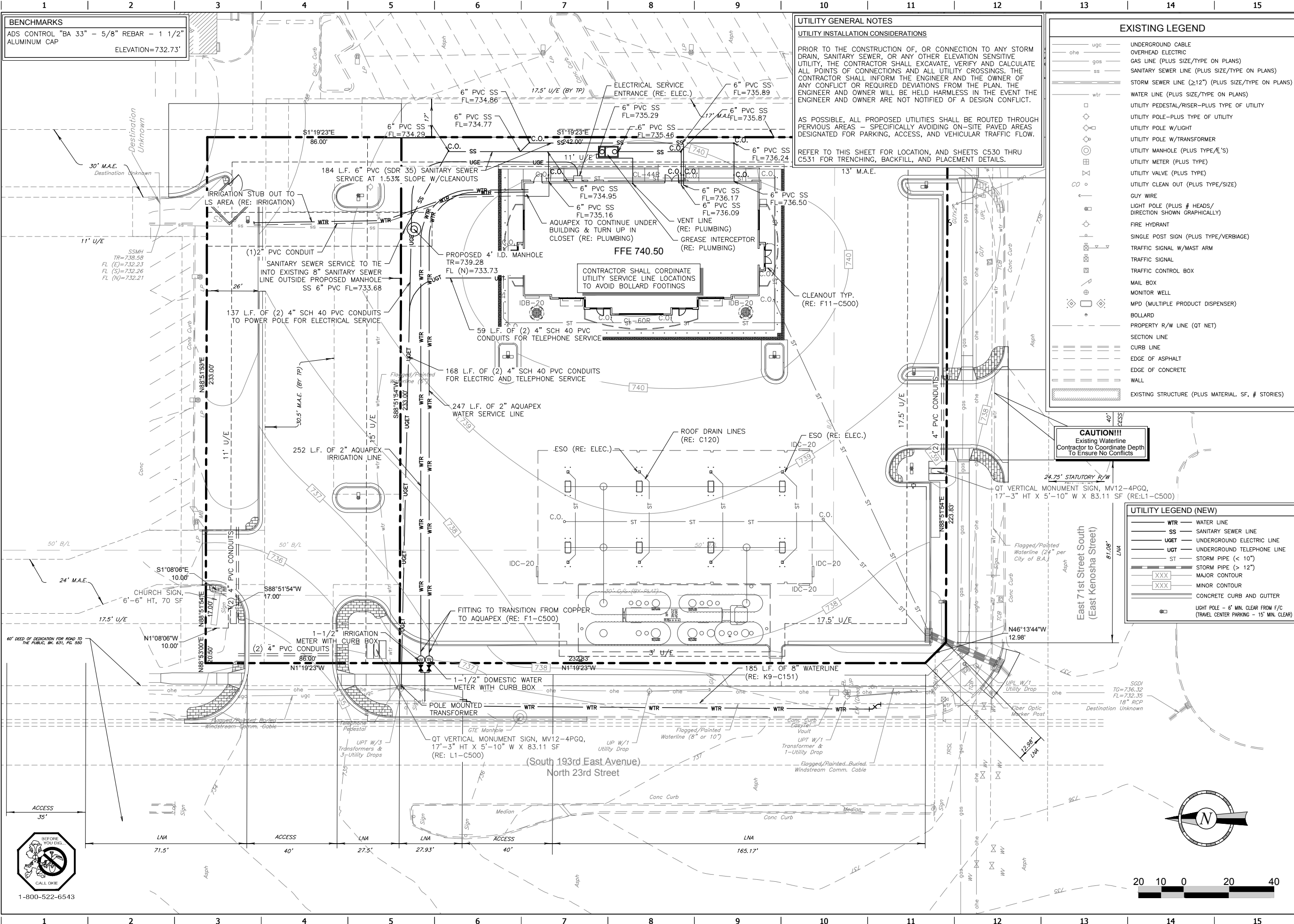
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 DIVISION: BROKEN ARROW  
 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION

CONSTRUCTION SET ISSUE DATE:

SHEET TITLE:  
 UTILITY PLAN  
 SHEET NUMBER:  
**C150**

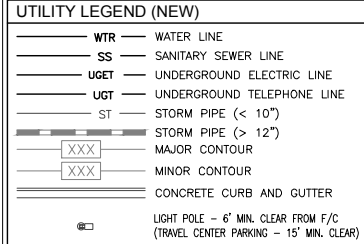
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**BENCHMARKS**  
 ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2"  
 ALUMINUM CAP  
 ELEVATION=732.73'

**WATERLINE NOTES**

- ALL WATER DISTRIBUTION SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS AND CONSTRUCTION SPECIFICATIONS.
- ALL WATER DISTRIBUTION SYSTEM CONSTRUCTION SHALL BE INSPECTED BY THE CITY UTILITY INSPECTORS.
- DIG THROUGH LOCATOR TAPE SHALL BE BURIED 2 FEET ABOVE THE LINE.
- WHEN C-900 PVC IS USED, A NO. 8 BARE COPPER WIRE SHALL BE TAPED TO THE TOP SURFACE OF THE PIPE AND CONNECTED TO EACH FIRE HYDRANT IMMEDIATELY ABOVE GROUND LEVEL.
- ALL IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED.
- ALL LINES IN CONDUIT AND AT DRAINAGE FEATURE CROSSINGS SHALL BE CONSTRUCTED WITH RESTRAINED JOINTS.
- ALL FITTINGS SHALL HAVE RESTRAINED JOINTS AND THRUST BLOCKS.
- ALL MAIN LINES SHALL HAVE A MINIMUM OF 42 INCHES (3.5 FEET) AND A MAXIMUM OF EIGHT (8) FEET OF COVER.
- SERVICE LINES SHALL BE TAPPED TO MAIN LINES USING SOLID BRASS SADDLES. WATER SERVICE WILL BE INSTALLED BY A WATER SERVICE INSTALLATION CONTRACTOR/PLUMBER FROM THE CITY'S APPROVED LIST.
- ALL EXISTING VALVES TO BE OPERATED BY THE CITY AT CONTRACTOR'S EXPENSE.
- FIRE HYDRANTS:
  - FIRE HYDRANTS SHALL BE MUELLER, KENNEDY, AMERICAN DARLING, OR AVK ONLY. BARREL SIZE IS TO BE 5 1/4" WITH 4 1/2" AND 2 1/2" NST HOSE COUPLING, AND STATED NOTE SHALL REFLECT THIS CONDITION.
  - EACH HYDRANT SHALL BE SET WITH THE STREAMER NOZZLE FACING THE STREET AND WITH A MINIMUM CLEARANCE OF EIGHTEEN (18) INCHES ABOVE THE FINISHED GRADE.
- ALL SALVAGED FITTINGS SHALL, AT THE CITY'S DISCRETION, BE RETURNED TO THE CITY'S YARD AS DIRECTED BY THE INSPECTOR.
- CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS PRIOR TO TESTING AND CHLORINATION.
- ALL FITTINGS ARE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- ALL TAPS, TAPPING SLEEVES AND VALVES WILL BE PROVIDED BY THE CITY OF BROKEN ARROW AT THE CONTRACTOR'S EXPENSE.



**WATER LINE QUANTITIES**

RIGHT-OF-WAY CLEARING AND RESTORING.....	187 LF
EXCAVATION AND BACKFILL, UNCLASSIFIED.....	27 CY
8" DUCTILE IRON PIPE.....	187 LF
CONNECTION TO EXISTING 8" WATER LINE.....	2 EA
8" 45° BEND.....	4 EA
8" SOLID SLEEVE.....	1 EA

**UTILITY GENERAL NOTES**

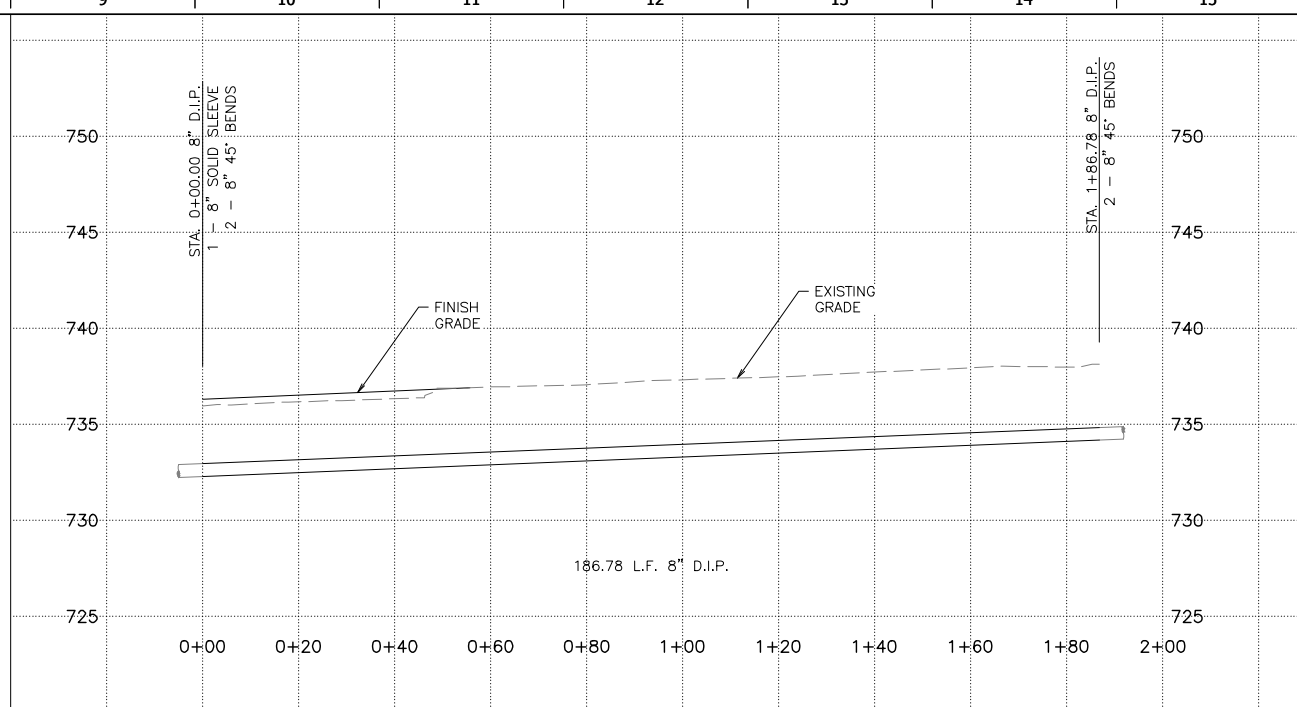
**UTILITY INSTALLATION CONSIDERATIONS**

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AS POSSIBLE, ALL PROPOSED UTILITIES SHALL BE ROUTED THROUGH PEROUS AREAS - SPECIFICALLY AVOIDING ON-SITE PAVED AREAS DESIGNATED FOR PARKING, ACCESS, AND VEHICULAR TRAFFIC FLOW.

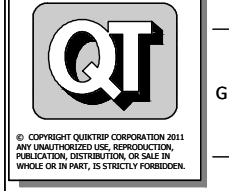
REFER TO THIS SHEET FOR LOCATION, AND SHEETS C530 THRU C531 FOR TRENCHING, BACKFILL, AND PLACEMENT DETAILS.

**K9 8" DUCTILE IRON PIPE PROFILE**  
 H: 1"=20', V: 1"=5'



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4293  
 Fax: (918) 514-4288

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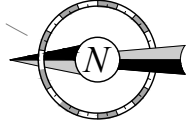
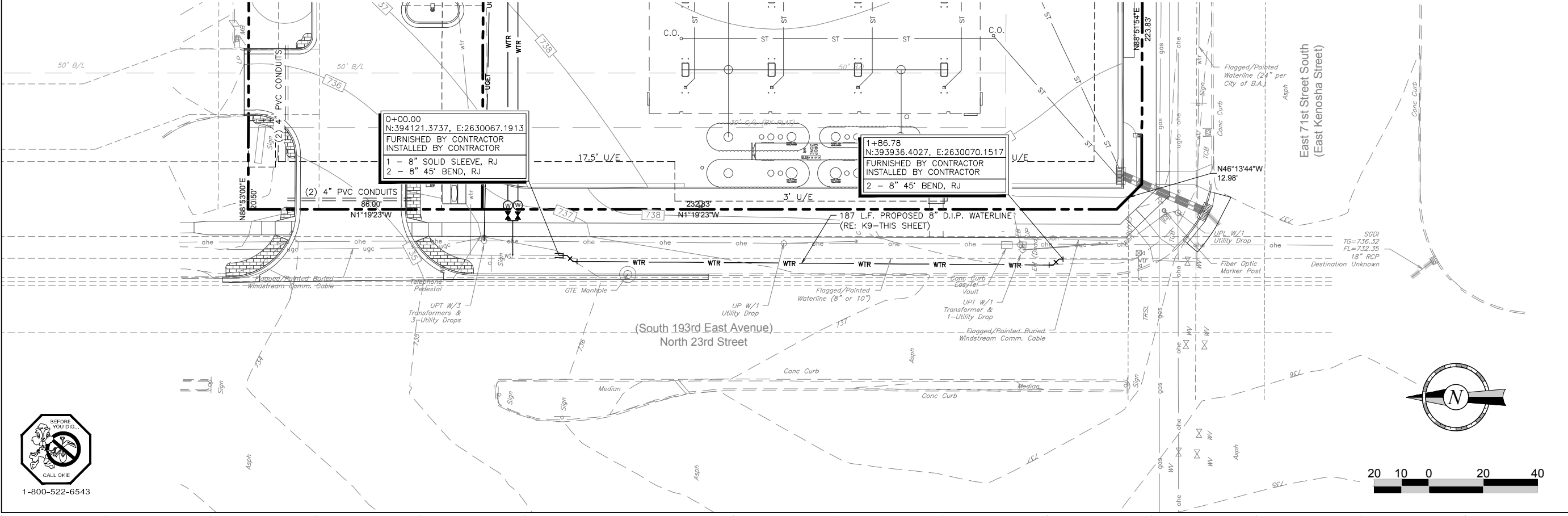
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DIVISION: BROKEN ARROW
VERSION: 001
DESIGNED BY: AAB
DRAWN BY: KMT
REVIEWED BY:

REV	DATE	DESCRIPTION

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 WATERLINE PLAN AND PROFILE

**SHEET NUMBER:**  
**C151**

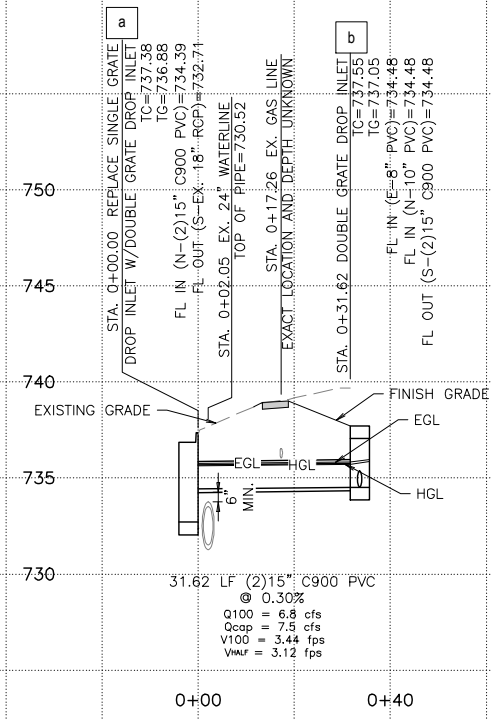
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**BENCHMARKS**  
ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2"  
ALUMINUM CAP  
ELEVATION=732.73'



- AREAS TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY PRIOR TO UTILITY CONSTRUCTION.
- UTILITY LINES LOCATED UNDER PAVEMENT SHALL BE BACKFILLED WITH TYPE A AGGREGATE BASE COMPACTED TO 95% STANDARD DENSITY, OR FLOWABLE FILL, AS SHOWN ON PROFILES.

ALL STORM SEWERS SHOWN ARE PRIVATE UNLESS OTHERWISE NOTED.

