CONSTRUCTION PLANS FOR

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

PROJECT NO. 143120-4

ACCOUNT NO. 6041-5455504-040522153120

CITY OF TULSA, OKLAHOMA

ENGINEERING SERVICES DEPARTMENT

TMUA-16-43

SYMBOL LEGEND

- CONTROL POINT
- SURVEYED BENCHMARK
- AIR RELEASE VALVE
- ELECTRIC CONTROL BOX
- MONITORING WELL
- ELECTRIC METER
- FIRE HYDRANT
- FLAG POLE
- GATE POST
- GUARD RAIL POST
- GUY ANCHOR
- GUY POLE
- LIGHT POLE
- MAIL BOX
- POWER POLE/TELEPHONE POLE
- MANHOLE SANITARY, STORM
- SIGN
- SPIGOT
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER LAMPHOLE
- WATER VALVE
- WATER METER
- TELEPHONE BOX
- TELEPHONE RISER
- GAS METER
- GAS VALVE
- BUSH/HEDGE
- SMALL CONIFEROUS TREE
- LARGE CONIFEROUS TREE
- SMALL DECIDUOUS TREE
- LARGE DECIDUOUS TREE
- Fence Line (All Types)
- OHE — Overhead Electric
- UGE — Underground Electric
- OHT — Overhead Telephone
- UGT — Underground Telephone
- CATV — Underground Cable Television
- G — Natural Gas Line
- FOC — Fiber Optic Cable
- W — Water Line
- Existing Storm Sewer
- SS — Sanitary Sewer Line
- Proposed C.R.L.

DRAWING REFERENCE LEGEND

X/X — REFERS TO A PROFILE OR ELEVATION

7/8 — PROFILE NUMBER / SHEET NUMBER ON WHICH IT IS LOCATED

1 DETAIL DESCRIPTION
SCALE: 1"=XX'

NOTE:

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT ENGINEERING DIVISION TO CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARDS AND SPECIFICATIONS.

THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN. CITY OF TULSA ENGR. SERV. DEPT. CURRENT STANDARDS WILL BE USED AS APPLICABLE.

ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF CITY OF TULSA (COT)

BEFORE YOU DIG CALL OKIE 1-800-522-6543

DATUM INFORMATION

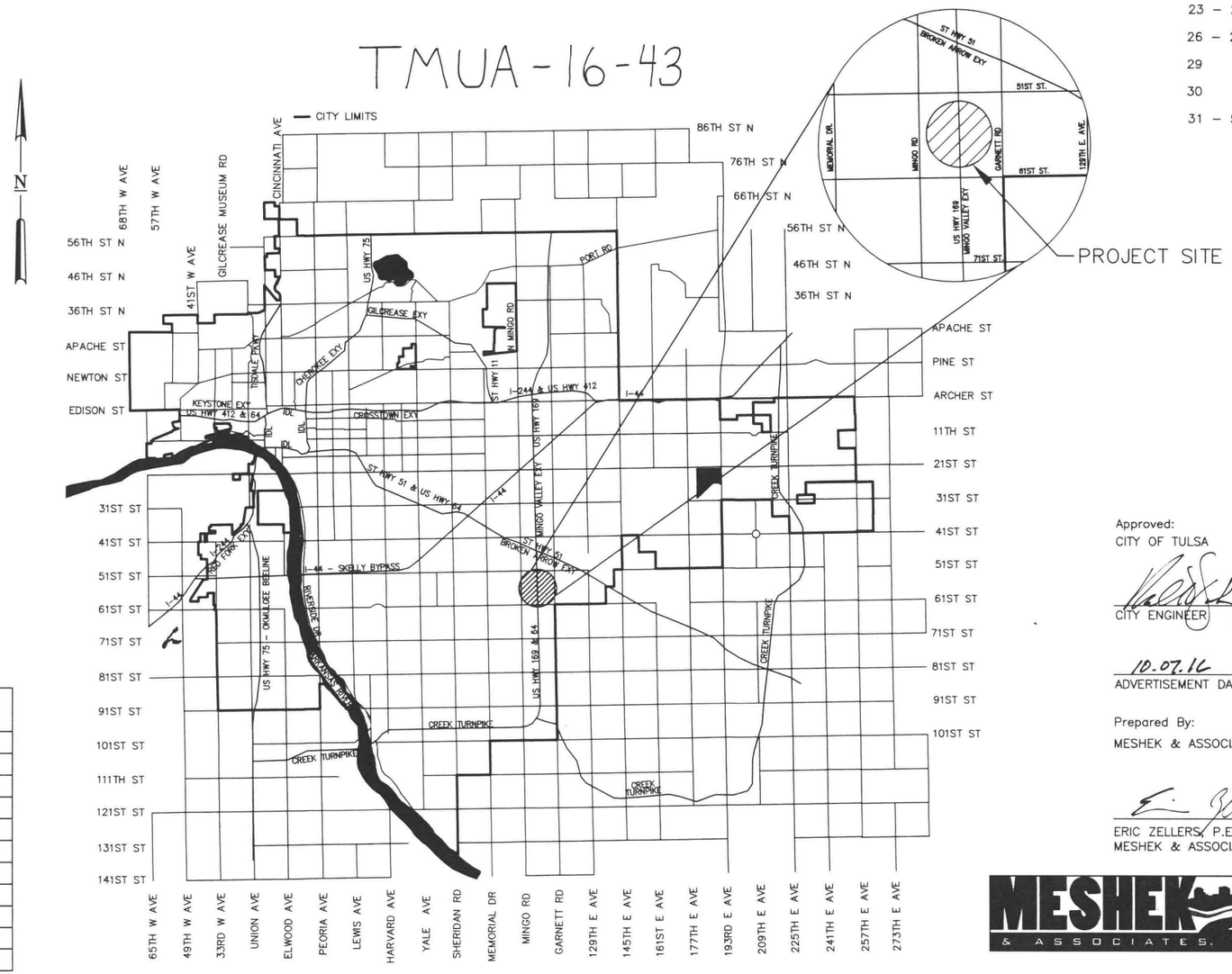
HORIZONTAL DATUM
NAD '83

VERTICAL DATUM
NAVD '88

ADS 18 – 1 1/2" ALUM. CAP	ADS 19 – 1 1/2" ALUM. CAP
N=403706.750	N=409006.389
E=2603463.576	E=2603086.872
ELEV=672.754	ELEV=668.455

UTILITY COORDINATION BOX

	NUMBER	NOTIFIED
WATER DESIGN	918-596-9566	
WASTEWATER DESIGN	918-596-9564	
TRANSPORTATION DESIGN	918-596-9636	
UTILITY COORDINATION	918-596-9649	
STORMWATER DESIGN	918-596-9569	
PSO – MIKE BIBBY	877-250-6257	
ONG – CRAIG POWELL	918-831-8261	
AT&T – STEVE SPRADLIN	918-576-2142	
COX COMMUNICATION – BRANDON WADE	918-286-4716	
VERIZON (MCI)	918-590-1000	



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APPLICABLE STANDARDS:
CITY OF TULSA:
SEE SHEET 3

ODOT:
SEE SHEET 3

Approved:
CITY OF TULSA

CITY ENGINEER — DATE 10/4/16

10.07.16
ADVERTISEMENT DATE

Prepared By:
MESHEK & ASSOCIATES, P.L.C.

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 8-19-16 OKLAHOMA

ERIC ZELLERS, P.E.
MESHEK & ASSOCIATES, P.L.C. — DATE 8-19-16

MESHEK & ASSOCIATES, PLC.
C.A. 1487 EXPIRES 6/30/17
1437 S. BOULDER AVE, STE. 1550
TULSA, OK
(PH) 918-392-5620
(FAX) 918-392-5621

2016 CITY OF TULSA, TULSA COUNTY, OKLAHOMA PROJECT NO. 143120-4 MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

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PAY ITEM NOTES

1. ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.

2. THIS QUANTITY INCLUDES AN ADDITIONAL 10% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL.

3. NOT USED.

4. INCLUDES COMPACTION OF AGGREGATE TO 98% AASHTO T180 MODIFIED PROCTOR.

5. SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.

6. NOT USED.

7. CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.

8. NOT USED.

9. THIS PAY ITEM INCLUDES THE FOLLOWING:

A. SAW CUTTING
B. REMOVAL OF THE EXISTING CONCRETE AND/OR ASPHALTIC CONCRETE ROADWAY (CY)
C. TYPE S3 ASPHALTIC CONCRETE OR PC CONCRETE COMPLETE AND IN PLACE PER DETAIL
D. SEALING OF EDGES AND TACK COAT

DOES NOT INCLUDE THE FOLLOWING:

A. UNCLASSIFIED EXCAVATION
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE (TYPE A)
E. ASPHALT CONCRETE LEVELING OR SURFACE COURSE

10. WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

11. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER. COST SHALL BE INCLUDED IN THE PRICE BID.

12. EROSION PROTECTION SHALL BE PLACED AROUND DRAINAGE INLETS AS REQUIRED TO PREVENT ENTRANCE OF EROSION MATERIAL. EROSION PROTECTION SHALL BE PLACED AS NECESSARY TO PREVENT EROSION WASH TO ADJACENT PROPERTY. ALL EROSION PROTECTION INSTALLED MUST BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. EROSION PROTECTION SHALL BE REMOVED AT THE END OF THE PROJECT AS DIRECTED BY THE ENGINEER, COST TO BE INCLUDED IN THE PRICE BID. THE PRICE INCLUDES THE COST OF SEDIMENT REMOVAL PER THE STORMWATER MANAGEMENT PLAN.

13. THE PAY ITEM FOR SOLID SLAB SODDING INCLUDES QUANTITIES FOR PLACEMENT AND COMPACTION OF SUITABLE BACKFILL AND SOD AT EXISTING GRASS AREAS WHICH MAY BE DAMAGED DURING CONSTRUCTION OF CURBS, SIDEWALKS, DRIVEWAYS, AND OTHER MISCELLANEOUS ITEMS. THE QUANTITIES ARE BASED ON UTILIZING A 3 FOOT WIDE STRIP IN THESE AREAS. THE SOD SHALL BE OF LIKE KIND TO THE EXISTING SOD. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF DAMAGE TO EXISTING GRASS THAT EXCEEDS THESE LIMITS.

14. PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.

15. COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.

16. THE COST OF TACK COAT, EDGE JOINT SEAL MATERIAL AND SCREENINGS FOR BLOTTING, AND ALL LABOR ASSOCIATED WITH THESE ITEMS, SHALL BE INCLUDED IN ASPHALT CONCRETE.

17. ESTIMATED AT 112 LBS PER SQ YD PER 1 INCH THICK.

18. ODOT PAY FACTOR FOR AVERAGE LOT DENSITY SHALL NOT BE USED FOR THIS PROJECT. FAILURE TO REACH AVERAGE LOT DENSITY OF 92%-97% WILL RESULT IN REJECTION OF WORK.

19. NOT USED.

20. THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.

21. ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.

22. THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.

23. INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.

24. CURB, GUTTER, AND/OR SIDEWALK ASSOCIATED WITH THE DRIVEWAY AND THROUGH THE DRIVEWAY IS INCLUDED IN THE COST OF THE DRIVEWAY.

25. NOT USED.

26. THIS ITEM SHALL INCLUDE THE COST OF NEW MANHOLE FRAME AND COVER PER CITY OF TULSA STD NO.752, STD NO. 753, STD NO., 754 STD NO. 761 AND STD NO. 762.

27. NOT USED.

28. THE TOTAL COST FOR RUBBERIZED ASPHALT AND/OR SILICONE AT MANHOLES, VALVE BOXES, INLETS, AND INLET APRONS, SHALL BE INCLUDED.

29. ALL HOUSE NUMBERS SHALL BE REPLACED/ REESTABLISHED THROUGHOUT PROJECT LIMITS. COST TO BE INCLUDED IN URBAN RIGHT OF WAY RESTORATION. CONTRACTOR SHALL REESTABLISH DRAINS, ROOF DRAINS AND OTHER DRAINAGE THROUGH THE CURBS IN ACCORDANCE WITH CITY OF TULSA STANDARD 758.

30. REINFORCED CONCRETE PIPE TO BE CLASS III. ALL REINFORCED CONCRETE PIPE AND MANHOLES TO BE SUPPLIED WITH AN OMNI-FLEX JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.

31. INCLUDES THE COST REQUIRED TO MAKE CONNECTION AND REMOVAL OF EXISTING INLETS. THE COST OF PC CONCRETE CURB AND GUTTER THROUGH THE INLET, 5' EACH SIDE OF THE INLET, AND THE PC CONCRETE INLET APRON SHALL BE INCLUDED. GRATE AND FLOWLINE ELEVATIONS SHALL MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED IN THE PLANS.

32. QUICK SET FLOWABLE FILL TO BE USED TO BACKFILL AROUND STREET CURB INLETS AND PIPES AS DIRECTED BY THE ENGINEER.

33. ALL INLETS COMPLETE IN PLACE SHALL BE CAST IN PLACE CONCRETE OR PRECAST CONCRETE. NO BRICK INLETS SHALL BE ALLOWED. THIS PAY ITEM INCLUDES INLET FRAME, GRATE, HOOD AND CONCRETE.

34. NO MASONRY STRUCTURES SHALL BE CONSTRUCTED WITHIN THE RIGHT OF WAY.

35. ADDITIONAL DEPTH IN INLET SHALL BE MEASURED AND PAID FOR CICI INLETS EXCEEDING 3.71 VERTICAL FT, CALCULATED FROM THE CENTER ELEVATION OF THE LOWEST CAST IRON CURB TO THE FLOWLINE OF THE OUTLET PIPE AND FOR RECESSED CURB INLETS (RCI) EXCEEDING 3.00 VERTICAL FT FROM THE THROAT ELEVATION TO THE FLOWLINE OF THE OUTLET PIPE.

36. NOT USED.

37. REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.

38. IF WARNING LIGHTS ARE TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.

39. NOT USED.

40. THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.

41. NOT USED.
42. NOT USED.
43. NOT USED.

44. NOT USED.

45. THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BEDDING MATERIAL AND TRENCH EXCAVATION, JOINT GASKETS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE.

46. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL REQUIRED FOR COMPLETION OF THE PROJECT.

47. NOT USED.

48. ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.

49. NOT USED.
50. NOT USED.

51. PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.

52. NOT USED.

53. INCLUDES SAWING NOT INCLUDED IN OTHER ITEMS OF WORK.

54. STANDARD BEDDING MATERIAL TO BE TYPE A AGGREGATE BASE COMPACTED TO 95% STANDARD PROCTOR DENSITY. AGGREGATE BASE IN THE ROADWAY SHALL BE 98% MODIFIED PROCTOR.

55. QUANTITY SHALL BE MEASURED AND PAID FOR AS FOLLOWS:
A. FOR ANY CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BOX (RCB) LARGER THAN 4' BY 4', USE NEAT LINES THAT ARE 4" BELOW THE BOTTOM OF THE RCB AND 4'-0" BEYOND THE OUTSIDE WALL.
B. UNDER ROADWAY PAY QUANTITY SHALL BE PAID FOR FROM THE BOTTOM OF TRENCH, AS DESCRIBED, TO THE BOTTOM OF ROADWAY AGGREGATE BASE.

56. NOT USED.

57. NOT USED.

58. MOBILIZATION FOR THE PROJECT IS TO BE INCLUDED IN THIS PAY ITEM. THE MAXIMUM ALLOWABLE AMOUNT WILL BE IN ACCORDANCE WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION TABLE 641:1.

59. NOT USED.

60. UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.

61. PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.

62. NOT USED.

63. SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.

64. NOT USED.

65. ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.

66. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.

67. THIS PAY ITEM INCLUDES THE FOLLOWING:

A. SAW CUTTING
B. REMOVAL OF THE EXISTING CONCRETE PARKING LOT.
C. PC CONCRETE COMPLETE AND IN PLACE PER DETAIL
D. SEALING OF EDGES

DOES NOT INCLUDE THE FOLLOWING:

A. UNCLASSIFIED EXCAVATION
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE (TYPE A)

68. INCLUDES ALL COST FOR REINFORCEMENT FOR CONSTRUCTING SLOPE WALLS AND CHANNEL BOTTOM REPLACEMENTS. REINFORCEMENT INCLUDES REBAR AND WELDED WIRE AS SHOWN IN THE PLANS.

69. INCLUDES ALL COST OF CONSTRUCTING FIELD COLLARS WHEN TYING INTO EXISTING PIPES AS SHOWN IN THE PLANS.

70. PAY ITEM INCLUDES THE COST OF HANDLING AND PLACEMENT OF SALVAGED RIPRAP.

PAY ITEMS – BASE BID
MINGO CREEK DRAINAGE

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY
1	201(A)	CLEARING AND GRUBBING	1,48	EA	1
2	202(A)	UNCLASSIFIED EXCAVATION	2,10,40,60	CY	1166
3	221(C)	TEMPORARY SILT FENCE	12,61	LF	990
4	221(F)	TEMPORARY SILT DIKE	12,61	LF	124
5	230(A)	SOLID SLAB SODDING (LIKE-KIND)	13,14,15	SY	971
6	303(A)	AGGREGATE BASE TYPE A	4	CY	139
7	310(B)	SUBGRADE METHOD "B"		SY	1572
8	325	SEPARATOR FABRIC	5	SY	1730
9	411(C)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	16,17,18	TON	28
10	501(F)	GRANULAR BACKFILL (#57 CRUSHED STONE)		CY	313
11	509(B)	CLASS A CONCRETE	20,23,68	CY	72
12	509(B)	CLASS C CONCRETE	20,23	CY	23
13	510(A)	RETAINING WALL	20	SY	198
14	601(B)	TYPE I-A PLAIN RIPRAP	70	TON	487
15	602(C)	FILTER FABRIC		SY	2416
16	609(B)	COMBINED CURB AND GUTTER (6" BARRIER)	20,22,23,24	LF	428
17	610 (A)	4" CONCRETE SIDEWALK	20,23,24	SY	29
18	610(A)	4" PC CONCRETE	20,23	SY	62
19	610(B)	CONCRETE DRIVEWAY	20,22,23,24	SY	140
20	611(G)	INLET MODIFIED RCI 1048, COMPLETE IN PLACE	26,31,32,33,34,35	EA	1
21	611(G)	INLET RCI 1096, COMPLETE IN PLACE	26,31,32,33,34,35	EA	1
22	611(H)	ADDITIONAL DEPTH IN INLET	35	VF	3
23	613(A)	30" C76 CL III RCP W/ OMNIFLEX GASKETS, COMPLETE IN PLACE	30,32,45,54,55,69	LF	39
24	613(A)	48" C76 CL III RCP W/ OMNIFLEX GASKETS, COMPLETE IN PLACE	30,32,45,54,55,69	LF	140
25	619(A)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	10,21,51,53,65	LS	1
26	619(B)	REMOVAL OF CONCRETE DRIVEWAY	10,21	SY	140
27	619(B)	REMOVAL OF CURB & GUTTER	10,21	LF	225
28	619(B)	REMOVAL OF FENCE	10	LF	282
29	619(B)	REMOVAL OF GUARDRAIL	10	LF	179
30	619(B)	REMOVAL OF SIDEWALK	10,21	SY	29
31	623(A)	BEAM GUARDRAIL W-BEAM SINGLE		LF	188
32	623(G)	GUARDRAIL END TREATMENT		EA	4
33	624(C)	6' CHAIN LINK W/ 3 STRANDS BARBED WIRE AND 1 STRAND RAZOR WIRE		LF	161
34	624(C)	6' CHAIN LINK W/ 3 STRANDS BARBED WIRE		LF	119
35	624(C)	4' BLACK VINYL COATED CHAIN LINK FENCE		LF	208
36	641	MOBILIZATION	58	EA	1
37	642	CONSTRUCTION STAKING, LEVEL I	7	EA	1
38	SPECIAL	TYPE I AC PATCH	9	CY	48
39	SPECIAL	PCC PATCH (6" PARKING LOT PATCHING)	20,67	CY	15
40	SPECIAL	TRAFFIC CONTROL MEASURES	37,38,46	EA	1
41	SPECIAL	PROJECT SIGN (CITY OF TULSA)	46	EA	1
42	SPECIAL	QUICK SET FLOWABLE FILL	32	CY	12
43	SPECIAL	ARTICULATING BLOCK REVETMENT SYSTEM		SY	1778
44	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	11,29	EA	1
45	SPECIAL	OWNER ALLOWANCE		ALLOW	1

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9-13-16
OKLAHOMA

REVISION	BY	DATE

PAY ITEM NOTES–BASE BID
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

PLAN SCALE N/A	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	JRD	9/16	
HORIZONTAL: N/A	LEAD ENGR.	SSS	9/16	
	FIELD MGR.	KSV	9/16	
VERTICAL: N/A	RECOMMENDED: HAS 9/16 DESIGN MANAGER			CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 2 OF 52 SHEETS

M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_QUANTITIES_&_NOTES.dwg

PAY ITEM NOTES

1. ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.

2. THIS QUANTITY INCLUDES AN ADDITIONAL 10% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL.

3. NOT USED.

4. INCLUDES COMPACTION OF AGGREGATE TO 98% AASHTO T180 MODIFIED PROCTOR.

5. SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.

6. NOT USED.

7. CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.

8. NOT USED.

9. THIS PAY ITEM INCLUDES THE FOLLOWING:

A. SAW CUTTING
B. REMOVAL OF THE EXISTING CONCRETE AND/OR ASPHALTIC CONCRETE ROADWAY (CY)
C. TYPE S3 ASPHALTIC CONCRETE OR PC CONCRETE COMPLETE AND IN PLACE PER DETAIL
D. SEALING OF EDGES AND TACK COAT

DOES NOT INCLUDE THE FOLLOWING:

A. UNCLASSIFIED EXCAVATION
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE (TYPE A)
E. ASPHALT CONCRETE LEVELING OR SURFACE COURSE

10. WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

11. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER. COST SHALL BE INCLUDED IN THE PRICE BID.

12. EROSION PROTECTION SHALL BE PLACED AROUND DRAINAGE INLETS AS REQUIRED TO PREVENT ENTRANCE OF EROSION MATERIAL. EROSION PROTECTION SHALL BE PLACED AS NECESSARY TO PREVENT EROSION WASH TO ADJACENT PROPERTY. ALL EROSION PROTECTION INSTALLED MUST BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. EROSION PROTECTION SHALL BE REMOVED AT THE END OF THE PROJECT AS DIRECTED BY THE ENGINEER, COST TO BE INCLUDED IN THE PRICE BID. THE PRICE INCLUDES THE COST OF SEDIMENT REMOVAL PER THE STORMWATER MANAGEMENT PLAN.

13. THE PAY ITEM FOR SOLID SLAB SODDING INCLUDES QUANTITIES FOR PLACEMENT AND COMPACTION OF SUITABLE BACKFILL AND SOD AT EXISTING GRASS AREAS WHICH MAY BE DAMAGED DURING CONSTRUCTION OF CURBS, SIDEWALKS, DRIVEWAYS, AND OTHER MISCELLANEOUS ITEMS. THE QUANTITIES ARE BASED ON UTILIZING A 3 FOOT WIDE STRIP IN THESE AREAS. THE SOD SHALL BE OF LIKE KIND TO THE EXISTING SOD. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF DAMAGE TO EXISTING GRASS THAT EXCEEDS THESE LIMITS.

14. PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.

15. COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.

16. THE COST OF TACK COAT, EDGE JOINT SEAL MATERIAL AND SCREENINGS FOR BLOTTING, AND ALL LABOR ASSOCIATED WITH THESE ITEMS, SHALL BE INCLUDED IN ASPHALT CONCRETE.

17. ESTIMATED AT 112 LBS PER SQ YD PER 1 INCH THICK.

18. ODOT PAY FACTOR FOR AVERAGE LOT DENSITY SHALL NOT BE USED FOR THIS PROJECT. FAILURE TO REACH AVERAGE LOT DENSITY OF 92%-97% WILL RESULT IN REJECTION OF WORK.

19. NOT USED.

20. THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.

21. ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.

22. THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.

23. INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.

24. CURB, GUTTER, AND/OR SIDEWALK ASSOCIATED WITH THE DRIVEWAY AND THROUGH THE DRIVEWAY IS INCLUDED IN THE COST OF THE DRIVEWAY.

25. NOT USED.

26. THIS ITEM SHALL INCLUDE THE COST OF NEW MANHOLE FRAME AND COVER PER CITY OF TULSA STD NO.752, STD NO. 753, STD NO., 754 STD NO. 761 AND STD NO. 762.

27. NOT USED.

28. THE TOTAL COST FOR RUBBERIZED ASPHALT AND/OR SILICONE AT MANHOLES, VALVE BOXES, INLETS, AND INLET APRONS, SHALL BE INCLUDED.

29. ALL HOUSE NUMBERS SHALL BE REPLACED/ REESTABLISHED THROUGHOUT PROJECT LIMITS. COST TO BE INCLUDED IN URBAN RIGHT OF WAY RESTORATION. CONTRACTOR SHALL REESTABLISH DRAINS, ROOF DRAINS AND OTHER DRAINAGE THROUGH THE CURBS IN ACCORDANCE WITH CITY OF TULSA STANDARD 758.

30. REINFORCED CONCRETE PIPE TO BE CLASS III. ALL REINFORCED CONCRETE PIPE AND MANHOLES TO BE SUPPLIED WITH AN OMNI-FLEX JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.

31. INCLUDES THE COST REQUIRED TO MAKE CONNECTION AND REMOVAL OF EXISTING INLETS. THE COST OF PC CONCRETE CURB AND GUTTER THROUGH THE INLET, 5' EACH SIDE OF THE INLET, AND THE PC CONCRETE INLET APRON SHALL BE INCLUDED. GRATE AND FLOWLINE ELEVATIONS SHALL MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED IN THE PLANS.

32. QUICK SET FLOWABLE FILL TO BE USED TO BACKFILL AROUND STREET CURB INLETS AND PIPES AS DIRECTED BY THE ENGINEER.

33. ALL INLETS COMPLETE IN PLACE SHALL BE CAST IN PLACE CONCRETE OR PRECAST CONCRETE. NO BRICK INLETS SHALL BE ALLOWED. THIS PAY ITEM INCLUDES INLET FRAME, GRATE, HOOD AND CONCRETE.

34. NO MASONRY STRUCTURES SHALL BE CONSTRUCTED WITHIN THE RIGHT OF WAY.

35. ADDITIONAL DEPTH IN INLET SHALL BE MEASURED AND PAID FOR CICI INLETS EXCEEDING 3.71 VERTICAL FT, CALCULATED FROM THE CENTER ELEVATION OF THE LOWEST CAST IRON CURB TO THE FLOWLINE OF THE OUTLET PIPE AND FOR RECESSED CURB INLETS (RCI) EXCEEDING 3.00 VERTICAL FT FROM THE THROAT ELEVATION TO THE FLOWLINE OF THE OUTLET PIPE.

36. NOT USED.

37. NOT USED.

38. NOT USED.

39. NOT USED.

40. THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.

41. NOT USED.

42. NOT USED.
43. NOT USED.

44. ADDITIONAL DEPTH IN A MANHOLE SHALL BE MEASURED FROM 6FT AS MEASURED FROM THE TOP OF RIM TO THE LOWEST FLOWLINE.

45. THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BEDDING MATERIAL AND TRENCH EXCAVATION, JOINT GASKETS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE.

46. NOT USED.

47. NOT USED.

48. ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.

49. NOT USED.
50. NOT USED.

51. PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.

52. NOT USED.

53. INCLUDES SAWING NOT INCLUDED IN OTHER ITEMS OF WORK.

54. STANDARD BEDDING MATERIAL TO BE TYPE A AGGREGATE BASE COMPACTED TO 95% STANDARD PROCTOR DENSITY. AGGREGATE BASE IN THE ROADWAY SHALL BE 98% MODIFIED PROCTOR.

55. QUANTITY SHALL BE MEASURED AND PAID FOR AS FOLLOWS:
A. FOR ANY CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BOX (RCB) LARGER THAN 4' BY 4', USE NEAT LINES THAT ARE 4" BELOW THE BOTTOM OF THE RCB AND 4'-0" BEYOND THE OUTSIDE WALL.
B. UNDER ROADWAY PAY QUANTITY SHALL BE PAID FOR FROM THE BOTTOM OF TRENCH, AS DESCRIBED, TO THE BOTTOM OF ROADWAY AGGREGATE BASE.

56. FOR INLET DESIGN NUMBERS AND CONFIGURATIONS REFER TO CITY OF TULSA STANDARD NO. 755. INLET DETAIL / LIST WILL BE PROVIDED IN THE PLANS FOR CONFIGURATIONS NOT SHOWN IN CITY OF TULSA STANDARDS.

57. ALL MANHOLES SHALL BE COMPLETE IN PLACE. THIS PAY ITEM INCLUDES FRAME, COVER, CONCRETE AND ALL OTHER INCIDENTALS REQUIRED FOR PLACEMENT.

58. NOT USED.

59. NOT USED.

60. UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.

61. PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.

62. NOT USED.

63. SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.

64. NOT USED.

65. ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.

66. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.

67. NOT USED.

68. INCLUDES ALL COST FOR REINFORCEMENT FOR CONSTRUCTING SLOPE WALLS AND CHANNEL BOTTOM REPLACEMENTS. REINFORCEMENT INCLUDES REBAR AND WELDED WIRE AS SHOWN IN THE PLANS.

69. INCLUDES ALL COST OF CONSTRUCTING FIELD COLLARS WHEN TYING INTO EXISTING PIPES AS SHOWN IN THE PLANS.

70. PAY ITEM INCLUDES THE COST OF HANDLING AND PLACEMENT OF SALVAGED RIPRAP.

PAY ITEMS - ADD ALTERNATE
CATFISH CREEK DRAINAGE

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY
63	201(A)	CLEARING AND GRUBBING	1,48	EA	1
64	202(A)	UNCLASSIFIED EXCAVATION	2,10,40,60	CY	777
65	221(C)	TEMPORARY SILT FENCE	12,61	LF	750
66	221(F)	TEMPORARY SILT DIKE	12,61	LF	172
67	230(A)	SOLID SLAB SODDING (LIKE-KIND)	13,14,15	SY	747
68	303(A)	AGGREGATE BASE TYPE A	4	CY	100
69	310(B)	SUBGRADE METHOD "B"		SY	272
70	325	SEPARATOR FABRIC	5	SY	300
71	411(C)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	16,17,18	TON	31
72	501(F)	GRANULAR BACKFILL (#57 CRUSHED STONE)		CY	204
73	509(B)	CLASS A CONCRETE	20,23,68	CY	49
74	509(B)	CLASS C CONCRETE	20,23	CY	24
75	510(A)	RETAINING WALL	20	SY	124
76	601(B)	TYPE I-A PLAIN RIPRAP	70	TON	323
77	602(C)	FILTER FABRIC		SY	1604
78	609(B)	COMBINED CURB AND GUTTER (6" BARRIER)	20,22,23,24	LF	99
79	611(A)	5' I.D. MANHOLE W/ FRAME AND COVER (STORM), COMPLETE IN PLACE	26,28,34,44,57	EA	2
80	611(A)	6' I.D. MANHOLE W/ FRAME AND COVER (STORM), COMPLETE IN PLACE	26,28,34,44,57	EA	1
81	611(B)	ADDITIONAL DEPTH IN MANHOLE (5' DIAMETER) (STORM)	44	VF	7
82	611(B)	ADDITIONAL DEPTH IN MANHOLE (6' DIAMETER) (STORM)	44	VF	2
83	611(G)	INLET COT CICI DES. 2 (2A), COMPLETE IN PLACE	31,32,33,34,35,56	EA	2
84	611(G)	INLET COT CICI DES. 2 (B), COMPLETE IN PLACE	31,32,33,34,35,56	EA	2
85	611(H)	ADDITIONAL DEPTH IN INLET	35	VF	4
86	613(A)	18" C76 CL III RCP W/ OMNIFLEX GASKETS, COMPLETE IN PLACE	30,32,45,54,55,69	LF	117
87	613(A)	24" C76 CL III RCP W/ OMNIFLEX GASKETS, COMPLETE IN PLACE	30,32,45,54,55,69	LF	26
88	613(A)	36" C76 CL III RCP W/ OMNIFLEX GASKETS, COMPLETE IN PLACE	30,32,45,54,55,69	LF	14
89	619(A)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	10,21,51,53,65	LS	1
90	619(B)	REMOVAL OF CURB & GUTTER	10,21	LF	142
91	619(B)	REMOVAL OF FENCE	10	LF	106
92	619(B)	REMOVAL OF GUARDRAIL	10	LF	151
93	623(A)	BEAM GUARDRAIL W-BEAM SINGLE		LF	188
94	623(G)	GUARDRAIL END TREATMENT		EA	4
95	624(C)	6' CHAIN LINK FENCE		LF	106
96	624(C)	4' BLACK VINYL COATED CHAIN LINK FENCE		LF	165
97	642	CONSTRUCTION STAKING, LEVEL I	7	EA	1
98	SPECIAL	TYPE I AC PATCH	9	CY	53
99	SPECIAL	QUICK SET FLOWABLE FILL	32	CY	23
100	SPECIAL	ARTICULATING BLOCK REVETMENT SYSTEM		SY	1127
101	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	11,29	EA	1

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9-14-16
OKLAHOMA

PAY ITEM NOTES-ADD ALTERNATE
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	SMC	08/2016	APPROVED:
			N/A	DESIGNED	EGZ	08/2016	
				SURVEY	PDH	08/2016	
			PROFILE SCALE	PROJ. MGR.	TRB	9/16	
			HORIZONTAL: N/A	LEAD ENGR.	BJJ	9/16	
				FIELD MGR.	ZBV	9/16	
			VERTICAL: N/A	RECOMMENDED HAS 9/16 DESIGN MANAGER			CITY ENGINEER
			FILE:	DRAWING:			DATE: 10/7/16
			ATLAS PAGE NO. 309				SHEET 2A OF 52 SHEETS

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GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT'S STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.

2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.

3. PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.

4. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.

5. THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS; AT&T, PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP), OKLAHOMA NATURAL GAS (ONG), COX COMMUNICATIONS, MCI/VERIZON, EASYTEL COMMUNICATIONS, WELLSCO VALLOR TELECOM, CITY OF TULSA–WATER AND SEWER, CITY OF TULSA–TRAFFIC OPERATIONS. SEE TITLE SHEET FOR CONTACT INFORMATION.

6. THE CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF OKLAHOMA ONE–CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO SOONER THAN TEN DAYS NOR LATER THAN 48 HOURS , EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO THE COMMENCEMENT OF WORK. PHONE 1–800–522–6543.

7. THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS MOISTURE FROM INCLEMENT WEATHER OR OTHER SOURCES FROM ENTERING ANY STREET EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS ADVERSELY EFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.