**Alan Betchan**  
LICENSED PROFESSIONAL ENGINEER  
25330  
OKLAHOMA

PROJECT NO.:

**AAB Engineering, LLC**  
Engineering • Surveying  
P.O. Box 2198  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4263  
Fax: (918) 514-4268

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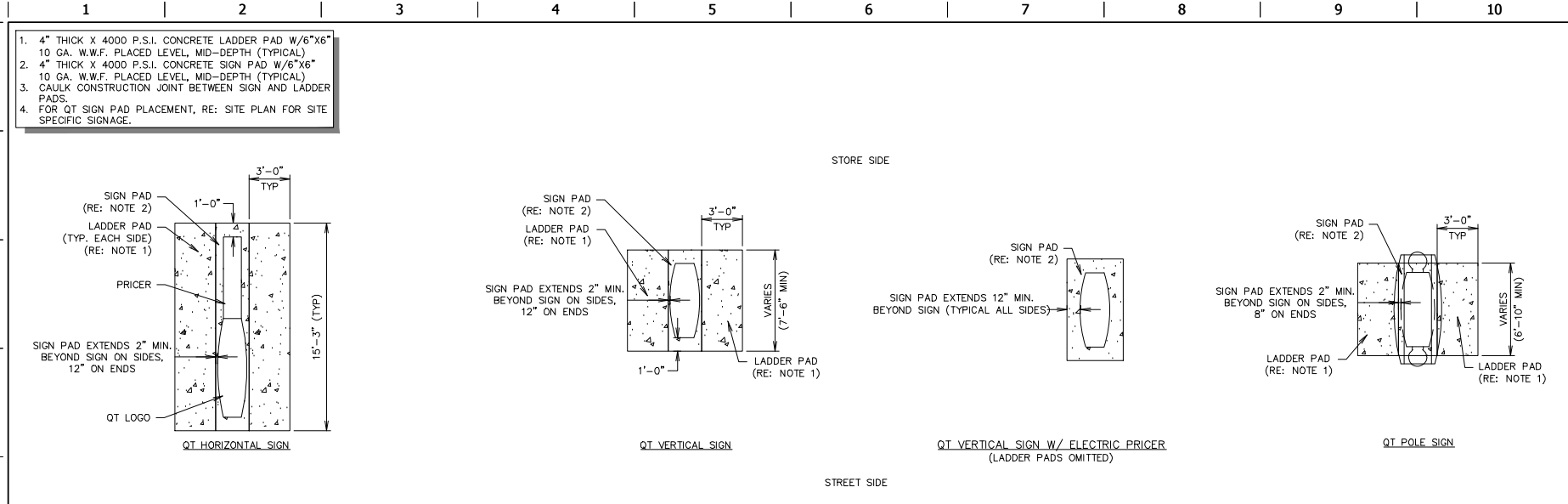
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VERSION: 001  
DESIGNED BY: AAB  
DRAWN BY: KMT  
REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET ISSUE DATE:

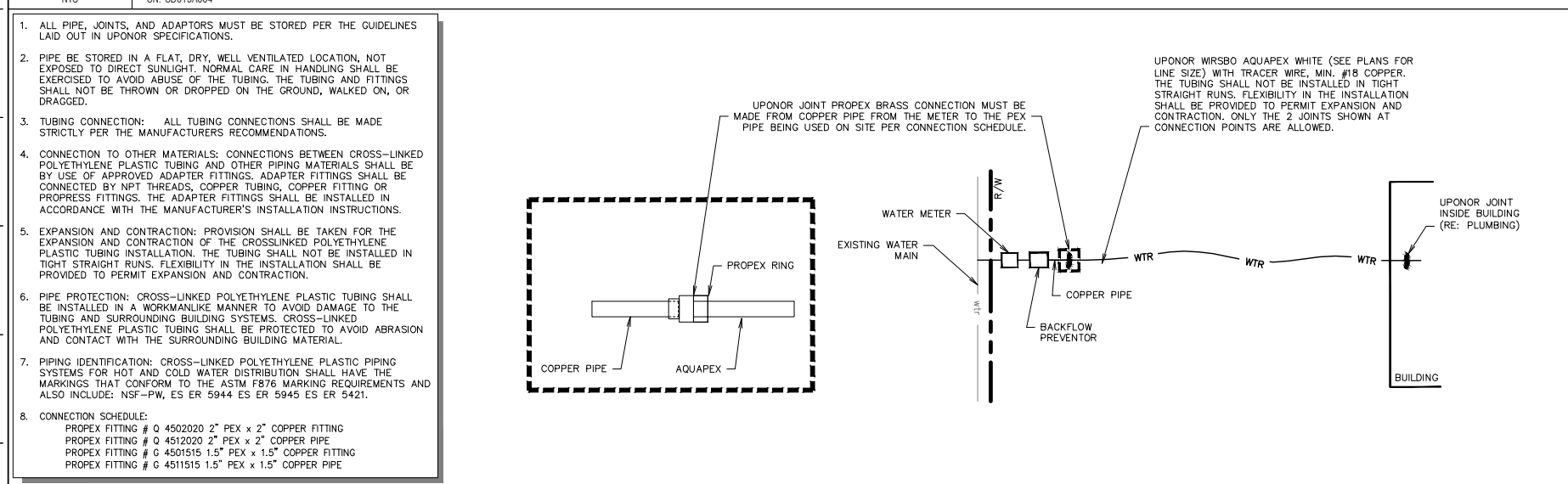
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STORM SEWER PROFILES

SHEET NUMBER:  
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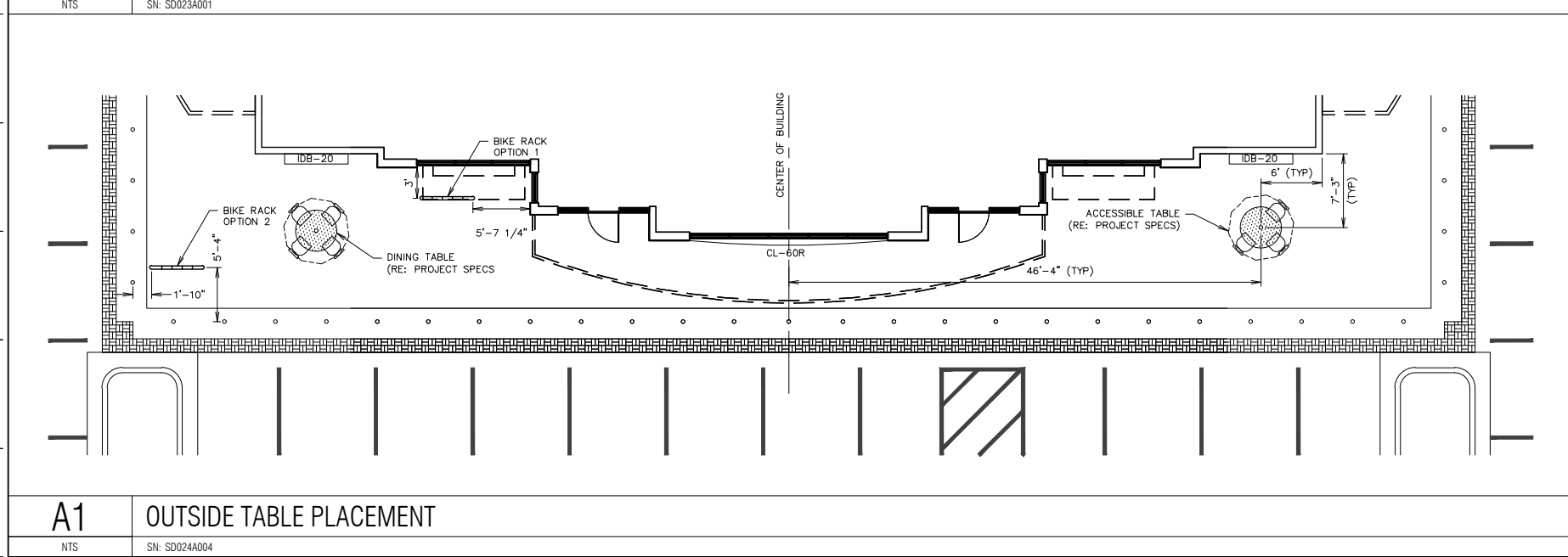
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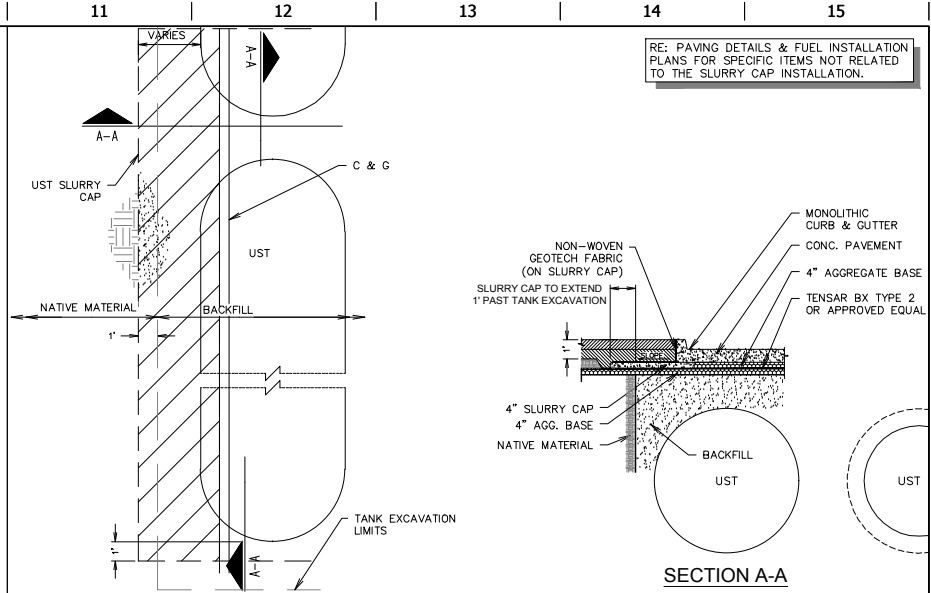
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NTS SN: SD015A004



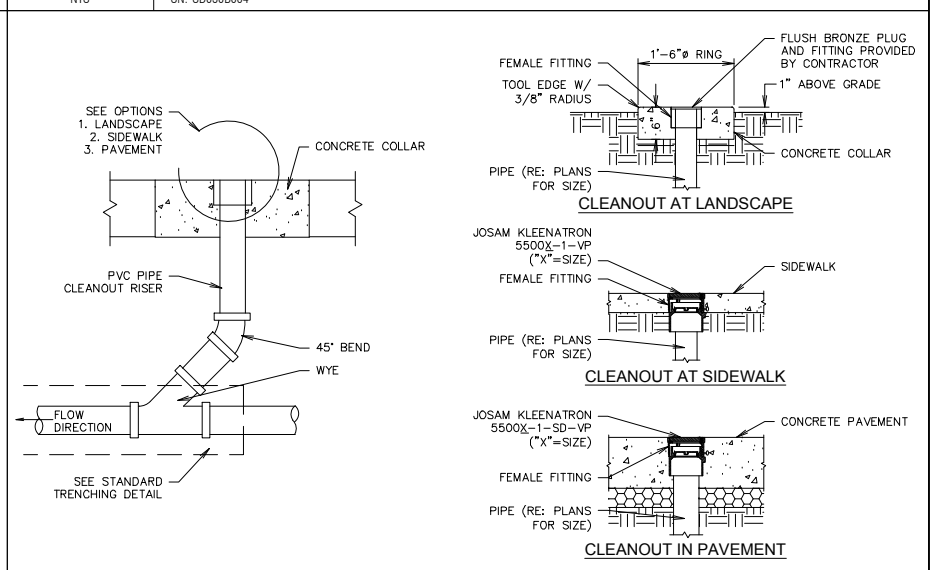
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NTS SN: SD023A001



**A1 OUTSIDE TABLE PLACEMENT**  
NTS SN: SD024A004



**L11 2 X 2 TANK SLURRY CAP DETAIL**  
NTS SN: SD030B004



**F11 CLEANOUT SECTION DETAIL**  
NTS SN: SD016A006



**A11 FIRE LANE DETAIL**  
NTS SN:

PROJECT NO.:  
**AAB Engineering, LLC**  
Engineering • Surveying  
P.O. Box 2198  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
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REV	DATE	DESCRIPTION

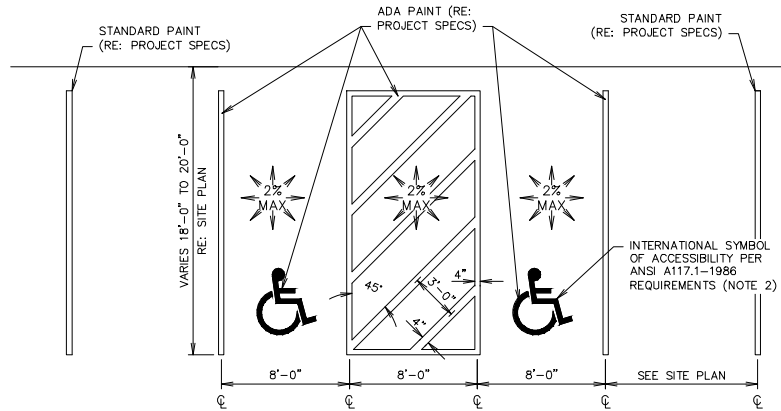
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MISC. SITE DETAILS

SHEET NUMBER:  
**C500**

CONSTRUCTION SET ISSUE DATE:



1. RE: SITE PLAN FOR LOCATION OF ADA PARKING SPACES AND ACCESS AISLE IN RELATIONSHIP TO THE DOOR LOCATION. (THIS DETAIL IS FOR STRIPING LAYOUT ONLY)
2. PARKING STRIPES AND THE ADA INTERNATIONAL HANDICAP SYMBOL ARE TO BE PAINTED PER THE MANUFACTURER'S RECOMMENDATIONS. (RE: PROJECT SPECS)

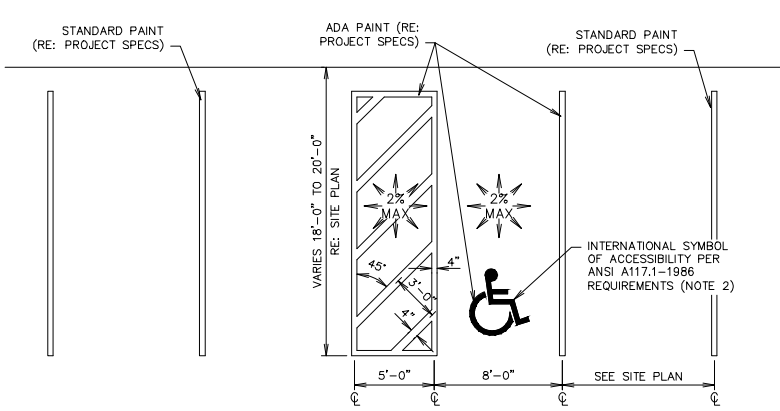


**L1** DOUBLE STALL ADA PARKING STRIPING DETAIL

NTS

SN: AD001A008

1. RE: SITE PLAN FOR LOCATION OF ADA PARKING SPACES AND ACCESS AISLE IN RELATIONSHIP TO THE DOOR LOCATION. (THIS DETAIL IS FOR STRIPING LAYOUT ONLY)
2. PARKING STRIPES AND THE ADA INTERNATIONAL HANDICAP SYMBOL ARE TO BE PAINTED PER THE MANUFACTURER'S RECOMMENDATIONS. (RE: PROJECT SPECS)

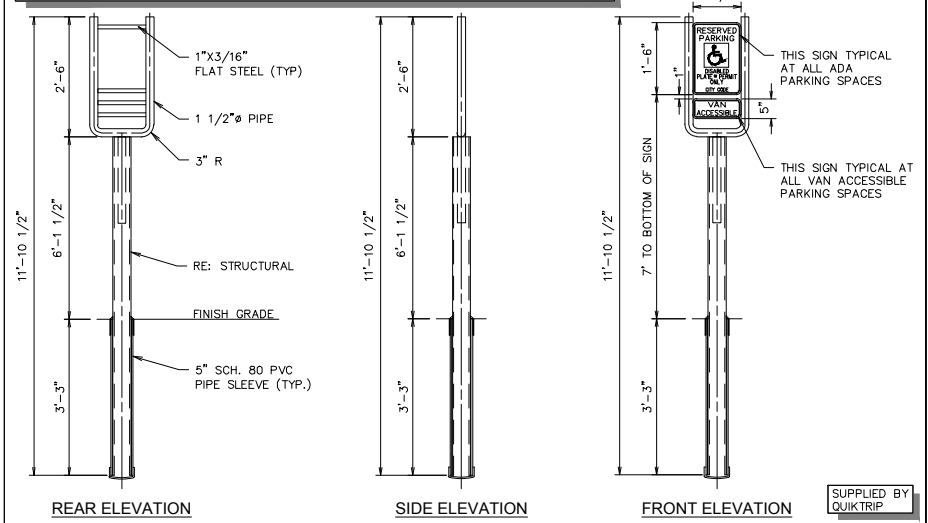


**L6** SINGLE STALL ADA PARKING STRIPING DETAIL

NTS

SN: AD002A008

1. RE: SITE PLAN FOR DETERMINING LOCATION. 2. ADA SIGNAGE TO BE FASTENED TO FRAME USING POP RIVETS.



**L11** ADA SIGN IN BOLLARD

NTS

SN: AD003C006

SUPPLIED BY QUIKTRIP



PROJECT NO.:  
**AAB** Engineering, LLC  
Engineering • Surveying  
P.O. Box 2198  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4283  
Fax: (918) 514-4288

**QuikTrip No. 0033**  
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DIVISION: BROKEN ARROW  
VERSION: 001  
DESIGNED BY: AAB  
DRAWN BY: KMT  
REVIEWED BY:

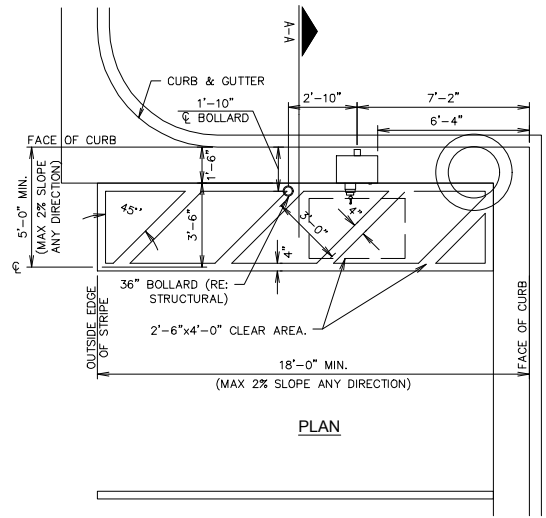
REV	DATE	DESCRIPTION

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ADA DETAILS

SHEET NUMBER:

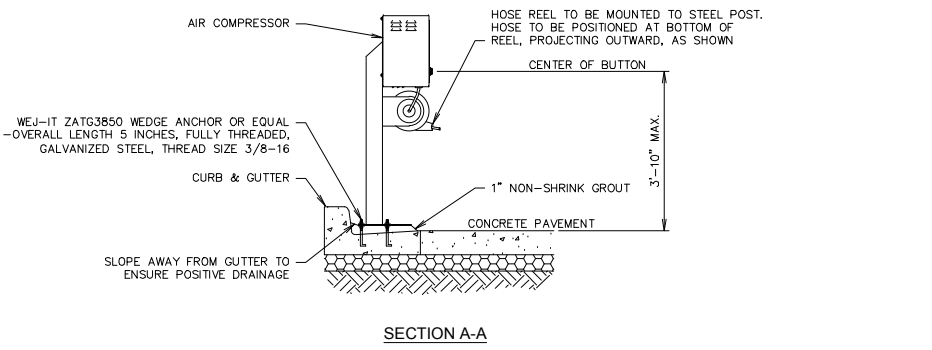
**C510**



**F1** AIR SERVICE INSTALL PLAN (LEFT HAND INSTALL)

NTS

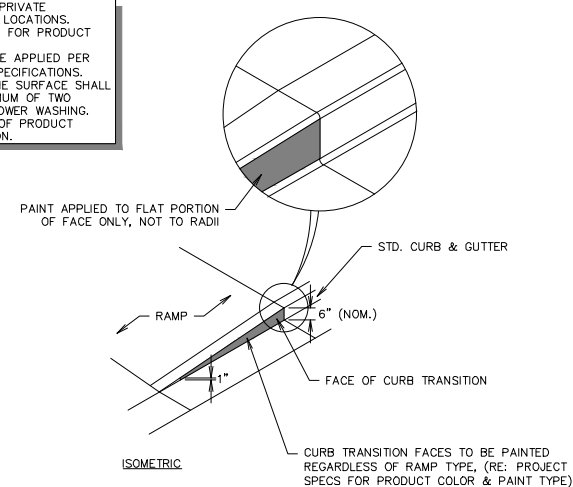
SN: AD004B009



SECTION A-A

COMPRESSOR AND STAND SUPPLIED BY QUIKTRIP

1. REQUIRED FOR ALL PRIVATE PROPERTY INTERIOR LOCATIONS.
2. RE: PROJECT SPECS FOR PRODUCT COLOR & TYPE.
3. PRODUCT SHOULD BE APPLIED PER MANUFACTURER'S SPECIFICATIONS.
4. PREPARATION OF THE SURFACE SHALL CONSIST OF A MINIMUM OF TWO APPLICATIONS OF POWER WASHING.
5. TWO APPLICATIONS OF PRODUCT SHALL BE ROLLED ON.



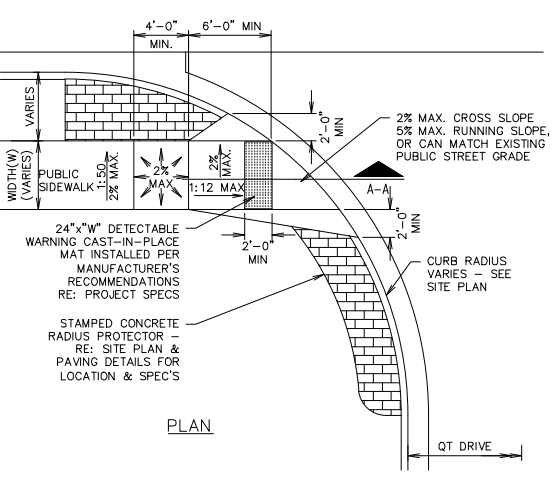
ISOMETRIC

**F11** RAMP - CURB TRANSITION PAINTING DETAIL

NTS

SN: AD015A002

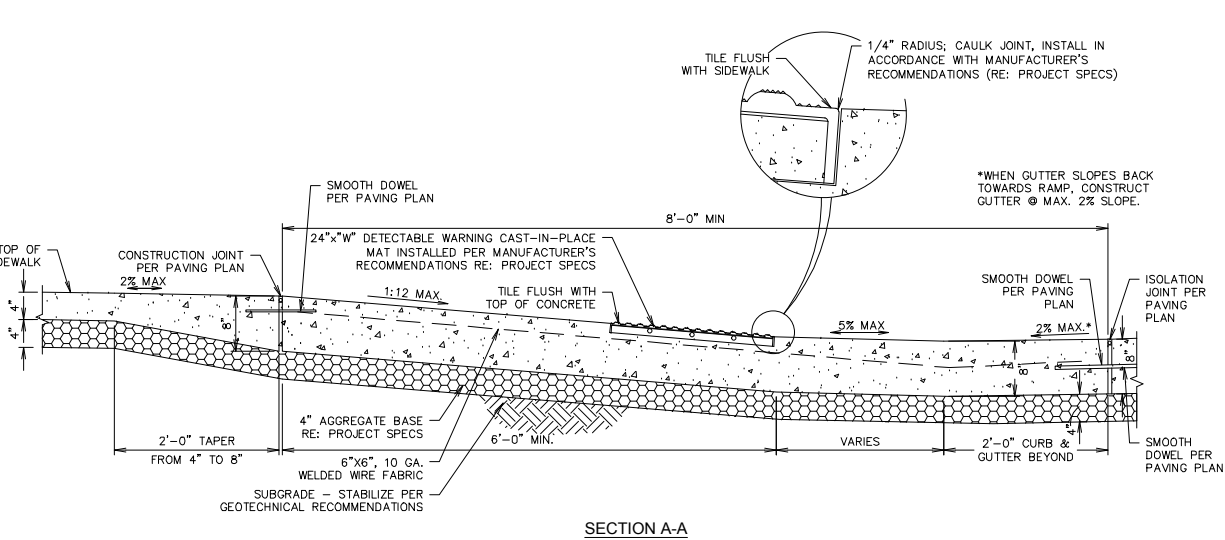
1. RE: SITE PLAN FOR LOCATION OF ADA RAMP



**A1** ADA ACCESS RAMP AT DRIVE

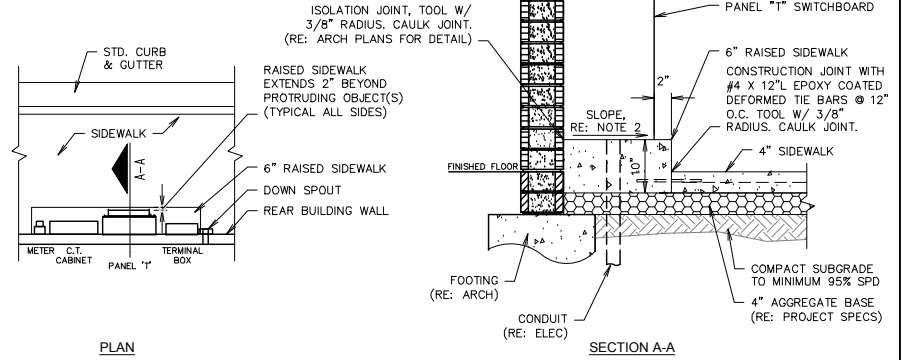
NTS

SN: AD006A007



SECTION A-A

- NOTES:
1. 6" RAISED SIDEWALK IS REQUIRED WHEN AN OBJECT WHICH PROTRUDES MORE THAN 4" HAS LEADING EDGES MORE THAN 27" AND NOT MORE THAN 80" ABOVE THE WALKING SURFACE.
  2. CANE DETECTION THAT DOUBLES AS A UTILITY CABINET BASE SHALL HAVE A LEVEL PAD FOR THE CABINET. THE REMAINING PAD BEYOND THE CABINET SHALL BE SLOPED AWAY AT 2% FOR DRAINAGE.



PLAN

SECTION A-A

**A11** CANE DETECTION FOR PROTRUDING OBJECTS

NTS

SN: AD014A003

FILE LOCATION: P:\1815\06-0T\_0033\DETAILS ADA.dwg TAB NAME: ADA Detail Sheet 1 USER: Tech1212 SAV: 8/8/2017 3:42 PM PLOTTED: 8/15/2017 1:29 PM

FILE LOCATION: P:\1815\06-OT\_0033\DETAILS ADA.dwg TAB NAME: ADA Detail Sheet 2 USER: Tech12 SAVED: 8/15/2017 3:42 PM PLOTTED: 8/15/2017 1:29 PM

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L1

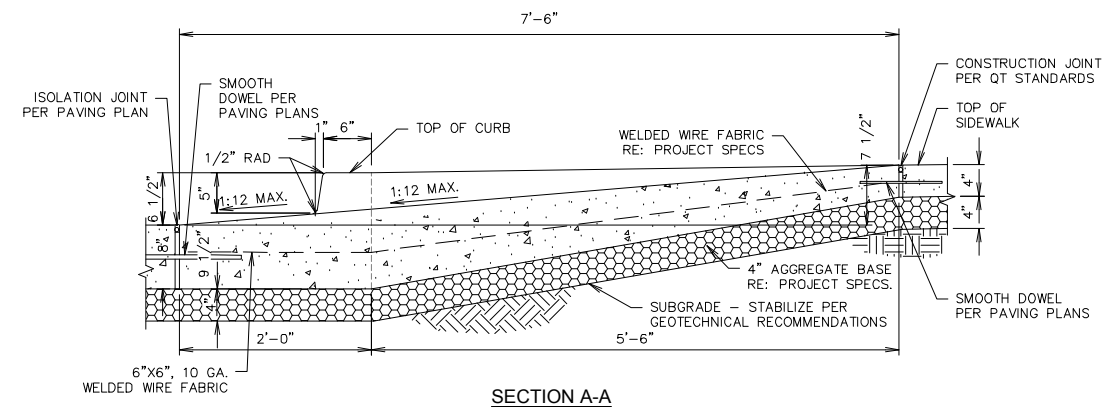
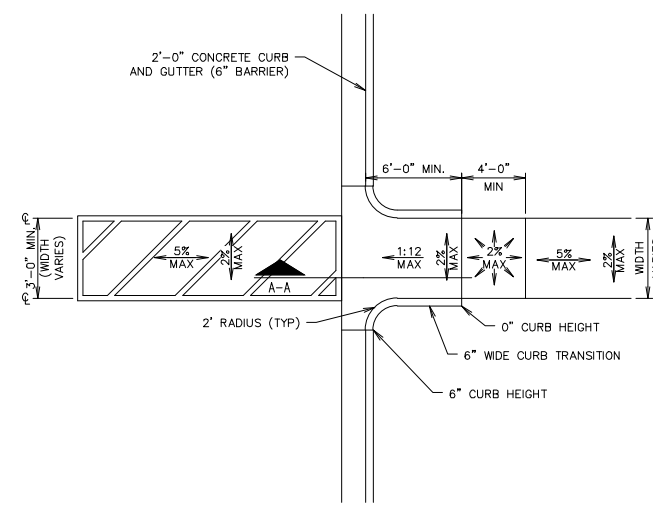
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L6

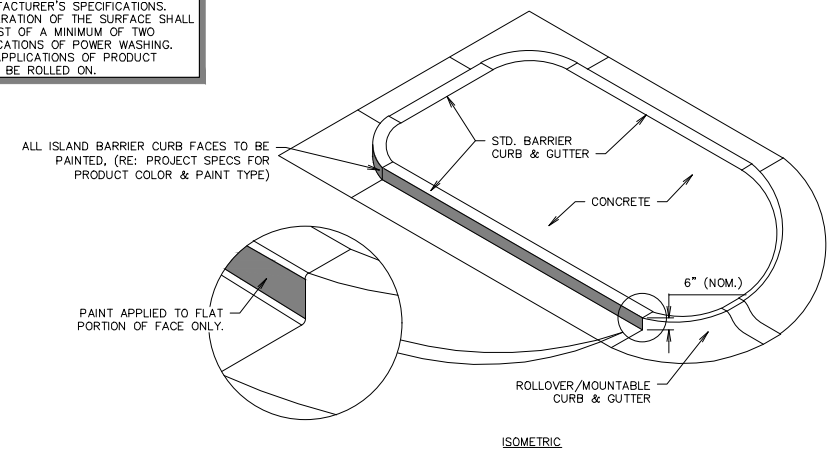
NOT USED

L11

NOT USED



1. REQUIRED FOR ALL PRIVATE PROPERTY INTERIOR LOCATIONS.
2. RE: PROJECT SPECS FOR PRODUCT COLOR & TYPE.
3. PRODUCT SHOULD BE APPLIED PER MANUFACTURER'S SPECIFICATIONS.
4. PREPARATION OF THE SURFACE SHALL CONSIST OF A MINIMUM OF TWO APPLICATIONS OF POWER WASHING.
5. TWO APPLICATIONS OF PRODUCT SHALL BE ROLLED ON.



F1

PARKING LOT CURB RAMP @ ADA CROSSING

F11

ISLAND - BARRIER CURB PAINTING DETAIL (NON-LANDSCAPED)

A1

NOT USED

A6

NOT USED

A11

NOT USED

**Alan Betchan**  
25330  
OKLAHOMA

PROJECT NO.:

**AAB Engineering, LLC**  
Engineering • Surveying  
P.O. Box 2136  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4263  
Fax: (918) 514-4268

**QuikTrip No. 0033**  
2400 E. KENOSHA ST.  
BROKEN ARROW, OK

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VERSION:	001
DESIGNED BY:	AAB
DRAWN BY:	KMT
REVIEWED BY:	

REV	DATE	DESCRIPTION

CONSTRUCTION SET ISSUE DATE:

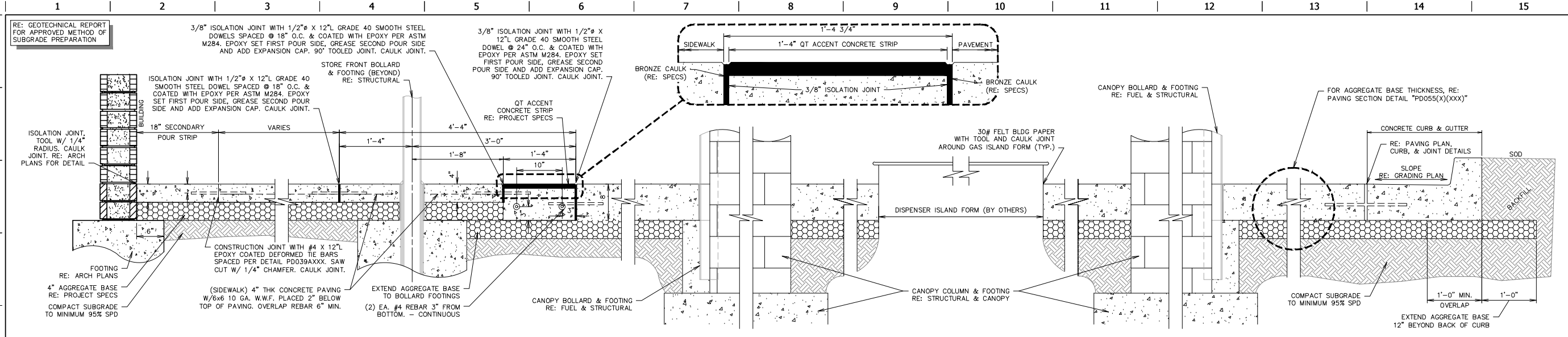
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ADA DETAILS