8. THE CONTRACTOR SHALL PRESERVE THE INTEGRITY OF THE SANITARY SEWER STRUCTURES AND ALL OTHER UTILITY STRUCTURES WITHIN THE PROJECT EXTENTS.

9. THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAGMEN, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE FIELD ENGINEERING REPRESENTATIVE.

10. CONSTRUCTION SIGNAGE WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT ADDITION, AND APPLICABLE ODOT STANDARD DRAWINGS. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.

11. THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING, 918–596–9404, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR TO REMOVING TRAFFIC SIGNS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ALL EXISTING TRAFFIC SIGNS AND MARKINGS REMOVED OR DAMAGED AS LISTED IN THE SIGNAGE SCHEDULE FOR THE PROJECT. ALL SIGNS AND POLES PROVIDED SHALL BE NEW AND UNDAMAGED AND SHALL MEET THE REQUIREMENTS OF COT SPECIFICATION 608 TRAFFIC SIGNS. ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.

13. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARATION AND DISTRIBUTION OF A WRITTEN NOTICE TO RESIDENTS 48 HOURS PRIOR TO BEGINNING PAVEMENT REMOVAL AND MILLING AND OVERLAY OPERATIONS.

14. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES.

15. ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL TIMES.

16. ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

17. ALL EXCAVATED MATERIAL NOT REQUIRED IN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY MATERIAL IS STORED ON THE PROJECT SITE AND/OR DISPOSED OF WITHIN THE CITY LIMITS.

18. ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO BE CLEANED OUT TO THE RIGHT–OF–WAY LINE IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. TREES OUTSIDE THE FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

19. WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK, VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW OR REGULATION.

20. ANY DAMAGE TO THE ROADWAY PAVEMENT, CURB, DRIVEWAYS OR SIDEWALK CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE ENGINEER'S SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE. ALL DISTURBED ITEMS SHALL BE REPAIRED TO MATCH EXISTING MATERIALS AND PATTERNING.

21. IF THE CONTRACTOR ENCOUNTERS VOIDS WHEN PATCHING STREETS, THE CONTRACTOR SHALL CALL FIELD ENGINEERING AT 918–596–7814 FOR AN INSPECTION BEFORE PROCEEDING WITH WORK.

22. THE PROJECT SHALL BE CONSTRUCTED WITH CONTINUOUS FLOW OF MATERIAL SUPPLIED TO THE PROJECT SUCH THAT THE LAYDOWN MACHINE WILL REMAIN IN MOTION. ANY DELAY IN FORWARD PROGRESSION OF THE LAYDOWN MACHINE MAY REQUIRE A TRANSVERSE JOINT AS DIRECTED BY THE ENGINEER.

23. NO FLY ASH IS ALLOWED TO BE USED ON THIS PROJECT.

24. PHYSICAL TESTING FOR QUALITY ASSURANCE SHALL BE FURNISHED BY THE CITY.

25. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.

26. MASONRY STRUCTURES SHALL NOT BE CONSTRUCTED WITHIN THE STREET RIGHT–OF–WAY.

27. ALL CONCRETE CURB AND GUTTERS SHALL BE MONOLITHIC POURS. DOWELED–ON CURBS WILL NOT BE ALLOWED.

28. NO LIFTING HOLES WILL BE ALLOWED ON ANY REINFORCED CONCRETE PIPES OR REINFORCED CONCRETE BOXES.

29. CURB RAMP CONSTRUCTION SHALL COMPLY WITH THE CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.

30. REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956–01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH–INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956–01 TYPE III RETROREFLECTIVE SHEETING.

31. ALL SANITARY AND STORM SEWER MANHOLE CASTINGS AND LIDS THAT ARE LOCATED IN THE STREET AND ARE DISTURBED BY THE CONTRACTOR SHALL BE REPLACED WITH NEW LIDS AND CASTINGS AND THE OLD ONES SHALL BE SALVAGED AND DELIVERED TO THE METAL RECYCLE BINS IN THE STOCKROOM AREA AT SEWER OPERATIONS AND MAINTENANCE, 9319 E. 42ND STREET NORTH, BETWEEN THE HOURS OF 7:30 AM AND 3:00 PM MONDAY THROUGH FRIDAY.

32. THE SIGN PLACEMENT STATIONING AND LOCATIONS SHOWN ON THE PLAN SHEETS AND SUMMARY SHEETS ARE APPROXIMATE. EXACT STATIONING AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH CITY OF TULSA STANDARDS, CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES, OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.

33. POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE. EXACT LENGTHS SHALL BE DETERMINED BY A FIELD SURVEY CONDUCTED BY THE CONTRACTOR.

34. ALL ASPHALT STREETS THAT ARE TO BE RECONSTRUCTED SHALL BE LEFT WITH A DRIVABLE SURFACE AT ALL TIMES. THE CONTRACTOR WILL NOT BE ALLOWED TO MILL OFF ALL THE ASPHALT BEFORE EXCAVATION BEGINS.

35. THE CONTRACTOR SHALL REPLACE ANY SECTION CORNERS OR OTHER PERMANENT RIGHT OF WAY MARKERS REMOVED OR DISTURBED AS A RESULT OF THE CONSTRUCTION OF THIS PROJECT. REPLACEMENT OF SECTION CORNERS OR ANY OTHER MONUMENTS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR AUTHORIZED TO PERFORM WORK IN THE STATE OF OKLAHOMA.

36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.

37. STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.

38. THE CONTRACTOR MUST CALL 1–800–458–4251 IMMEDIATELY IF A NATURAL GAS PIPELINE IS CUT, DAMAGED, OR OTHERWISE DISTURBED.

39. PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

40. ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT–OF–WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD. WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

41. CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN.,

42. ALL TRENCH WIDTHS & BEDDING MATERIAL SHALL BE AS SHOWN ON COT STANDARD PIPE BEDDING DETAIL, STANDARD NO. 751. SPECIFIED TRENCH WIDTHS SHALL BE MAINTAINED FULL DEPTH FROM THE FLOWLINE TO THE GRADING TEMPLATE. THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED.

APPLICABLE CITY OF TULSA STANDARD DRAWINGS AND DETAILS REFERENCES:

PROJECT SIGN
- STD NO. 102 – PROJECT SIGN

EROSION CONTROL METHODS
- STD NO. 126 – SILT FENCE AND CONSTRUCTION ENTRANCE

PAVEMENT CUTS FOR UTILITIES
- STD NO. 713 – STANDARD DETAIL FOR PAVEMENT REMOVAL AND REPLACEMENT
- STD NO. 714 – STANDARD DETAIL FOR PAVEMENT CUTS
- STD NO. 725 – STANDARD PAVEMENT PATCH AND REPAIR

STORM PIPES, DRAINAGE INLETS, GRATES, AND HOODS
- STD NO. 751 – STANDARD PIPE BEDDING DETAIL FOR STORM SEWER
- STD NO. 752 – FRAME AND LID FOR STORMWATER MANHOLES
- STD NO. 753 – FRAME AND LID FOR 4' AND 5' I.D. STORMWATER MANHOLE
- STD NO. 754 – FRAME AND LID FOR 6' AND 8' I.D. STORMWATER MANHOLE AND JUNCTION BOXES
- STD NO. 755 – CONFIGURATIONS OF CAST IRON CURB INLETS
- STD NO. 764 – STANDARD REINFORCED CONCRETE STORMWATER INLETS
- STD NO. 765 – STANDARD STORM WATER FRAMES
- STD NO. 766 – STANDARD STORM WATER GRATES
- STD NO. 775 – STANDARD PRECAST CONCRETE STORMWATER MANHOLE

APPLICABLE ODOT STANDARDS:

SSS–1–0	– SOLID SLAB SODDING
TSC2–3–0	– TEMPORARY SEDIMENT CONTROLS
TCS8–1–0	– CONSTRUCTION SIGNS
TCS9–1–1	– TRAFFIC CONTROL STANDARD CONSTRUCTION SIGNS
SKT–1–00	– GUARDRAIL END TREATMENT (SKT–SP–MGS EXTRUDER TERMINAL) (31" SYSTEM)
GHW1–1–00	– GUARDRAIL AND HARDWARE (1 OF 2) (31" SYSTEM)
GHW2–1–00	– GUARDRAIL AND HARDWARE (2 OF 2) (31" SYSTEM)
CET4S–3–2	– CULVERT END TREATMENT SINGLE PIPE INSTALLATION 1 TO 4 SAFETY SLOPE
DC–3–2	– PAVED DITCHES AND FLUMES
RWF3–2–2	– RIGHT–OF–WAY FENCE STYLE CLF (CHAIN LINK FENCE)

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
4-19-16
OKLAHOMA

GENERAL CONSTRUCTION NOTES
PROJECT #143120–4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392–5620

REVISION	BY	DATE

PLAN SCALE N/A	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
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	FIELD MGR.	RBW	9/16	
VERTICAL: N/A	RECOMMENDED DESIGN MANAGER	HAS	9/16	CITY ENGINEER
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ATLAS PAGE NO. 309				SHEET 3 OF 52 SHEETS

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WATERLINE PAY ITEM NOTES:

1. TESTING AND CHLORINATION OF WATER MAINS SHALL BE PERFORMED BY THE CITY OF TULSA. TESTING, CHLORINATION, AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH SECTION 109.3 OF THE GENERAL SPECIFICATIONS.

A. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PLUGS WITH ADEQUATE BLOCKING OR RESTRAINTS, PLUS CORPORATION STOPS, AS DIRECTED BY CITY TESTING PERSONNEL, THEN, ONCE TESTING, CHLORINATION AND FLUSHING BY CITY PERSONNEL IS COMPLETED, REMOVE TEMPORARY BLOCKING AND TIE INTO EXISTING SYSTEM, USING FITTINGS SWABBED INTERNALLY WITH 2% BLEACH SOLUTION.

B. TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAIN SHALL BE PERFORMED BY CITY PERSONNEL ON MAINS WHICH ARE PHYSICALLY DISCONNECTED FROM THE EXISTING WATER SYSTEM. TESTING, CHLORINATION, AND FLUSHING OF NEW WATER MAINS SHALL NOT BE PERFORMED AGAINST VALVES WHICH ARE PHYSICALLY CONNECTED TO EXISTING SYSTEM.

C. ALL COSTS FOR TEMPORARY PLUGS, BLOCKING, RESTRAINING, CORPORATION STOPS, TUBING, THREADED CONNECTIONS, BLEACH AND OTHER INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.

2. BURIED BOLTS, HARNESS LUGS, AND COUPLINGS SHALL BE GIVEN TWO COATS OF KOPPER'S BITUMASTIC 300–M (DRY MIL THICKNESS OF 16 MILS) OR EQUAL. COST TO BE INCLUDED IN UNIT PRICE BID FOR PIPE AND FITTINGS.

3. CONTRACTOR TO EXCAVATE ALL UTILITY CROSSINGS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE ADJUSTED ON THE PROPOSED WATER MAIN TO AVOID UTILITY CONFLICTS. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. COST FOR EXCAVATING UTILITY CROSSINGS SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE.

4. CONTRACTOR SHALL INSURE ALL POLES WHICH ARE AFFECTED BY TRENCHING CONDITIONS ARE BRACED BY OWNERS. PAYMENT SHALL BE INCLUDED IN "RIGHT–OF–WAY CLEARING AND RESTORING". NO ADDITIONAL PAYMENT SHALL BE MADE.

5. ALL HYDRANTS, VALVES AND OTHER FITTINGS FROM ABANDONED WATER MAINS SHALL BE SALVAGED AND DELIVERED TO SOUTH YARD, 2317 S JACKSON. PAYMENT TO BE MADE UNDER RIGHT OF WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

6. CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS, ROOF DRAINS, AND FENCING DAMAGED IN THE ZONE OF CONSTRUCTION DURING THE COURSE OF CONSTRUCTION TO SATISFACTION OF THE PROPERTY OWNER. PAYMENT SHALL BE INCLUDED IN RIGHT–OF–WAY CLEARING AND RESTORING. NO ADDITIONAL PAYMENT SHALL BE MADE.

7. NOT USED.

8. ALL COSTS FOR COMPONENTS NECESSARY TO RESTRAIN JOINTS FOR PIPE AND FITTINGS DESIGNATED RESTRAINED JOINT ("RJ") SHALL BE INCLUDED IN UNIT PRICE BID FOR PIPE OR FITTINGS.

A. DUCTILE IRON PIPE RESTRAINED JOINT SYSTEMS: US PIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, AMERICAN FLEXRING, EBAA MEGALUG, SMITH–BLAIR CAMLOCK, CLOW TUFGRIP OR EQUAL SHALL BE USED ON THIS PROJECT. SHOULD RJ PIPE BE SPECIFIED THROUGH UNCASED BORES, ONLY USPIPE TRFLEX, GRIFFIN SNAPLOK, MCWANE THRUSTLOCK, OR AMERICAN FLEXRING IS TO BE USED. LOCKING GASKETS NOT PERMITTED;

B. NOT USED.

C. NOT USED.

NO ADDITIONAL PAYMENT SHALL BE MADE.

9. ALL CUT ENDS AND WHERE SALVAGED FITTINGS HAVE BEEN REMOVED FROM ABANDONED WATER LINES LEFT IN PLACE, SHALL BE PLUGGED WITH 24–IN OF CONCRETE INSIDE THE PIPE. COST OF CONCRETE PLUGGING TO BE INCLUDED IN UNIT PRICE BID FOR PIPE. NO ADDITIONAL PAYMENT SHALL BE MADE.

10. NOT USED.

11. DETECTABLE MYLAR MARKING TAPE SHALL BE INSTALLED OVER DUCTILE IRON PIPE AS PER CONST SPEC 307.3 AND 307.4. COST WILL BE INCLUDED IN COST OF DUCTILE IRON PIPE.

12. ALL LABOR, MATERIALS, AND EQUIPMENT TO CONNECT PROPOSED WATER MAINS TO EXISTING WATER MAINS ARE INCLUDED IN COST OF SLEEVES/ADAPTORS. CONTRACTOR TO EXCAVATE ALL EXISTING WATER MAINS AHEAD OF PIPE LAYING SO THAT THE GRADES CAN BE ADJUSTED ACCORDINGLY. FAILURE TO DO SO SHALL NOT ENTITLE THE CONTRACTOR TO CLAIM EXTRA COMPENSATION FOR ADJUSTMENTS TO THE PROPOSED WATER MAIN. COST FOR EXCAVATING EXISTING WATER MAINS SHALL BE INCLUDED IN UNIT PRICE BID FOR SLEEVES. NO ADDITIONAL PAYMENT SHALL BE MADE.

13. NOT USED.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. NOT USED.
18. NOT USED.
19. NOT USED.
20. NOT USED.
21. NOT USED.

22. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING IMPROVEMENTS. LIMITS OF DISTURBANCE SHALL NOT EXCEED 9–FEET CENTERED ON THE WATERLINE. ANY DISTURBANCE OUTSIDE OF THIS AREA SHALL BE RESTORED AT THE CONTRACTORS EXPENSE. STREETS, DRIVEWAYS AND ASSOCIATED ITEMS SHALL BE PAID FOR UNDER OTHER ITEMS OF WORK.

23. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION. THE CONTRACTOR SHALL REPLACE THE SOD TO MATCH IN–KIND AND QUALITY. LIMITS OF DISTURBANCE SHALL NOT EXCEED 9–FEET CENTERED ON THE WATERLINE. ANY DISTURBANCE OUTSIDE OF THIS AREA SHALL BE RESTORED AT THE CONTRACTORS EXPENSE.

24. SPOT ELEVATIONS ON THE MAIN WATER LINE RELATIVE TO FINISHED GRADE SHALL BE PROVIDED AT EACH 100–FT INTERVAL, COMPLETE WITH STATION AND OFFSET. IN ADDITION, ALL VALVES, FITTINGS, FIRE HYDRANTS (TOP OF NUT) AND OTHER MAJOR APPURTENANT ITEMS SHALL BE SHOWN WITH THE PROPER DESCRIPTION, STATION, OFFSET AND ELEVATION.

25. SPOT ELEVATIONS ON WATER METER CANS, VAULTS, SHALL BE SHOWN WITH THE PROPER DESCRIPTION (METER TYPE, METER SIZE, METER NUMBER, SERVICE MATERIAL, SERVICE SIZE), STATION, OFFSET AND ELEVATION PER PLAN SURVEY CONTROL DATUM.

26. NOT USED.

27. SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.

28. WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

29. THE PAY ITEM FOR SOLID SLAB SODDING INCLUDES QUANTITIES FOR PLACEMENT AND COMPACTION OF SUITABLE BACKFILL AND SOD AT EXISTING GRASS AREAS WHICH MAY BE DAMAGED DURING CONSTRUCTION OF CURBS, SIDEWALKS, DRIVEWAYS, AND OTHER MISCELLANEOUS ITEMS. THE QUANTITIES ARE BASED ON UTILIZING A 3 FOOT WIDE STRIP IN THESE AREAS. THE SOD SHALL BE OF LIKE KIND TO THE EXISTING SOD. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF DAMAGE TO EXISTING GRASS THAT EXCEEDS THESE LIMITS.

30. PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT–OF–WAY AS DIRECTED DURING CONSTRUCTION.

31. COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10–20–10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.

32. THE USE OF FLY–ASH IN CONCRETE IS PROHIBITED..

33. ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.

34. THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.

35. INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.

36. CURB, GUTTER, AND/OR SIDEWALK ASSOCIATED WITH THE DRIVEWAY AND THROUGH THE DRIVEWAY IS INCLUDED IN THE COST OF THE DRIVEWAY.

37. THIS PAY ITEM INCLUDES THE FOLLOWING:

A. SAW CUTTING
B. REMOVAL OF THE EXISTING CONCRETE PARKING LOT.
C. PC CONCRETE COMPLETE AND IN PLACE PER DETAIL
D. SEALING OF EDGES

DOES NOT INCLUDE THE FOLLOWING:

A. UNCLASSIFIED EXCAVATION
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE (TYPE A)

38. INCLUDES ALL COST FOR REINFORCEMENT FOR CONSTRUCTING SLOPE WALLS AND CHANNEL BOTTOM REPLACEMENTS. REINFORCEMENT INCLUDES REBAR AND WELDED WIRE AS SHOWN IN THE PLANS.

WATER CONSTRUCTION NOTES

10. THE CITY OF TULSA FIELD ENGINEERING DEPARTMENT SHALL INSPECT ALL TRENCHING, BEDDING, PIPE INSTALLATION, BACKFILL AND COMPACTION.

11. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT STANDARD SPECIFICATIONS AND STANDARD DETAILS, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.

12. EXISTING SERVICE CONNECTIONS ARE TO BE KEPT IN SERVICE UNTIL CONNECTIONS TO NEW MAIN ARE MADE. ALL SERVICE LINE RECONNECTIONS SHALL BE MADE BY THE CONTRACTOR. SERVICE RECONNECTIONS SHALL BE INSTALLED AS PER CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS.

13. MINIMUM COVER OVER WATER LINES SHALL BE AS NOTED ON PLANS.

14. CONTRACTOR SHALL REPLACE EXISTING GRASS WITH SEED/SOD OF SAME TYPE AND VARIETY OR AS NOTED ON PLANS.

15. CONTRACTOR SHALL BORE EXISTING TREES UNDER DRIP LINE, UNLESS DIRECTED OTHERWISE BY ENGINEER.

16. CONTRACTOR SHALL BORE EXISTING DRIVEWAYS, UNLESS DIRECTED OTHERWISE BY ENGINEER.

17. CITY CREWS ONLY ARE TO OPERATE ALL VALVES. CONTRACTOR SHALL NOTIFY CITY THRU INSPECTOR.

18. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOUR NOTICE TO ALL RESIDENTS OR BUSINESSES AFFECTED BEFORE TURNING OFF ANY WATER. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING DOOR HANGERS ON AFFECTED HOMES AND BUSINESSES.

19. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE–CALL SYSTEM, INC, NOTICE OF ANY EXCAVATION NO SOONER THAN 48 HOURS OR LATER THAN 10 DAYS, EXCLUDING SATURDAYS, SUNDAYS, LEGAL HOLIDAYS PRIOR TO COMMENCEMENT OF WORK, PHONE 1–800–522–6543.

20. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH PROJECT AT ALL TIMES. OPEN CUT STREET CROSSINGS REQUIRE AN APPROVED TRAFFIC CONTROL PLAN WITH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH CURRENT MUTCD REQUIREMENTS.[1]

21. ANY DAMAGE CAUSED BY CONTRACTOR TO ADJACENT TRAFFIC SIGNAL INFRASTRUCTURE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE TRAFFIC ENGINEER.

22. PRIOR TO PAVEMENT SAWING AND EXCAVATION NEAR SIGNALIZED INTERSECTION, CONTRACTOR SHALL CONTACT ENGINEERING SERVICES, TRAFFIC OPERATIONS, 918–596–9766, FOR SITE SPECIFIC, UNDERGROUND TRAFFIC UTILITY LOCATES.

23. CONSTRUCTION FOR ALL ENGINEERING SERVICES FACILITIES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF TITLE 252, DEPARTMENT OF ENVIRONMENTAL QUALITY, CHAPTER 626, PUBLIC WATER SUPPLY CONSTRUCTION STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ).

24. ALL EXCAVATED MATERIAL NOT REQUIRED IN OTHER AREAS OF THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AN EARTH CHANGE PERMIT IF ANY EXCESS MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS OF TULSA.

25. ANY CHANGES FROM APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF TULSA FOR WRITTEN APPROVAL PRIOR TO INSTALLATION.

PAY ITEMS – BASE BID
MINGO CREEK WATERLINE

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY
46	230(A)	SOLID SLAB SODDING (LIKE-KIND)	29,30,31	SY	97
47	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING	4,5,6,22,23	LF	232
48	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	3,4	CY	873
49	303(A)	AGGREGATE BASE TYPE A	4	CY	47
50	COT 307	10" DIP, CL51 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11	LF	232
51	310(B)	SUBGRADE METHOD "B"		SY	255
52	COT 312	10" SOLID SLEEVE (RJ)	2,8,12	EA	2
53	COT 312	10" ROTATED 22.5 DEGREE BEND (RJ)	2,8	EA	4
54	325	SEPARATOR FABRIC	27	SY	280
55	501(F)	GRANULAR BACKFILL (#57 CRUSHED STONE)		CY	3
56	509(B)	CLASS A CONCRETE	32,35,38	CY	3
57	609(B)	COMBINED CURB AND GUTTER (6" BARRIER)	32,34,35,36	LF	24
58	610(B)	CONCRETE DRIVEWAY	32,34,35,36	SY	206
59	619(B)	REMOVAL OF CONCRETE DRIVEWAY	28,33	SY	166
60	619(B)	REMOVAL OF CURB & GUTTER	28,33	LF	39
61	SPECIAL	PCC PATCH (6" PARKING LOT PATCHING)	32,35,37	CY	8
62	SPECIAL	CONSTRUCTION AS-BUILT	24,25	EA	1

PAY ITEMS – ADD ALTERNATE
CATFISH CREEK WATERLINE

ITEM NUMBER	SPEC NUMBER	ITEM DESCRIPTION	NOTES	UNIT	QUANTITY
102	230(A)	SOLID SLAB SODDING (LIKE-KIND)	29,30,31	SY	195
103	COT 301	RIGHT-OF-WAY CLEARING AND RESTORING	4,5,6,22,23	LF	198
104	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	3,4	CY	390
105	303(A)	AGGREGATE BASE TYPE A	4	CY	15
106	COT 307	12" DIP, CL51 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11	LF	198
107	310(B)	SUBGRADE METHOD "B"		SY	84
108	COT 312	12" SOLID SLEEVE (RJ)	2,8,12	EA	2
109	COT 312	12" ROTATED 22.5 DEGREE BEND (RJ)	2,8	EA	4
110	325	SEPARATOR FABRIC	27	SY	92
111	501(F)	GRANULAR BACKFILL (#57 CRUSHED STONE)		CY	8
112	509(B)	CLASS A CONCRETE	32,35,38	CY	10
113	510 (C)	CONCRETE HIGHWAY SLOPE WALL (4")	32,35	SY	76
114	609(B)	COMBINED CURB AND GUTTER (6" BARRIER)	32,34,35,36	LF	30
115	610 (A)	4" CONCRETE SIDEWALK	32,35,36	SY	54
116	610(B)	CONCRETE DRIVEWAY	32,34,35,36	SY	84
117	619(B)	REMOVAL OF CONCRETE DRIVEWAY	28,33	SY	72
118	619(B)	REMOVAL OF SIDEWALK	28,33	SY	54
119	619(B)	REMOVAL OF HIGHWAY CONCRETE SLOPE WALL	28,33	SY	76
120	619(B)	REMOVAL OF CURB & GUTTER	28,33	LF	30
121	SPECIAL	CONSTRUCTION AS-BUILT	24,25	EA	1

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9-14-16
OKLAHOMA

REVISION	BY	DATE

WATERLINE NOTES
PROJECT #143120–4
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CHANNEL IMPROVEMENTS
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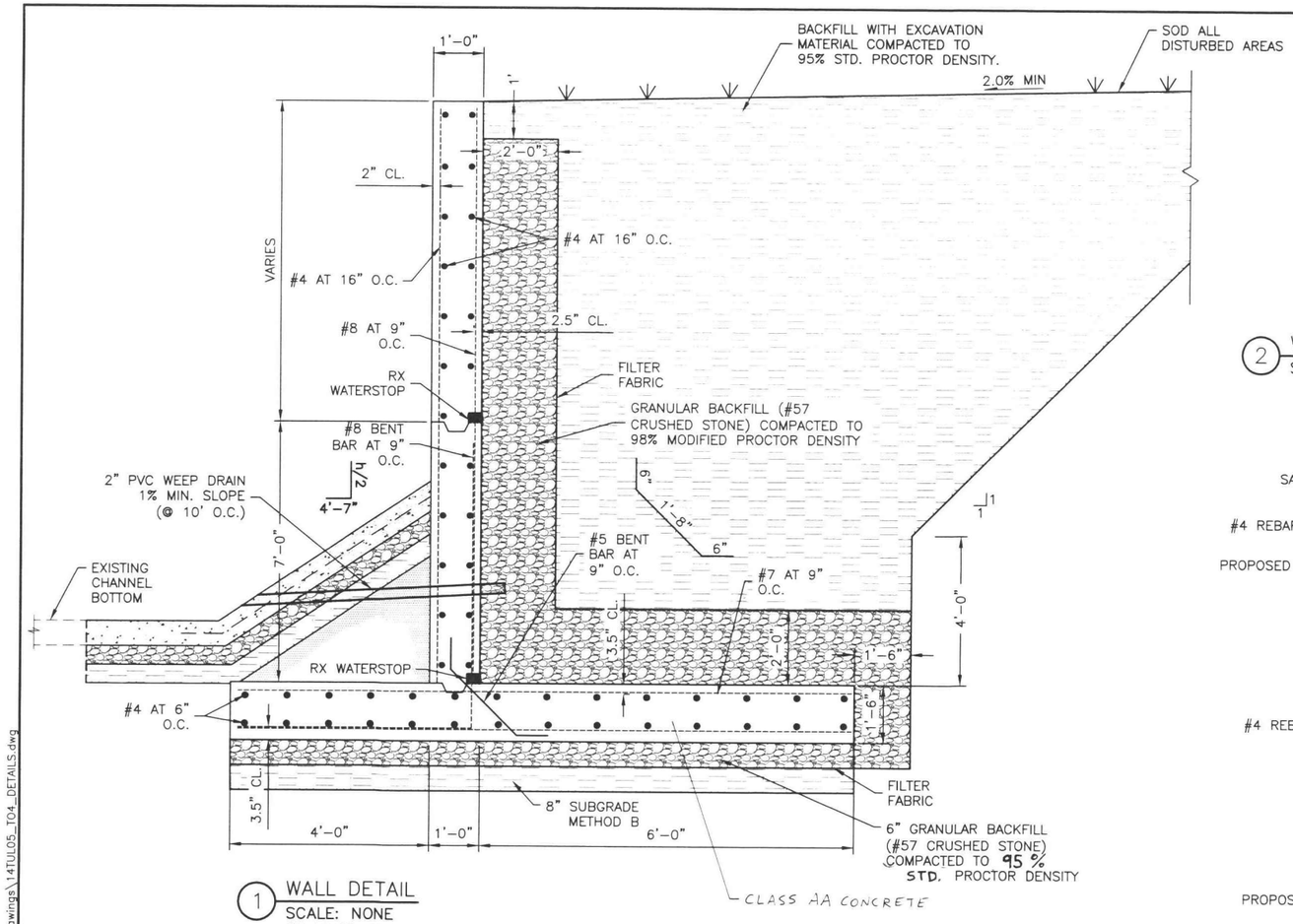
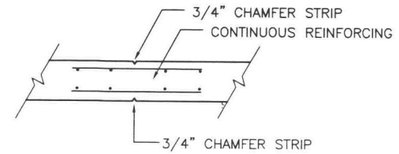


1 WALL DETAIL
SCALE: NONE

SW MINGO: STA. 11+46.58 TO 11+69.98
SE MINGO: STA. 11+46.80 TO 11+70.08
NW MINGO: STA. 12+15.12 TO 12+38.45
NE MINGO: STA. 12+15.13 TO 12+38.47

SW CATFISH: STA. 201+18.86 TO 201+38.50
SE CATFISH: STA. 201+26.83 TO 201+42.30
NW CATFISH: STA. 201+91.75 TO 202+07.20
NE CATFISH: STA. 201+95.68 TO 202+15.33

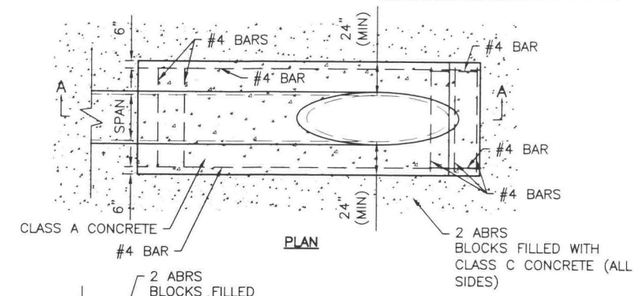


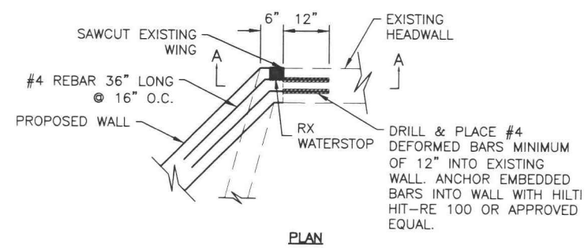
TO BE PLACED AT 10 FOOT INTERVALS UNLESS OTHERWISE NOTED.

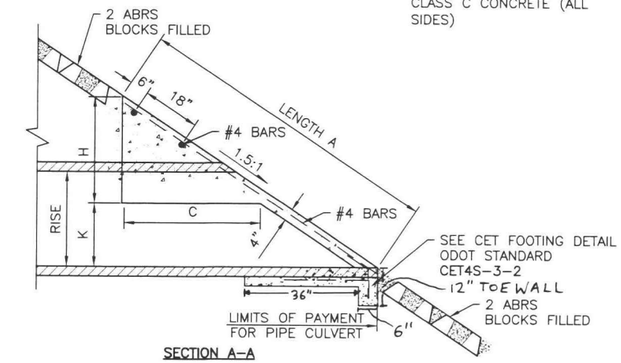
FLOOR AND SLOPE JOINTS SHALL BE SAW CUT 10' O.C. TO A DEPTH OF 1-1/2 INCHES THEN FILLED WITH BACKER ROD AND SEALED WITH AN APPROVED SILICONE SEALANT. RANDOM CRACKED PANELS SHALL BE REMOVED AND REPLACED WITH NO ADDITIONAL PAYMENT.

2 WALL CONTROL JOINT DETAIL (C.J.)
SCALE: NONE

ABRS PIPE END TREATMENT DIMENSION TABLE					
CET SIZE	LENGTH A	LENGTH C	HEIGHT H	HEIGHT K	CONC. (CY)
18"	5'-7"	3'-6"	2'-4"	9"	1.50
24"	6'-6"	3'-8"	3'-8"	14"	1.70
36"	6'-8"	3'-10"	2'-7"	27"	2.80

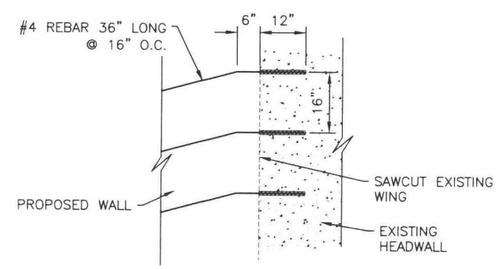




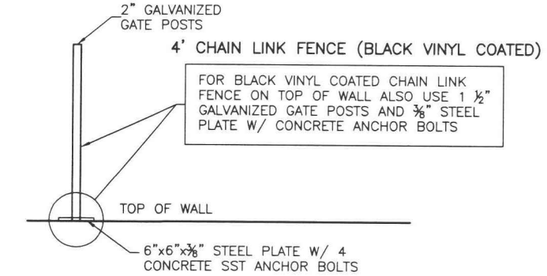


6 ABRS PIPE END TREATMENT
SCALE: NONE

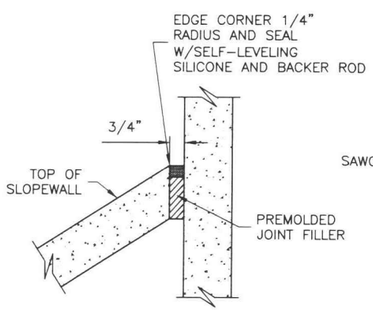
NOTE: 1. TO BE PAID FOR UNDER CLASS A CONCRETE.
2. REINFORCING STEEL TO BE INCLUDED IN THE PRICE BID FOR CLASS A CONCRETE.



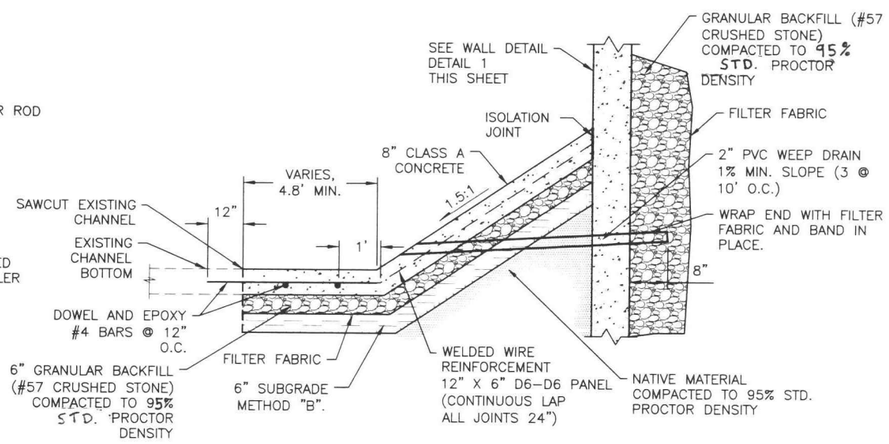
8 CONNECTION TO EXISTING HEADWALL
SCALE: NONE



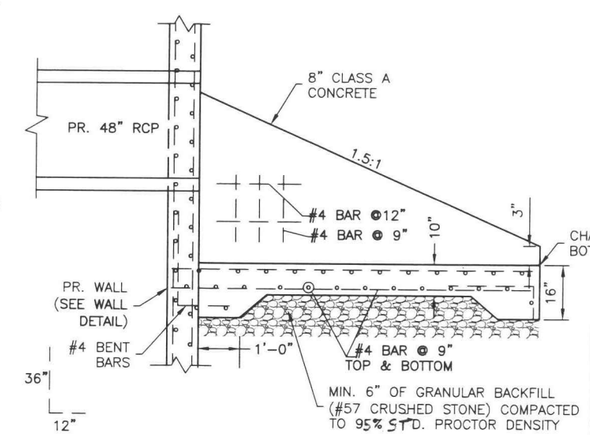
7 FENCE POST WALL ANCHOR
SCALE: NONE



3 ISOLATION JOINT
SCALE: NONE



4 CHANNEL REPLACEMENT PATCH WITH SLOPEWALL
SCALE: NONE



5 ST-1 TO CHANNEL HEADWALL
SCALE: NONE

DETAILS
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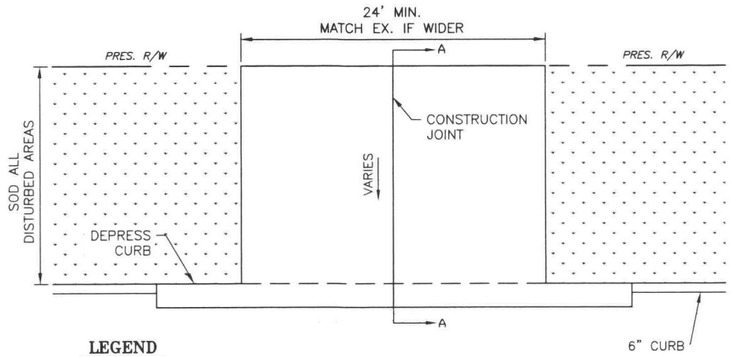
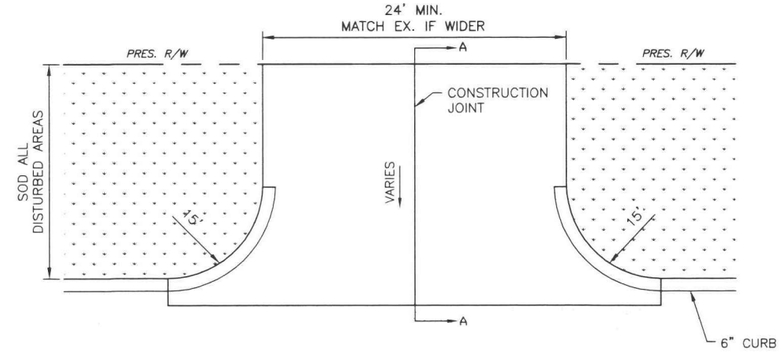


LEGEND

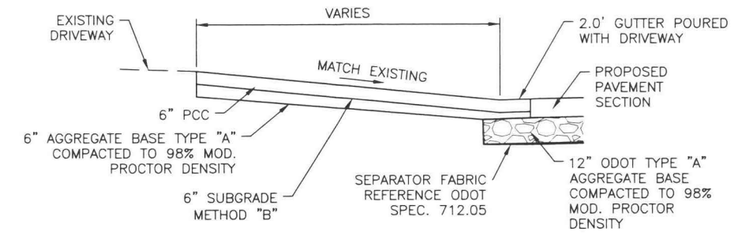
SOD

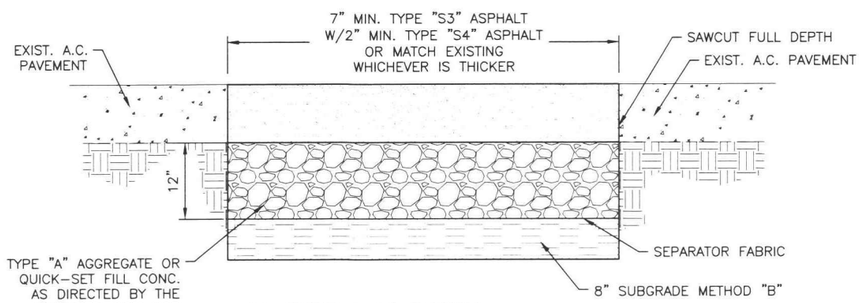
1A DRIVEWAY REPLACEMENT DETAIL TYPE 1
SCALE: NONE
DW-1, DW-2



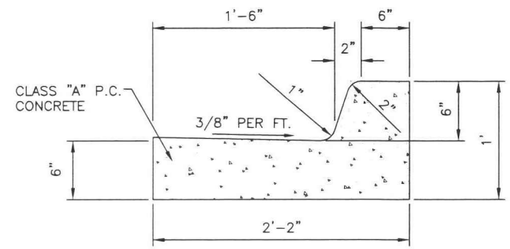
1B DRIVEWAY REPLACEMENT DETAIL TYPE 2
SCALE: NONE
DW-3, DW-4, DW-5

SECTION A-A

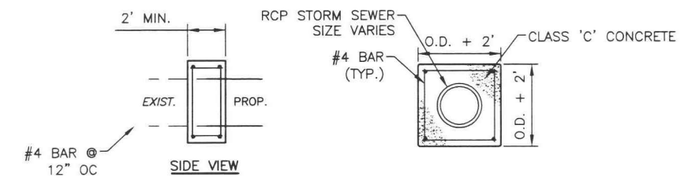




2 TYPE 1 AC PATCH
SCALE: NONE
NOTE:
TYPE "S4" ASPHALT TO BE PAID FOR SEPARATELY. COST TO BE INCLUDED IN SUPERPAVE, TYPE S4 (PG 64-22 OK).
ITEMS ALSO TO BE PAID FOR SEPARATELY:
A. UNCLASSIFIED EXCAVATION (CY)
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE, TYPE A (CY)

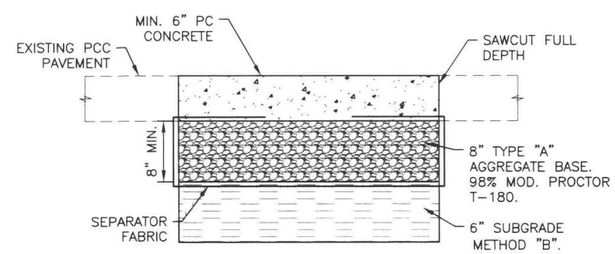


3 COMBINED CURB & GUTTER DETAIL
SCALE: NONE

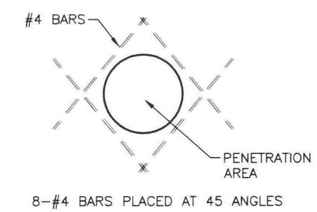


4 CONCRETE FIELD COLLAR
SCALE: NONE

NOTE: TO BE INSTALLED @ ALL PROPOSED TO EXISTING PIPE CONNECTIONS. COST TO BE INCLUDED IN THE PROPOSED PIPE QUANTITY.



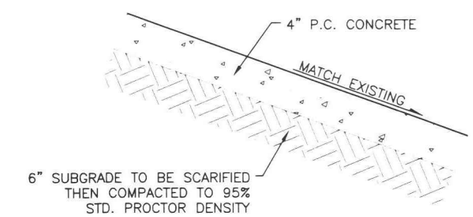
6 PCC PATCH
SCALE: NONE
NOTE: COST TO INCLUDE ALL SAW CUTTING AND PAVEMENT REMOVAL DOWN TO SUBGRADE.



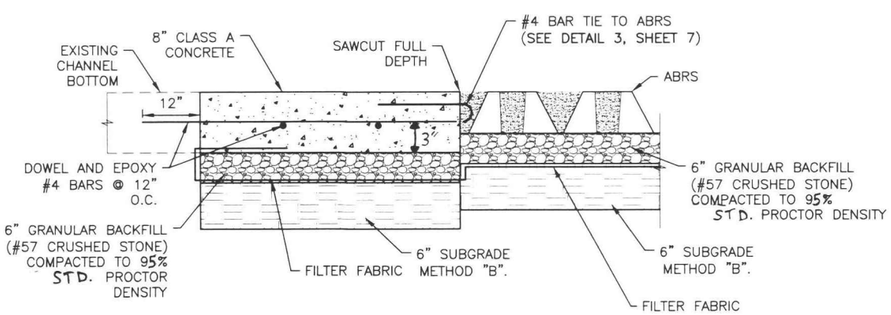
8-#4 BARS PLACED AT 45 ANGLES

AROUND ALL PENETRATIONS INCLUDING PIPES EACH FACE

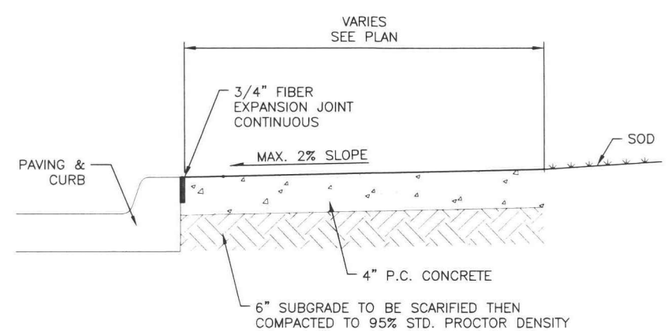
7 WALL PIPE PENETRATION DETAIL
SCALE: NONE



9 HIGHWAY SLOPE WALL PATCH
SCALE: NONE



5 CHANNEL REPLACEMENT PATCH WITH ABRS
SCALE: NONE
NOTE: COST TO INCLUDE ALL SAW CUTTING AND REMOVAL DOWN TO SUBGRADE.



8 P.C. CONCRETE SIDEWALK BEHIND CURB
SCALE: NONE

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9/19/16
OKLAHOMA

REVISION	BY	DATE

DETAILS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

PLAN SCALE N/A	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
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	FIELD MGR.	RBH	9/16	
VERTICAL: N/A	RECOMMENDED: HAS 9/16 DESIGN MANAGER			CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 6 OF 52 SHEETS

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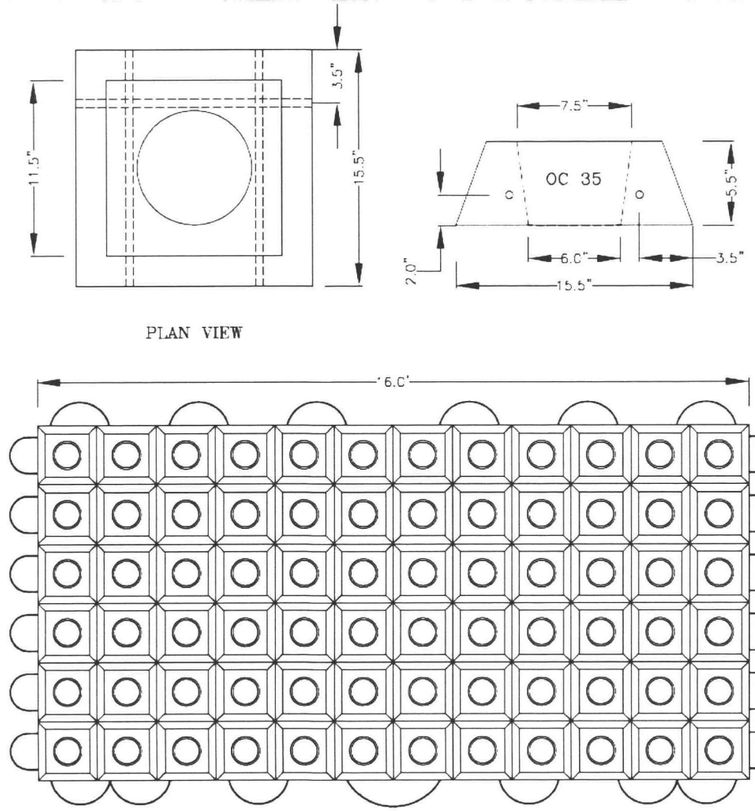
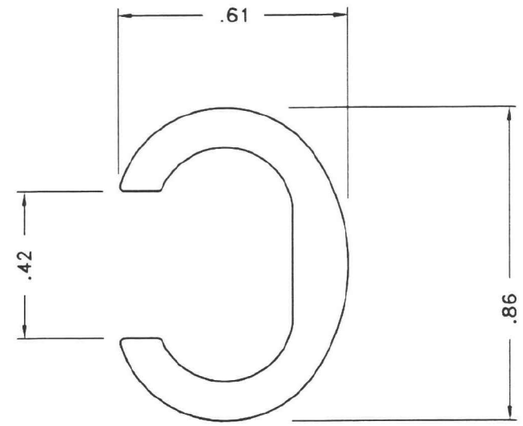
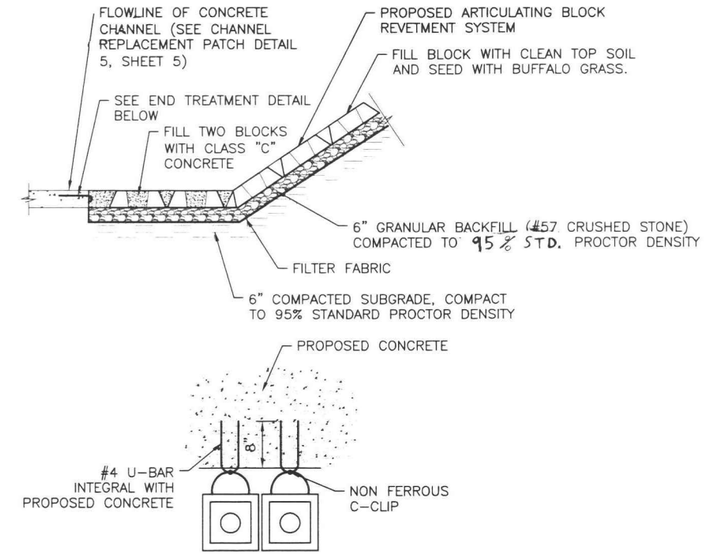


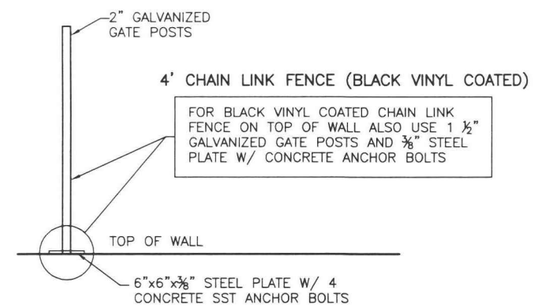
1 ARTICULATING BLOCK REVETMENT SYSTEM BLOCK AND MAT DIMENSIONS
SCALE: NONE



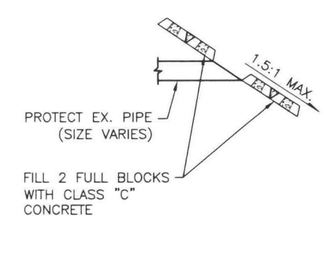
2 ARTICULATING BLOCK REVETMENT SYSTEM NON-FERROUS C CLIP
SCALE: NONE

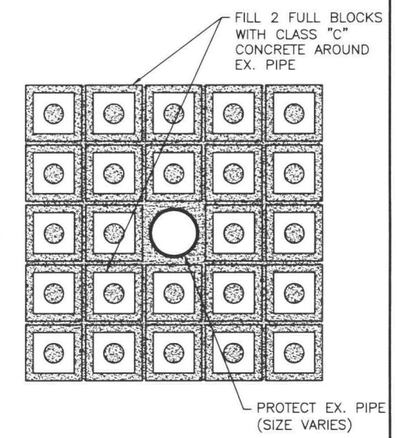


3 ABRS END TREATMENT
SCALE: NONE

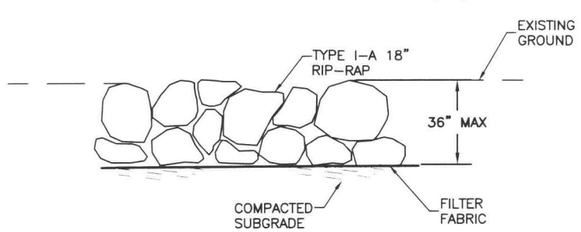


5 FENCE POST WALL ANCHOR
SCALE: NONE

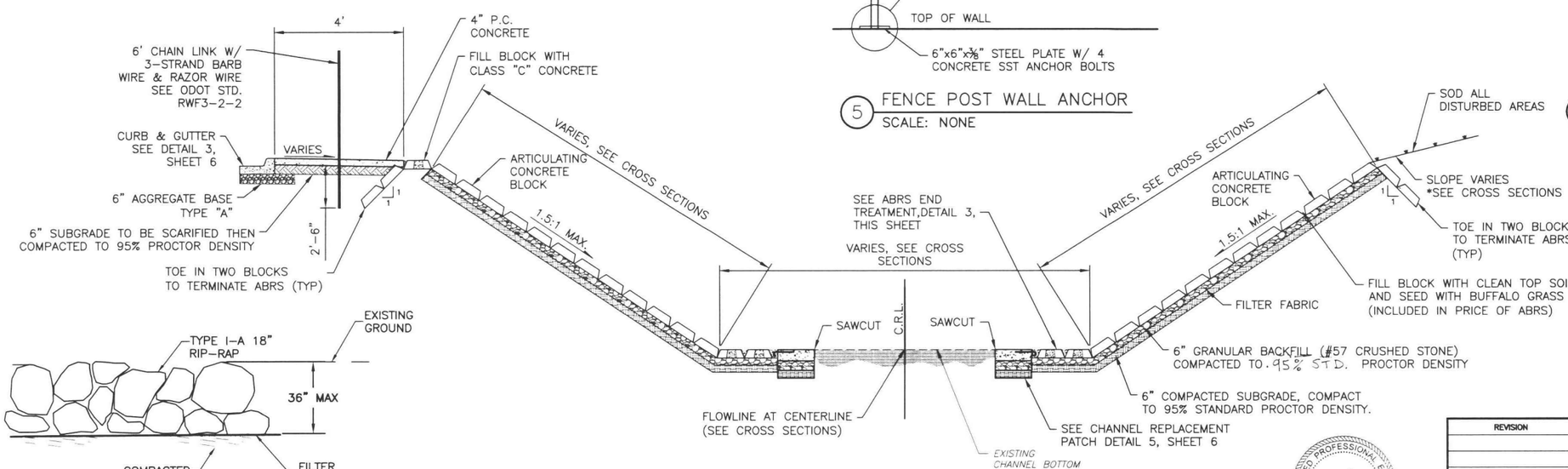




6 ABRS PIPE PENETRATION DETAIL
SCALE: NONE



7 18" TYPE I-A RIPRAP (SALVAGED)
SCALE: NONE
MINGO CREEK: STA. 10+10.04 TO 10+20.04, STA. 13+66.29 TO 13+76.66
CATFISH CREEK: STA. 200+10.00 TO 200+20.00, STA. 203+15.58 TO 203+25.67



4 ARTICULATING BLOCK REVETMENT SYSTEM (ABRS) - MAIN CHANNEL
SCALE: NONE

SW MINGO: STA. 10+23.79 TO 11+46.23
SE MINGO: STA. 10+20.48 TO 11+46.51
NW MINGO: STA. 12+38.80 TO 13+66.44
NE MINGO: STA. 12+38.82 TO 13+67.09

SW CATFISH: STA. 200+22.14 TO 201+18.55
SE CATFISH: STA. 200+19.63 TO 201+26.44
NW CATFISH: STA. 202+07.59 TO 203+15.42
NE CATFISH: STA. 202+15.64 TO 203+15.97

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 5/19/16 OKLAHOMA

DETAILS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

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	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	09/16	
HORIZONTAL: N/A	LEAD ENGR.	RSS	9/16	
	FIELD MGR.	RGV	9/16	
VERTICAL: N/A	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 7 OF 52 SHEETS

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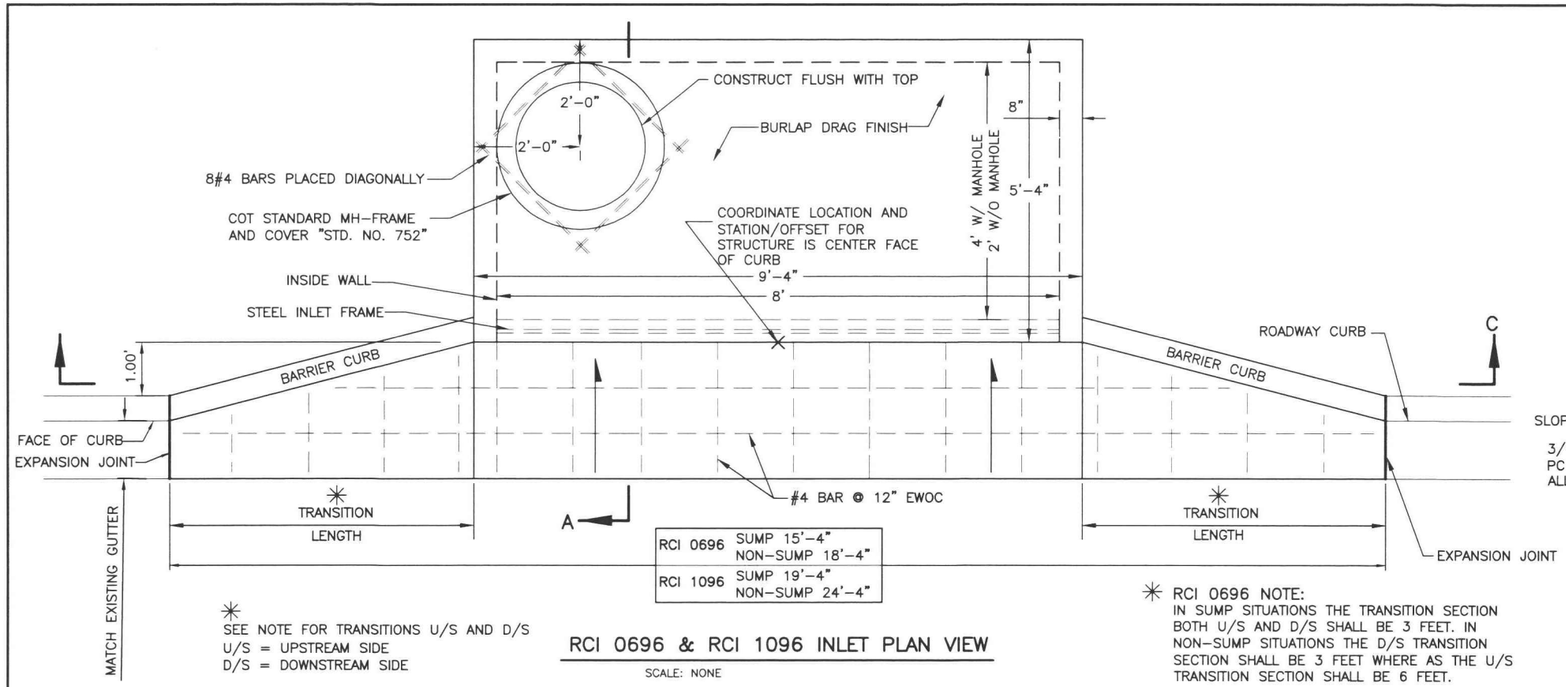


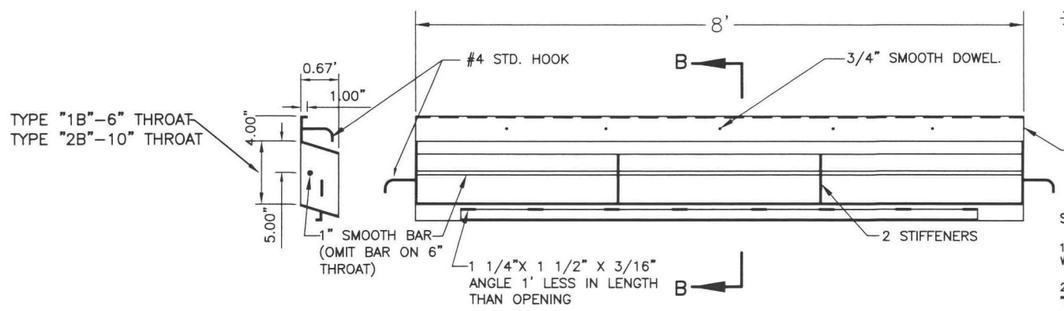
✳ SEE NOTE FOR TRANSITIONS U/S AND D/S
U/S = UPSTREAM SIDE
D/S = DOWNSTREAM SIDE

RCI 0696 & RCI 1096 INLET PLAN VIEW

SCALE: NONE

✳ RCI 0696 NOTE:
IN SUMP SITUATIONS THE TRANSITION SECTION BOTH U/S AND D/S SHALL BE 3 FEET. IN NON-SUMP SITUATIONS THE D/S TRANSITION SECTION SHALL BE 3 FEET WHERE AS THE U/S TRANSITION SECTION SHALL BE 6 FEET.

✳ RCI 1096 NOTE:
IN SUMP SITUATIONS THE TRANSITION SECTION BOTH U/S AND D/S SHALL BE 5 FEET. IN NON-SUMP SITUATIONS THE D/S TRANSITION SECTION SHALL BE 5 FEET WHERE AS THE U/S TRANSITION SECTION SHALL BE 10 FEET.



SECTION B-B

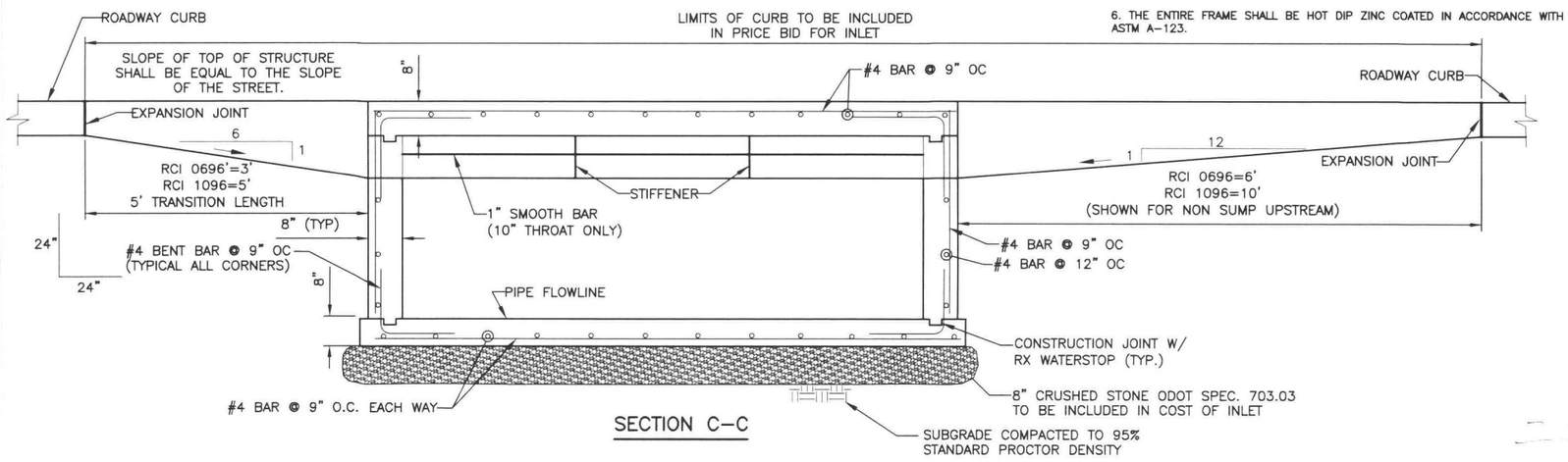
FRONT VIEW

RCI 0696 & RCI 1096 STEEL INLET INSERT DETAIL

SCALE: NONE

STEEL INLET FRAME NOTES

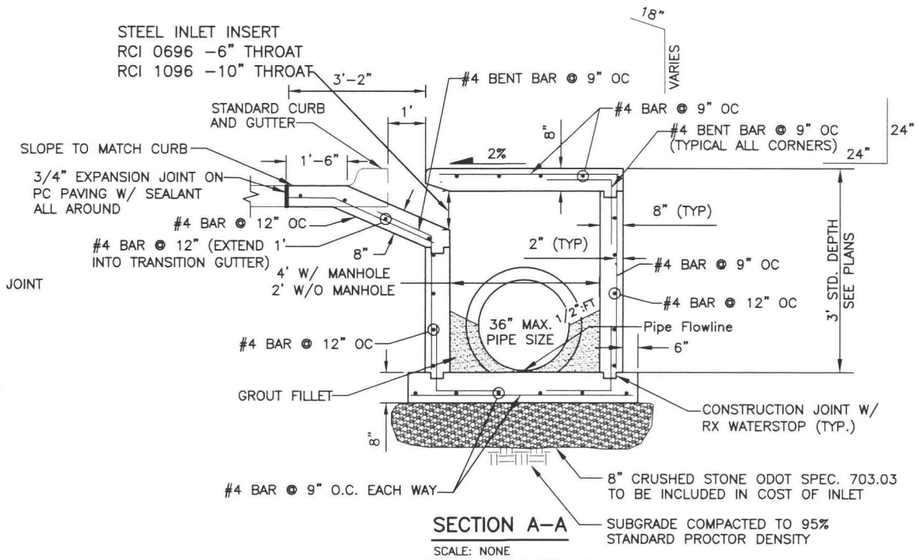
1. STEEL INLET INSERT SHALL BE AS MANUFACTURED BY SHAWNEE STEEL & WELDING, INC. OF MERIAM, KS. OR APPROVED EQUAL.
2. COST OF INLET INSERT SHALL BE INCLUDED IN THE PRICE BID FOR TYPE "A" OR TYPE "B" INLETS.
3. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
4. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK.
5. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
6. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.



SECTION C-C

CAST IN PLACE CONCRETE NOTES

1. ALL CONCRETE SHALL BE CLASS A, AS DESIGNATED IN SECTION 509 OF THE ODOT SPECIFICATIONS, LATEST EDITION.
2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
3. CLEAR DISTANCES FROM CAST-IN-PLACE CONCRETE SURFACES TO REINFORCING SHALL BE 2" FOR WALLS, 1-1/2" FOR SUPPORTED SLABS, 3" FROM THE BOTTOM OF FOOTINGS AND 2" FROM THE TOP OF SLABS, UNLESS OTHERWISE NOTED.
4. REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.
5. ALL BARS SHALL LAP A MINIMUM OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED BY THE ENGINEER.
6. ALL EXPOSED CAST IN PLACE CONCRETE SURFACES SHALL HAVE ALL VOIDS FILLED, BURRS AND FINS REMOVED.
7. ALL JOINTS SHALL BE SEALED WITH AN APPROVED SILICONE SEALANT.



SECTION A-A

SCALE: NONE

NOTE:
DETAIL SHOWN WITH MANHOLE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611.06 (G)	INLET RCI 0696, COMPLETE IN PLACE	EA.
611.06 (G)	INLET RCI 1096, COMPLETE IN PLACE	EA.
611.06 (H)	ADDITIONAL DEPTH IN INLET	V.F.

RCI 0696 INLET (6" THROAT)

	SUMP W/ MANHOLE		SUMP W/O MANHOLE		NO SUMP W/ MANHOLE		NO SUMP W/O MANHOLE	
	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.
STD. DEPTH 3'	5.3	451	4	268	5.6	457	4.2	275
ADD. VERT. FT.	1.3	45	.8	38	1.3	45	.8	38

RCI 1096 INLET (10" THROAT)

	SUMP W/ MANHOLE		SUMP W/O MANHOLE		NO SUMP W/ MANHOLE		NO SUMP W/O MANHOLE	
	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.	CONC. CY	STL. LBS.
STD. DEPTH 3'	5.7	464	4.3	281	6.1	477	4.7	295
ADD. VERT. FT.	1.3	45	.8	38	1.3	45	.8	38

RECESSED CURB INLET DETAILS
RCI 0696 - 6" THROAT
RCI 1096 - 10" THROAT

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
8-19-16
OKLAHOMA

DETAILS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE N/A	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: N/A	LEAD ENGR.	BSS	9/16	
	FIELD MGR.	RBN	9/16	
VERTICAL: N/A	RECOMMENDED: DESIGN MANAGER	HBS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 8 OF 32 SHEETS

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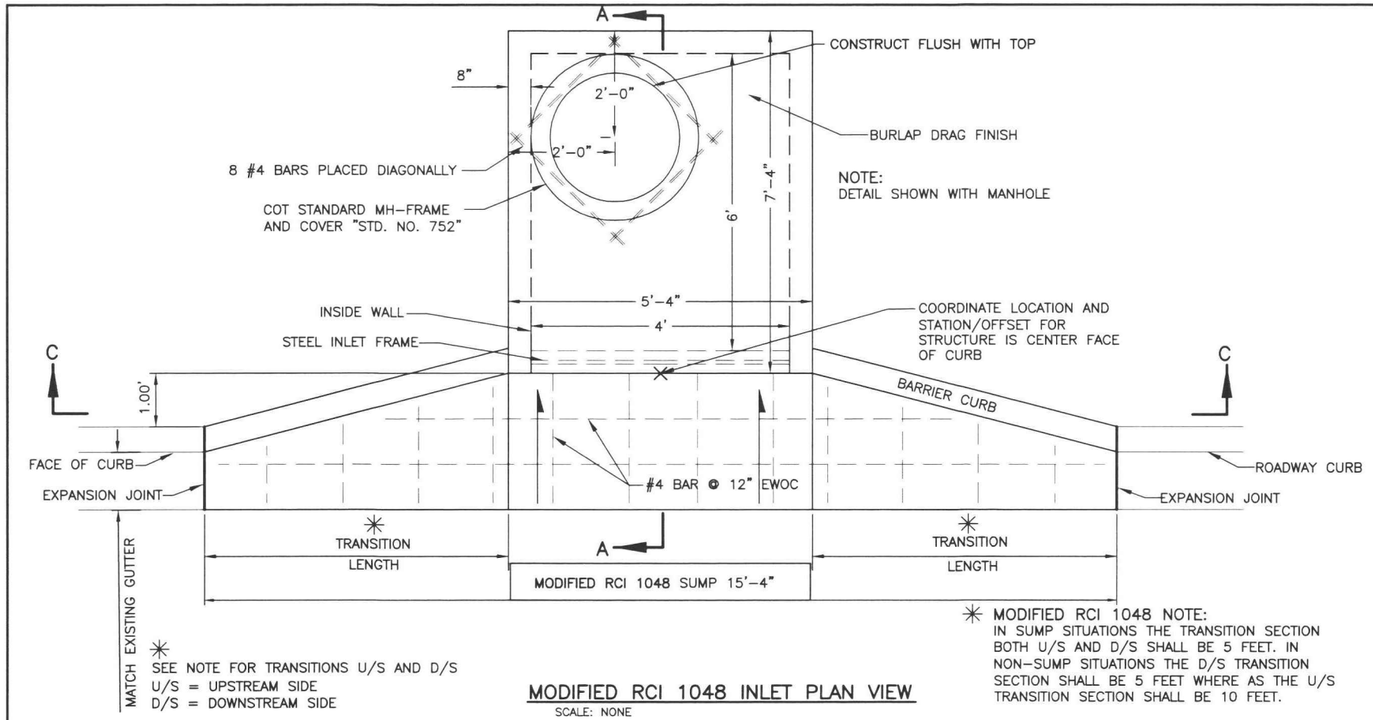
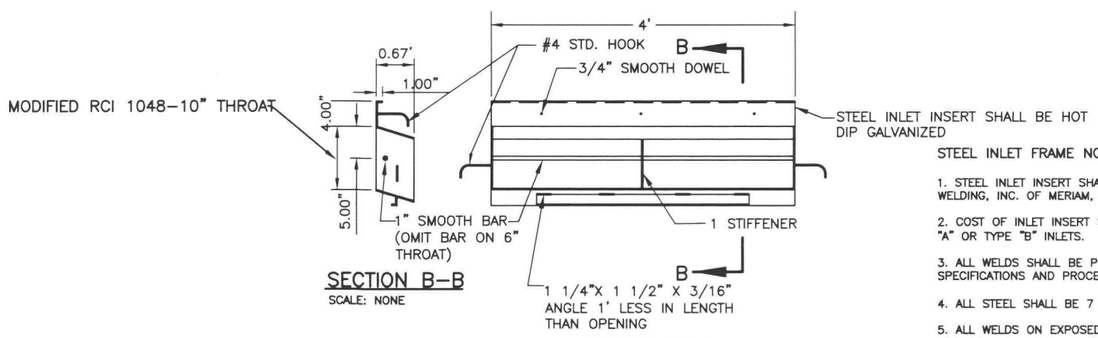


MODIFIED RCI 1048 NOTE:
IN SUMP SITUATIONS THE TRANSITION SECTION BOTH U/S AND D/S SHALL BE 5 FEET. IN NON-SUMP SITUATIONS THE D/S TRANSITION SECTION SHALL BE 5 FEET WHERE AS THE U/S TRANSITION SECTION SHALL BE 10 FEET.