SHEET NUMBER:  
**C511**

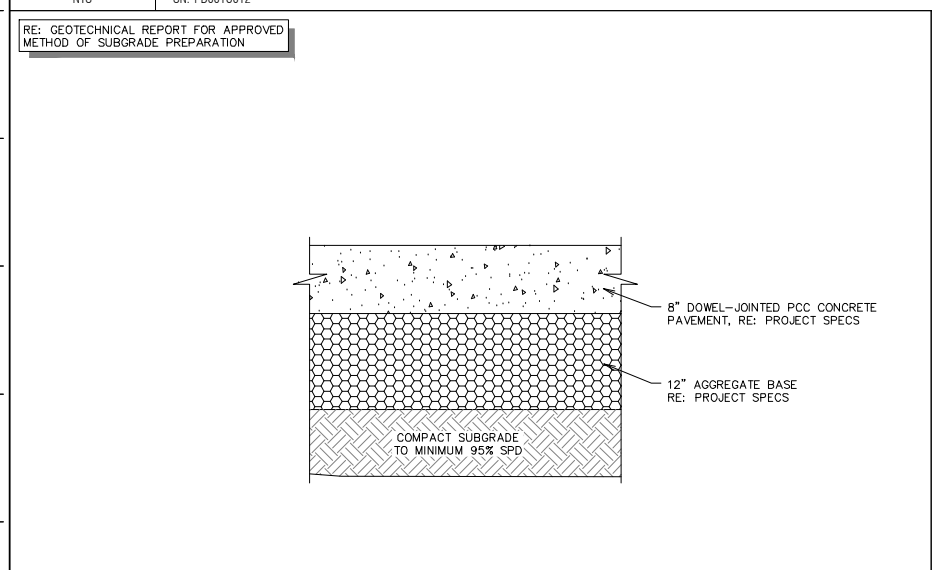
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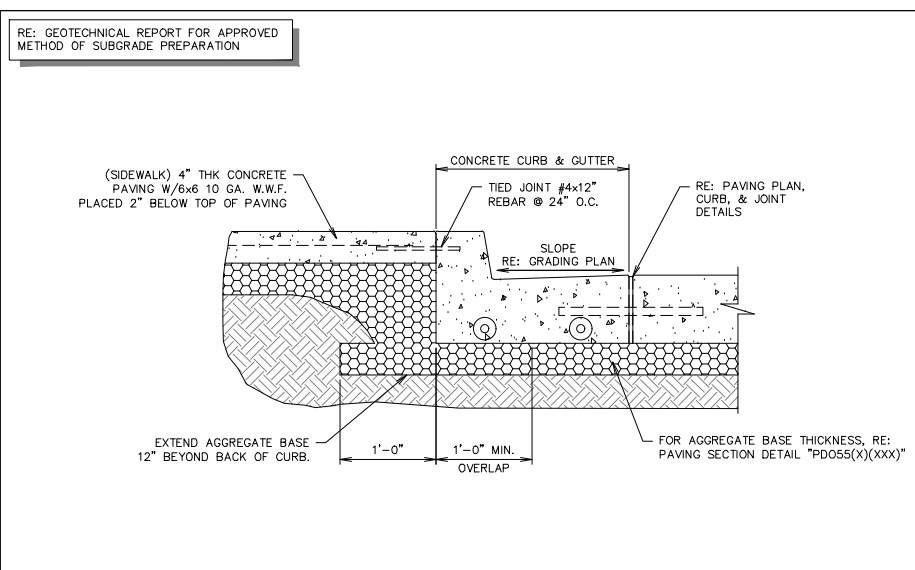
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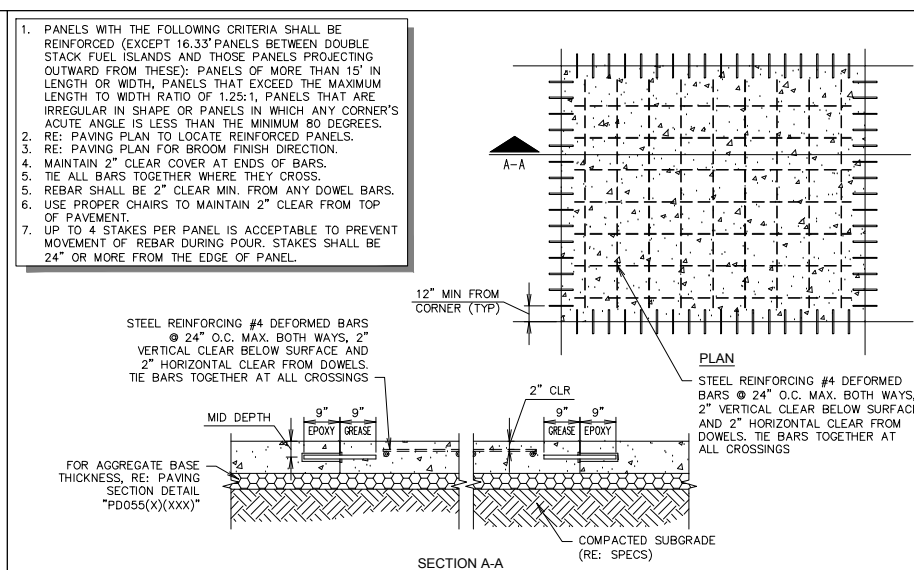
**L1** PAVING SECTION THROUGH SITE W/ STORE FRONT BOLLARDS (GEN III)



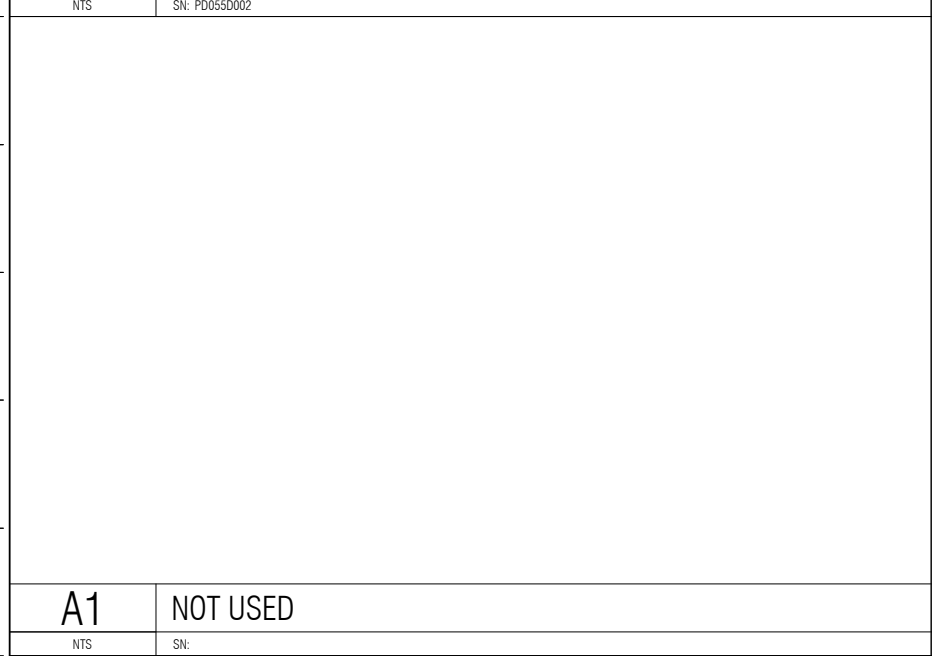
**F1** PAVING SECTION DETAIL (12" AGG.)



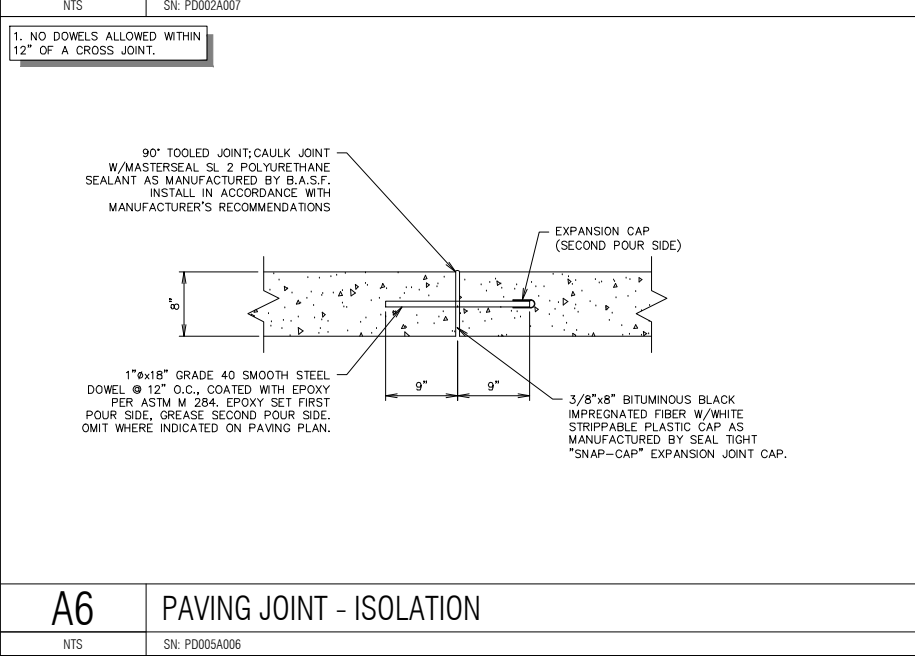
**F6** SIDEWALK SECTION ABUTTING CURB & GUTTER



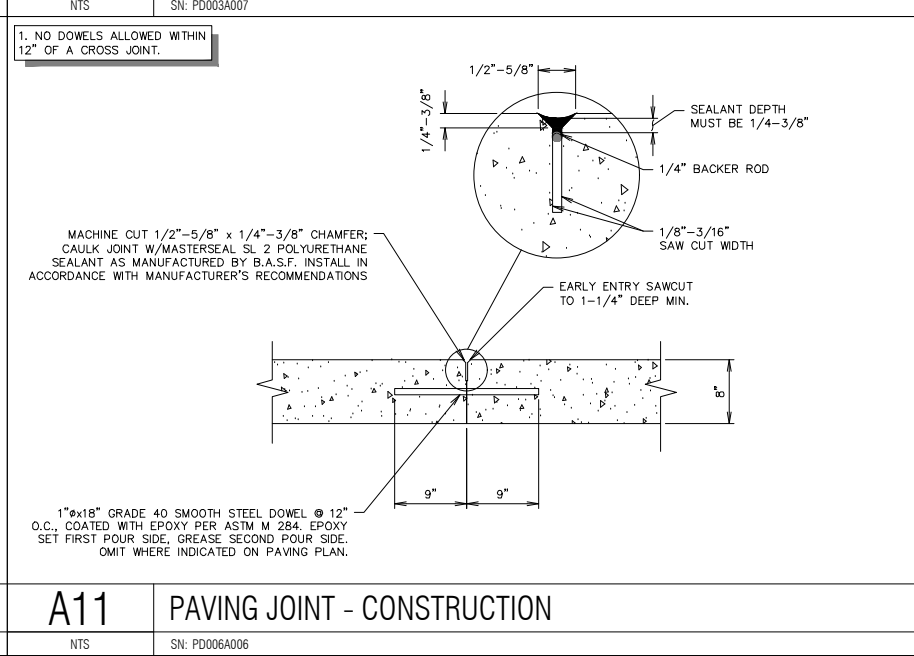
**F11** PAVEMENT REINFORCING DETAIL



**A1** NOT USED



**A6** PAVING JOINT - ISOLATION



**A11** PAVING JOINT - CONSTRUCTION

PROJECT NO.:
   
**AAB Engineering, LLC**
  
  
 Engineering • Surveying
   
 P.O. Box 2196
   
 Sand Springs, OK 74063
   
 OK CARR6318 Exp. June 30, 2018
   
 Office: (918) 514-4293
   
 Fax: (918) 514-4288

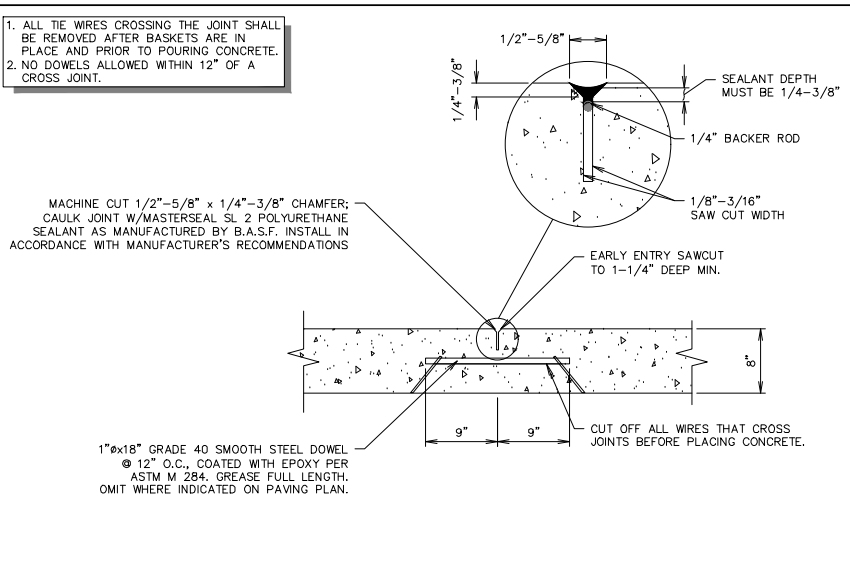
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 REVIEWED BY:

REV	DATE	DESCRIPTION

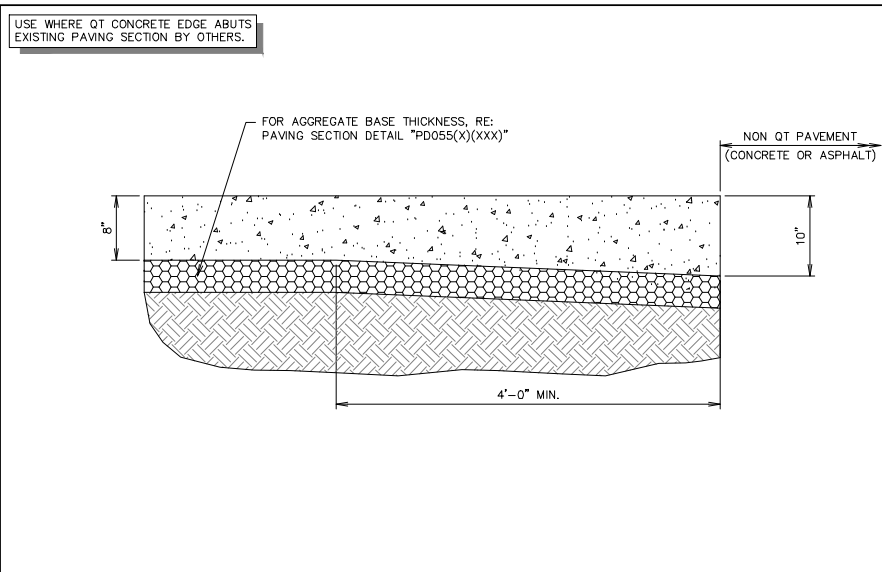
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 PAVING DETAILS
   
 SHEET NUMBER:
   
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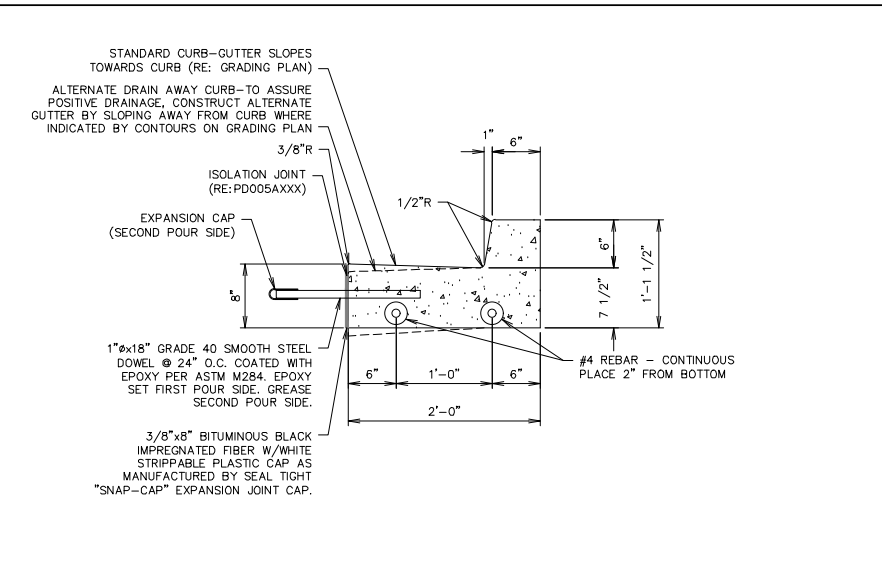
**L1** PAVING JOINT - CONTRACTION