MODIFIED RCI 1048 INLET PLAN VIEW

SCALE: NONE



SECTION B-B

SCALE: NONE

FRONT VIEW

MODIFIED RCI 1048 STEEL INLET INSERT DETAIL

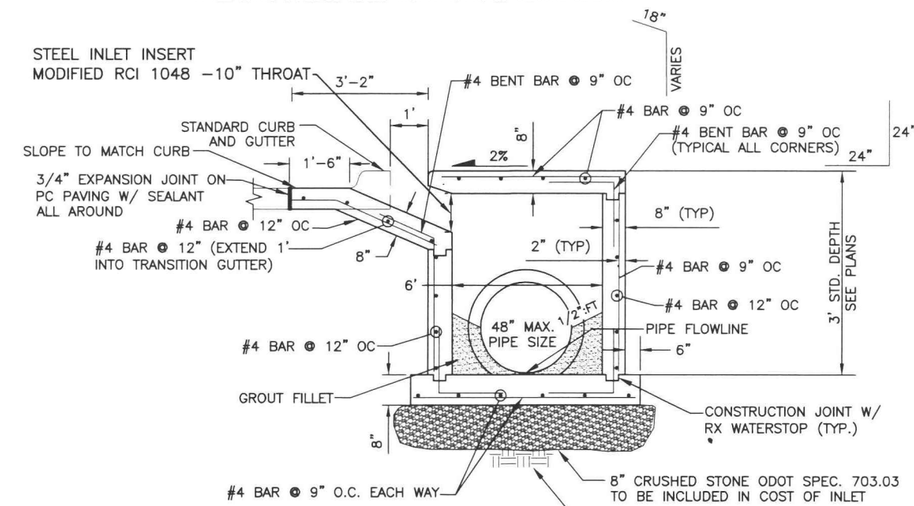
SCALE: NONE

STEEL INLET FRAME NOTES

1. STEEL INLET INSERT SHALL BE AS MANUFACTURED BY SHAWNEE STEEL & WELDING, INC. OF MERIAM, KS. OR APPROVED EQUAL.
2. COST OF INLET INSERT SHALL BE INCLUDED IN THE PRICE BID FOR TYPE "A" OR TYPE "B" INLETS.
3. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
4. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK.
5. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
6. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.

CAST IN PLACE CONCRETE NOTES

1. ALL CONCRETE SHALL BE CLASS A, AS DESIGNATED IN SECTION 509 OF THE ODOT SPECIFICATIONS, LATEST EDITION.
2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
3. CLEAR DISTANCES FROM CAST-IN-PLACE CONCRETE SURFACES TO REINFORCING SHALL BE 2" FOR WALLS, 1-1/2" FOR SUPPORTED SLABS, 3" FROM THE BOTTOM OF FOOTINGS AND 2" FROM THE TOP OF SLABS, UNLESS OTHERWISE NOTED.
4. REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.
5. ALL BARS SHALL LAP A MINIMUM OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED BY THE ENGINEER.
6. ALL EXPOSED CAST IN PLACE CONCRETE SURFACES SHALL HAVE ALL VOIDS FILLED, BURRS AND FINS REMOVED.
7. ALL JOINTS SHALL BE SEALED WITH AN APPROVED SILICONE SEALANT.



NOTE:
DETAIL SHOWN WITH MANHOLE

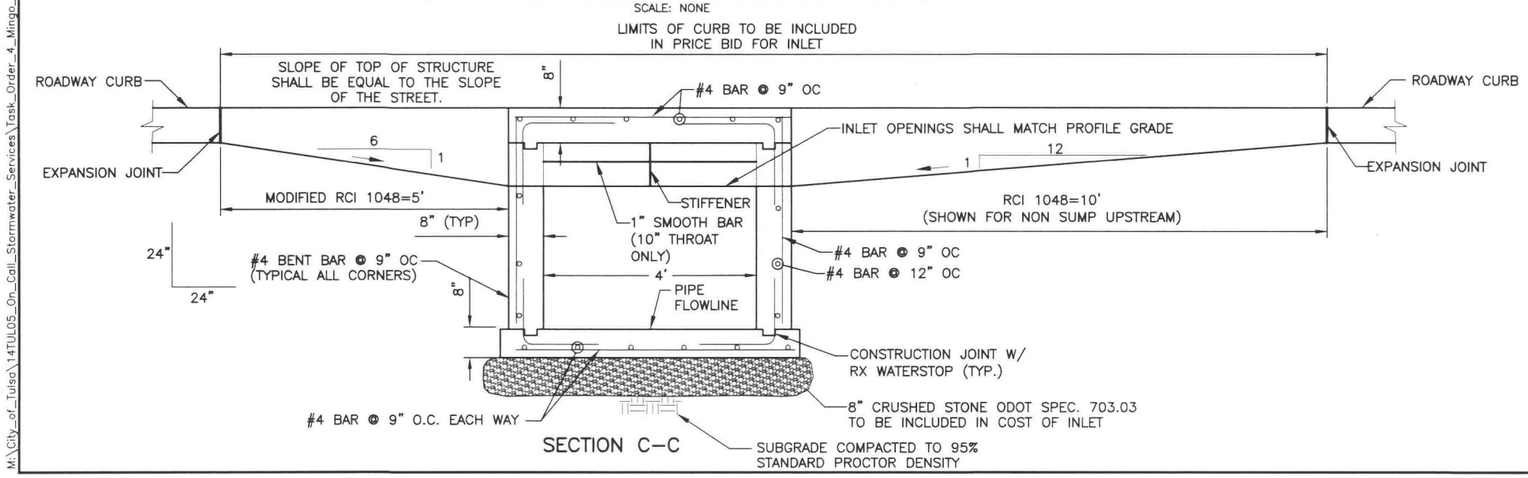
SECTION A-A

SCALE: NONE

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611.06 (G)	MODIFIED RCI 1048 INLET, COMPLETE IN PLACE	EA.
611.06 (H)	ADDITIONAL DEPTH IN INLET	V.F.

MODIFIED RCI 1048 INLET (10" THROAT)

	SUMP W/ MANHOLE	
	CONC. CY	STL. LBS.
STD. DEPTH 3'	4.3	360
ADD. VERT. FT.	1.2	38



SECTION C-C

MODIFIED RECESSED CURB INLET DETAILS
MODIFIED RCI 1048 - 10" THROAT

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
8-19-16
OKLAHOMA

DETAILS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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REVISION	BY	DATE

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	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: N/A	LEAD ENGR.	BSS	9/16	
	FIELD MGR.	CBM	9/16	
VERTICAL: N/A	RECOMMENDED: HAS 9/16			
	DESIGN MANAGER			CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 9 OF 52 SHEETS

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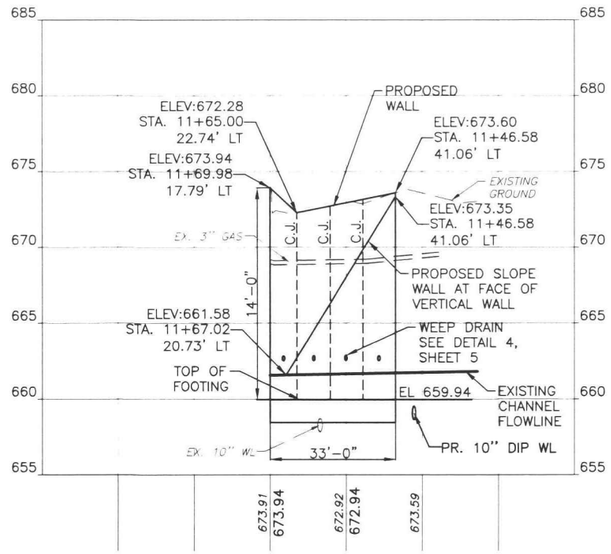
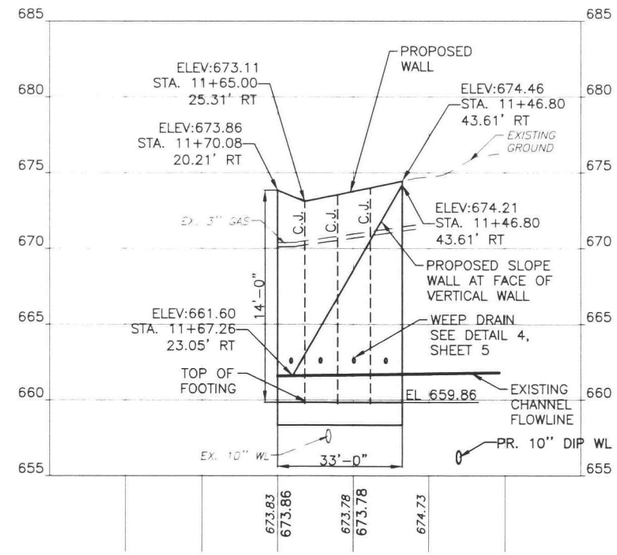


1 SOUTHWEST MINGO CREEK WALL PROFILE
SCALE: NONE



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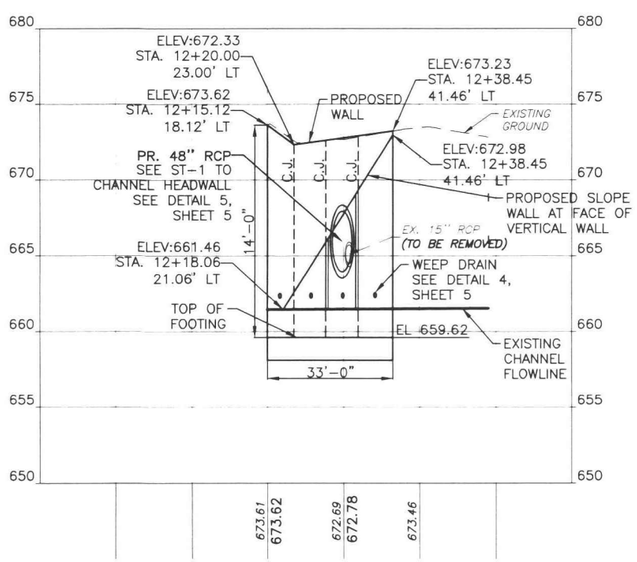

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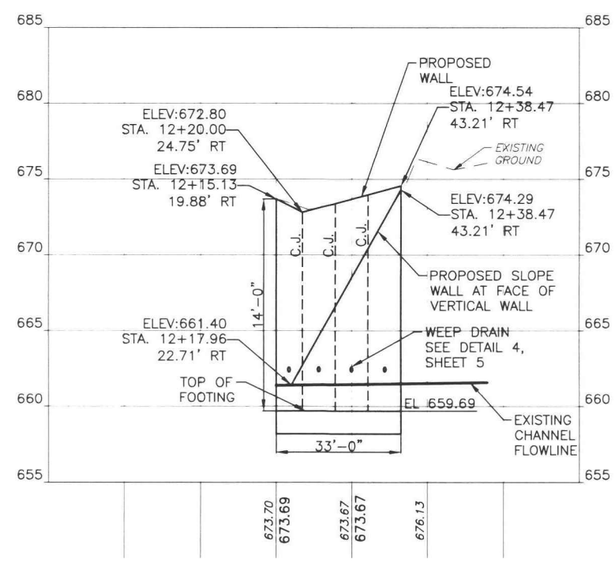

4 NORTHEAST MINGO CREEK WALL PROFILE
SCALE: NONE

0 10 20 40
SCALE IN FEET

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
8-19-16
OKLAHOMA

MINGO CREEK WALL PROFILES
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE N/A	DRAWN	SMC	08/2016
	DESIGNED	EGZ	08/2016
	SURVEY	PDH	08/2016
PROFILE SCALE	PROJ. MGR.	TRB	9/16
HORIZONTAL: 1" = 20'	LEAD ENGR.	EGZ	9/16
	FIELD MGR.	RBV	9/16
VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER	HAS	9/16
FILE:	DRAWING:		
ATLAS PAGE NO. 309			

APPROVED:
CITY ENGINEER
DATE: 10/7/16
SHEET 10 OF 52 SHEETS

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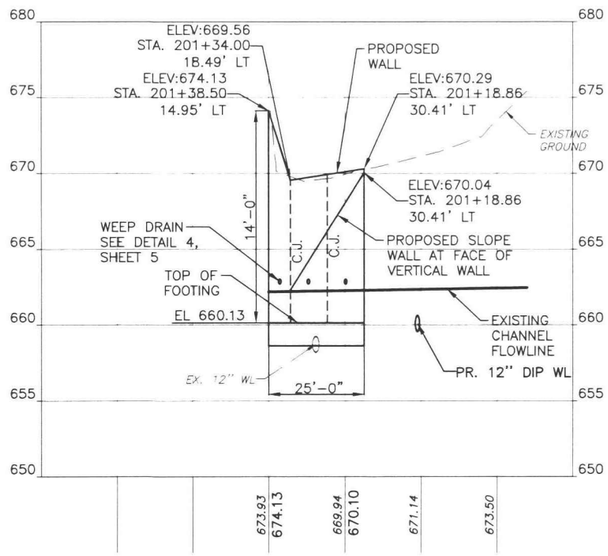

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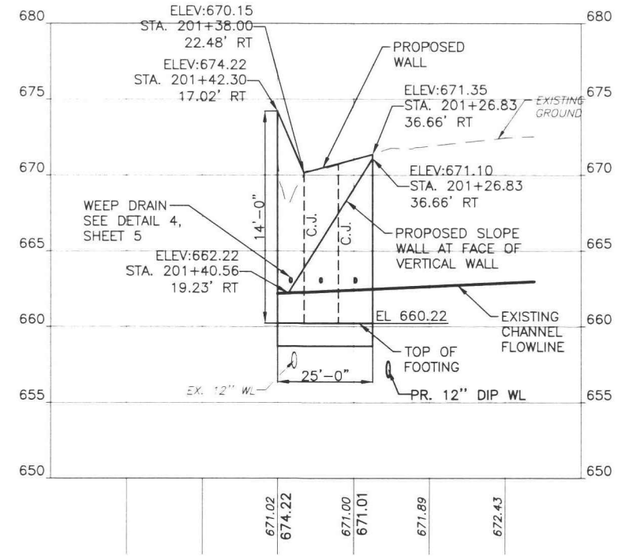

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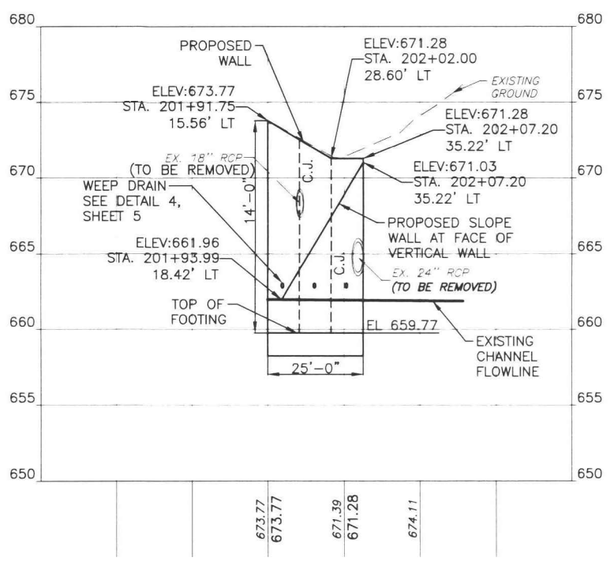

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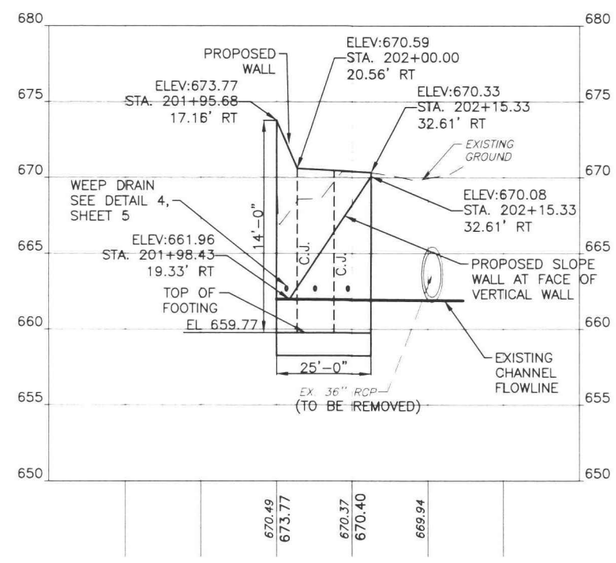

4 NORTHEAST CATFISH CREEK WALL PROFILE
SCALE: NONE

0 10 20 40
SCALE IN FEET

ADD ALTERNATE 1

CATFISH CREEK WALL PROFILES
PROJECT #143120-4
MINGO & CATFISH CREEKS
CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
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HORIZONTAL: 1" = 20'	LEAD ENGR.	BJS	9/16	
	FIELD MGR.	RBJ	9/16	
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FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 11 OF 52 SHEETS

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AC PATCHING SUMMARY

	STREET	CREEK	FROM STATION	TO STATION	PAVEMENT REMOVAL (SY)	AC PATCH (SY)	SUBGRADE METHOD "B" (SY)	SUPERPAVE, TYPE S3 (TONS)	SUPERPAVE, TYPE S4 (TONS)	AGGREGATE BASE TYPE A (CY)	SEPARATOR FABRIC (SY)	UNCLASSIFIED EXCAVATION (CY)
	E. 55TH PL.	MINGO CREEK	11+76.54	11+86.54	83.3	83.3	83.3	18.7	9.3	18.5	91.6	18.5
	E. 55TH PL.	MINGO CREEK	11+99.46	12+09.46	83.3	83.3	83.3	18.7	9.3	18.5	91.7	18.5
*	E. 55TH PL.	CATFISH CREEK	201+50.68	201+84.92	302.9	302.9	302.9	67.9	33.9	67.3	333.2	67.3

DRIVEWAY REMOVAL AND REPLACEMENT SUMMARY

	STREET	CREEK	DRIVEWAY	STATION	OFFSET	SIDE	WIDTH (FT)	DEPTH FROM EOR (FT)	FRONT RADIUS (STA. DOWN)	BACK RADIUS (STA. UP)	6" CONCRETE (SY)	AGGREGATE BASE TYPE A (CY)
	E. 55TH PL.	MINGO CREEK	DW-1	12+32.97	143.21	L	29.3	23.9	N/A	N/A	77.7	13.0
	E. 55TH PL.	MINGO CREEK	DW-2	12+32.84	84.81	L	24.0	23.4	N/A	N/A	62.0	10.3
	E. 55TH PL.	MINGO CREEK	DW-3	11+52.82	77.13	R	24.0	24.2	15	15	82.5	13.7
	E. 55TH PL.	MINGO CREEK	DW-4	11+52.41	107.09	R	38.6	24.4	15	15	123.5	20.6
*	E. 55TH PL.	CATFISH CREEK	DW-5	201+51.32	99.64	R	24.0	24.2	15	15	83.8	14.0

FENCE SUMMARY

	STREET	CREEK	FROM STATION	TO STATION	FROM OFFSET	TO OFFSET	FENCE TYPE	LENGTH (FT)
	E. 55TH PL.	MINGO CREEK	11+56.28	11+46.80	41.06 L	43.60 R	4' BLACK VINYL CHAIN LINK FENCE	104.0
	E. 55TH PL.	MINGO CREEK	12+32.56	13+94.58	44.08 L	55.26 L	6' CHAIN LINK W/ 3-STRAND BARB WIRE & RAZOR WIRE	160.7
	E. 55TH PL.	MINGO CREEK	12+71.93	13+81.69	70.00 R	56.45 R	6' CHAIN LINK W/ 3-STRAND BARB WIRE	118.5
	E. 55TH PL.	MINGO CREEK	12+38.45	12+38.47	41.46 L	43.21 R	4' BLACK VINYL CHAIN LINK FENCE	104.0
*	E. 55TH PL.	CATFISH CREEK	201+18.86	201+26.83	30.41 L	36.66 R	4' BLACK VINYL CHAIN LINK FENCE	82.0
*	E. 55TH PL.	CATFISH CREEK	202+07.20	202+15.33	35.22 L	32.61 R	4' BLACK VINYL CHAIN LINK FENCE	83.0
*	E. 55TH PL.	CATFISH CREEK	202+20.00	203+25.98	40.61 L	42.52 L	6' CHAIN LINK	106.0

PCC PATCHING SUMMARY

STREET	CREEK	FROM STATION	TO STATION	PAVEMENT REMOVAL (SY)	PC CONCRETE PATCH (SY)	AGGREGATE BASE TYPE A (CY)	SEPARATOR FABRIC (SY)	SUBGRADE METHOD "B" (SY)
E. 55TH PL.	MINGO CREEK	10+75.63	11+52.75	139.1	54.4	12.1	59.9	54.4
E. 55TH PL.	MINGO CREEK	12+47.57	13+94.58	192.1	58.1	12.9	64.0	58.1
E. 55TH PL.	MINGO CREEK	11+41.52	11+52.47	24.3	24.3	5.4	26.8	24.3

SUMMARY OF DRAINAGE STRUCTURES

	STRUCTURE UP	STRUCTURE DOWN	CRL STATION	DESCRIPTION	DETAILS	RIM/GRATE/THROAT ELEVATION	FLOW LINE ELEVATION	EXCAVATION				REINFORCED CONCRETE PIPE (ROUND)					INLETS				MANHOLES	
								BEDDING MATERIAL	ADD'L BEDDING UNDER RDWY	TRENCH EXCAV.	UNCL. EXCAV.	18"	24"	30"	36"	48"	MODIFIED RCI 1048	RCI 1096	CICI DES. NO. 2(B)	CICI DES. NO. 2(2A)	5' I.D.	6'I.D.
								C.Y.	C.Y.	C.Y.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.
	ST-1	MINGO CREEK	12+12.28	CONSTRUCT MODIFIED RCI 1048 W/ 140.2 L.F. 48" CLASS III RCP AND HEADWALL	COT 751, COT 752	670.00	664.62	139.64	0.00	314.01	16.67					140.2	1					
	ST-2	ST-1	11+75.20	CONSTRUCT RCI 1096 W/ 38.9 L.F. 30" CLASS III RCP	COT 751, COT 752	670.11	666.31	18.44	10.13	29.69	14.17			38.9				1				
*	MH-1	CATFISH CREEK	202+06.18	CONSTRUCT 5' I.D. MANHOLE W/ 19.1 L.F. 24" CLASS III RCP AND ABRS PIPE END TREATMENT	COT 751, COT 753, COT 775	672.97	663.47	7.37	0.00	22.64	8.89		19.1								1	
*	MH-2	MH-1	202+04.76	CONSTRUCT 5' I.D. MANHOLE W/ 6.4 L.F. 24" CLASS III RCP	COT 751, COT 753, COT 775	672.48	663.50	2.47	0.00	6.16	8.15		6.4								1	
*	ST-3	MH-2	201+79.43	CONSTRUCT CICI DES. 2(B) W/ 25.2 L.F. 18" CLASS III RCP	COT 751, COT 764, COT 765, COT 766	671.54	667.54	6.90	0.00	16.27	13.33	25.2							1			
*	ST-4	ST-3	201+44.31	CONSTRUCT CICI DES. 2(B) W/ 31.9 L.F. 18" CLASS III RCP	COT 751, COT 764, COT 765, COT 766	671.46	667.78	8.74	7.30	16.85	11.85	31.9							1			
*	MH-3	CATFISH CREEK	202+18.46	CONSTRUCT 6' I.D. MANHOLE W/ 13.5 L.F. 36" CLASS III RCP AND ABRS PIPE END TREATMENT	COT 751, COT 754, COT 775	669.61	662.12	10.14	0.00	21.60	12.96				13.5							1
*	ST-5	MH-3	201+95.08	CONSTRUCT CICI DES. 2(2A) W/ 28.0 L.F. 18" CLASS III RCP	COT 751, COT 764, COT 765, COT 766	671.38	666.92	7.67	0.00	14.79	12.44	28.0								1		
*	ST-6	ST-5	201+60.25	CONSTRUCT CICI DES. 2(2A) W/ 31.9 L.F. 18" CLASS III RCP	COT 751, COT 764, COT 765, COT 766	671.41	667.24	8.74	7.30	16.85	6.07	31.9								1		
							TOTALS	210.12	24.73	458.87	104.54	117.00	25.50	38.90	13.50	140.20	1	1	2	2	2	1

INLET DESIGN SUMMARY TABLE

	STRUCTURE NUMBER	CRL STATION	SUMP/GRADE CONDITION	LONGITUDINAL SLOPE, % AT INLET	CROSS SLOPE, %	INLET DESIGN	DRAINAGE AREA	AREA (ACRE)	NUMBER OF GRATES	NUMBER OF HOODS	TOP OF GRATE/THROAT	FLOWLINE	INNER STR. HEIGHT	CLOGGING FACTOR	Q100 (CFS)	QCARRYOVER (CFS)	SUM Q AT INLET (CFS)	SPREAD AT INLET (FT)	DEPTH AT INLET (FT)	INLET CAPTURE (CFS)
	ST-1	12+12.28	SUMP	N/A	N/A	MODIFIED RCI 1048	DA-01	3.72	N/A	N/A	670.00	664.62	5.38	0.80	28.65	0.00	28.65	N/A	2.50	18.53
	ST-2	11+75.20	SUMP	N/A	N/A	RCI 1096	DA-02	5.79	N/A	N/A	670.11	666.31	3.80	0.80	44.46	0.00	44.46	N/A	2.50	37.07
*	ST-3	201+79.95	ON GRADE	1.0%	2.0%	CICI DES. 2(B)	DA-03	0.45	2	4	671.54	667.54	4.00	0.80	5.23	0.00	5.23	11.61	N/A	2.26
*	ST-4	201+44.83	ON GRADE	1.0%	2.0%	CICI DES. 2(B)	DA-04	0.49	2	4	671.46	667.78	3.68	0.80	5.80	0.00	5.80	12.10	N/A	2.42
*	ST-5	201+95.18	SUMP	N/A	N/A	CICI DES. 2(2A)	DA-05	0.22	2	4	671.38	666.92	4.46	0.80	2.25	2.97	5.22	N/A	0.50	5.22
*	ST-6	201+60.25	SUMP	N/A	N/A	CICI DES. 2(2A)	DA-06	0.17	2	4	671.41	667.24	4.17	0.80	1.97	3.37	5.34	N/A	0.50	5.34

PIPE HYDRAULICS SUMMARY

	Upstream Structure ID	Downstream Structure ID	Q100 in Pipe (cfs)	Pipe Capatcity (cfs)	Pipe Size/Material	Upstream Grate/Throat/Rim Elevation (ft)	Downstream Grate/Throat/Rim Elevation (ft)	Invert Upstream (ft)	Invert Downstream (ft)	Pipe Length (ft)	Slope (ft/ft)	Velocity Up (ft/s)	Velocity Down (ft/s)	HGL Upstream (ft)	EGL Upstream (ft)	HGL Downstream (ft)	EGL Downstream (ft)
	ST-1	Mingo Creek	73.11	100.77	48" RCP	670.00	673.27	664.62	663.93	140.2	0.005	5.82	5.82	668.72	669.25	668.36	668.89
	ST-2	ST-1	37.07	37.07	30" RCP	670.11	670.00	666.31	666.12	38.9	0.005	7.55	7.55	669.62	670.51	669.30	670.19
*	ST-4	ST-3	2.42	9.11	18" RCP	671.46	671.54	667.78	667.54	31.9	0.0075	2.11	1.64	668.71	668.78	668.71	668.75
*	ST-3	MH-2	4.68	10.42	18" RCP	671.54	672.48	667.54	667.29	25.4	0.010	4.66	3.94	668.37	668.71	668.25	668.49
*	MH-2	MH-1	26.68	26.68	24" RCP	672.48	672.97	663.50	663.47	6.4	0.005	8.49	8.49	667.41	668.53	667.32	668.44
*	MH-1	Catfish Creek West	26.68	26.68	24" RCP	672.97	673.25	663.47	663.37	19.1	0.005	8.49	8.49	665.92	667.04	665.65	666.77
*	ST-6	ST-5	5.08	10.52	18" RCP	671.41	671.39	667.24	666.92	31.9	0.010	2.87	2.87	668.91	669.04	668.84	668.96
*	ST-5	MH-3	10.30	22.28	18" RCP	671.39	669.61	666.92	665.66	28.0	0.045	6.62	5.83	668.16	668.84	667.17	667.70
*	MH-3	Catfish Creek East	60.30	60.30	36" RCP	669.61	670.00	662.12	662.10	13.5	0.0015	8.53	8.53	665.76	666.89	665.65	666.78

NOTE:
(*) CATFISH CREEK ITEMS SHALL BE INCLUDED IN ADD ALT. No. 1

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 9-19-16 OKLAHOMA

SUMMARY SCHEDULES
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

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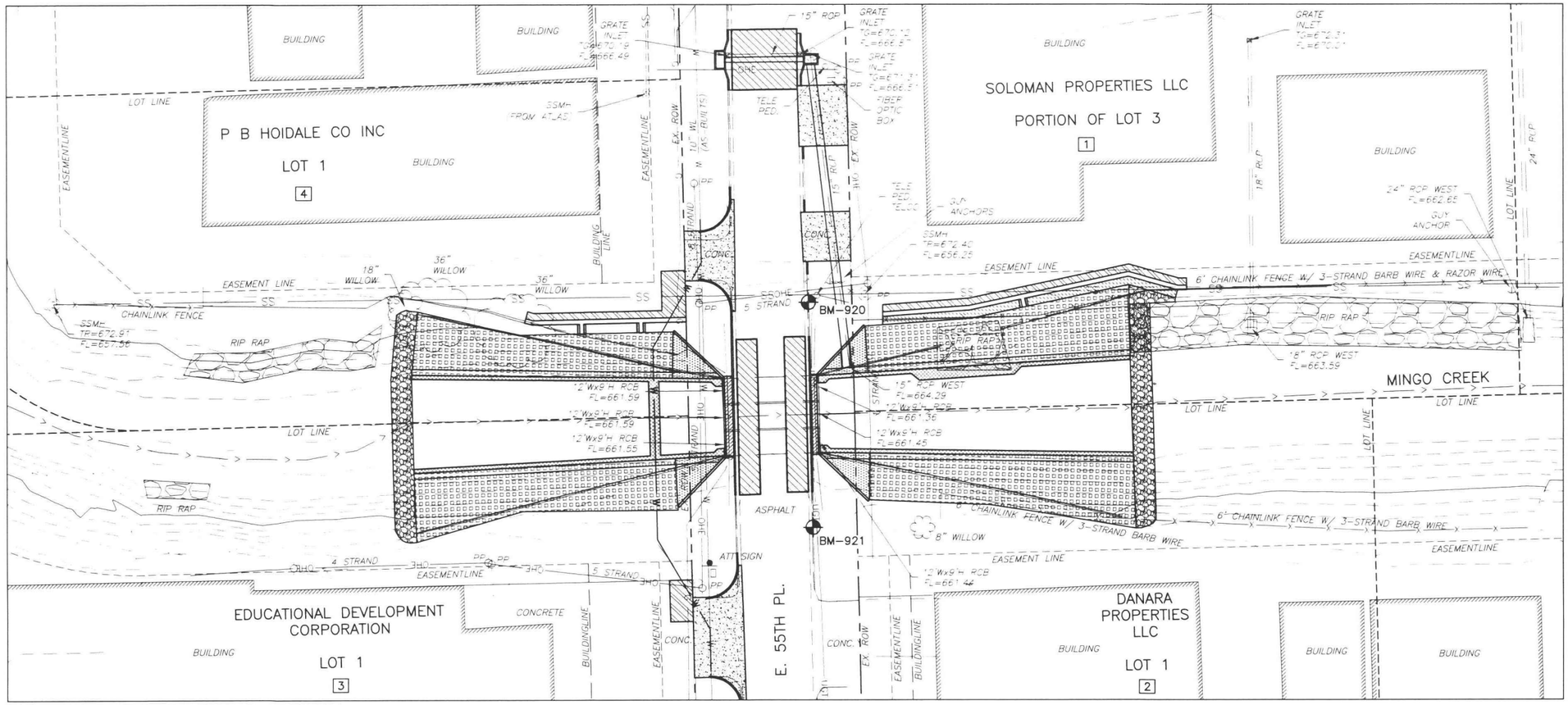
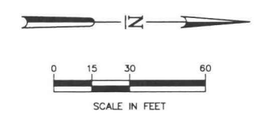
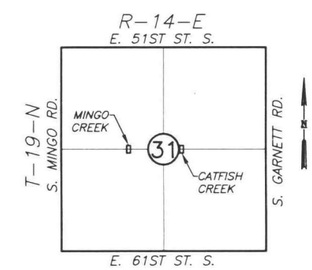




LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- BENCHMARK
- PROPERTY ID NUMBER
- 10' CONTOUR
- 2' CONTOUR



LOCATION MAP

PROPERTY NUMBER	LOT NUMBER	PARCEL NUMBER	OWNER	ADDRESS	PERMANENT UTILITY EASEMENT	TEMPORARY CONSTRUCTION EASEMENT	RIGHT OF ENTRY PERMIT
		TULSA SOUTHEAST IND DIST B5A-8 RESUB PRT BLK A TUL SE EXT					
		BLOCK 7					
1	PORTION OF LOT 3	77505-94-31-47160	SOLOMON PROPERTIES LLC	10105 E 55 PL S TULSA 74146			X
		TULSA SOUTHEAST IND DIST B12A-18 RESUB PRT TULSA SE IND&EXT					
		BLOCK 16					
2	LOT 1	77490-94-31-58890	DANARA PROPERTIES LLC	5484 S 103 AVE TULSA 74146			
		BLOCK 17					
3	LOT 1	77490-94-31-59745	EDUCATIONAL DEVELOPMENT CORPORATION	10302 E 55 PL S TULSA 74146			
		TULSA SOUTHEAST IND DIST B9-12 RESUB PRT BLK A&B					
		BLOCK 9					
4	LOT 1	77520-94-31-51770	P B HOIDALE CO INC	10126 E 55 PL S TULSA 74146			

SURVEY CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM-920	401417.03	2599956.89	672.54	CHISELED "X" SET
BM-921	401419.30	2600065.55	674.72	CHISELED "X" SET

BENCHMARK
BM-920
CHISELED "X" SET
N=401417.03
E=2599956.89
EL=672.54

BENCHMARK
BM-921
CHISELED "X" SET
N=401419.30
E=2600065.55
EL=674.72

SURVEYOR'S CERTIFICATE

I, PRESTON D. HYDEN OF MESHEK & ASSOCIATES, PLC, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF OKLAHOMA, DO HEREBY CERTIFY THE SURVEY PREPARED BY ME WAS ACTUALLY MADE UPON THE GROUND AND THAT IT AND THE INFORMATION SHOWN HEREON FOR ALL HORIZONTAL CONTROL POINTS IS A TRUE AND CORRECT REPRESENTATION OF THE SURVEY.

EXECUTED THIS_____DAY OF_____ 2016

PRESTON D. HYDEN
REGISTERED PROFESSIONAL LAND SURVEYOR
OKLAHOMA L.S. 1705

CERTIFICATE OF AUTHORIZATION NO. 1487
EXPIRES JUNE 30, 2017

REGISTERED PROFESSIONAL LAND SURVEYOR Preston D Hyden 1705 OKLAHOMA

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 9-19-16 OKLAHOMA

MINGO CREEK

NOTES:

ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT STANDARDS AND SPECIFICATIONS.

BEFORE YOU DIG CALL OKIE 811

MINGO CREEK ROW/SURVEY DATA
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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SHEET 13 OF 52 SHEETS

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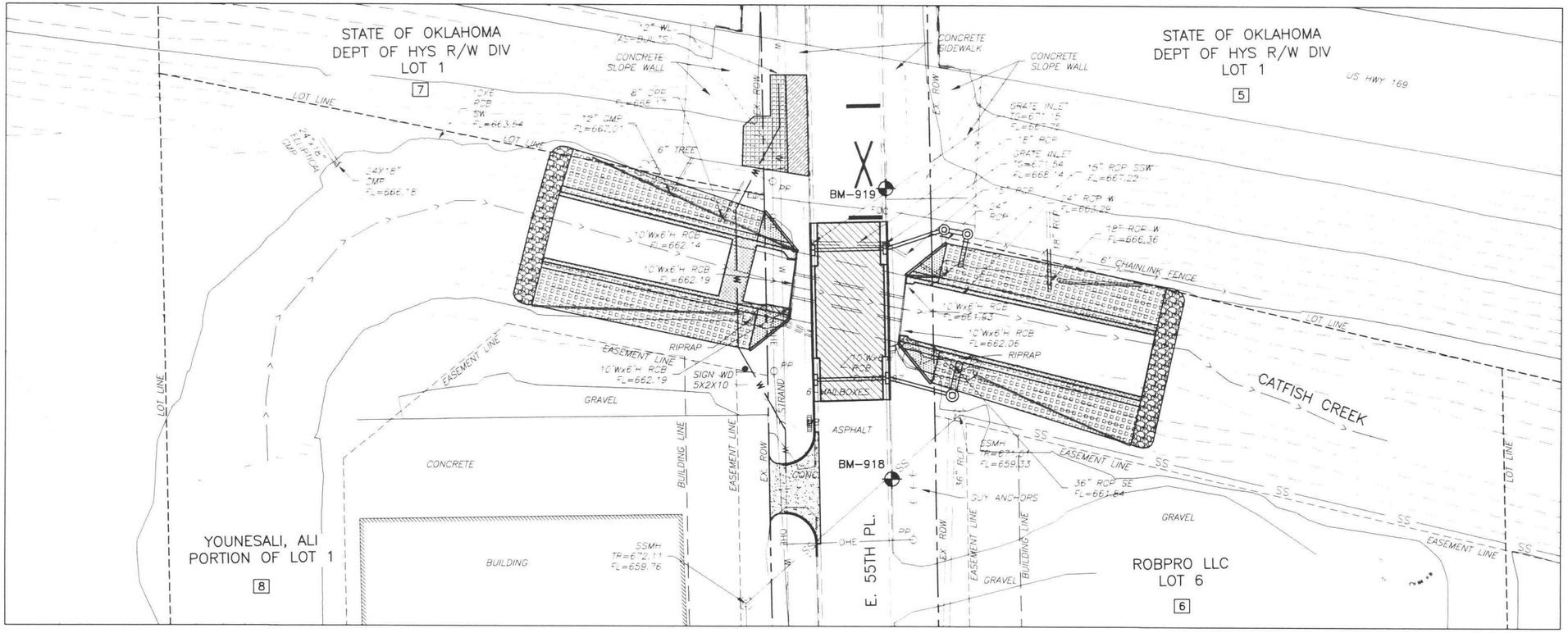
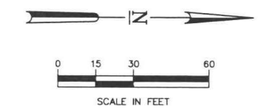
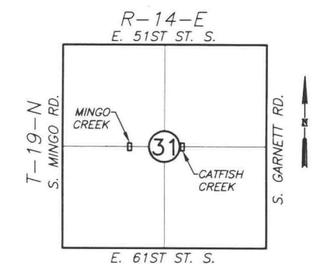




LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- BENCHMARK
- PROPERTY ID NUMBER
- 10' CONTOUR
- 2' CONTOUR



LOCATION MAP

PROPERTY NUMBER	LOT NUMBER	PARCEL NUMBER	OWNER	ADDRESS	PERMANENT UTILITY EASEMENT	TEMPORARY CONSTRUCTION EASEMENT	RIGHT OF ENTRY PERMIT
		TULSA SOUTHEAST IND DIST B12A-18 RESUB PRT TULSA SE IND&EXT					
		BLOCK 13					
5	LOT 1	77490-94-31-58590	STATE OF OKLAHOMA DEPT OF HYS R/W DIV	200 NE 21ST ST OKLAHOMA CITY, OK 73105			
		BLOCK 12A					
6	LOT 6	77490-94-31-58490	ROBPRO LLC	10727 E 55 PL S TULSA 74146			
		BLOCK 14					
7	LOT 1	77490-94-31-58690	STATE OF OKLAHOMA DEPT OF HYS R/W DIV	200 NE 21ST ST OKLAHOMA CITY, OK 73105			
		TULSA SOUTHEAST IND DIST B9-12 RESUB BLK C & PRT BLK A&B					
		BLOCK 10					
8	PORTION OF LOT 1	77520-94-31-52020	YOUNESALI, ALI	10716 E 55 PL S TULSA 74146			

SURVEY CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM-918	401447.73	2601318.63	671.35	CHISELED "X" SET
BM-919	401444.22	2601178.43	672.53	CHISELED "X" SET

BENCHMARK
BM-918
CHISELED "X" SET
N=401447.73
E=2601318.63
EL=671.35

BENCHMARK
BM-919
CHISELED "X" SET
N=401444.22
E=2601178.43
EL=672.53

SURVEYOR'S CERTIFICATE

I, PRESTON D. HYDEN OF MESHEK & ASSOCIATES, PLC, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF OKLAHOMA, DO HEREBY CERTIFY THE SURVEY PREPARED BY ME WAS ACTUALLY MADE UPON THE GROUND AND THAT IT AND THE INFORMATION SHOWN HEREON FOR ALL HORIZONTAL CONTROL POINTS IS A TRUE AND CORRECT REPRESENTATION OF THE SURVEY.

EXECUTED THIS 29 DAY OF August 2016

PRESTON D. HYDEN
REGISTERED PROFESSIONAL LAND SURVEYOR
OKLAHOMA L.S. 1705

CERTIFICATE OF AUTHORIZATION NO. 1487
EXPIRES JUNE 30, 2017

LICENSED PROFESSIONAL LAND SURVEYOR Preston D. Hyden 1705 OKLAHOMA

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 9-19-16 OKLAHOMA

CATFISH CREEK

ADD ALTERNATE 1

CATFISH CREEK ROW/SURVEY DATA
PROJECT #143120-4
MINGO & CATFISH CREEKS
CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE 1" = 30'	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
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HORIZONTAL: N/A	LEAD ENGR.	BJS	9/16	
	FIELD MGR.	DJV	9/16	
VERTICAL: N/A	RECOMMENDED HAS 9/16 DESIGN MANAGER			CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 14 OF 52 SHEETS

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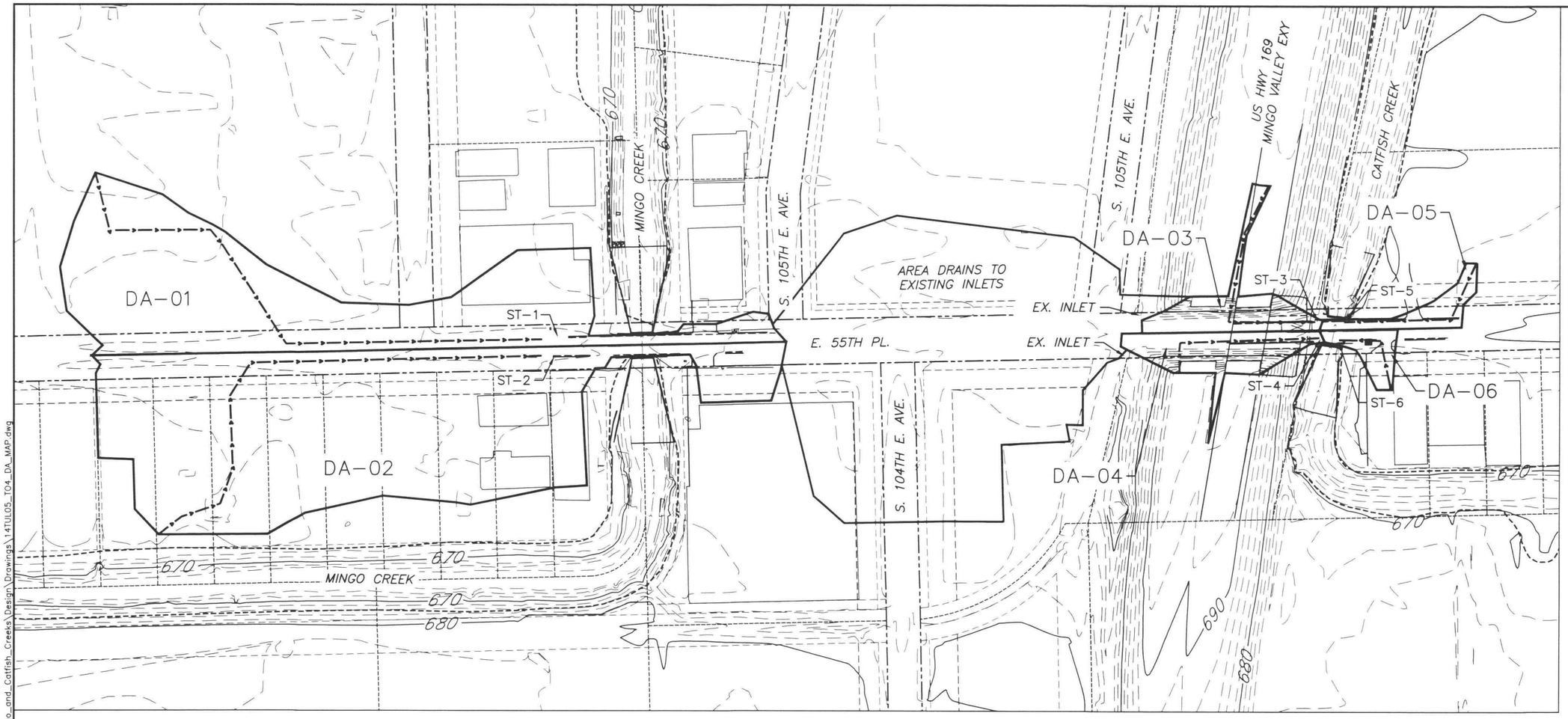

LEGEND

———	INDEX CONTOUR
- - - - - -	INTERMEDIATE CONTOUR
——— ### ———	DRAINAGE BOUNDARY
DA-##	DRAINAGE BOUNDARY DESIGNATION
—•—•—•—	Tc FLOW PATH
- - - - - - - -	TULSA REGULATORY FLOODPLAIN/ FEMA 100YR FLOODPLAIN

NOTE: THE CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN

SUMMARY OF HYDROLOGIC DATA AND RUNOFF CALCULATIONS

D.A. NO.	AREA	INTENSITY	FACTORED RUNOFF COEFF.	DESIGN YEAR RUNOFF	COLLECTING STR. NO.	OVERLAND FLOW				PAVING / GUTTER FLOW				TOTAL TIME OF CONCENTRATION
	A	I100	C	Q100		FLOWPATH LENGTH	AVG SLOPE	VELOCITY	Ti	FLOWPATH LENGTH	AVG SLOPE	VELOCITY	Tt	TC=Ti+Tt
	ACRES	IN/HR		CFS		LF	%	FPS	MIN	LF	%	FPS	MIN	MIN
DA-01	3.72	8.6	0.90	28.65	ST-1	104.26	1.11	0.74	2.35	868.77	0.56	1.48	9.76	12.12
DA-02	5.79	8.5	0.90	44.46	ST-2	100.00	1.22	0.77	2.15	798.11	0.44	1.32	10.09	12.24
DA-03	0.45	12.9	0.90	5.23	ST-3	0.00	0.00	0.00	0.00	392.26	6.14	4.96	1.32	1.32
DA-04	0.49	13.2	0.90	5.80	ST-4	0.00	0.00	0.00	0.00	278.97	7.93	5.65	0.82	0.82
DA-05	0.22	11.4	0.90	2.25	ST-5	0.00	0.00	0.00	0.00	281.16	0.63	1.17	4.01	4.01
DA-06	0.17	12.6	0.90	1.97	ST-6	0.00	0.00	0.00	0.00	143.21	0.91	1.41	1.70	1.70

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 9-16-16 OKLAHOMA

DRAINAGE AREA MAP
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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PRINT DATE: 08/26/2016 M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_DA_MAP.dwg

STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: IN THE SE 1/4 OF THE NW 1/4 AND IN THE SW 1/4 OF THE NE 1/4 OF SECTION 31, TOWNSHIP 19 NORTH, RANGE 14 EAST IN THE CITY OF TULSA, TULSA COUNTY, OKLAHOMA.

PROJECT DESCRIPTION: WALL REPAIRS AND WALL CONSTRUCTION ALONG MINGO CREEK AND CATFISH CREEK AT E. 55TH PL. CROSSINGS. PROJECT ALSO INCLUDES STORM SEWER IMPROVEMENTS.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

1. TEMPORARY EROSION CONTROL
2. STORM SEWER IMPROVEMENTS
3. WALL REMOVAL AND PAVEMENT REMOVAL
4. STORM SEWER, ABRS AND WALL CONSTRUCTION
5. PAVEMENT PATCHING
6. FINAL GRADING
7. INSTALL PERMANENT SODDING AND SEEDING

SOIL TYPE: MINGO CREEK: TYPE B
CATFISH CREEK: TYPE D

AREA TO BE DISTURBED: MINGO CREEK: 1.5 ACRES
CATFISH CREEK: 0.9 ACRE

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: (FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT:
MINGO CREEK: 36°05'01"N LONGITUDE: 95°51'45"W
CATFISH CREEK: LATITUDE: 36°05'01"N LONGITUDE: 95°51'31"W

NAME OF RECEIVING WATERS: MINGO CREEK: MINGO CREEK
CATFISH CREEK: CATFISH CREEK

SENSITIVE WATERS OR WATERSHEDS:
MINGO CREEK: YES ☐ NO ☒
CATFISH CREEK: YES ☐ NO ☒

303(d) IMPAIRED WATERS:
MINGO CREEK: YES ☐ NO ☒
CATFISH CREEK: YES ☐ NO ☒

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- ____ TEMPORARY SEEDING
- X PERMANENT SODDING, SPRIGGING OR SEEDING
- ____ 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 14 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
- X TEMPORARY SILT DIKES
- ____ TEMPORARY FIBER LOG
- ____ 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
- X TEMPORARY SEDIMENT REMOVAL
- X RIP RAP
- ____ 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
- ____ 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 IN 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 MATERIAL 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 IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE 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 CLEANING UP
104.12	CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13	ENVIRONMENTAL PROTECTION
106.08	STORAGE AND HANDLING OF MATERIAL
107.01	LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20	STORM WATER MANAGEMENT
220	MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION 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, SEPTEMBER 13, 2012.

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
6-19-16
OKLAHOMA

STORM WATER MANAGEMENT PLAN
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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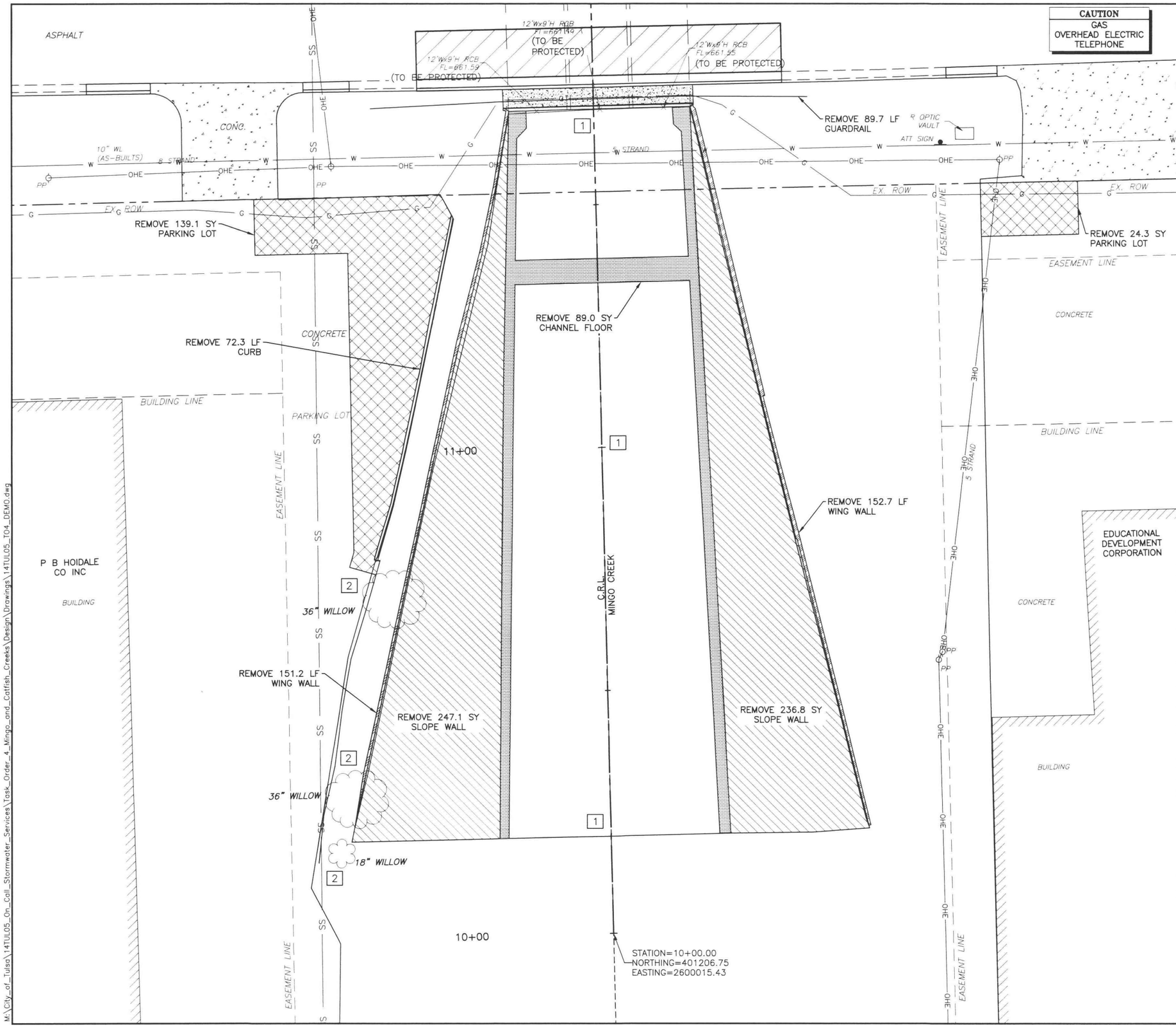

CAUTION
GAS
OVERHEAD ELECTRIC
TELEPHONE

MINGO CREEK

LEGEND

- RIGHT-OF-WAY
- PROPERTY LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE

N

0 5 10 20
SCALE IN FEET

- BM-## — BENCHMARK
- EXISTING WING WALL TO BE REMOVED IN ITS ENTIRETY
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- 1 — REMOVE SOIL & SEDIMENT FROM CHANNEL
- 2 — REMOVE TREE

BENCHMARK
BM-920 (SHEET 18)
CHISELED "X" SET
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E=2599956.89
EL=672.54

BENCHMARK
BM-921 (SHEET 18)
CHISELED "X" SET
N=401419.30
E=2600065.55
EL=674.72

BEFORE YOU DIG CALL OKIE

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
8-19-16
OKLAHOMA

MINGO CREEK DEMOLITION PLAN
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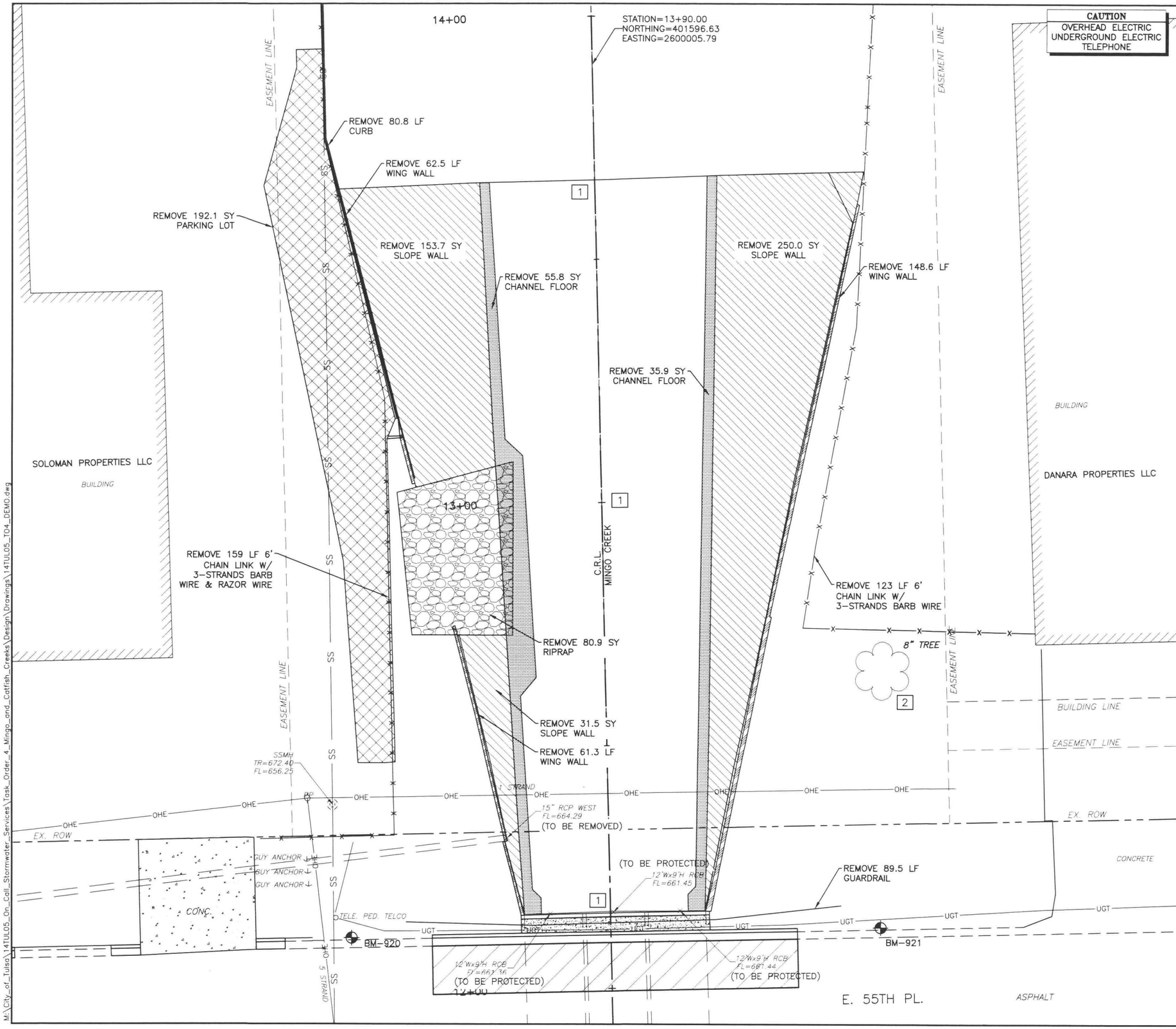

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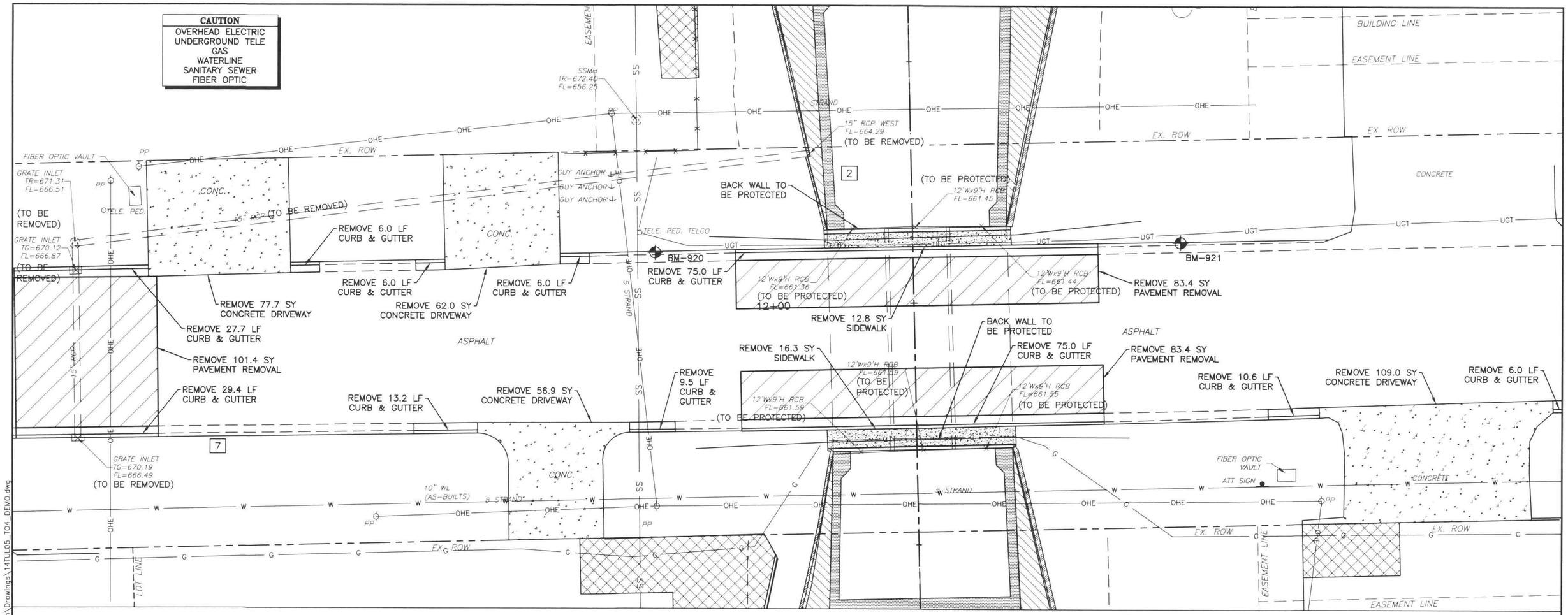

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SCALE IN FEET

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4-19-16
OKLAHOMA

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MINGO CREEK

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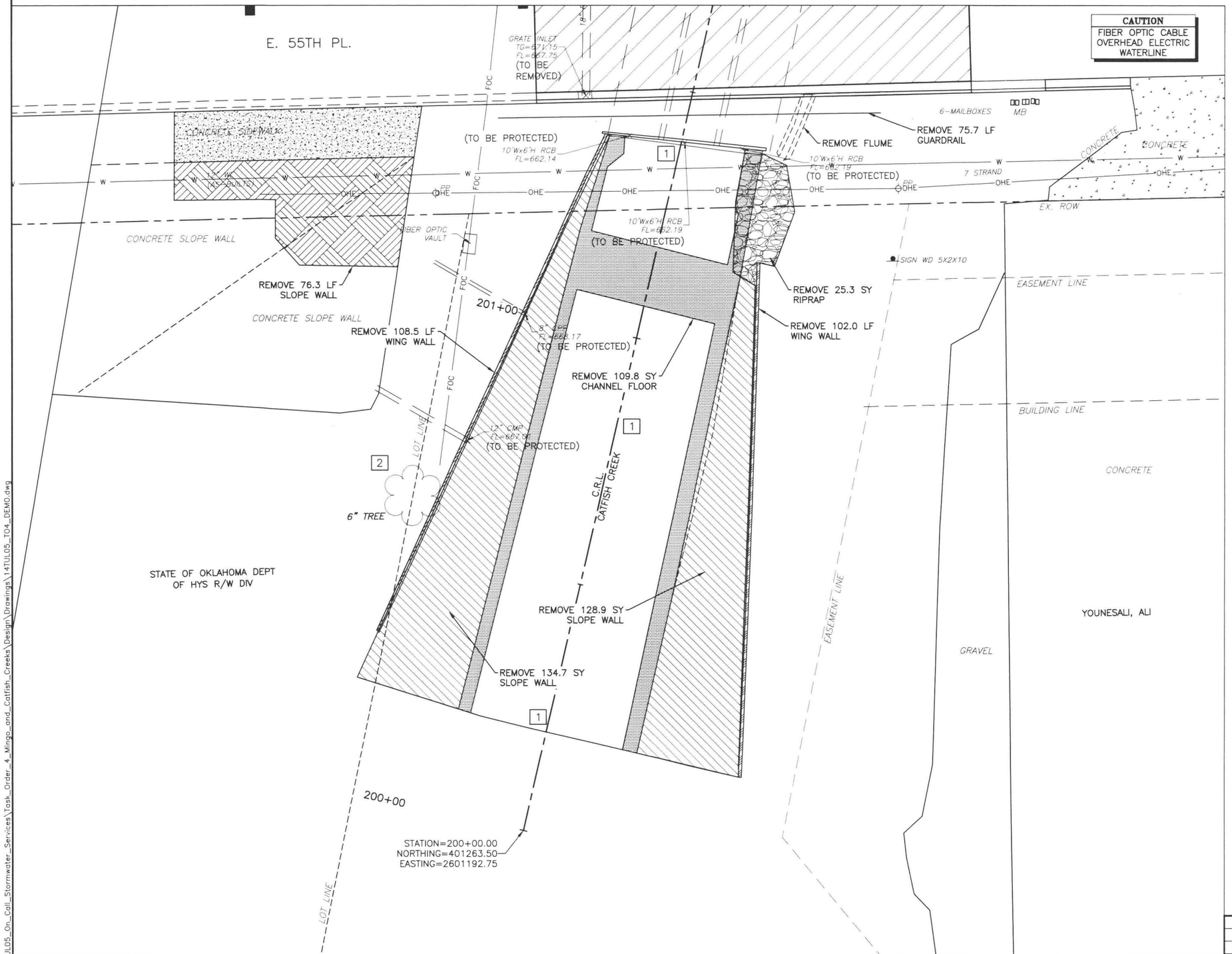
VERTICAL: N/A	RECOMMENDED	HAS	9/16	CITY ENGINEER
	DESIGN MANAGER			
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 19 OF 52 SHEETS

M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_DEMO.dwg

CATFISH CREEK



LEGEND

- RIGHT-OF-WAY
- PROPERTY LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE

N

0 5 10 20
SCALE IN FEET

- BM-## — BENCHMARK
- EXISTING WING WALL TO BE REMOVED IN ITS ENTIRETY
- EXISTING SLOPE WALL TO BE REMOVED IN ITS ENTIRETY
- EXISTING CHANNEL FLOOR TO BE REMOVED
- EXISTING PAVEMENT TO BE REMOVED
- EXISTING RIPRAP TO BE REMOVED
- EXISTING PARKING LOT TO BE REMOVED
- EXISTING DRIVEWAY TO BE REMOVED
- EXISTING SIDEWALK TO BE REMOVED
- EXISTING HIGHWAY CONCRETE SLOPE WALL TO BE REMOVED
- 1 — REMOVE SOIL & SEDIMENT FROM CHANNEL
- 2 — REMOVE TREE