NTS SN: PD007A008



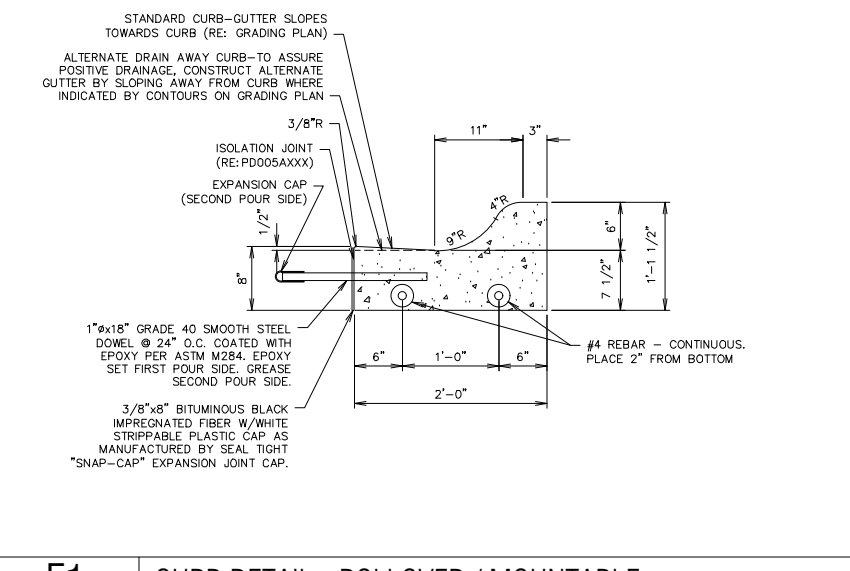
**L6** THICKENED EDGE SECTION

NTS SN: PD008A006



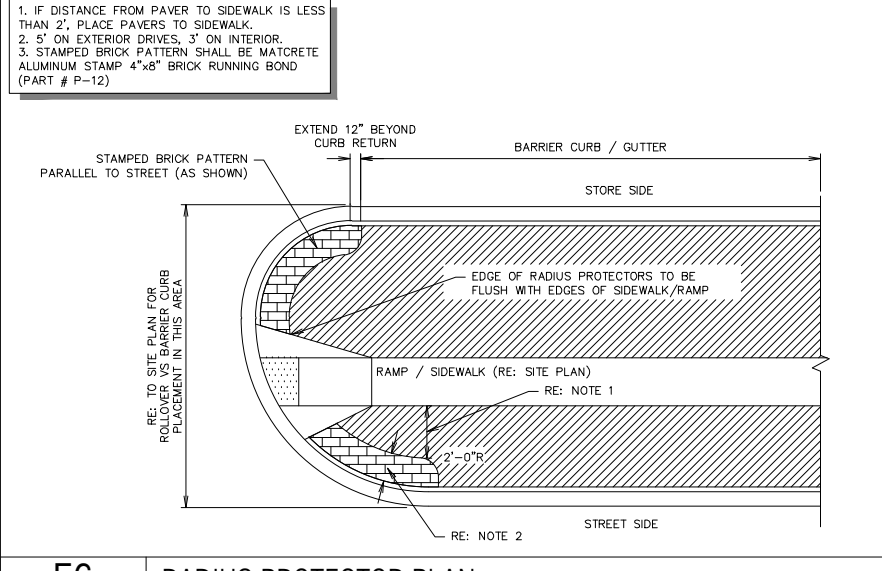
**L11** CURB DETAIL - BARRIER

NTS SN: PD009A009



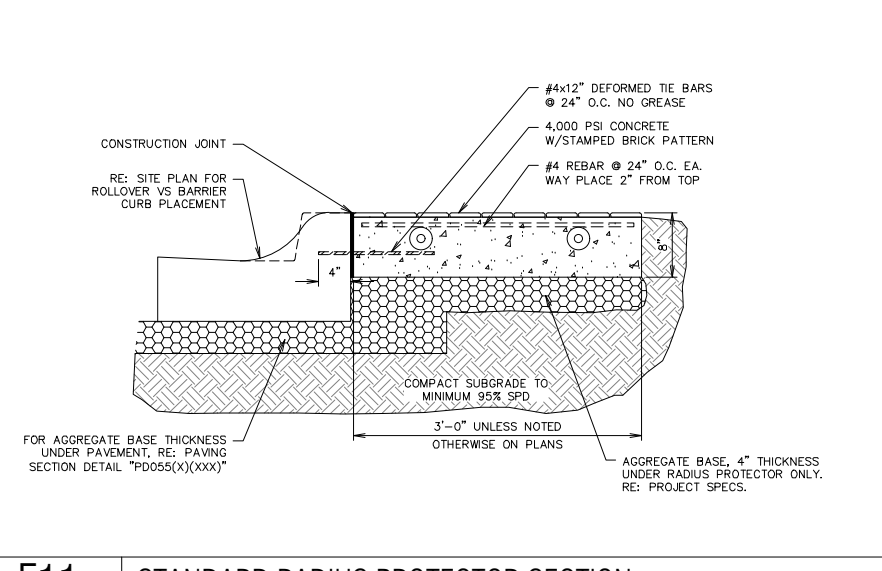
**F1** CURB DETAIL - ROLLOVER / MOUNTABLE

NTS SN: PD010B008



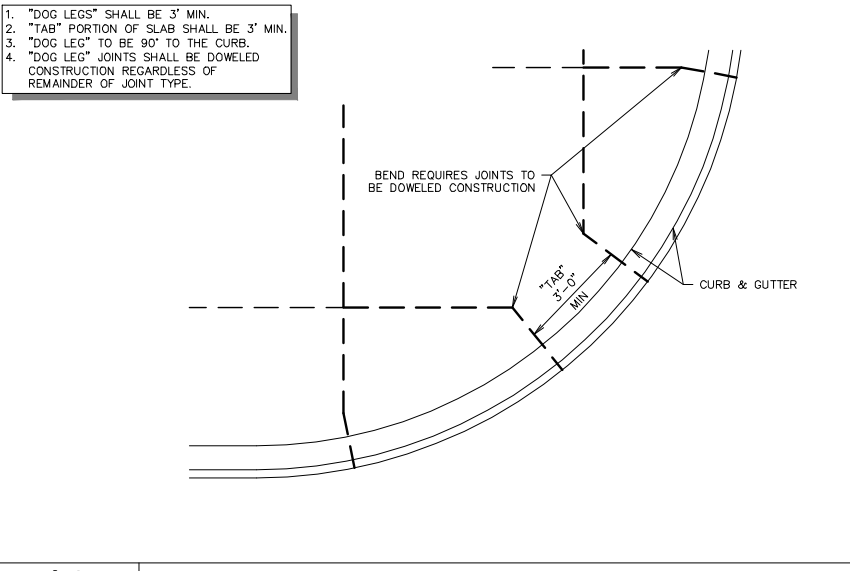
**F6** RADIUS PROTECTOR PLAN

NTS SN: PD016A003



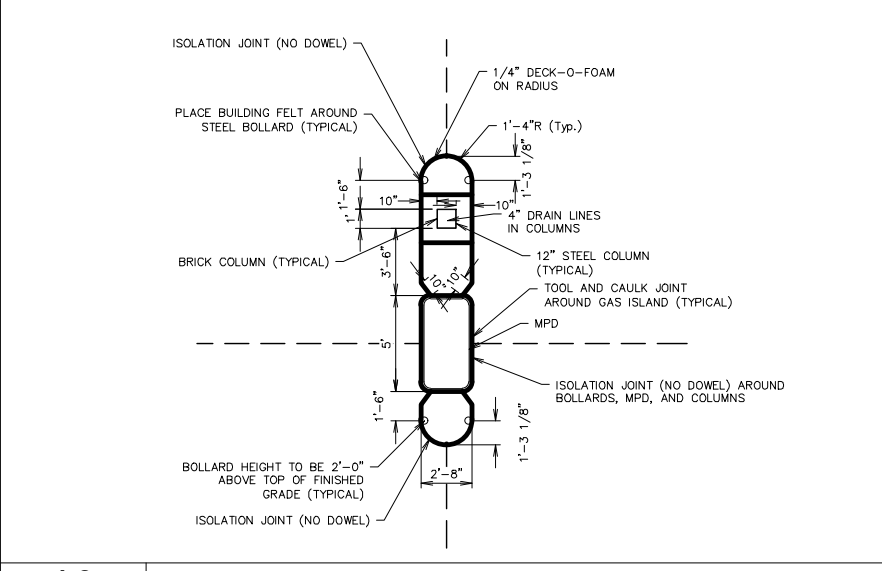
**F11** STANDARD RADIUS PROTECTOR SECTION

NTS SN: PD017A008



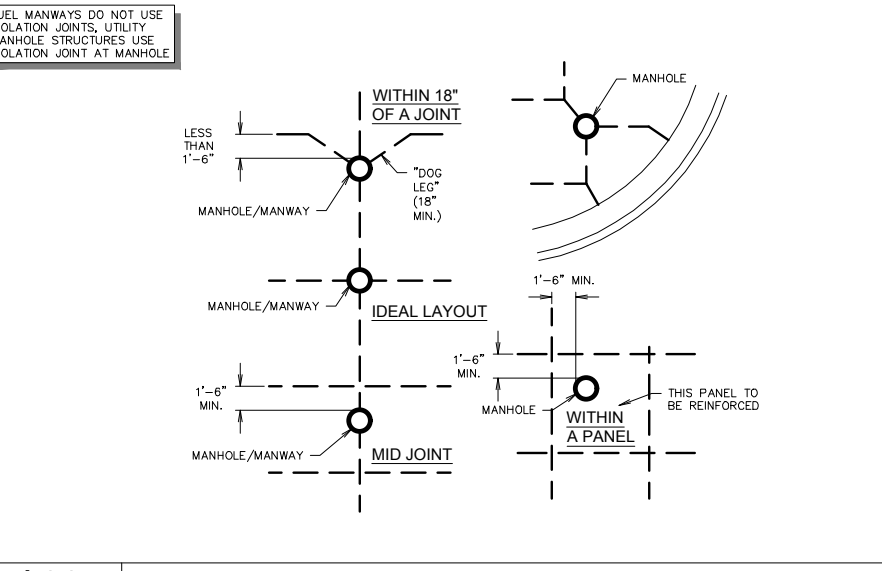
**A1** TYPICAL JOINT LAYOUT - AT RADIUS AND ANGLES

NTS SN: PD019A007



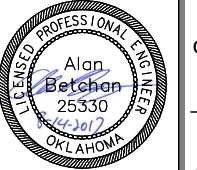
**A6** MPD BLOWUP DETAIL

NTS SN:



**A11** TYPICAL MANHOLE / FUEL MANWAY JOINT LAYOUTS

NTS SN: PD021A003



PROJECT NO.:

**AAB Engineering, LLC**

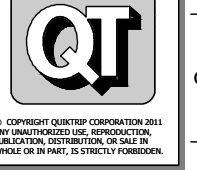
**AAB**

Engineering • Surveying

P.O. Box 2196  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4283  
Fax: (918) 514-4288

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VERSION: 001

DESIGNED BY: AAB

DRAWN BY: KMT

REVIEWED BY:

REV	DATE	DESCRIPTION

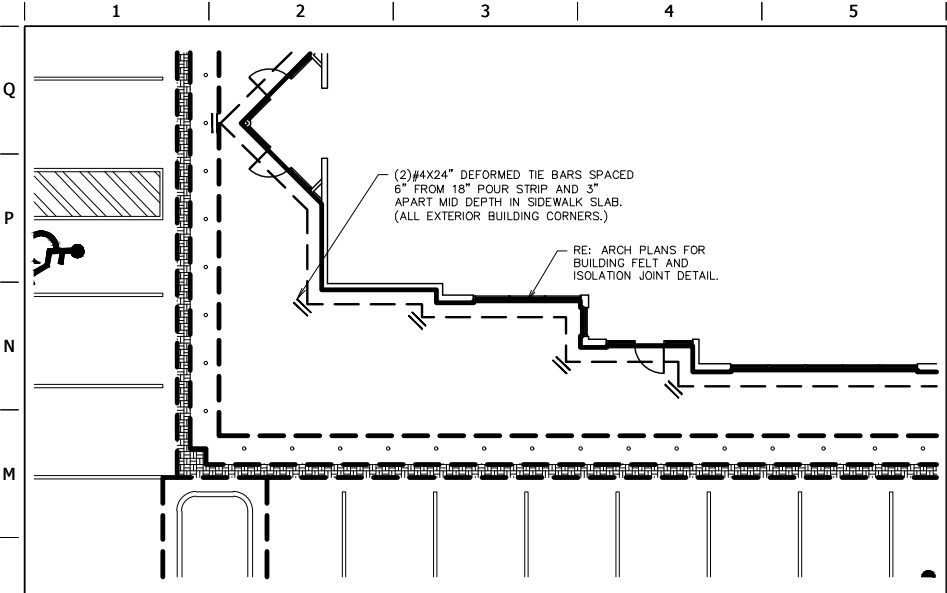
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**C521**

CONSTRUCTION SET ISSUE DATE:

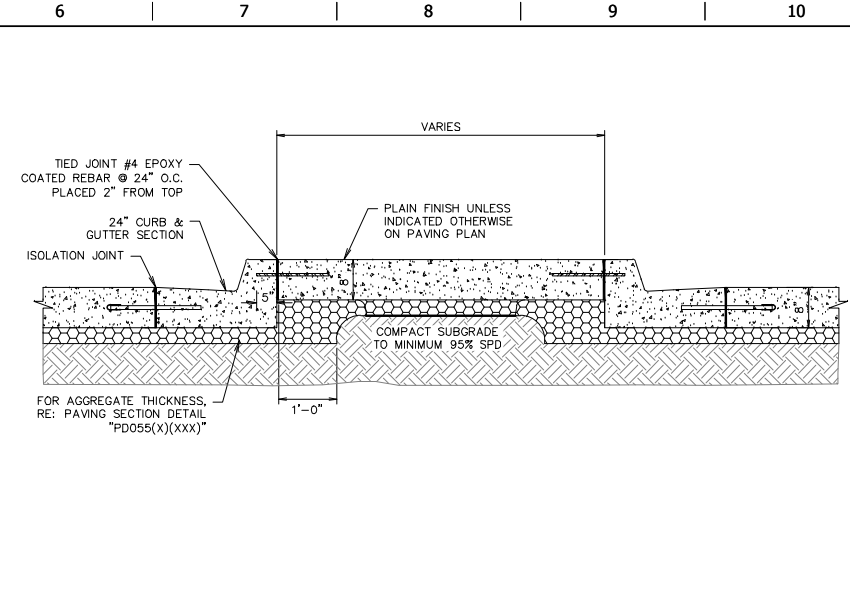


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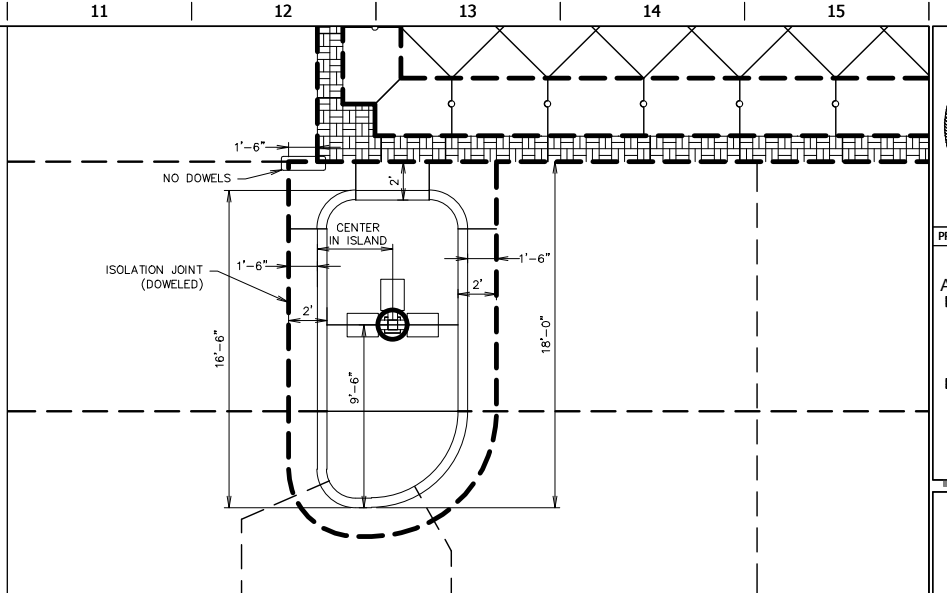
**L1** GEN III SIDEWALK REINFORCING AT BUILDING CORNERS

NTS SN: PD022A006



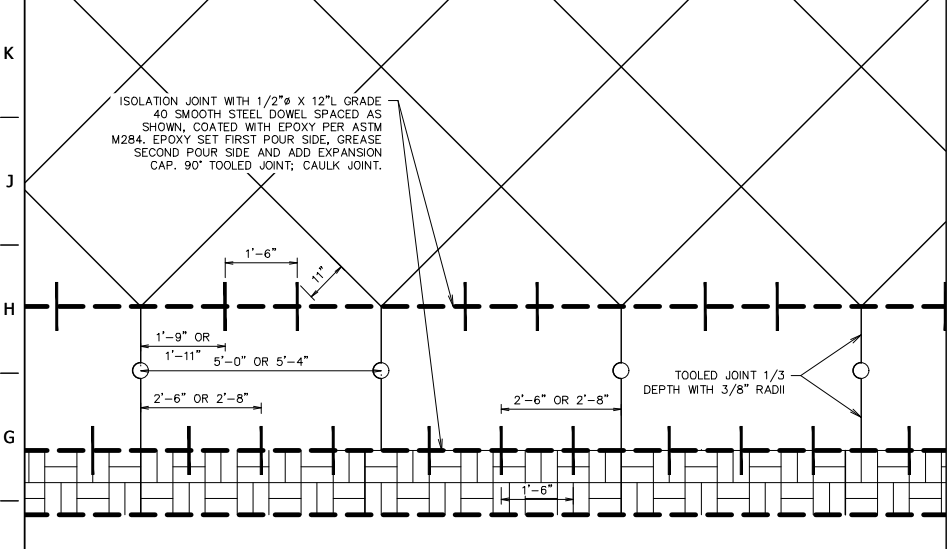
**L6** ISLAND SECTION B-B

NTS SN: PD024A007



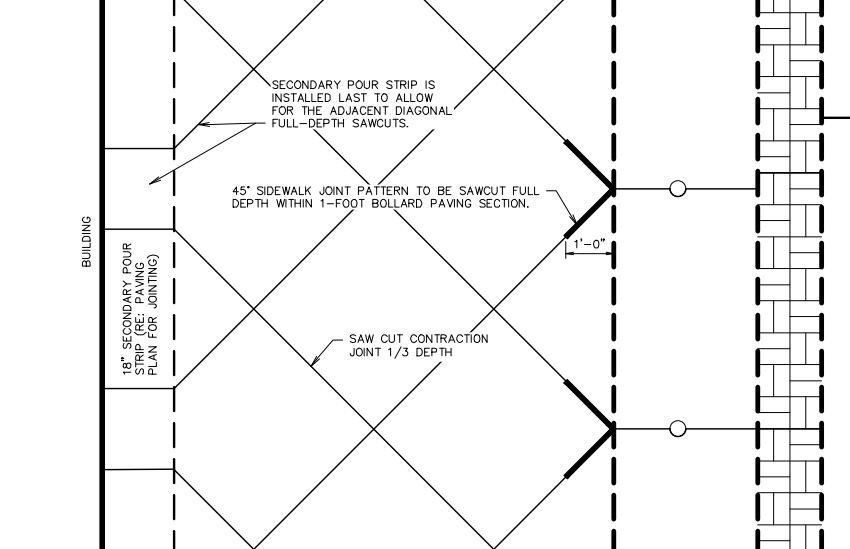
**L11** TYPE A ISLAND JOINT DETAIL

NTS SN: PD035A007



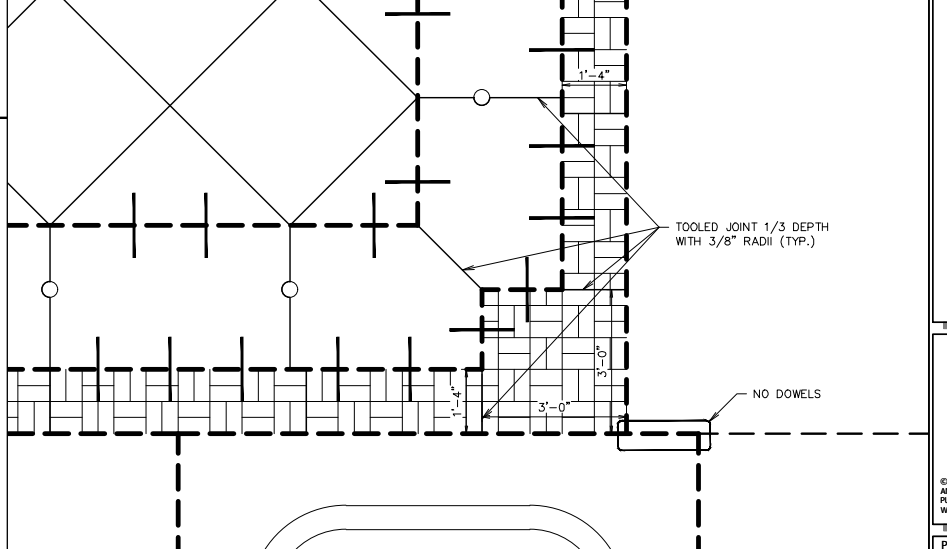
**F1** DOWELED EXPANSION JOINTS AT BOLLARD PAVEMENT SECTION

NTS SN: PD036A003



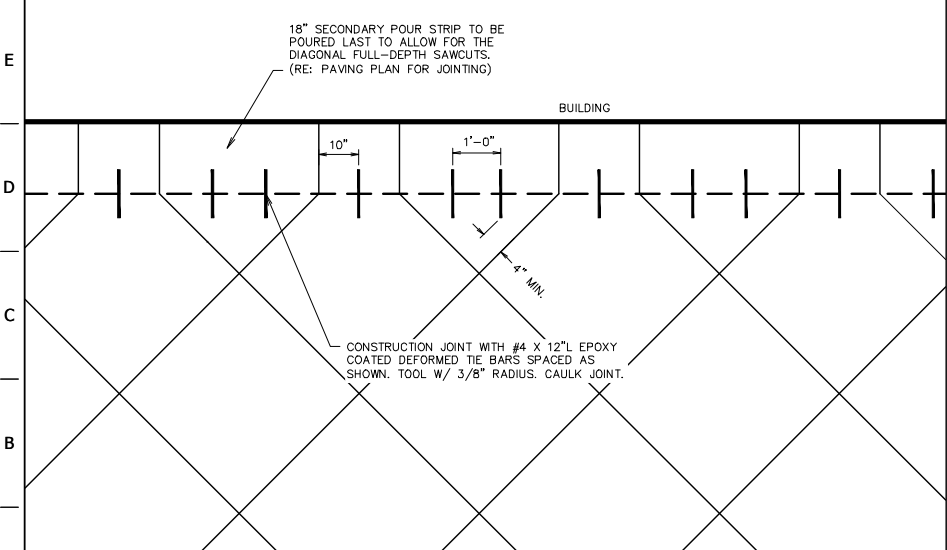
**F6** 45° SIDEWALK JOINT SAWCUT DETAIL

NTS SN: PD037A005



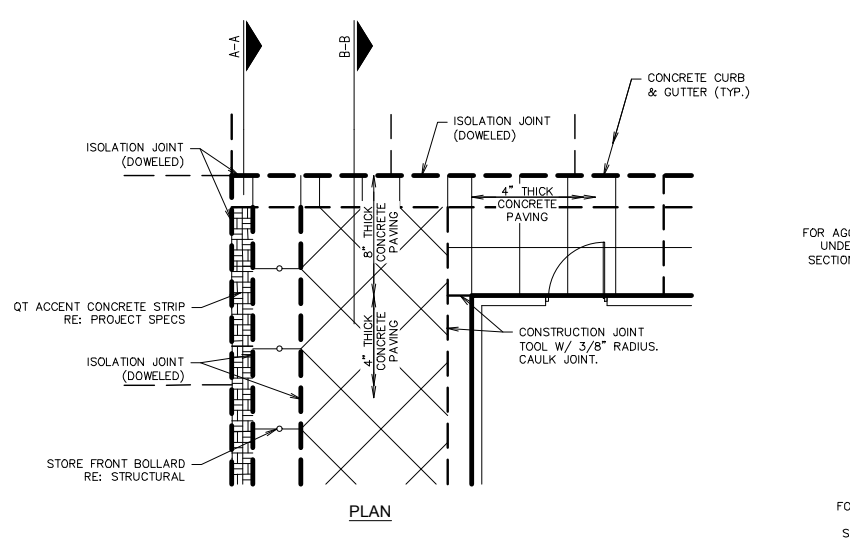
**F11** FRONT SIDEWALK QT ACCENT CONCRETE STRIP CORNER DETAIL

NTS SN: PD038A003



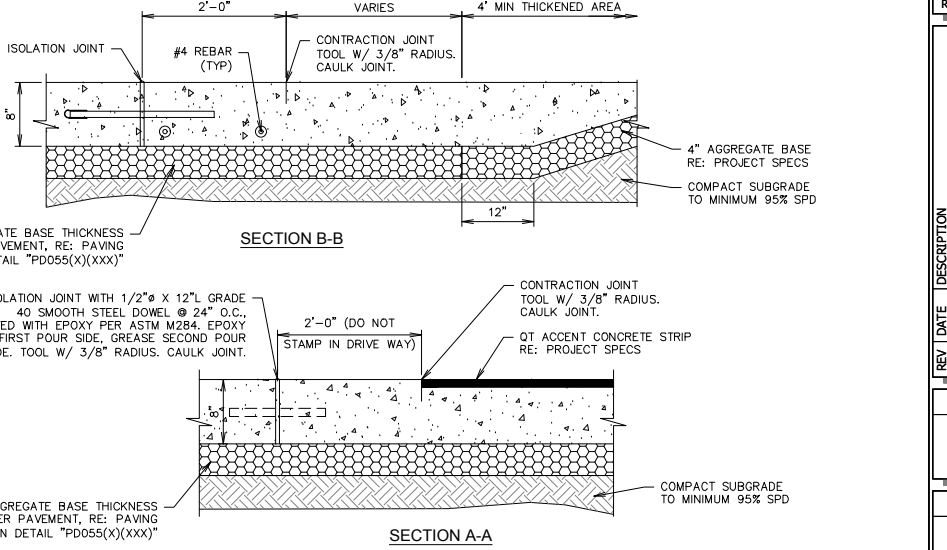
**A1** DOWELED JOINT BETWEEN POUR STRIP & FRONT SIDEWALK DETAIL

NTS SN: PD039A002



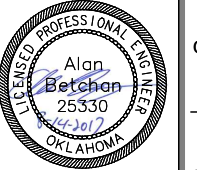
**A6** GEN III QT ACCENT CONCRETE TERMINATION DETAIL

NTS SN: PD040A010



**SECTION A-A**

FOR AGGREGATE BASE THICKNESS UNDER PAVEMENT, RE: PAVING SECTION DETAIL "PD055(X)XXX"



PROJECT NO.:  
**AAB** Engineering, LLC  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4283  
 Fax: (918) 514-4288

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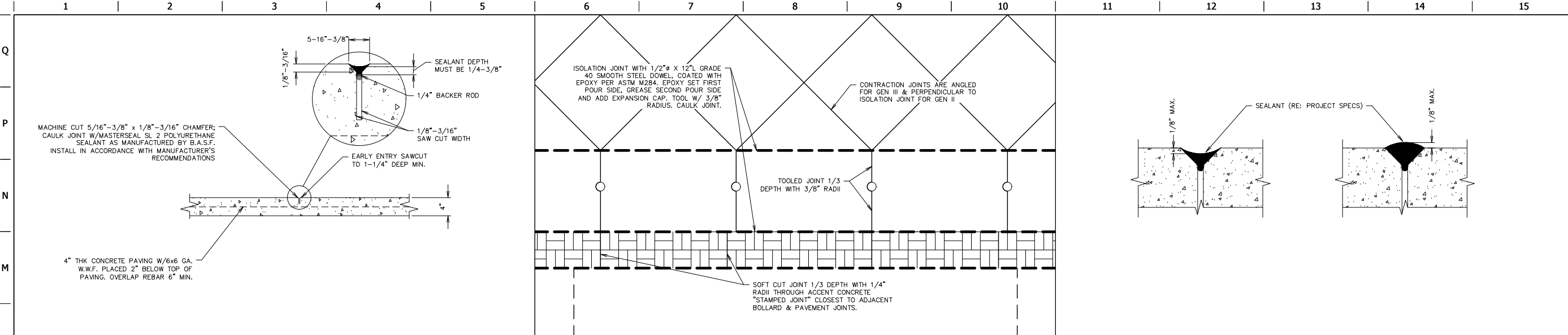
PROTOTYPE: P-91 (05/02/2017)  
 DIVISION: BROKEN ARROW  
 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET	ISSUE DATE:

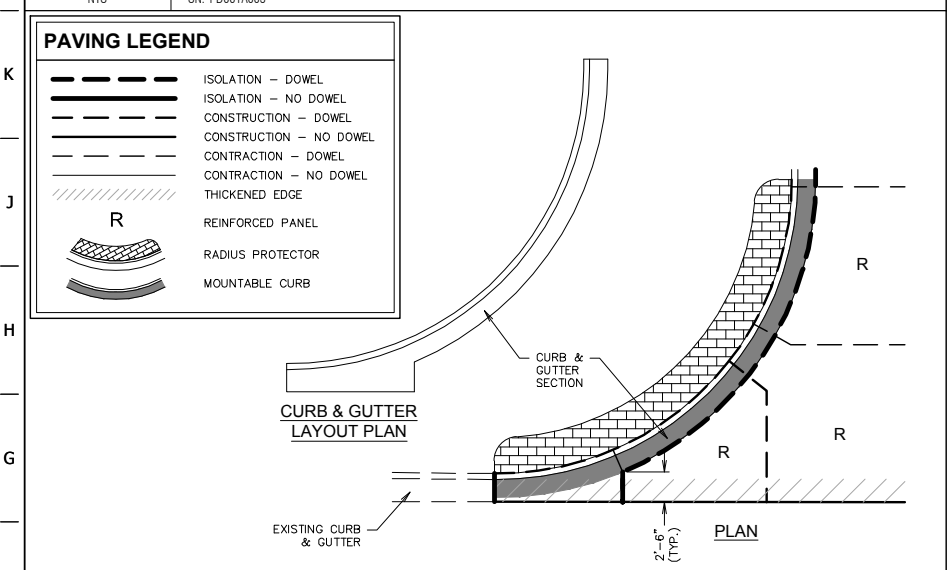
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SHEET NUMBER:  
**C522**

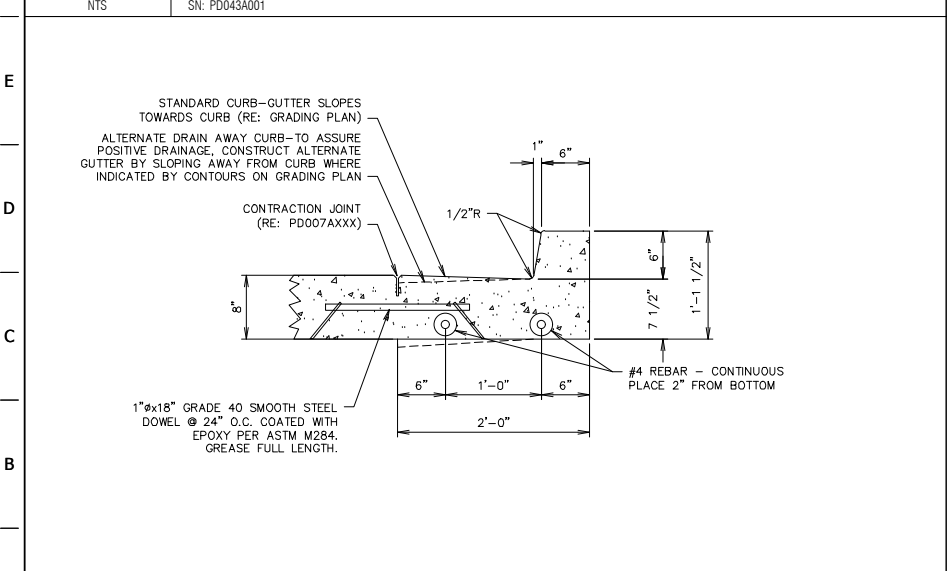
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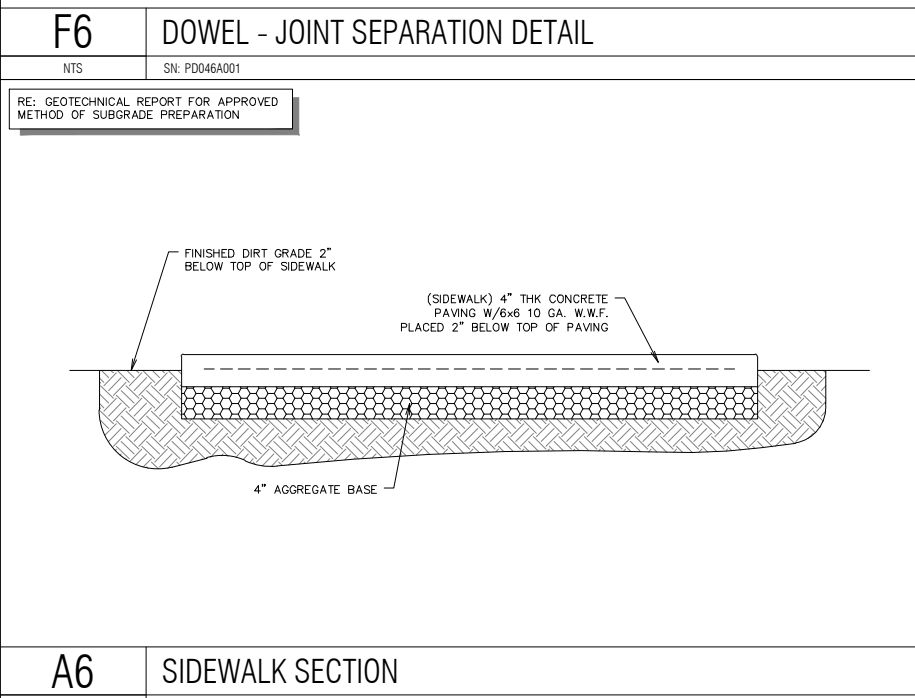
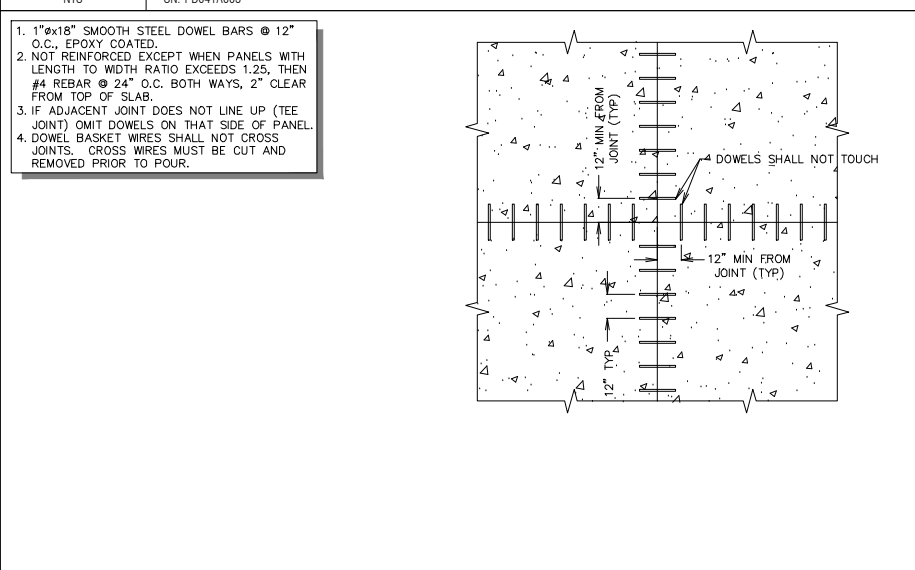
<b>L1</b> BUILDING SIDEWALK JOINT - CONTRACTION	<b>L6</b> QT ACCENT CONCRETE STRIP JOINTING DETAIL	<b>L11</b> PAVING JOINT - SEALANT TOLERANCE DETAIL
NTS SN: PD061A003	NTS SN: PD041A003	NTS SN: PD042A003