BENCHMARK
BM-918 (SHEET 21)
CHISELED "X" SET
N=401447.73
E=2601318.63
EL=671.35

BENCHMARK
BM-919 (SHEET 21)
CHISELED "X" SET
N=401444.22
E=2601178.43
EL=672.53

BEFORE YOU DIG CALL OKIE

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
8-19-16
OKLAHOMA

ADD ALTERNATE 1

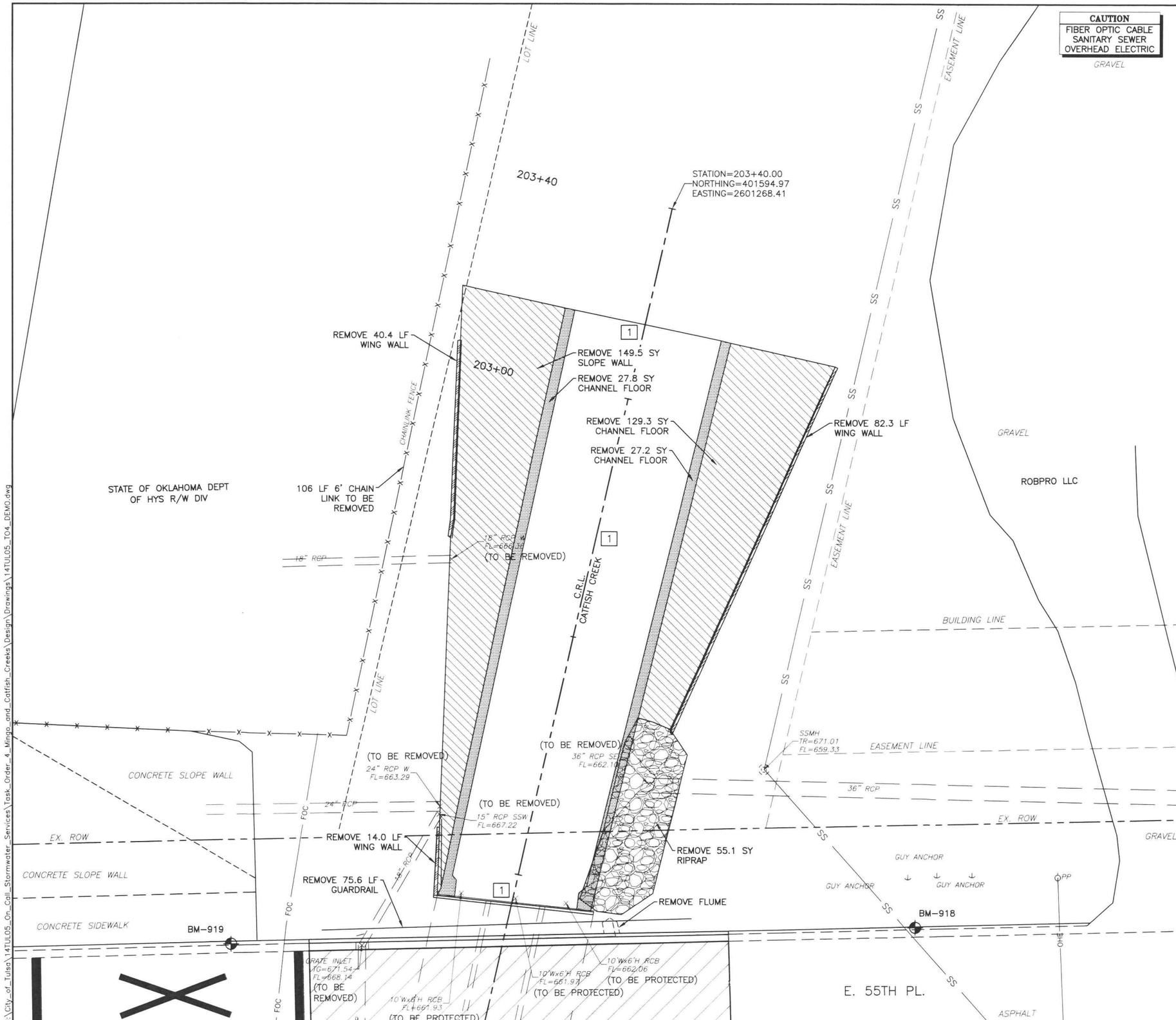
REVISION	BY	DATE

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: N/A	LEAD ENGR.	BJD	9/16	
	FIELD MGR.	CBV	9/16	
VERTICAL: N/A	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 20 OF 52 SHEETS

CATFISH CREEK DEMOLITION PLAN
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)592-5620

M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_DEMO.dwg



CATFISH CREEK

LEGEND

- RIGHT-OF-WAY
- PROPERTY LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE

N

0 5 10 20
SCALE IN FEET

- BM-## — BENCHMARK
- EXISTING WING WALL TO BE REMOVED IN ITS ENTIRETY
- EXISTING SLOPE WALL TO BE REMOVED IN ITS ENTIRETY
- EXISTING CHANNEL FLOOR TO BE REMOVED
- EXISTING PAVEMENT TO BE REMOVED
- EXISTING RIPRAP TO BE REMOVED
- EXISTING PARKING LOT TO BE REMOVED
- EXISTING DRIVEWAY TO BE REMOVED
- EXISTING SIDEWALK TO BE REMOVED
- EXISTING HIGHWAY CONCRETE SLOPE WALL TO BE REMOVED
- 1 — REMOVE SOIL & SEDIMENT FROM CHANNEL
- 2 — REMOVE TREE

BENCHMARK
BM-918
CHISELED "X" SET
N=401447.73
E=2601318.63
EL=671.35

BENCHMARK
BM-919
CHISELED "X" SET
N=401444.22
E=2601178.43
EL=672.53

BEFORE YOU DIG CALL OKIE

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
8-19-16
OKLAHOMA

ADD ALTERNATE 1

REVISION	BY	DATE

CATFISH CREEK DEMOLITION PLAN
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
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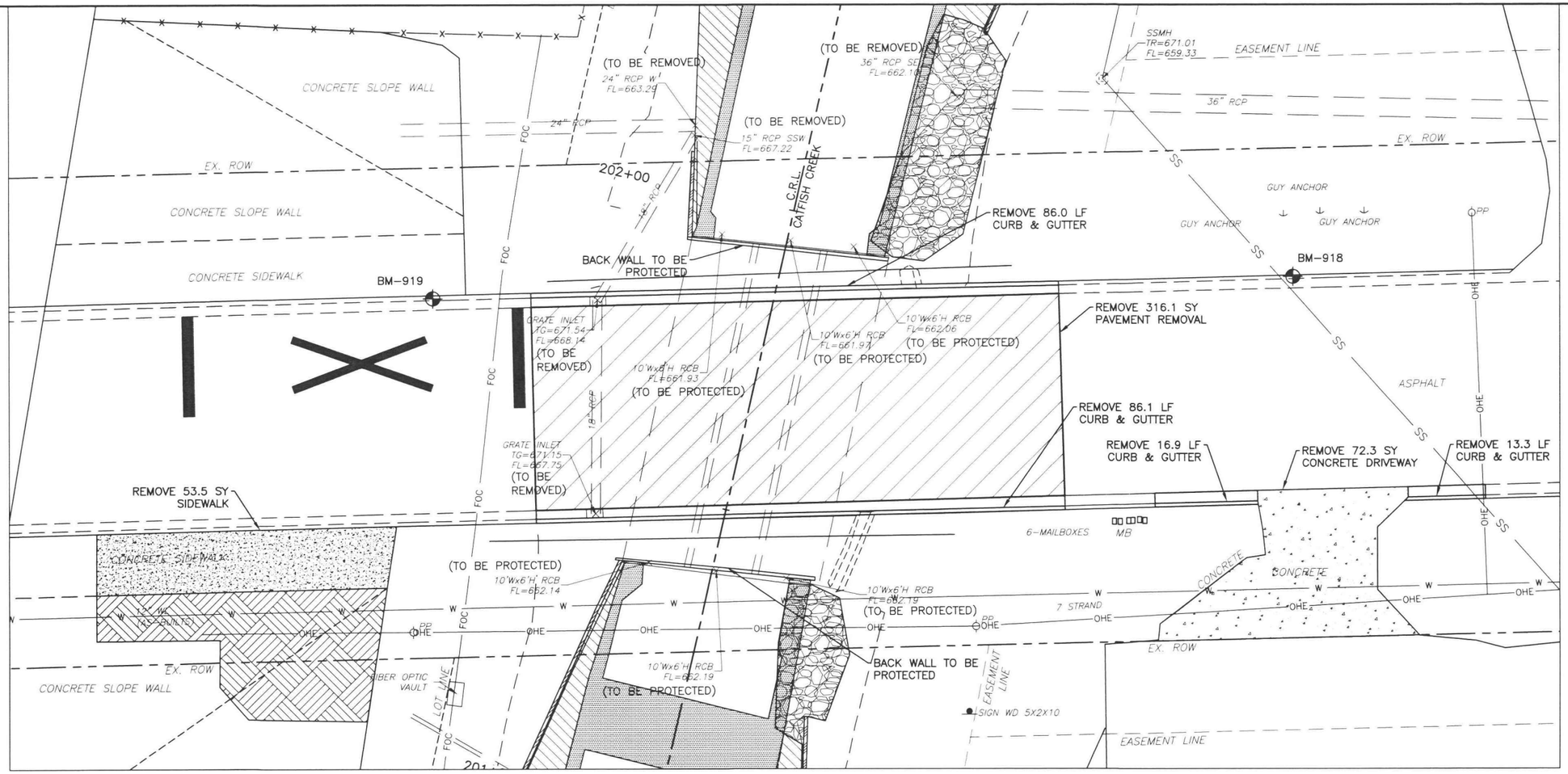
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016
	DESIGNED	EGZ	08/2016
	SURVEY	PDH	08/2016
PROFILE SCALE	PROJ. MGR.	TRB	9/16
HORIZONTAL: N/A	LEAD ENGR.	EGZ	9/16
	FIELD MGR.	RBH	9/16
VERTICAL: N/A	RECOMMENDED, DESIGN MANAGER	HRS	9/16
FILE:	DRAWING:		
ATLAS PAGE NO. 309			

APPROVED:
CITY ENGINEER
DATE: 10/7/16
SHEET 21 OF 52 SHEETS

M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_DEMO.dwg



N

0 5 10 20
SCALE IN FEET

LEGEND

- RIGHT-OF-WAY
- PROPERTY LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- BM-## BENCHMARK
- EXISTING WING WALL TO BE REMOVED IN ITS ENTIRETY
- EXISTING SLOPE WALL TO BE REMOVED IN ITS ENTIRETY
- EXISTING CHANNEL FLOOR TO BE REMOVED
- EXISTING PAVEMENT TO BE REMOVED
- EXISTING RIPRAP TO BE REMOVED
- EXISTING PARKING LOT TO BE REMOVED
- EXISTING DRIVEWAY TO BE REMOVED
- EXISTING SIDEWALK TO BE REMOVED
- EXISTING HIGHWAY CONCRETE SLOPE WALL TO BE REMOVED
- 1 REMOVE SOIL & SEDIMENT FROM CHANNEL
- 2 REMOVE TREE

BENCHMARK
BM-918
CHISELED "X" SET
N=401447.73
E=2601318.63
EL=671.35

BENCHMARK
BM-919
CHISELED "X" SET
N=401444.22
E=2601178.43
EL=672.53

ADD ALTERNATE 1

CATFISH CREEK DEMOLITION PLAN

PROJECT #143120-4

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9-19-16
OKLAHOMA

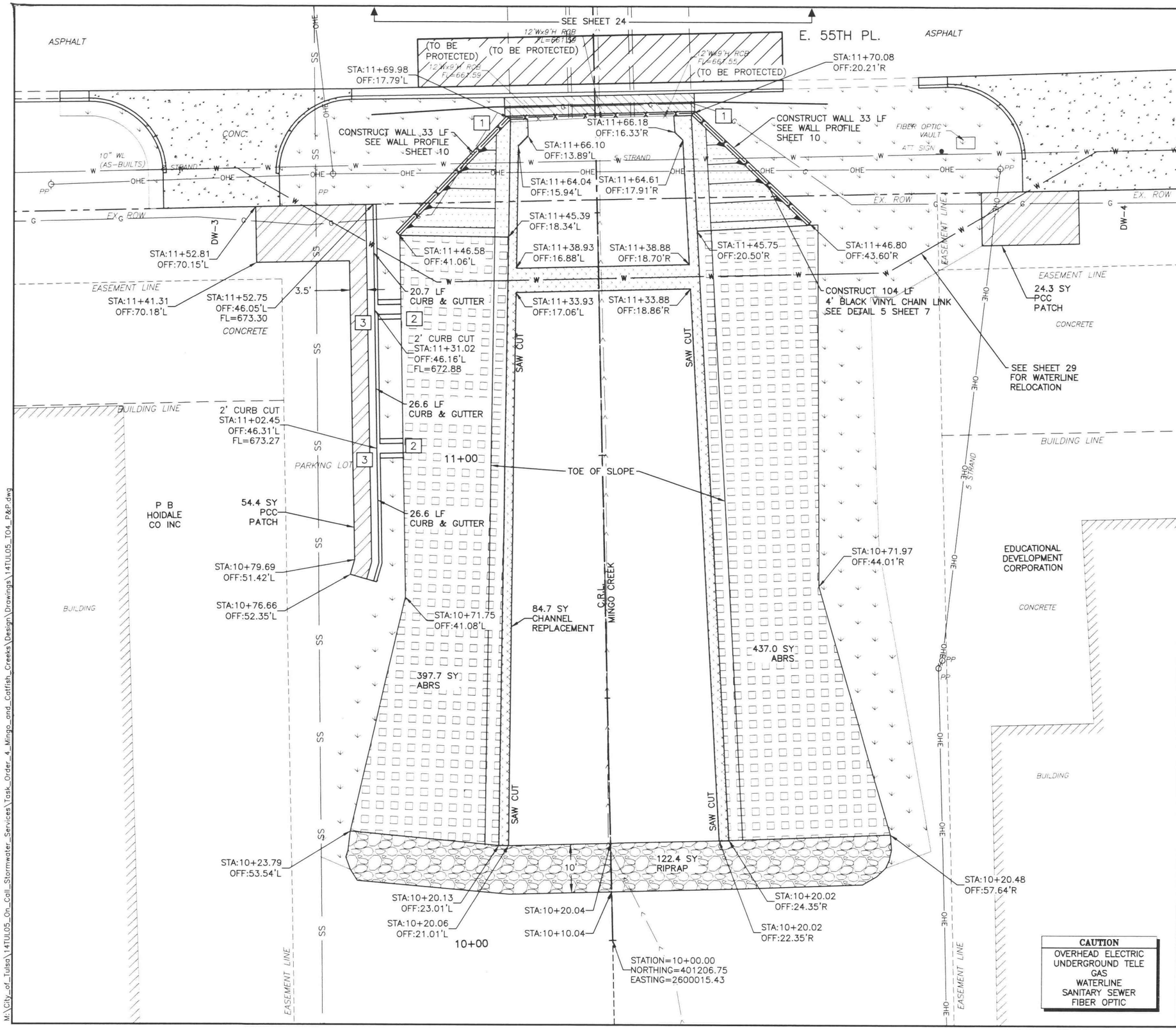
PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: N/A	LEAD ENGR.	EGZ	9/16	
	FIELD MGR.	PDH	9/16	
VERTICAL: N/A	RECOMMENDED DESIGN MANAGER	HRS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 22 OF 52 SHEETS

CATFISH CREEK

M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_DEMO.dwg



LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- PROPOSED VERTICAL WALL
- BM-## — BENCHMARK
- SOLID SLAB SOD
- TYPE I AC PATCH
- PROPOSED 1.5:1 SLOPE WALL (SEE DETAIL 4 SHEET 5)
- PROPOSED CONCRETE DRIVEWAY (SEE DETAIL 1 SHEET 6)
- PROPOSED PCC PATCH (SEE DETAIL 6 SHEET 6)
- PROPOSED CHANNEL REPLACEMENT (SEE DETAIL 5 SHEET 6)
- ARTICULATING BLOCK REVETMENT SYSTEM (ABRS) (SEE DETAILS SHEET 7)
- 18" TYPE I-A RIPRAP (SEE DETAIL 7 SHEET 7)
- PROPOSED P.C. CONCRETE SIDEWALK (SEE DETAIL 8 SHEET 6)
- PROPOSED HIGHWAY SLOPE WALL (SEE DETAIL 9 SHEET 6)
- 1 — CONNECT TO EXISTING WALL. DRILL AND EPOXY BARS AND INSTALL RX WATERSTOP. (SEE DETAIL 8 SHEET 5)
- 2 — CONSTRUCT 4.7 LF 2' DESIGN NO. 1 CONCRETE DITCH SEE ODOT STD. DC-3-2
- 3 — CONSTRUCT 2' CURB CUT

N

0 5 10 20
SCALE IN FEET

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 9-13-16 OKLAHOMA

SUPPORT 811 CALL OKIE

BENCHMARK
(SHEET 24) BM-920
CHISELED "X" SET
N=401417.03
E=2599956.89
EL=672.54

BENCHMARK
(SHEET 24) BM-921
CHISELED "X" SET
N=401419.30
E=2600065.55
EL=674.72

MINGO CREEK PLAN SHEETS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRP	9/16	
HORIZONTAL: N/A	LEAD ENGR.	RJJ	9/16	
	FIELD MGR.	RGV	9/16	
VERTICAL: N/A	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 23 OF 52 SHEETS

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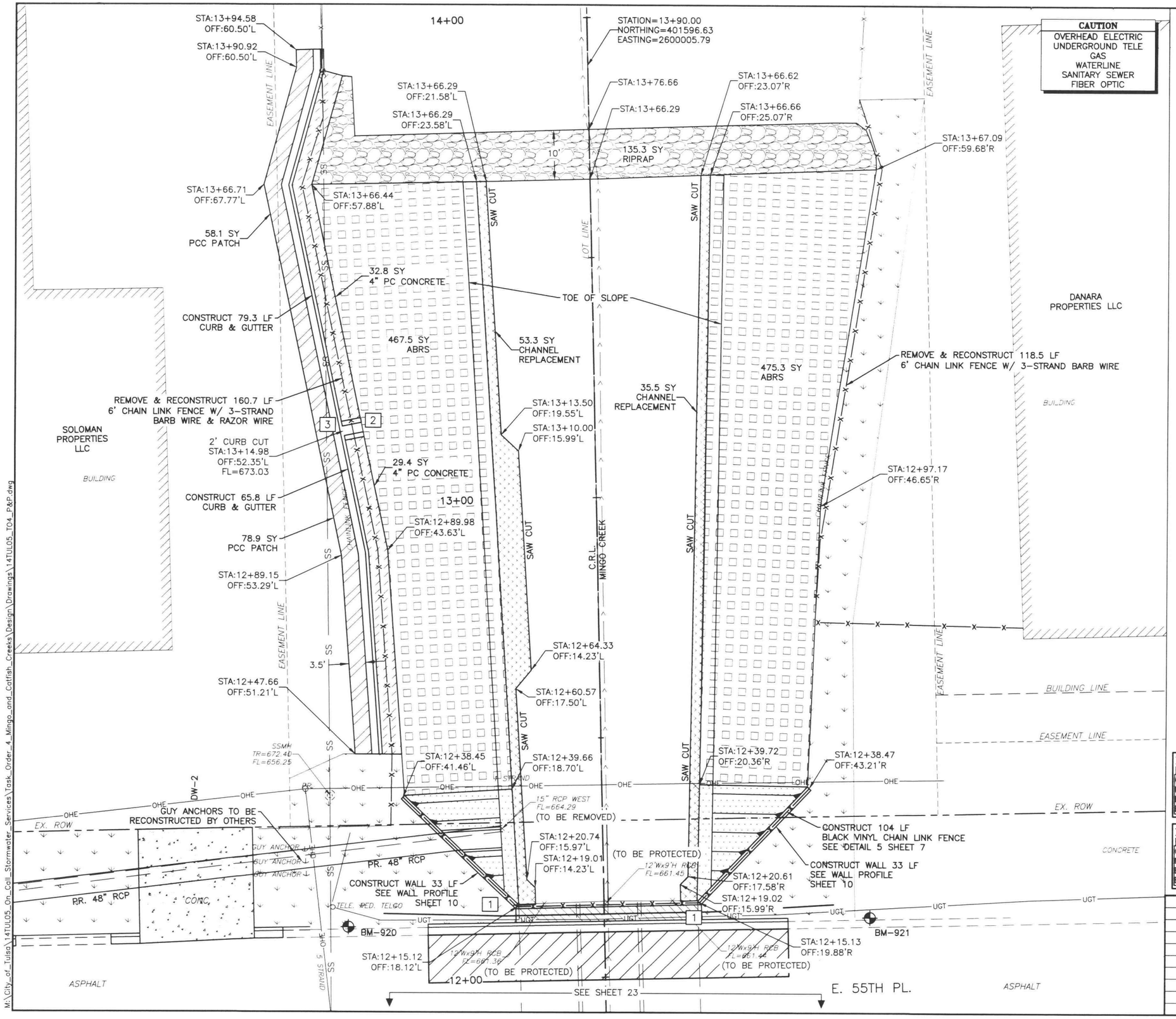

CAUTION
OVERHEAD ELECTRIC
UNDERGROUND TELE
GAS
WATERLINE
SANITARY SEWER
FIBER OPTIC

LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- PROPOSED VERTICAL WALL
- BM-## — BENCHMARK
- SOLID SLAB SOD
- TYPE I AC PATCH
- PROPOSED 1.5:1 SLOPE WALL (SEE DETAIL 4 SHEET 5)
- PROPOSED CONCRETE DRIVEWAY (SEE DETAIL 1 SHEET 6)
- PROPOSED PCC PATCH (SEE DETAIL 6 SHEET 6)
- PROPOSED CHANNEL REPLACEMENT (SEE DETAIL 5 SHEET 6)
- ARTICULATING BLOCK REVETMENT SYSTEM (ABRS) (SEE DETAILS SHEET 7)
- 18" TYPE I-A RIPRAP (SEE DETAIL 7 SHEET 7)
- PROPOSED P.C. CONCRETE SIDEWALK (SEE DETAIL 8 SHEET 6)
- PROPOSED HIGHWAY SLOPE WALL (SEE DETAIL 9 SHEET 6)
- 1 — CONNECT TO EXISTING WALL. DRILL AND EPOXY BARS AND INSTALL RX WATERSTOP. (SEE DETAIL 8 SHEET 5)
- 2 — CONSTRUCT 4 LF 2' DESIGN NO. 1 CONCRETE DITCH SEE ODOT STD. DC-3-2.
- 3 — CONSTRUCT 2' CURB CUT.

N

0 5 10 20
SCALE IN FEET

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9-13-16
OKLAHOMA

BEFORE YOU DIG CALL OKIE

BENCHMARK
BM-920
CHISELED "X" SET
N=401417.03
E=2599956.89
EL=672.54

BENCHMARK
BM-921
CHISELED "X" SET
N=401419.30
E=2600065.55
EL=674.72

MINGO CREEK PLAN SHEETS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TKB	9/16	
HORIZONTAL: N/A	LEAD ENGR.	EGZ	9/16	
	FIELD MGR.	EGZ	9/16	
VERTICAL: N/A	RECOMMENDED DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/7/16
ATLAS PAGE NO. 309				SHEET 24 OF 52 SHEETS

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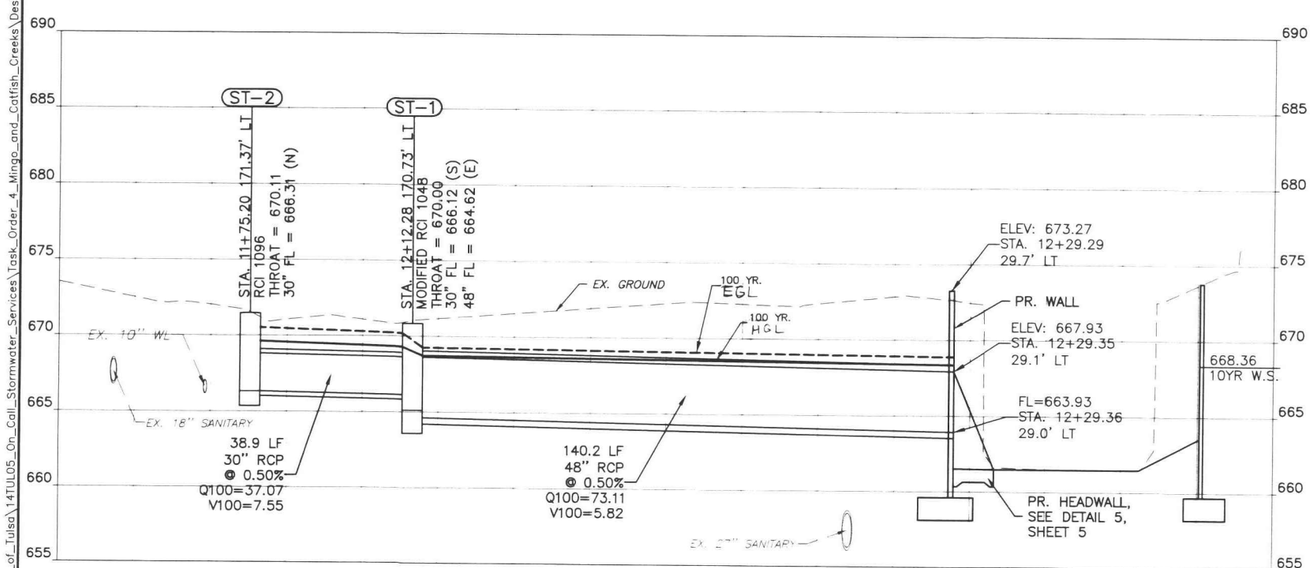
CAUTION
OVERHEAD ELECTRIC
UNDERGROUND TELE
GAS
WATERLINE
SANITARY SEWER
FIBER OPTIC

N
0 5 10 20
SCALE IN FEET

BUILDING LINE
EASEMENT LINE
EX. ROW
SAW CUT
SSMH
TR=672.40
FL=656.25
15" RCP WEST
FL=664.29
(TO BE REMOVED)
GUY ANCHORS TO BE RECONSTRUCTED BY OTHERS
FIBER OPTIC VAULT
GRATE INLET
TR=671.31
FL=666.51
(TO BE REMOVED)
ST-1
GRATE INLET
TG=670.12
FL=666.87
(TO BE REMOVED)
DW-1
DW-2
DW-3
DW-4
CONC.
PR. 48" RCP
PR. 30" RCP
15" RCP
TELE PED.
TELCO
BM-920
BM-921
(TO BE PROTECTED)
12'Wx9'H RCB
FL=661.45
12'Wx9'H RCB
FL=661.36
12'Wx9'H RCB
FL=661.44
12'Wx9'H RCB
FL=661.59
12'Wx9'H RCB
FL=661.55
12.8 SY
SIDEWALK
16.3 SY
SIDEWALK
CONSTRUCT 93.8 LF
GUARDRAIL
77.7 SY
PR. CONCRETE
DRIVEWAY
6.0 LF
CURB &
GUTTER
62.0 SY
PR. CONCRETE
DRIVEWAY
75.0 LF
CURB & GUTTER
83.3 SY
TYPE I AC PATCH
75.0'X10.0'
88.9 LF
CURB & GUTTER
123.5 SY
PR. CONCRETE
DRIVEWAY
E. 55TH PL.
ASPHALT
101.3 SY
TYPE I AC PATCH
29.3'X31.7'
82.5 SY
PR. CONCRETE
DRIVEWAY
GRATE INLET
TG=670.19
FL=666.49
(TO BE REMOVED)
10" WL
(AS-BUILTS)
FIBER OPTIC
VAULT
ATT SIGN
C.R.L.
MINGO CREEK
LOT LINE
EASEMENT LINE
5 STRAND
SS
OHE
UGT
PP
W
G



LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- PROPOSED VERTICAL WALL
- BM-## BENCHMARK
- SOLID SLAB SOD
- TYPE I AC PATCH
- PROPOSED 1.5:1 SLOPE WALL (SEE DETAIL 4 SHEET 5)
- PROPOSED CONCRETE DRIVEWAY (SEE DETAIL 1 SHEET 6)
- PROPOSED PCC PATCH (SEE DETAIL 6 SHEET 6)
- PROPOSED CHANNEL REPLACEMENT (SEE DETAIL 5 SHEET 6)
- ARTICULATING BLOCK REVETMENT SYSTEM (ABRS) (SEE DETAILS SHEET 7)
- 18" TYPE I-A RIPRAP (SEE DETAIL 7 SHEET 7)
- PROPOSED P.C. CONCRETE SIDEWALK (SEE DETAIL 8 SHEET 6)
- PROPOSED HIGHWAY SLOPE WALL (SEE DETAIL 9 SHEET 6)
- 1 CONSTRUCT HEADWALL (SEE DETAIL 5 SHEET 5)
- 2 TIE-IN EXISTING 2" CURB DRAIN

BENCHMARK
BM-920
CHISELED "X" SET
N=401417.03
E=2599956.89
EL=672.54

BENCHMARK
BM-921
CHISELED "X" SET
N=401419.30
E=2600065.55
EL=674.72

BEFORE YOU DIG CALL OKIE

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 OKLAHOMA 6-14-16

MINGO CREEK PLAN SHEETS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

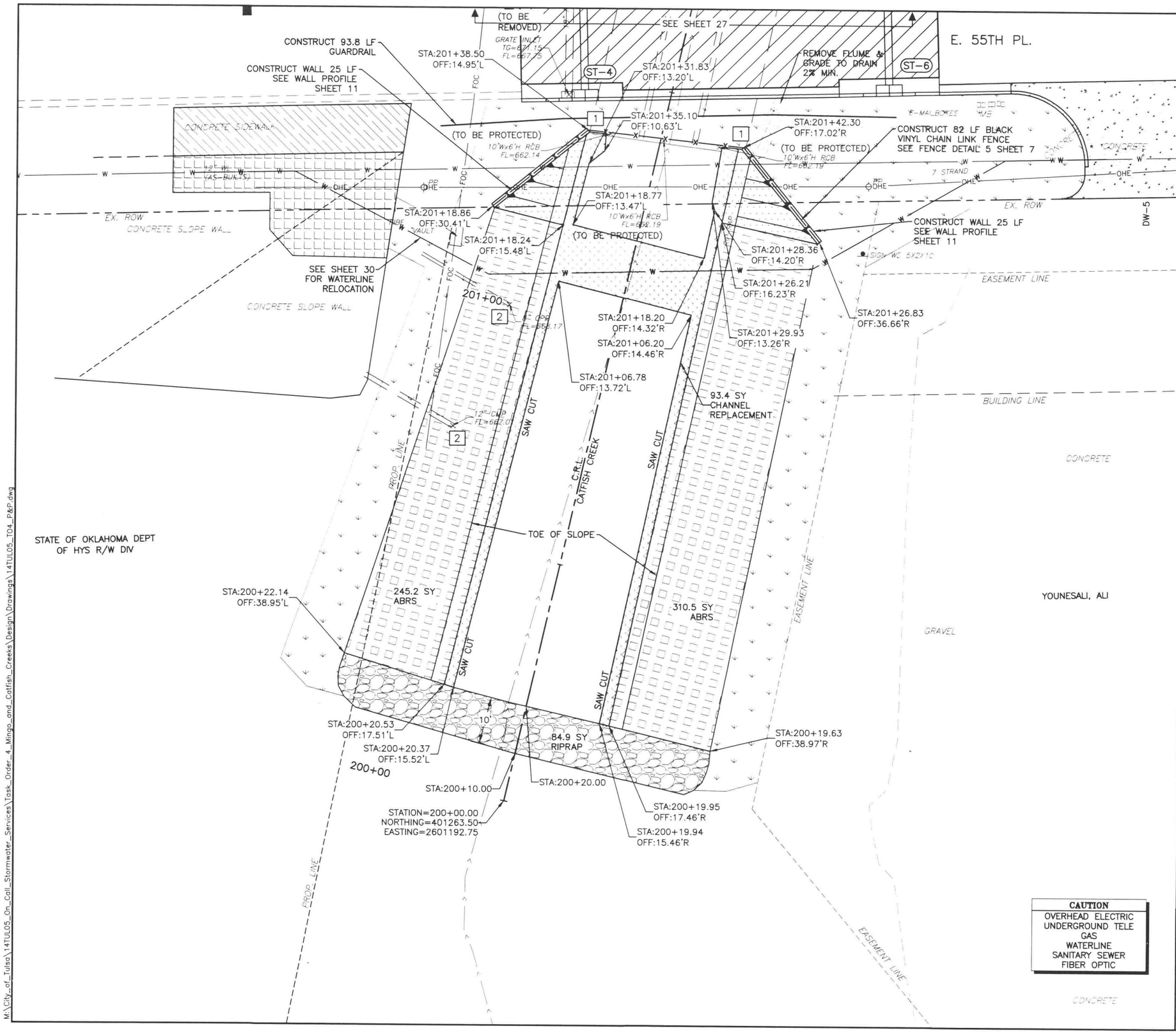
PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016
	DESIGNED	EGZ	08/2016
	SURVEY	PDH	08/2016
PROFILE SCALE	PROJ. MGR.	TRB	9/16
HORIZONTAL: 1" = 20'	LEAD ENGR.	EGZ	9/16
	FIELD MGR.	KBV	9/16
VERTICAL: 1" = 5'	RECOMMENDED: HAS 9/16 DESIGN MANAGER		
FILE:	DRAWING:		
ATLAS PAGE NO. 309			

APPROVED:
CITY ENGINEER
DATE: 10/7/16
SHEET 25 OF 52 SHEETS

M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_P&P.dwg



LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- PROPOSED VERTICAL WALL
- BM-## — BENCHMARK
- SOLID SLAB SOD
- TYPE I AC PATCH
- PROPOSED 1.5:1 SLOPE WALL (SEE DETAIL 4 SHEET 5)
- PROPOSED CONCRETE DRIVEWAY (SEE DETAIL 1 SHEET 6)
- PROPOSED PCC PATCH (SEE DETAIL 6 SHEET 6)
- PROPOSED CHANNEL REPLACEMENT (SEE DETAIL 5 SHEET 6)
- ARTICULATING BLOCK REVETMENT SYSTEM (ABRS) (SEE DETAILS SHEET 7)
- 18" TYPE I-A RIPRAP (SEE DETAIL 7 SHEET 7)
- PROPOSED P.C. CONCRETE SIDEWALK (SEE DETAIL 8 SHEET 6)
- PROPOSED HIGHWAY SLOPE WALL (SEE DETAIL 9 SHEET 6)
- [1] CONNECT TO EXISTING WALL. DRILL AND EPOXY BARS AND INSTALL RX WATERSTOP. (SEE DETAIL 8 SHEET 5)
- [2] ABRS PIPE PENETRATION (SEE DETAIL 6 SHEET 7)