<b>F1</b> CURB DETAIL - DRIVE ENTRANCE	<b>F6</b> DOWEL - JOINT SEPARATION DETAIL
NTS SN: PD043A001	NTS SN: PD046A001



<b>A1</b> MONOLITHIC CURB DETAIL - BARRIER	<b>A6</b> SIDEWALK SECTION
NTS SN: PD009B007	NTS SN: PD057A001



<b>F11</b> DISPENSER ISLAND FORM - CONCRETE FILL & JOINTING DETAIL	<b>A11</b> NOT USED
NTS SN: PD047A003	NTS SN:



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4263  
 Fax: (918) 514-4268

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 REVIEWED BY:

REV	DATE	DESCRIPTION

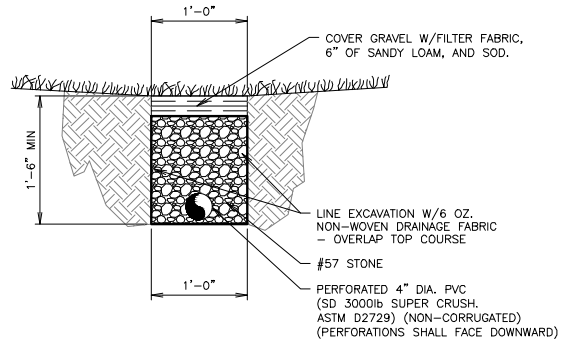
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PAVING DETAILS

SHEET NUMBER:  
**C523**

CONSTRUCTION SET ISSUE DATE:

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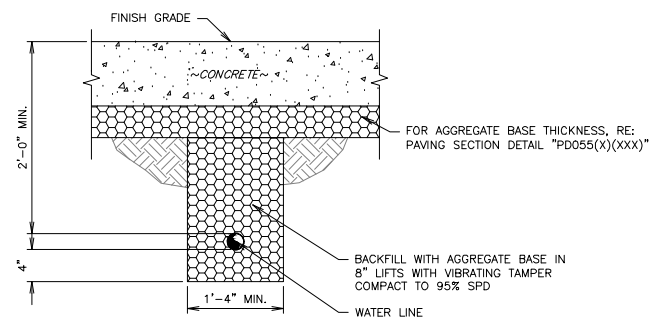
UNDER PAVEMENT, CURB, & FRENCH DRAIN PIPE MUST BE TAKEN TO STORM STRUCTURE, OR TO SURFACE DRAINAGE SWALE.  
SEE GRADING PLAN FOR LOCATION BEFORE TRANSITION TO NON PAVED TRENCH SECTION.



**L1** FRENCH DRAIN SECTION

NTS SN: TD004A004

ALL COPPER PIPING SHALL BE TYPE K WRAPPED IN 3M VINYL TAPE FROM THE BUILDING TO THE METER.  
ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE - RE: PLAN SHEETS.  
RE. PROJECT SPECS FOR GRADATION TABLE.



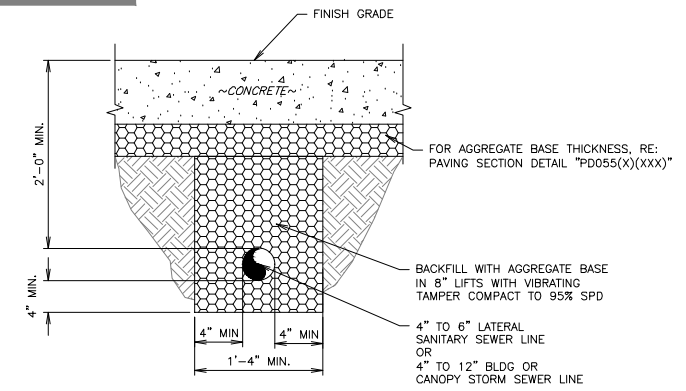
**L6** ON-SITE WATER LINE TRENCH SECTION (PAVED)

NTS SN: TD005A004

EXTEND 18\"/>

MIN. DRAIN PIPE CLEARANCE MAY BEGIN @ 1'-0\"/>

RE. PROJECT SPECS FOR GRADATION TABLE.

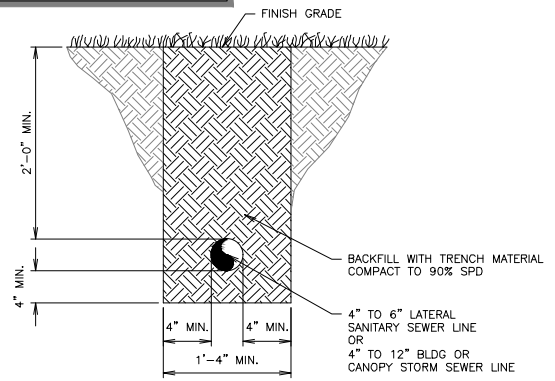


**L11** BUILDING OR CANOPY DRAINAGE TRENCH SECTION (PAVED)

NTS SN: TD006A004

TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT.  
MIN. DRAIN PIPE CLEARANCE MAY BEGIN @ 1'-0\"/>

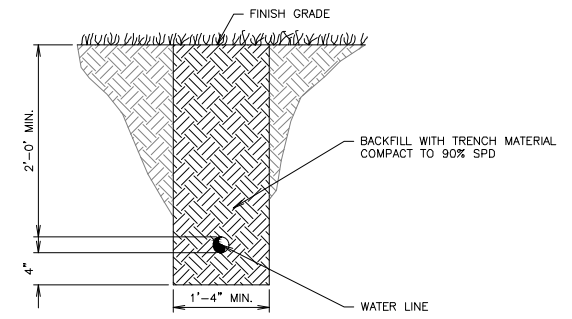
UNDER PAVEMENT, CURB, & FRENCH DRAIN PIPE MUST BE TAKEN TO STORM STRUCTURE, OR TO SURFACE DRAINAGE SWALE.  
SEE GRADING PLAN FOR LOCATION BEFORE TRANSITION TO NON PAVED TRENCH SECTION.



**F1** BUILDING OR CANOPY DRAINAGE TRENCH SECTION (NON PAVED)

NTS SN: TD007A002

TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT.  
ALL COPPER PIPING SHALL BE TYPE K WRAPPED IN 3M VINYL TAPE FROM THE BUILDING TO THE METER.  
ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE - RE: PLAN SHEETS



**F6** ON-SITE WATER LINE TRENCH SECTION (NON PAVED)

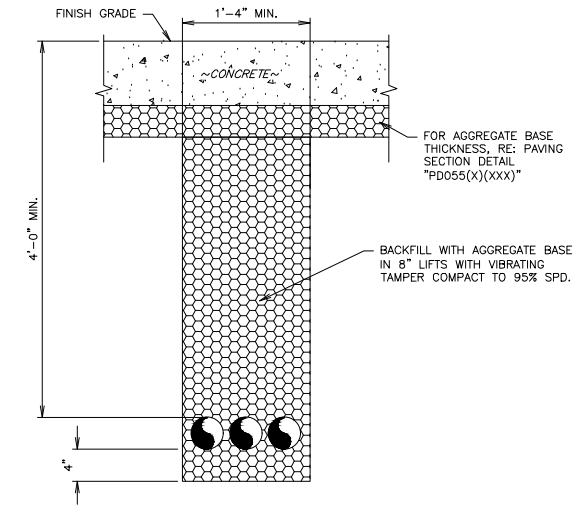
NTS SN: TD008A002

EXTEND 18\"/>

ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE - RE: PLAN SHEETS  
RE. PROJECT SPECS FOR GRADATION TABLE.

IF CONDUITS ARE TO BE STACKED, UPPERMOST CONDUIT TO REMAIN MIN. OF 4'-0\"/>

VERTICAL CLEARANCE BETWEEN CONDUITS

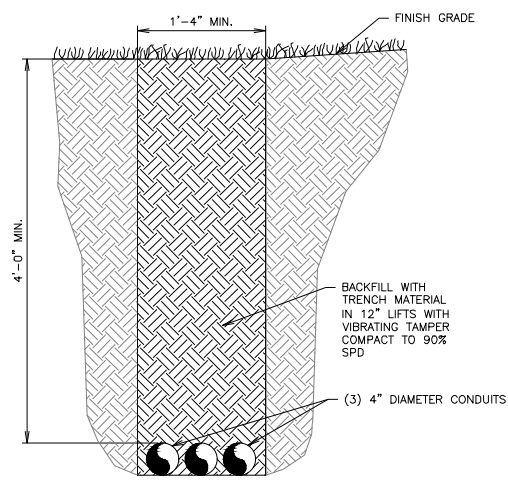


**F11** PRIMARY ELECTRICAL & TELEPHONE CONDUIT TRENCH SECTION (PAVED)

NTS SN: TD010A004

TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT.  
ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE - RE: PLAN SHEETS  
IF CONDUITS ARE TO BE STACKED, UPPERMOST CONDUIT TO REMAIN MIN. OF 4'-0\"/>

VERTICAL CLEARANCE BETWEEN CONDUITS

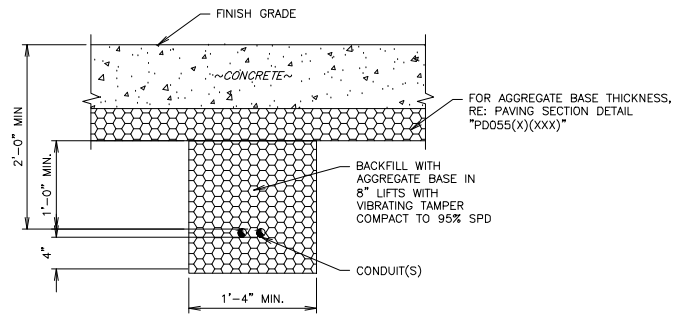


**A1** PRIMARY ELECTRICAL & TELEPHONE CONDUIT TRENCH SECTION (NON PAVED)

NTS SN: TD011A002

EXTEND 18\"/>

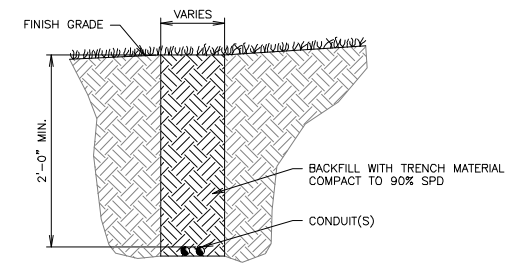
ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE - RE: PLAN SHEETS  
RE. PROJECT SPECS FOR GRADATION TABLE.



**A6** 1" Ø OR SMALLER ELECTRICAL CONDUIT TRENCH SECTION (PAVED)

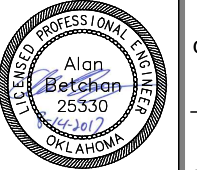
NTS SN: TD012A004

TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT.  
ALWAYS ATTEMPT TO RUN UTILITY TRENCH OUTSIDE OF PAVED AREA WHEN AVAILABLE - RE: PLAN SHEETS



**A11** 1" Ø OR SMALLER ELECTRICAL CONDUIT TRENCH SECTION (UNPAVED)

NTS SN: TD013A003



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
Engineering • Surveying  
P.O. Box 2198  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4263  
Fax: (918) 514-4268

**QuikTrip No. 0033**  
2400 E. KENOSHA ST.  
BROKEN ARROW, OK



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PROTOTYPE: P-91 (05/02/2017)  
DIVISION: BROKEN ARROW  
VERSION: 001  
DESIGNED BY: AAB  
DRAWN BY: KMT  
REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET	ISSUE DATE:

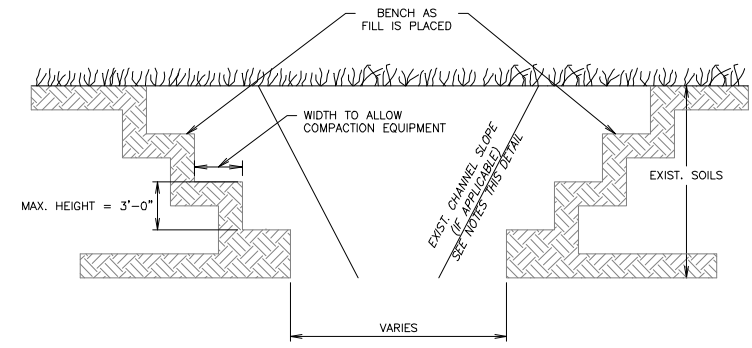
SHEET TITLE:  
TRENCHING DETAILS

SHEET NUMBER:  
**C530**

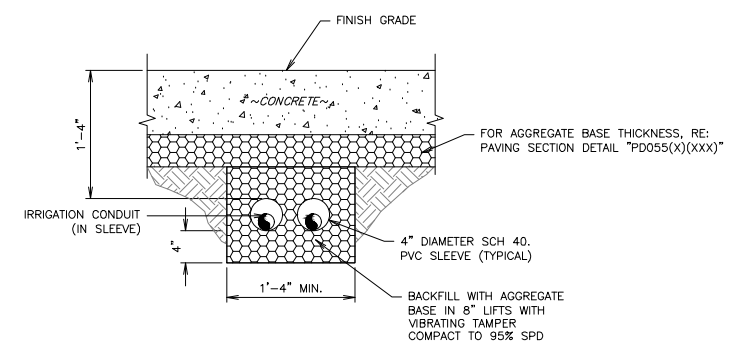


FILE LOCATION: P:\1815\06-OT 0033\DETAILS TRENCHING.dwg TAB NAME: Trenching Details Sheet 2 USER: Tech12 SAVED: 8/15/2017 3:43 PM PLOTTED: 8/15/2017 1:30 PM

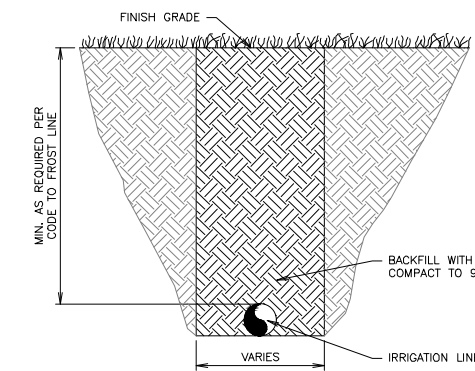
**EXISTING CHANNEL EXCAVATION NOTES:**  
 1. MUCK TO SUITABLE SOIL OR BEDROCK (SEE QT REP).  
 2. #57 STONE WITH FILTER FABRIC AT BOTTOM OF FINISHED CHANNEL - TO BE PLACED IF BEDROCK IS ENCOUNTERED.



EXTEND THIS SECTION 5' BEYOND BACK OF CURB (OUTSIDE EDGE OF DRIVE)  
 RE. PROJECT SPECS FOR GRADATION TABLE.



TRENCH MATERIAL SHALL CONSIST OF DRY, ROCK-FREE DIRT.



**L1** EXCAVATION BENCHING DETAIL  
 NTS SN: TD014A002

**L6** TYPICAL IRRIGATION PIPING TRENCH SECTION (PAVED)  
 NTS SN: TD015A004

**L11** TYPICAL IRRIGATION PIPING TRENCH SECTION (NON PAVED)  
 NTS SN: TD016A002

**F1** NOT USED  
 NTS SN:

**F6** NOT USED  
 NTS SN:

**F11** NOT USED  
 NTS SN:

**A1** NOT USED  
 NTS SN:

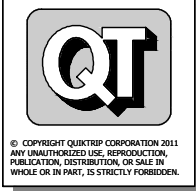
**A6** NOT USED  
 NTS SN:

**A11** NOT USED  
 NTS SN:



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2136  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4263  
 Fax: (918) 514-4288

**QuikTrip No. 0033**  
 2400 E. KENOSHA ST.  
 BROKEN ARROW, OK



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 DRAWN BY: KMT  
 REVIEWED BY:

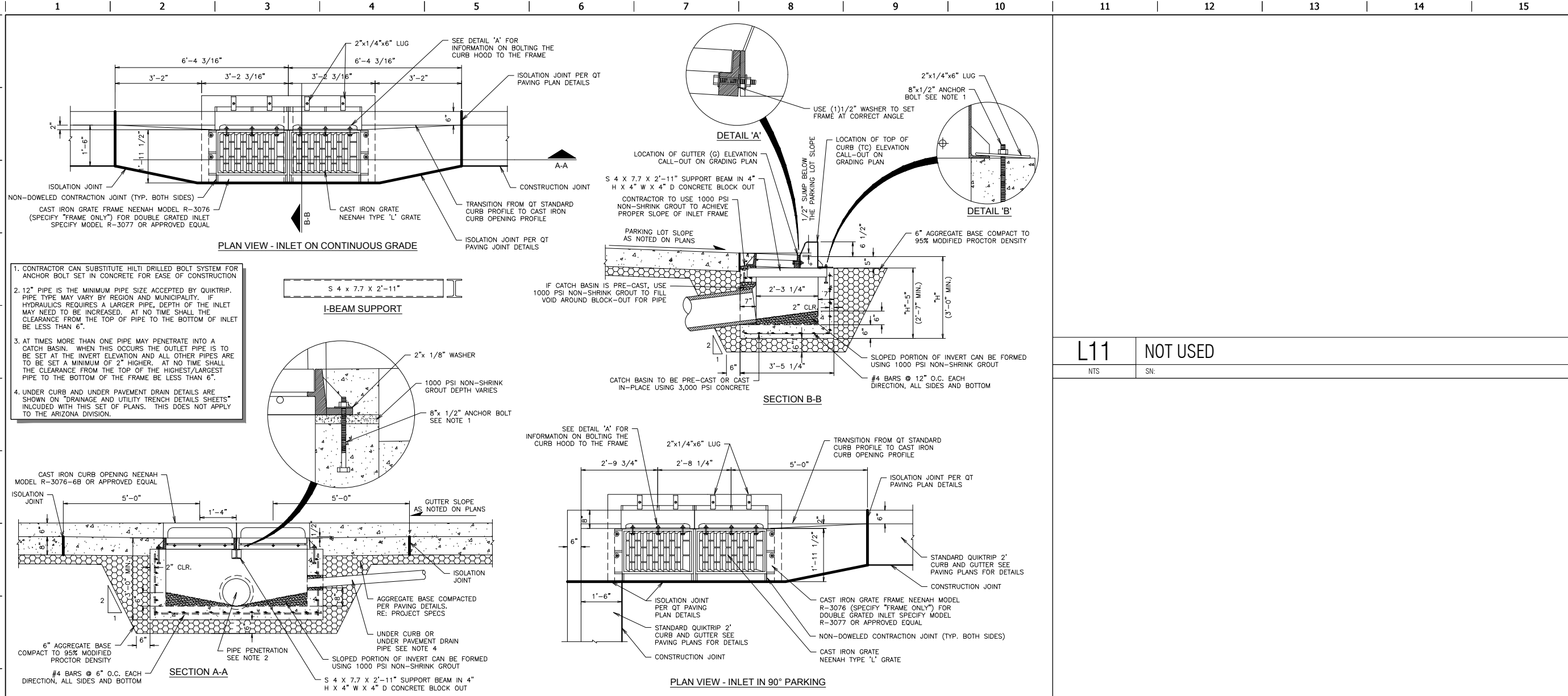
REV	DATE	DESCRIPTION

SHEET TITLE:  
 TRENCHING DETAILS

SHEET NUMBER:  
**C531**

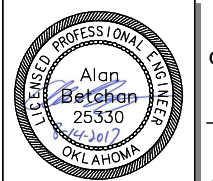
CONSTRUCTION SET ISSUE DATE:

FILE LOCATION: P:\1815\06-OT 0033\DETAILS\DRAINAGE.dwg TAB NAME: Drainage Detail Sheet 2 USER: kmt SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:30 PM



<b>F1</b>	<b>CATCH BASIN INLET DETAIL (DOUBLE)</b>	<b>F11</b>	<b>NOT USED</b>
NTS	SN: DD001808	NTS	SN:

<b>A1</b>	<b>NOT USED</b>	<b>A6</b>	<b>NOT USED</b>	<b>A11</b>	<b>NOT USED</b>
NTS	SN:	NTS	SN:	NTS	SN:



PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2198  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4263  
 Fax: (918) 514-4268

**QuikTrip No. 0033**  
 2400 E. KENOSHA ST.  
 BROKEN ARROW, OK



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REV	DATE	DESCRIPTION

SHEET TITLE:  
 DRAINAGE DETAILS

SHEET NUMBER:  
**C541**

CONSTRUCTION SET ISSUE DATE:

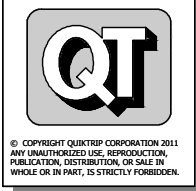
BENCHMARKS	
ADS CONTROL "BA 33" - 5/8" REBAR - 1 1/2" ALUMINUM CAP	ELEVATION=732.73'

Landscape Schedule					
USE	SYMBOL	COMMON NAME <i>Botanical Name</i>	MINIMUM SIZE/ HEIGHT/SPREAD	QUANTITIES	COMMENTS
FRONTAGE TREES		CRAPE MYRTLE <i>Lagerstroemia Indica</i>	3" CALIPER (TOTAL)	31 EA.	SEE LANDSCAPE PLAN AND ASSOCIATED DETAILS FOR TREE PLACEMENT, AND PLANTING SPECIFICATIONS
		CHINESE PISTACHE <i>Pistacia Chinensis</i>	3" CALIPER 12' HT	2 EA.	CONTRACTOR TO VERIFY TREE TYPE, LOCATION, SIZE, HEIGHT, AND SPREAD WITH QT REPRESENTATIVE PRIOR TO INSTALLATION
SHRUBS		NEEDLE POINT HOLLY <i>Ilex Cornuta "Needle Point"</i>	HEIGHT/SPREAD RATIO = 3:2 24" Ø X 16" HT MIN	260 EA.	
MISC		TIFWAY 419 BERMUDA SOD		13,309 S.F.	



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**AAB**  
Engineering • Surveying  
P.O. Box 2198  
Sand Springs, OK 74063  
OK CA#6318 Exp. June 30, 2018  
Office: (918) 514-4283  
Fax: (918) 514-4288

**QuikTrip No. 0033**  
2400 E. KENOSHA ST.  
BROKEN ARROW, OK

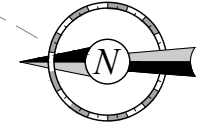
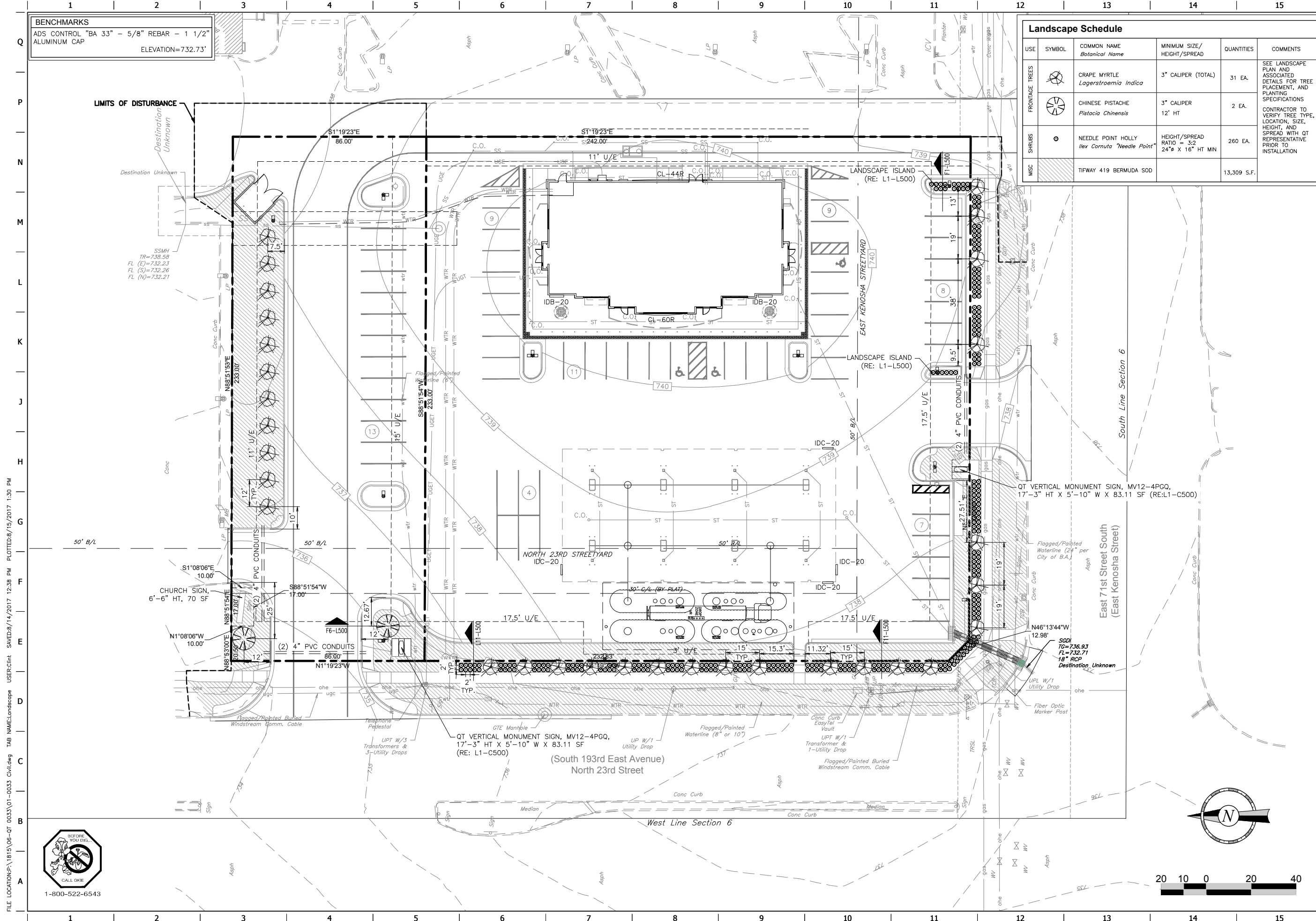


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DIVISION: BROKEN ARROW  
VERSION: 001  
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REVIEWED BY:

REV	DATE	DESCRIPTION	CONSTRUCTION SET	ISSUE DATE:

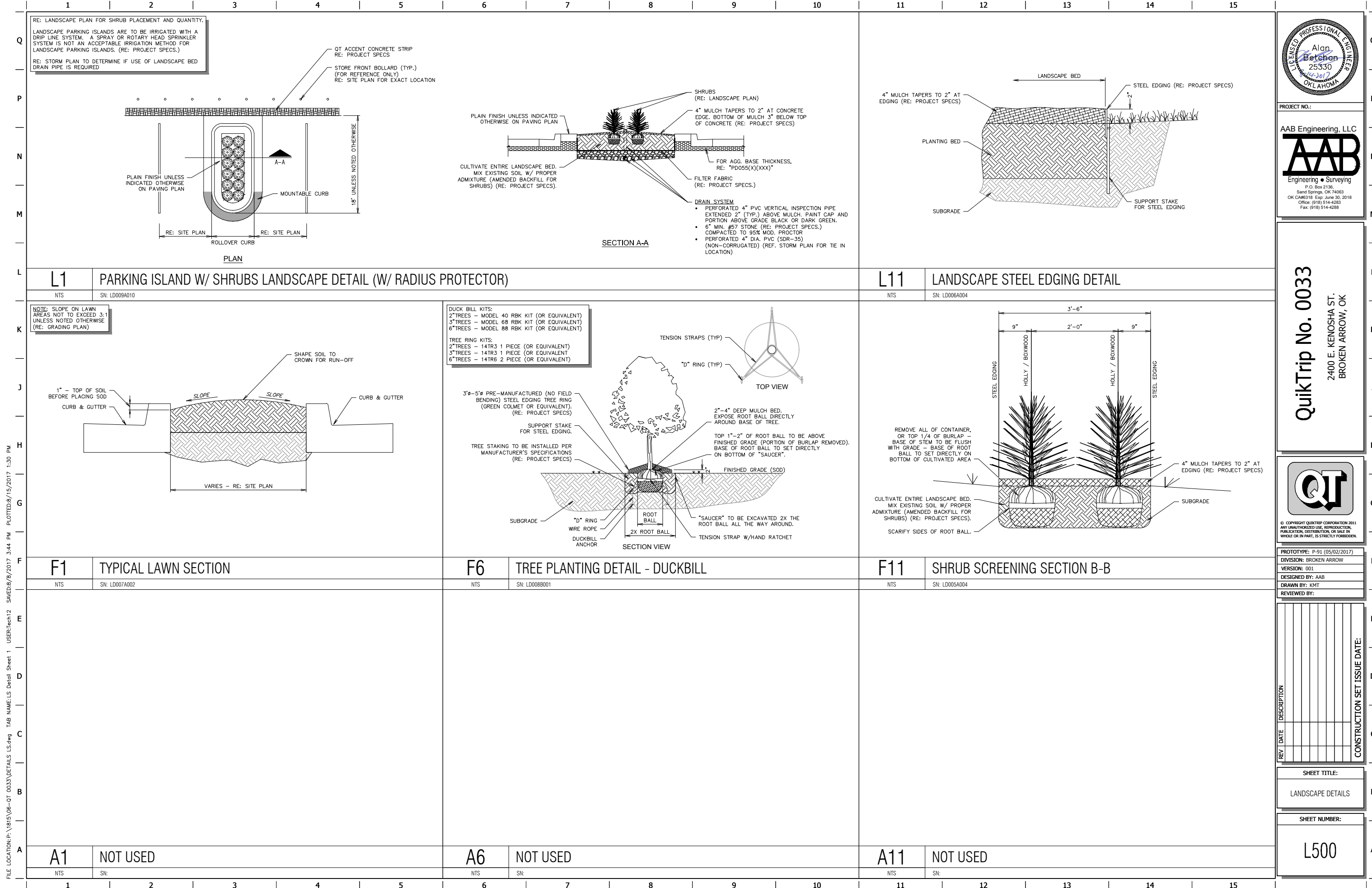
SHEET TITLE:  
LANDSCAPE PLAN

SHEET NUMBER:  
**L100**



FILE LOCATION: P:\1815\06-OT 0033\01-0033 Civil.dwg TAB NAME: Landscape USER: Clint SAVED: 8/14/2017 12:38 PM PLOTTED: 8/15/2017 1:30 PM





PROJECT NO.:  
**AAB Engineering, LLC**  
**AAB**  
 Engineering • Surveying  
 P.O. Box 2196  
 Sand Springs, OK 74063  
 OK CA#6318 Exp. June 30, 2018  
 Office: (918) 514-4263  
 Fax: (918) 514-4268

**QuikTrip No. 0033**  
 2400 E. KENOSHA ST.  
 BROKEN ARROW, OK



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 VERSION: 001  
 DESIGNED BY: AAB  
 DRAWN BY: KMT  
 REVIEWED BY:

REV	DATE	DESCRIPTION

CONSTRUCTION SET ISSUE DATE:

SHEET TITLE:  
 LANDSCAPE DETAILS

SHEET NUMBER:  
**L500**

FILE LOCATION: P:\1815\06-OT\_0033\DETAILS LS.dwg TAB NAME: LS Detail Sheet 1 USER: tech12 SAVED: 8/8/2017 3:44 PM PLOTTED: 8/15/2017 1:30 PM