N

0 5 10 20
SCALE IN FEET

BENCHMARK
(SHEET 27) BM-918
CHISELED "X" SET
N=401447.73
E=2601318.63
EL=671.35

BENCHMARK
(SHEET 27) BM-919
CHISELED "X" SET
N=401444.22
E=2601178.43
EL=672.53

CALL OKIE

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9-13-16
OKLAHOMA

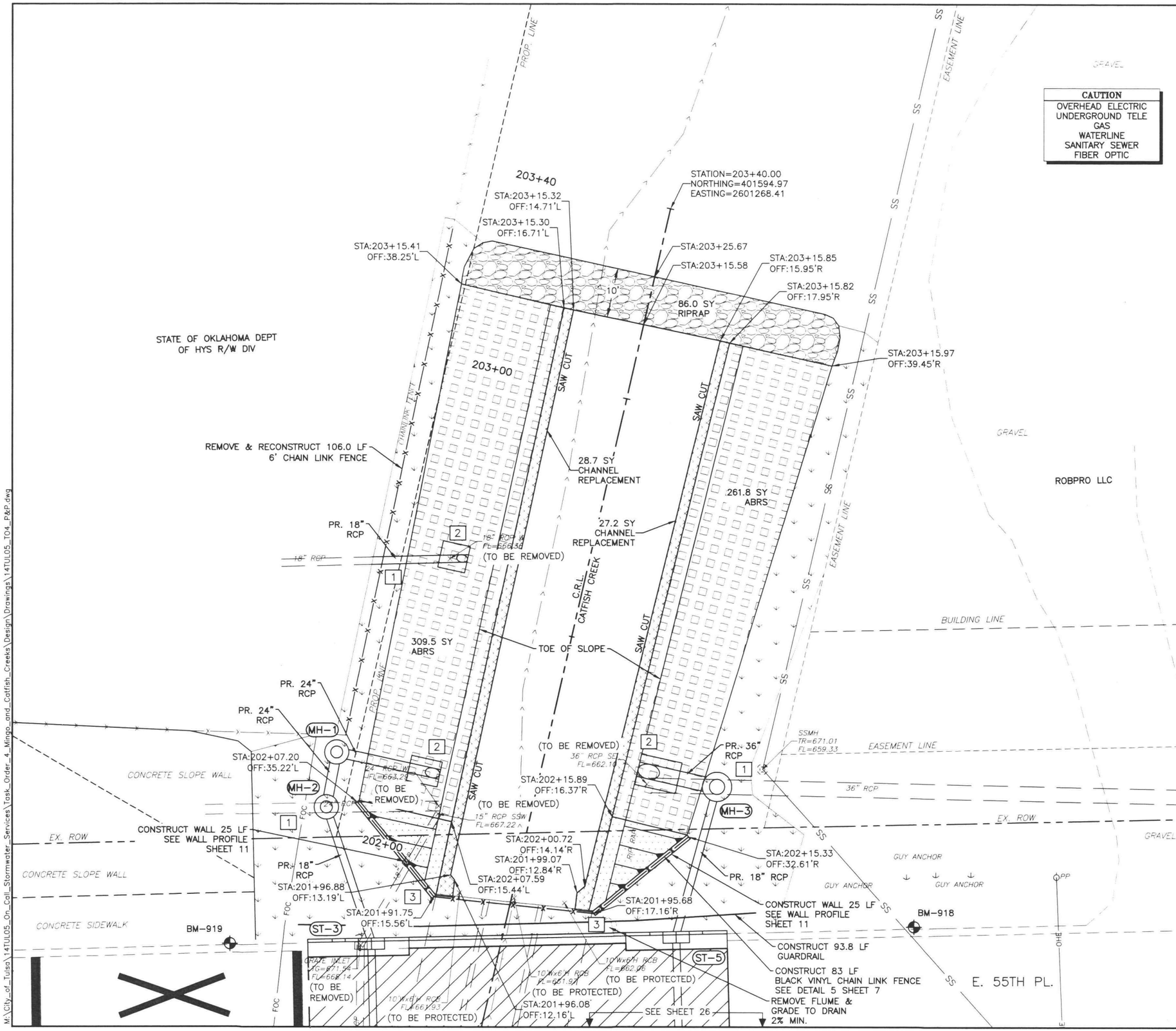
ADD ALTERNATE 1

REVISION	BY	DATE

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: N/A	LEAD ENGR.	ESD	9/16	
	FIELD MGR.	RBV	9/16	
VERTICAL: N/A	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/07/16
ATLAS PAGE NO. 309				SHEET 26 OF 52 SHEETS

CATFISH CREEK PLAN SHEETS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620



LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- PROPOSED VERTICAL WALL
- BM-## — BENCHMARK
- SOLID SLAB SOD
- TYPE I AC PATCH
- PROPOSED 1.5:1 SLOPE WALL (SEE DETAIL 4 SHEET 5)
- PROPOSED CONCRETE DRIVEWAY (SEE DETAIL 1 SHEET 6)
- PROPOSED PCC PATCH (SEE DETAIL 6 SHEET 6)
- PROPOSED CHANNEL REPLACEMENT (SEE DETAIL 5 SHEET 6)
- ARTICULATING BLOCK REVETMENT SYSTEM (ABRS) (SEE DETAILS SHEET 7)
- 18" TYPE I-A RIPRAP (SEE DETAIL 7 SHEET 7)
- PROPOSED P.C. CONCRETE SIDEWALK (SEE DETAIL 8 SHEET 6)
- PROPOSED HIGHWAY SLOPE WALL (SEE DETAIL 9 SHEET 6)
- 1 — CONSTRUCT CONCRETE FIELD COLLAR (SEE DETAIL 4 SHEET 6)
- 2 — CONSTRUCT ABRS PIPE END TREATMENT (SEE DETAIL 6 SHEET 5)
- 3 — CONNECT TO EXISTING WALL. DRILL AND EPOXY BARS AND INSTALL RX WATERSTOP. (SEE DETAIL 8 SHEET 5)

N

0 5 10 20
SCALE IN FEET

ADD ALTERNATE 1

BENCHMARK
BM-918
CHISELED "X" SET
N=401447.73
E=2601318.63
EL=671.35

BENCHMARK
BM-919
CHISELED "X" SET
N=401444.22
E=2601178.43
EL=672.53

CALL OKIE

REGISTERED PROFESSIONAL ENGINEER
ERIC ZELLERS
26545
9-13-16
OKLAHOMA

CATFISH CREEK PLAN SHEETS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE 1" = 10'	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: N/A	LEAD ENGR.	BJS	9/16	
	FIELD MGR.	RAN	9/16	
VERTICAL: N/A	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE: 10/07/16
ATLAS PAGE NO. 309				SHEET 27 OF 52 SHEETS

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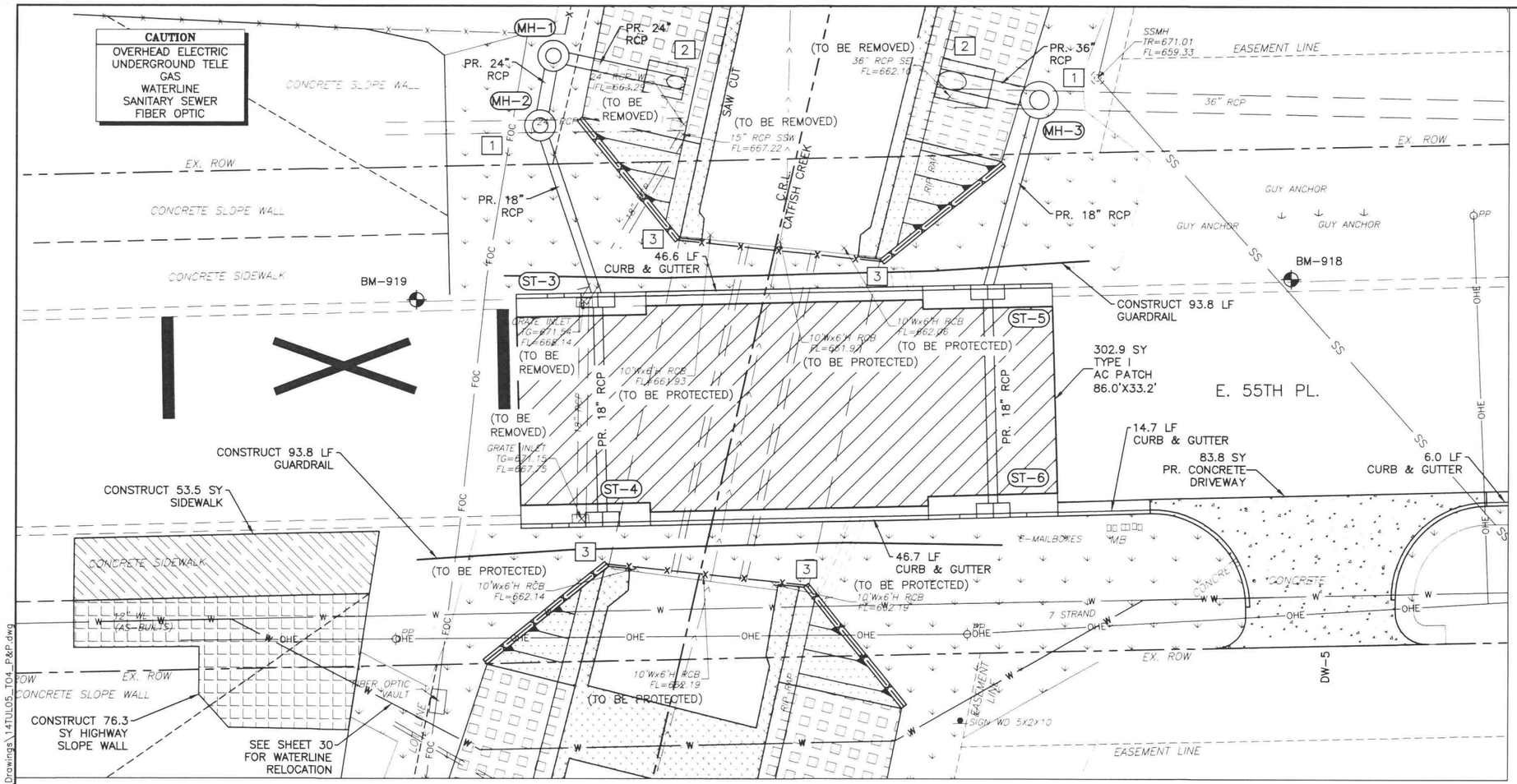

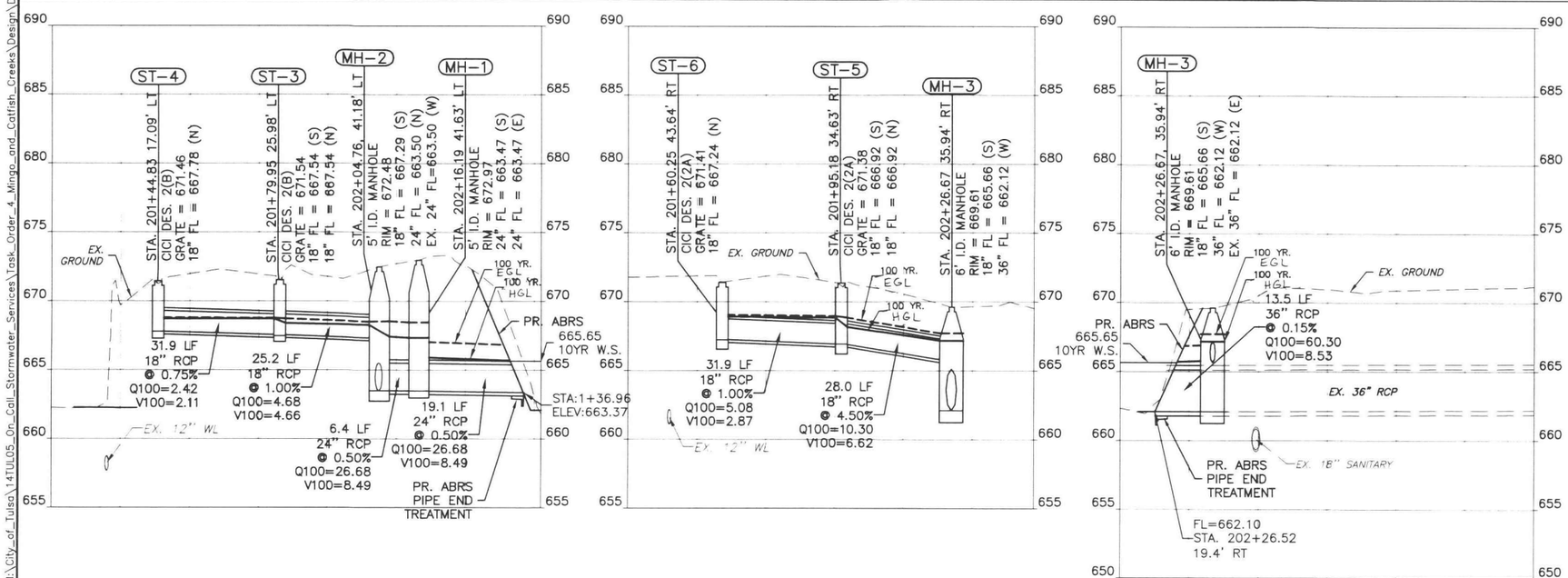

LEGEND

- RIGHT-OF-WAY
- LOT LINE
- EXISTING BUILDING LINE
- EXISTING EASEMENT LINE
- PROPOSED VERTICAL WALL
- BM-## BENCHMARK
- SOLID SLAB SOD
- TYPE I AC PATCH
- PROPOSED 1.5:1 SLOPE WALL (SEE DETAIL 4 SHEET 5)
- PROPOSED CONCRETE DRIVEWAY (SEE DETAIL 1 SHEET 6)
- PROPOSED PCC PATCH (SEE DETAIL 6 SHEET 6)
- PROPOSED CHANNEL REPLACEMENT (SEE DETAIL 5 SHEET 6)
- ARTICULATING BLOCK REVETMENT SYSTEM (ABRS) (SEE DETAILS SHEET 7)
- 18" TYPE I-A RIPRAP (SEE DETAIL 7 SHEET 7)
- PROPOSED P.C. CONCRETE SIDEWALK (SEE DETAIL 8 SHEET 6)
- PROPOSED HIGHWAY SLOPE WALL (SEE DETAIL 9 SHEET 6)
- 1 CONSTRUCT CONCRETE FIELD COLLAR (SEE DETAIL 4 SHEET 6)
- 2 CONSTRUCT ABRS PIPE END TREATMENT (SEE DETAIL 6 SHEET 5)
- 3 CONNECT TO EXISTING WALL. DRILL AND EPOXY BARS AND INSTALL RX WATERSTOP. (SEE DETAIL 8 SHEET 5)

N

0 5 10 20
SCALE IN FEET

ADD ALTERNATE 1

BENCHMARK
BM-918
CHISELED "X" SET
N=401447.73
E=2601318.63
EL=671.35

BENCHMARK
BM-919
CHISELED "X" SET
N=401444.22
E=2601178.43
EL=672.53

BEFORE YOU DIG CALL OKIE

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 9-29-16 OKLAHOMA

CATFISH CREEK PLAN SHEETS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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SHEET 28 OF 52 SHEETS

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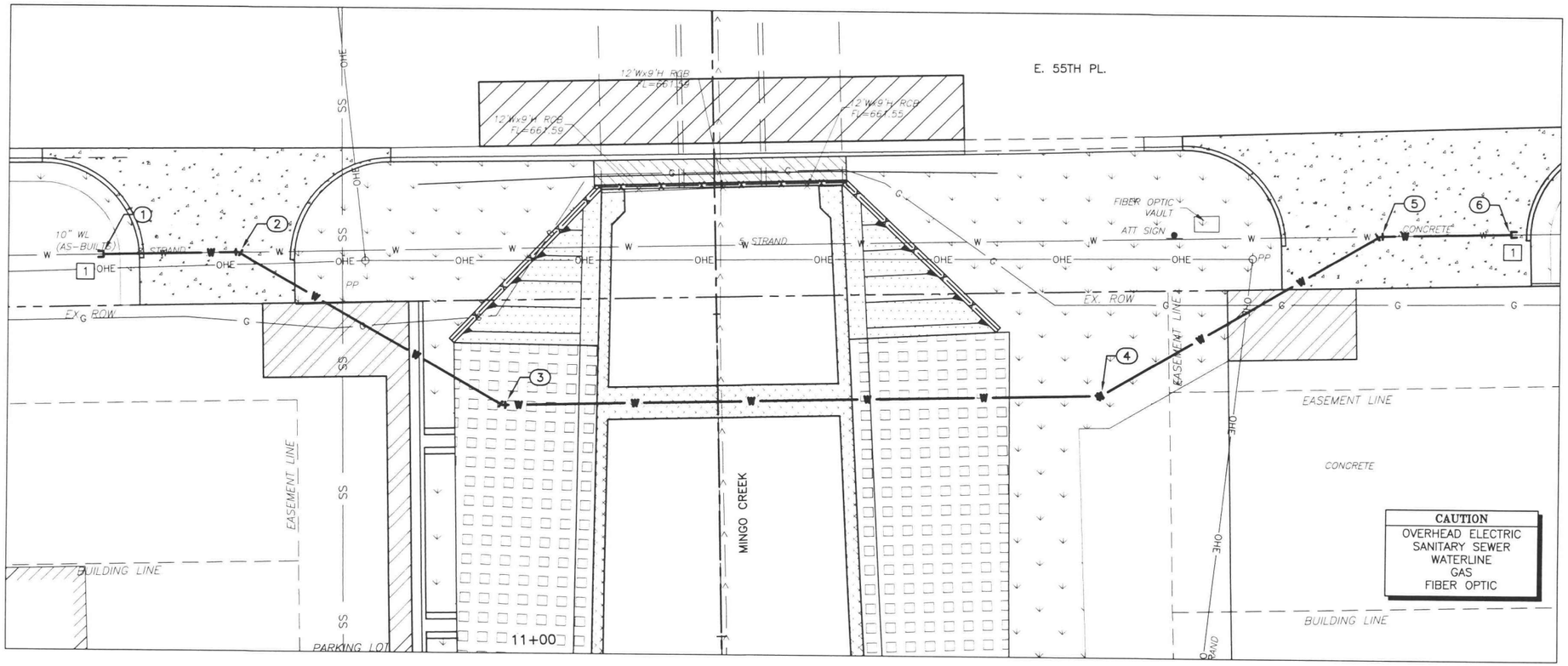
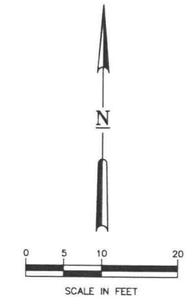
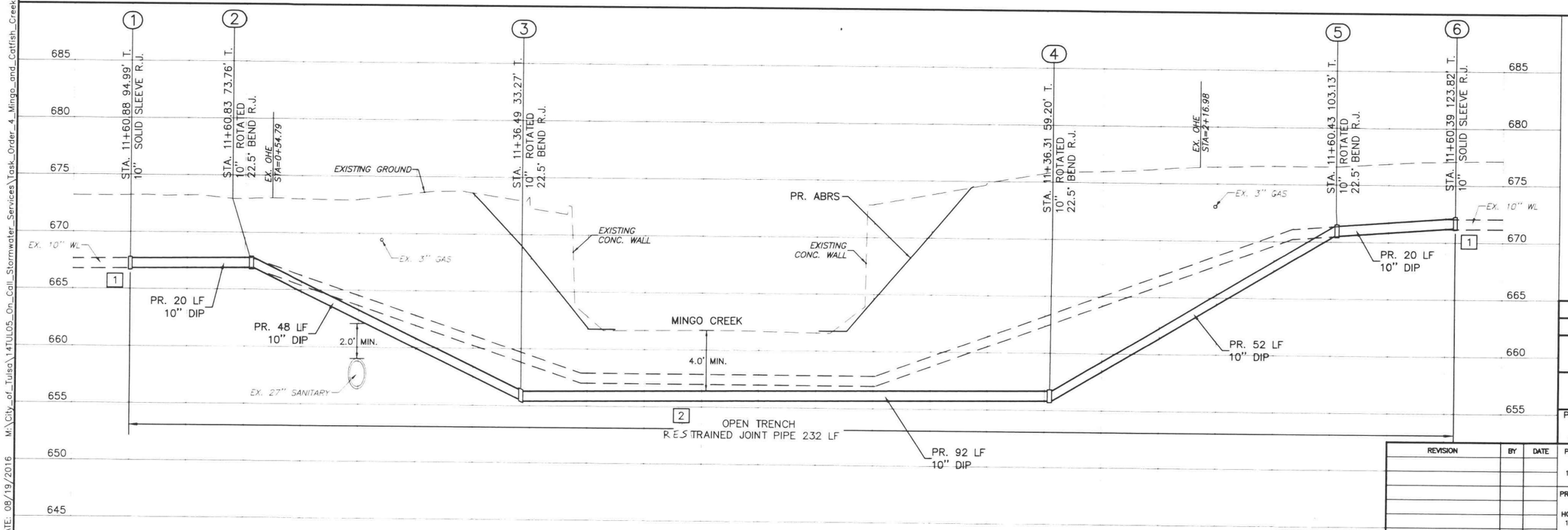




FURNISHED AND INSTALLED BY CONTRACTOR			
TABLE OF FITTINGS			
FITTING NUMBER	DESCRIPTION	NORTHING	EASTING
1	10" SOLID SLEEVE R.J.	401365.23	2599916.86
2	10" ROTATED 22.5° BEND R.J.	401365.67	2599937.74
3	10" ROTATED 22.5° BEND R.J.	401342.42	2599978.74
4	10" ROTATED 22.5° BEND R.J.	401344.49	2600071.25
5	10" ROTATED 22.5° BEND R.J.	401369.65	2600114.59
6	10" SOLID SLEEVE R.J.	401370.13	2600134.85



CONSTRUCTION NOTES:

1. CONNECT TO EXISTING WATERLINE
2. PIPE DEFLECTION NOT TO EXCEED 3° ON ANY FITTING OR JOINT

REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 8-19-16 OKLAHOMA

MINGO CREEK WATERLINE P&P
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
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	DESIGN MANAGER		
FILE:	DRAWING:		
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APPROVED:
CITY ENGINEER
DATE: 10/07/16
SHEET 29 OF 52 SHEETS

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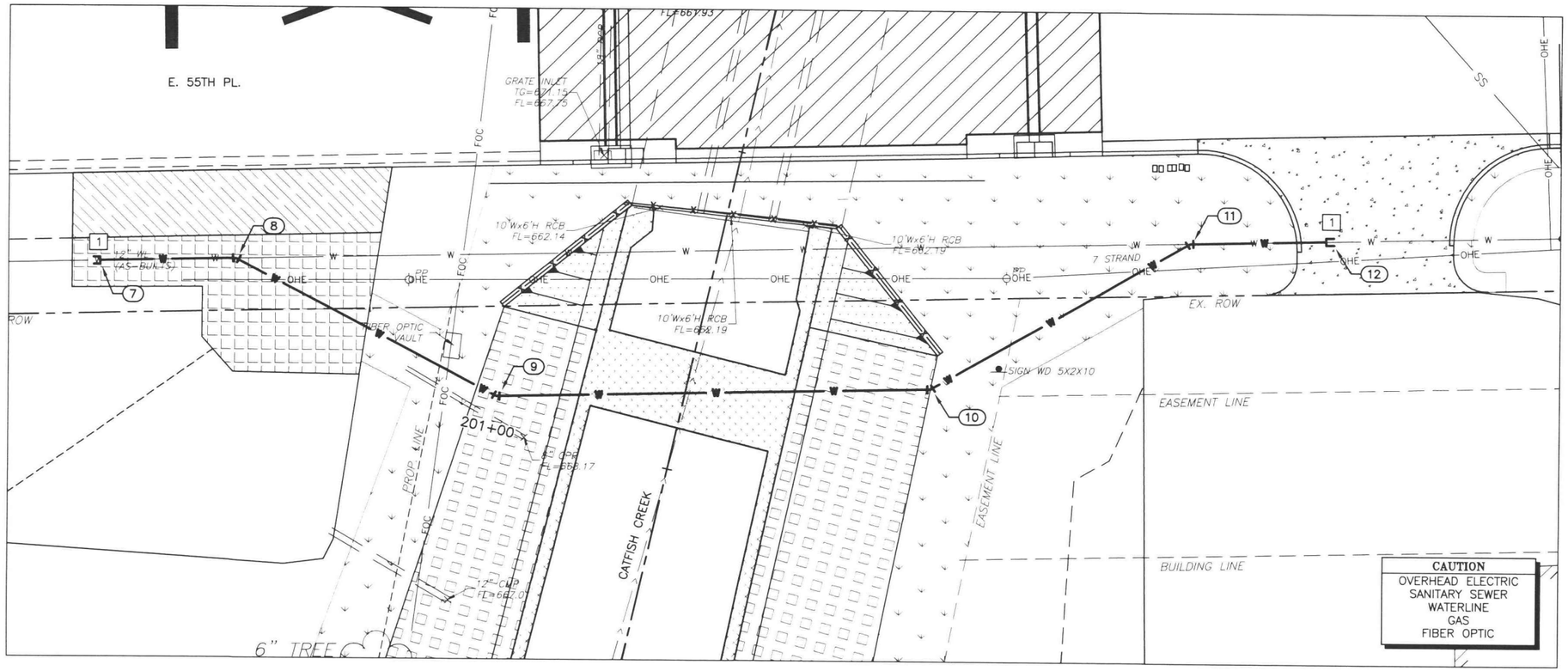
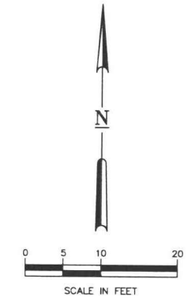
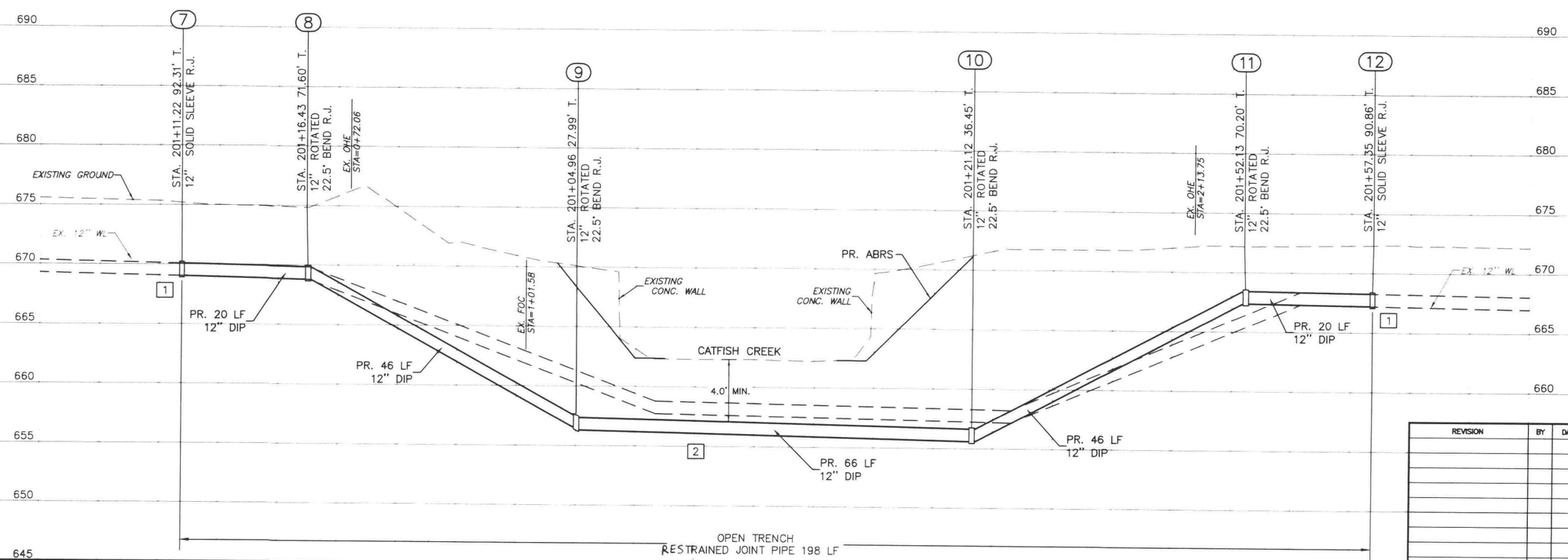




FURNISHED AND INSTALLED BY CONTRACTOR

TABLE OF FITTINGS

FITTING NUMBER	DESCRIPTION	NORTHING	EASTING
7	12" SOLID SLEEVE R.J.	401392.46	2601127.95
8	12" ROTATED 22.5° BEND R.J.	401392.90	2601148.86
9	12" ROTATED 22.5° BEND R.J.	401372.09	2601188.78
10	12" ROTATED 22.5° BEND R.J.	401373.47	2601255.23
11	12" ROTATED 22.5° BEND R.J.	401396.16	2601295.05
12	12" SOLID SLEEVE R.J.	401396.68	2601315.90



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REGISTERED PROFESSIONAL ENGINEER ERIC ZELLERS 26545 9-19-16 OKLAHOMA

ADD ALTERNATE 1

CATFISH CREEK WATERLINE P&P
PROJECT #143120-4

MINGO & CATFISH CREEKS
CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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	FIELD MGR.	RBV	9/16	
VERTICAL: 1" = 5'	RECOMMENDED	HAS	9/16	CITY ENGINEER
	DESIGN MANAGER			
FILE:	DRAWING:			DATE: 10/07/16
ATLAS PAGE NO. 309				SHEET 30 OF 52 SHEETS

T-MIN 11 1/2

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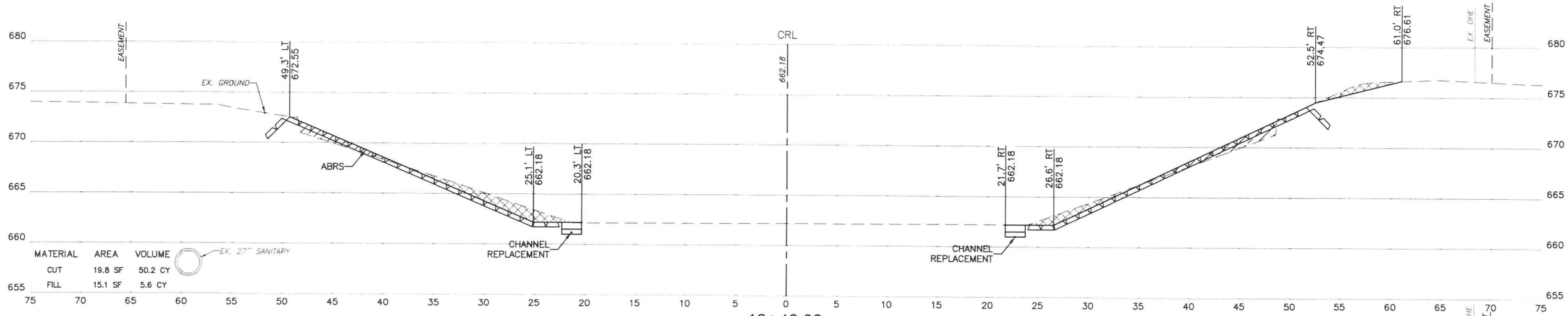

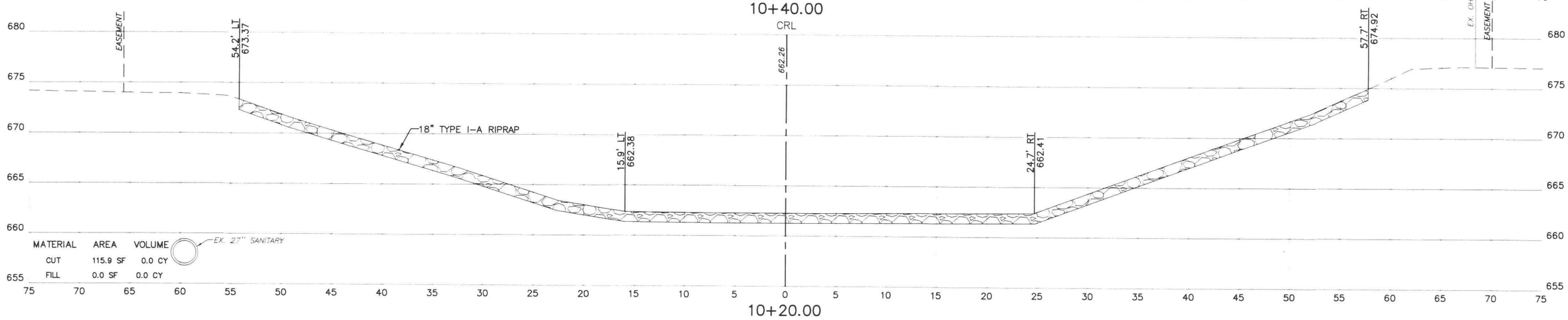

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS
CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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HORIZONTAL: 1" = 5'	LEAD ENGR.			
	FIELD MGR.	CBV	9/16	
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ATLAS PAGE NO. 309				SHEET 31 OF 52 SHEETS

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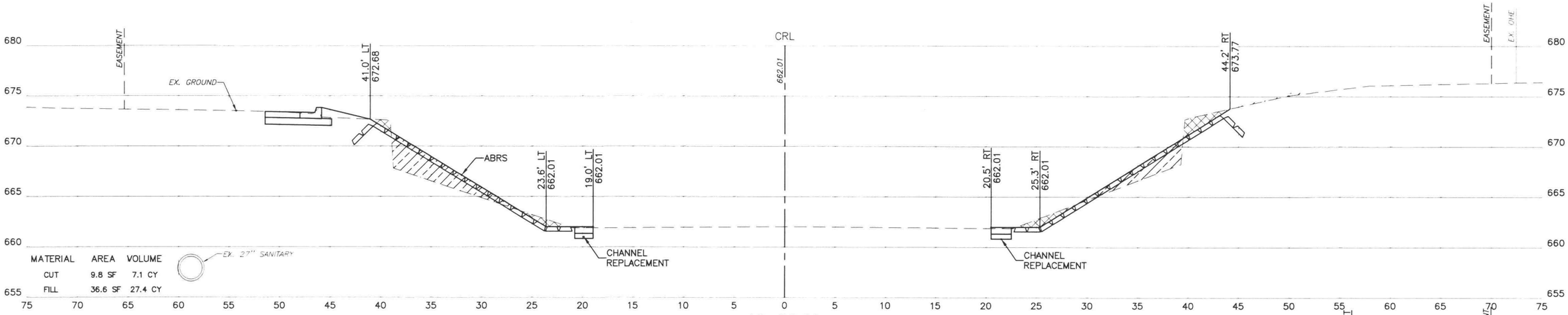

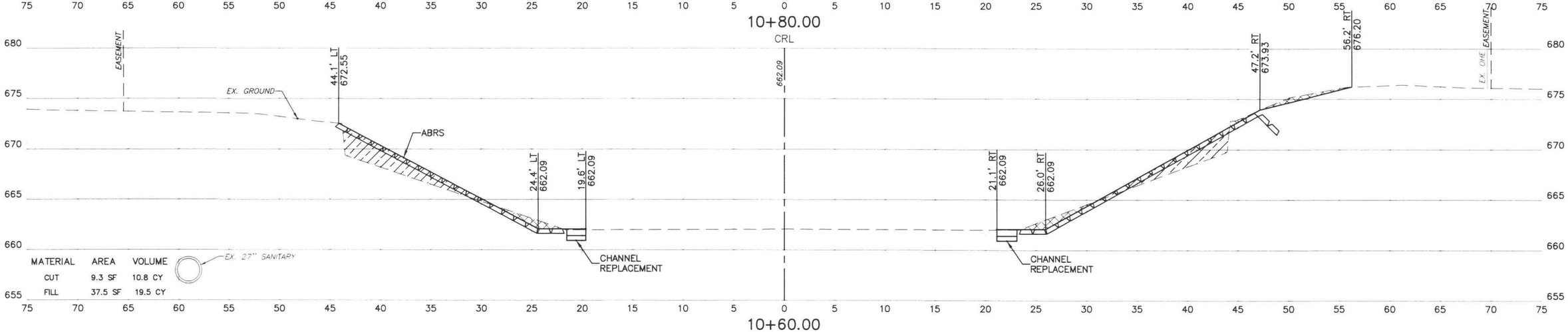

CUT

FILL

CROSS SECTIONS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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	FIELD MGR.	RBV	9/16	
VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE:
ATLAS PAGE NO. 309				SHEET 32 OF 52 SHEETS

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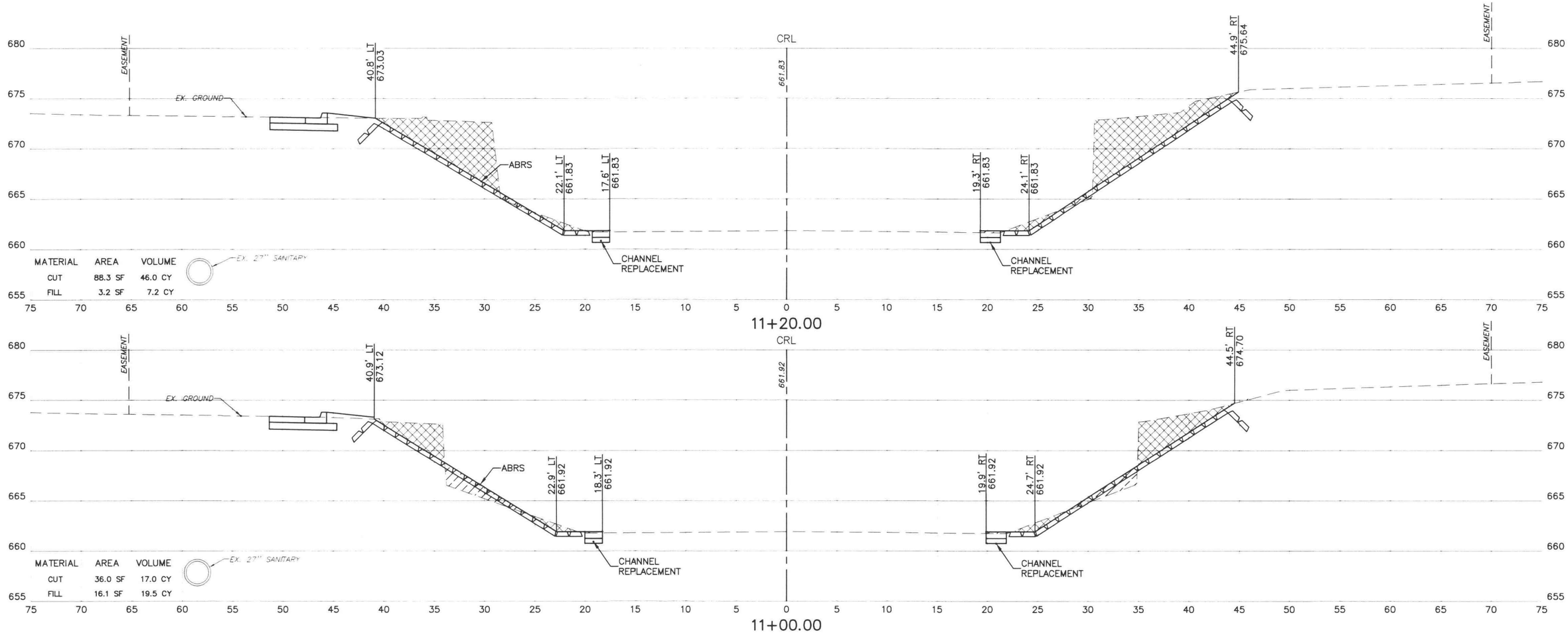

CUT

FILL

CROSS SECTIONS

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VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER		9/16

APPROVED:

CITY ENGINEER

FILE: DRAWING: DATE:

ATLAS PAGE NO. 309

SHEET 33 OF 52 SHEETS

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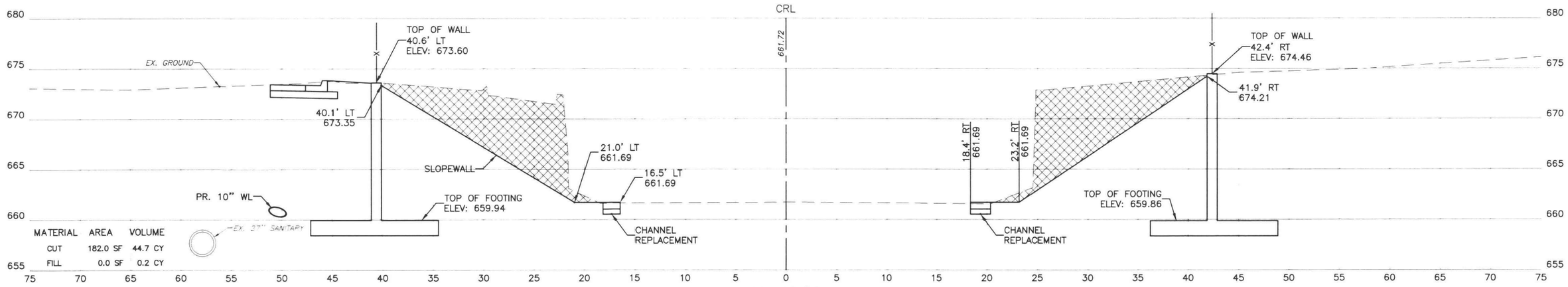
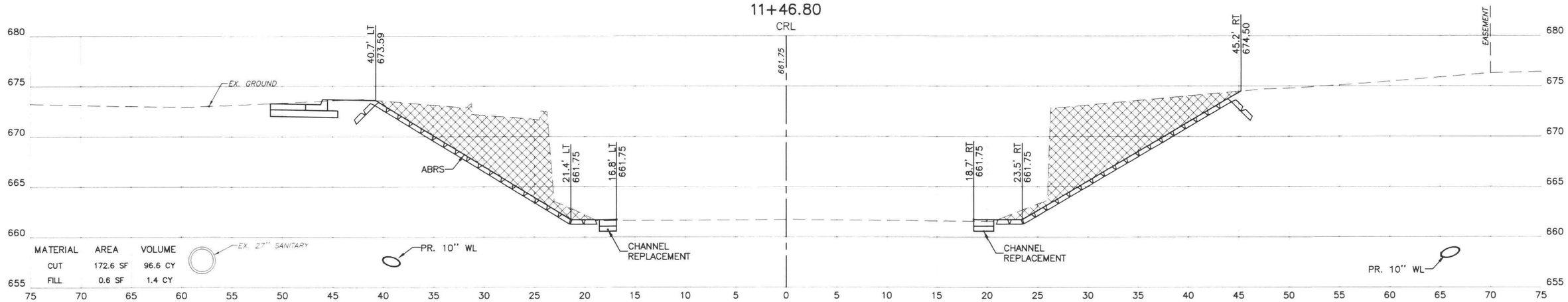


11+46.80



11+40.00

CUT

FILL

CROSS SECTIONS
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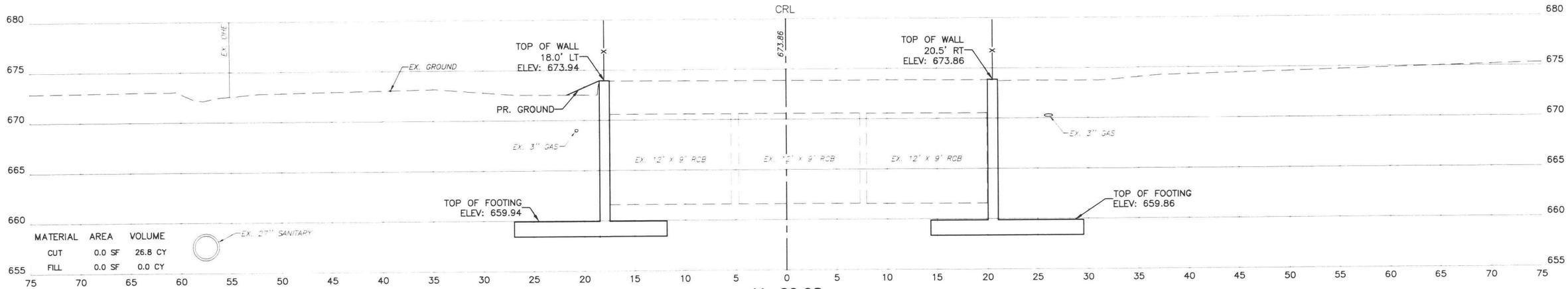
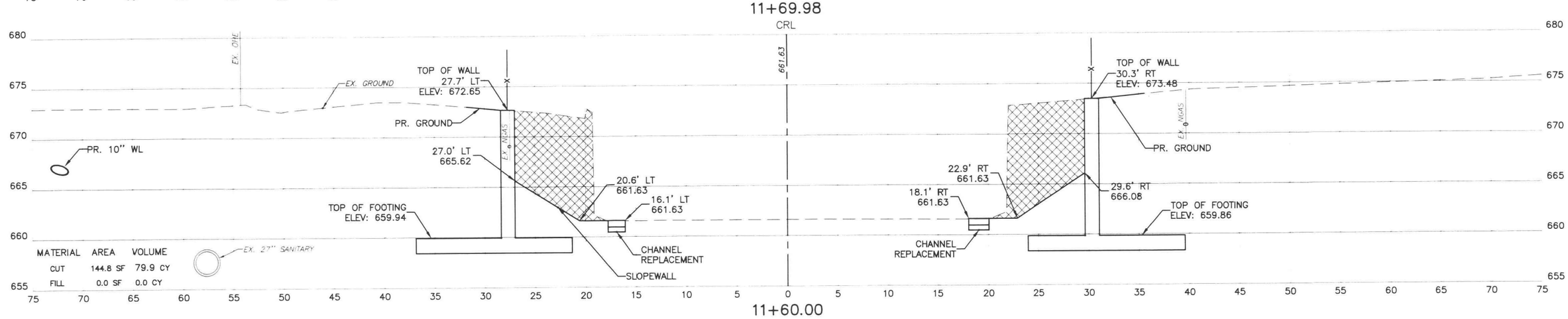


MATERIAL	AREA	VOLUME
CUT	0.0 SF	26.8 CY
FILL	0.0 SF	0.0 CY

11+69.98



MATERIAL	AREA	VOLUME
CUT	144.8 SF	79.9 CY
FILL	0.0 SF	0.0 CY

11+60.00

CUT

FILL

CROSS SECTIONS

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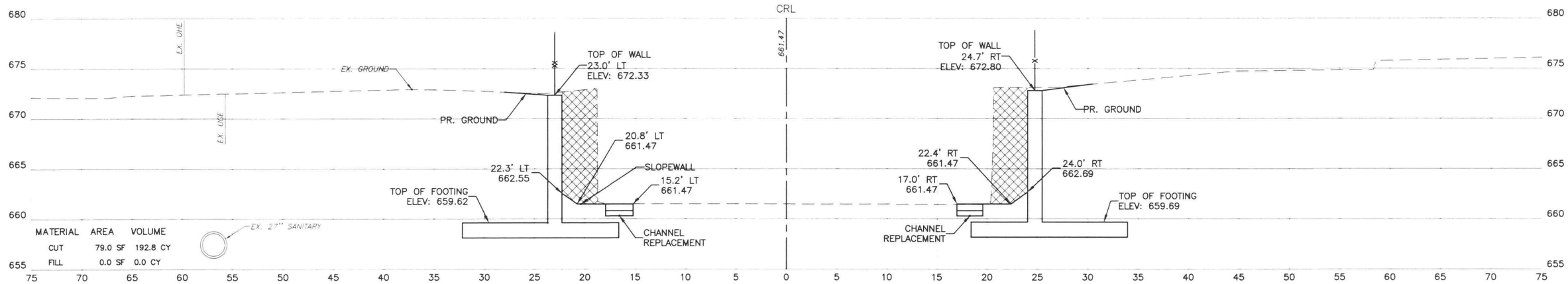

MATERIAL	AREA	VOLUME
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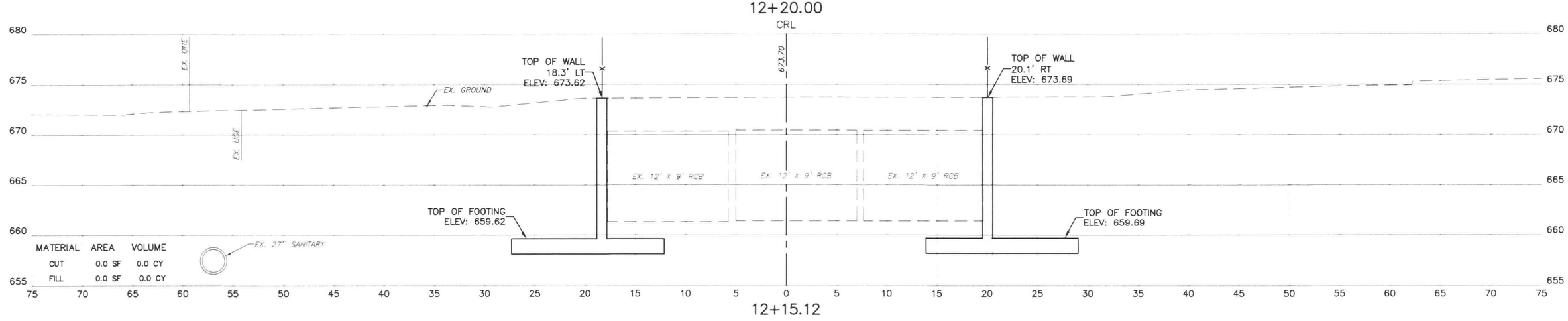
FILL	0.0 SF	0.0 CY

12+20.00



MATERIAL	AREA	VOLUME
CUT	0.0 SF	0.0 CY
FILL	0.0 SF	0.0 CY

12+15.12

CUT

FILL

CROSS SECTIONS

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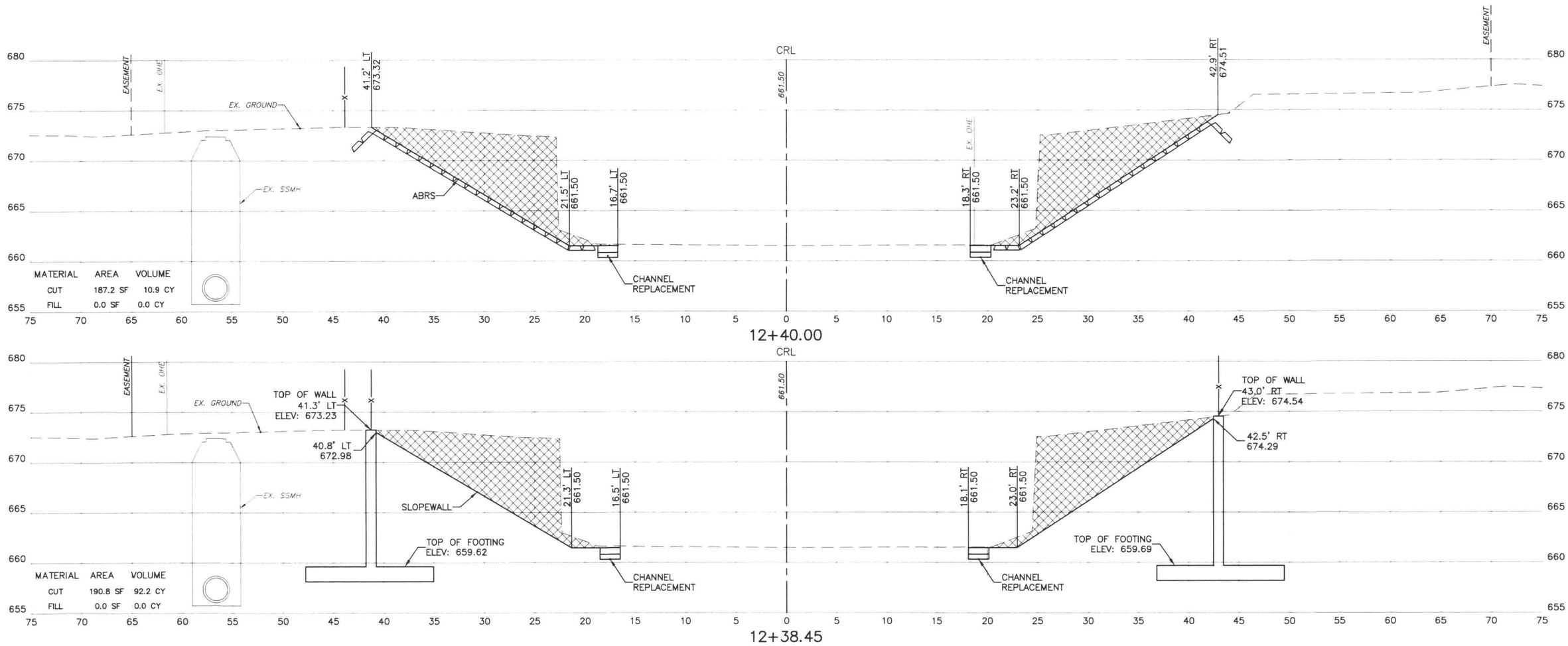

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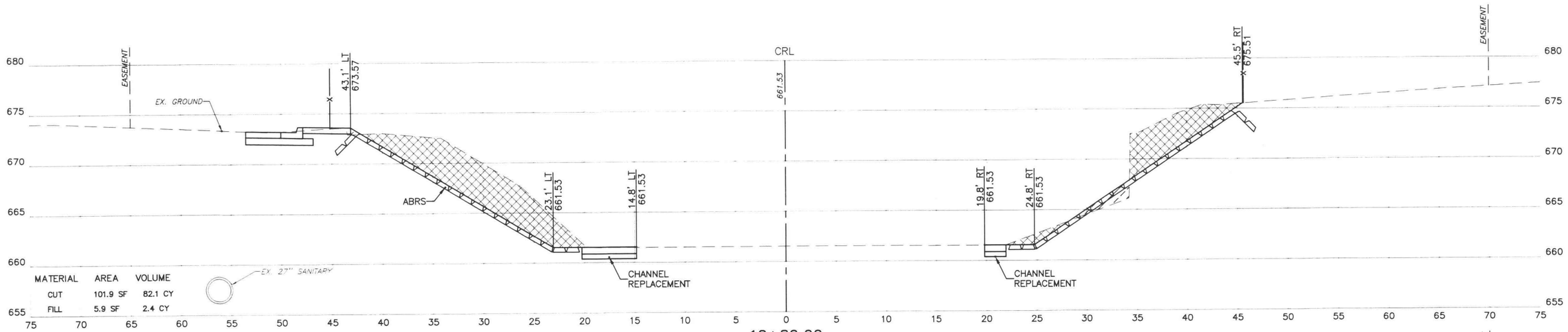
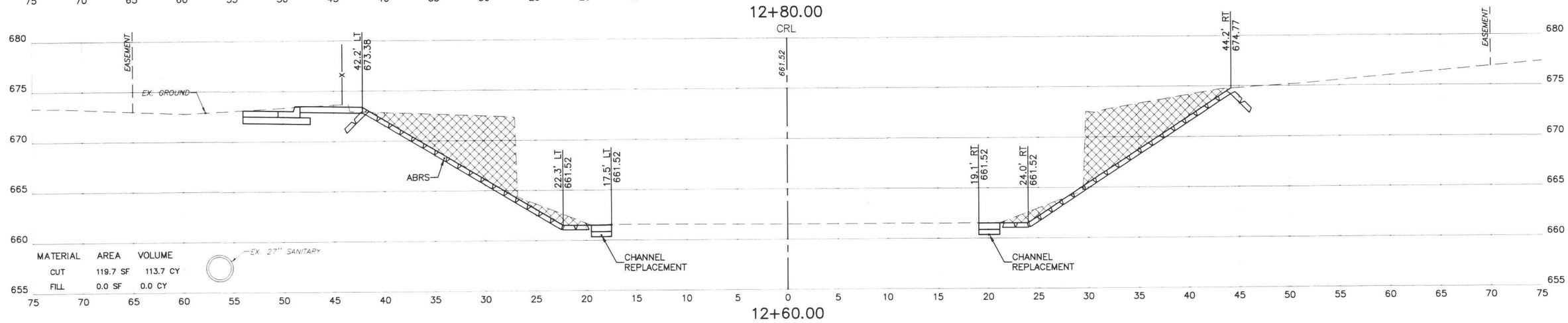


MATERIAL	AREA	VOLUME
CUT	101.9 SF	82.1 CY
FILL	5.9 SF	2.4 CY

12+80.00



MATERIAL	AREA	VOLUME
CUT	119.7 SF	113.7 CY
FILL	0.0 SF	0.0 CY

12+60.00

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA

ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

Meshek & Associates, P.L.C.

1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE N/A	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: 1" = 5'	LEAD ENGR.			
	FIELD MGR.	REN	9/16	
VERTICAL: 1" = 5'	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE:
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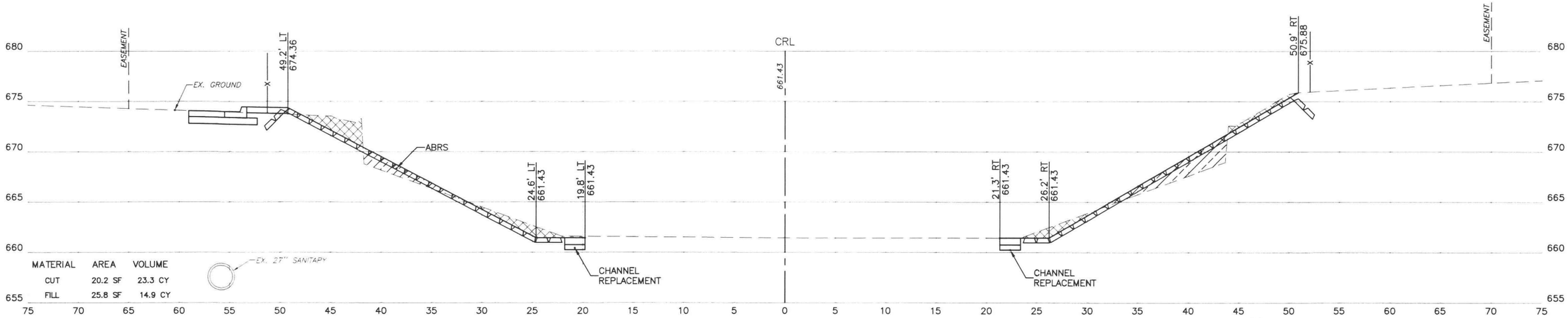
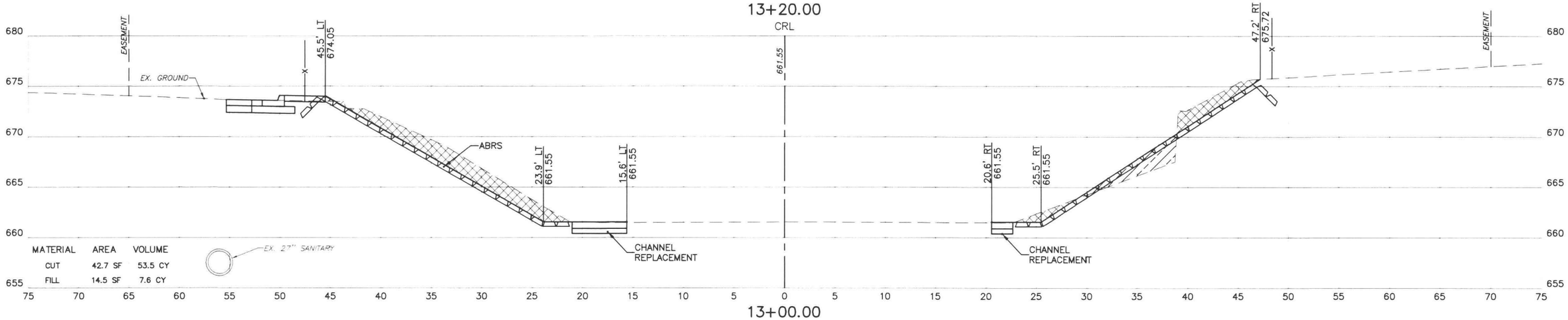


MATERIAL	AREA	VOLUME
CUT	20.2 SF	23.3 CY
FILL	25.8 SF	14.9 CY



MATERIAL	AREA	VOLUME
CUT	42.7 SF	53.5 CY
FILL	14.5 SF	7.6 CY

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA

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HORIZONTAL: 1" = 5'	LEAD ENGR.			
	FIELD MGR.	RBV	9/16	
VERTICAL: 1" = 5'	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
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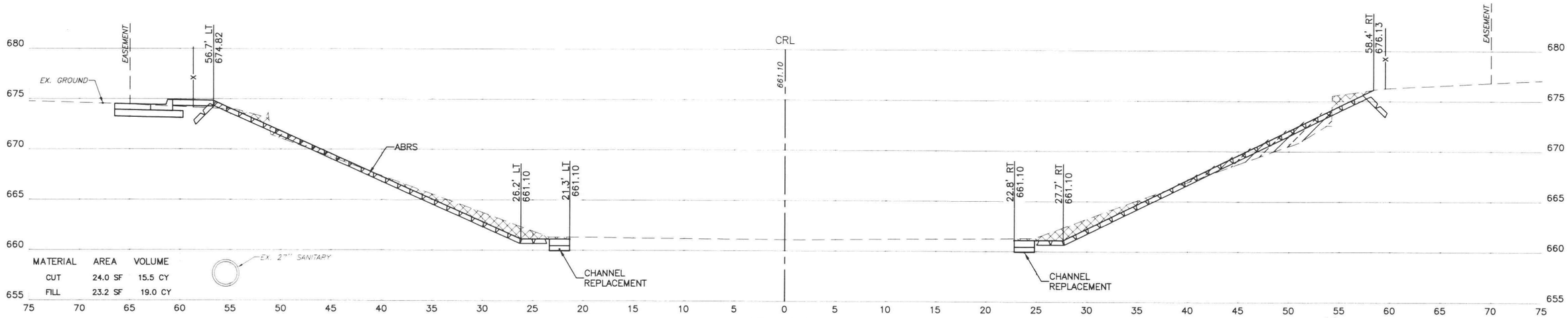
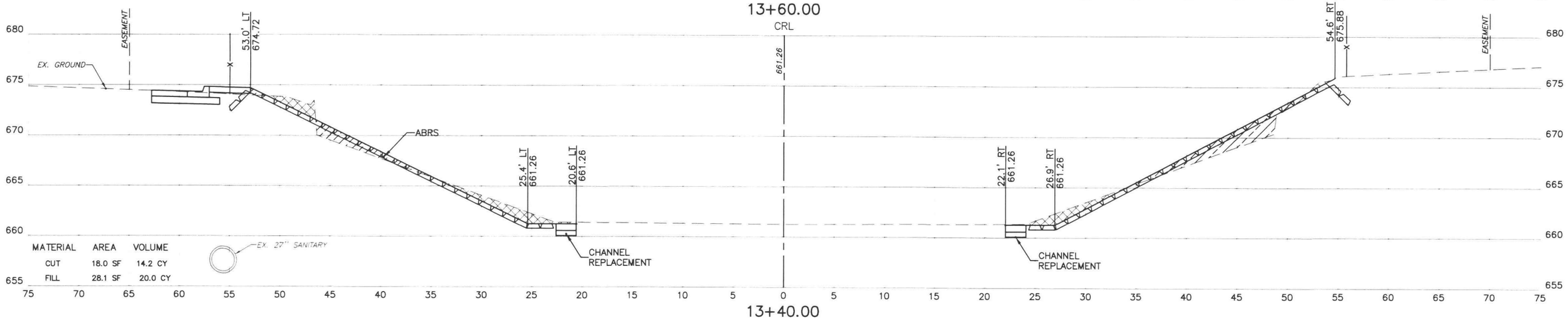


MATERIAL	AREA	VOLUME
CUT	24.0 SF	15.5 CY
FILL	23.2 SF	19.0 CY



MATERIAL	AREA	VOLUME
CUT	18.0 SF	14.2 CY
FILL	28.1 SF	20.0 CY

CUT

FILL

CROSS SECTIONS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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	SURVEY	PDH	08/2016	
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HORIZONTAL: 1" = 5'	LEAD ENGR.			
	FIELD MGR.	BSV	9/16	
VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER		9/16	CITY ENGINEER
FILE:	DRAWING:			DATE:
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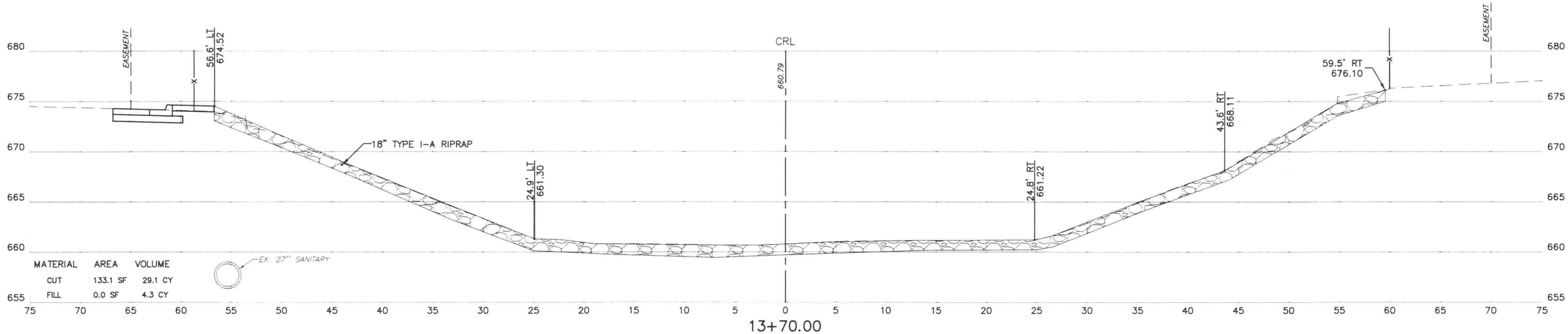

MATERIAL	AREA	VOLUME
CUT	133.1 SF	29.1 CY
FILL	0.0 SF	4.3 CY

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS
CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
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	FIELD MGR.	RBV	9/16
VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER	HAS	9/16
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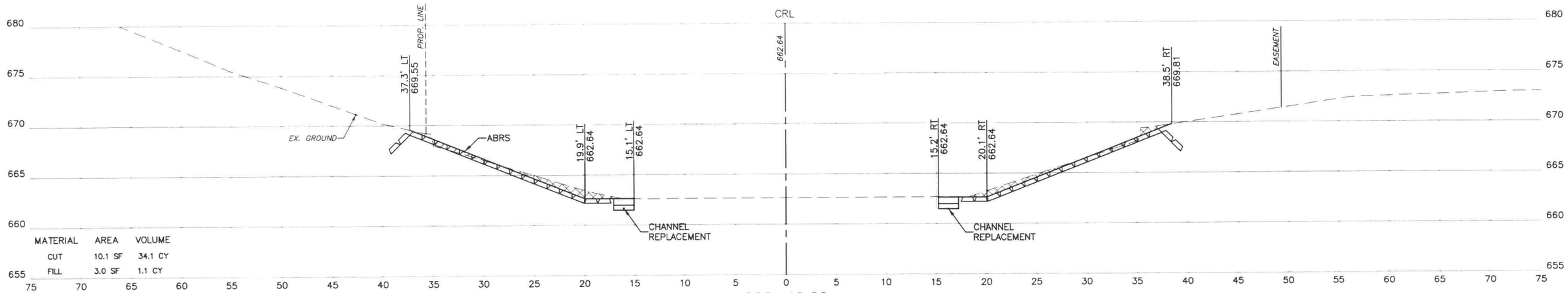
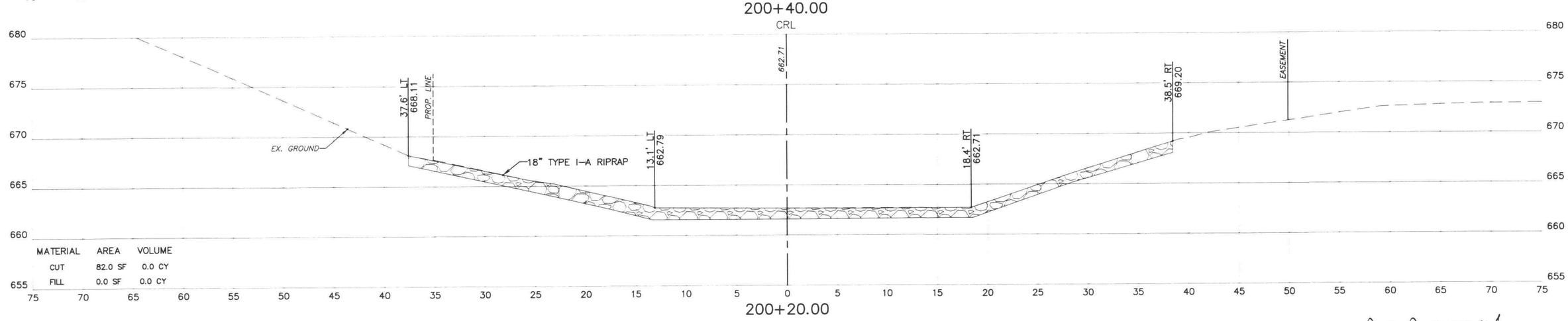


MATERIAL	AREA	VOLUME
CUT	10.1 SF	34.1 CY
FILL	3.0 SF	1.1 CY

200+40.00



MATERIAL	AREA	VOLUME
CUT	82.0 SF	0.0 CY
FILL	0.0 SF	0.0 CY

200+20.00

CUT

FILL

ADD ALTERNATE 1

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
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HORIZONTAL: 1" = 5'	LEAD ENGR.			
	FIELD MGR.	BSV	9/16	
VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER	HAJ	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE:
ATLAS PAGE NO. 309				SHEET 42 OF 52 SHEETS

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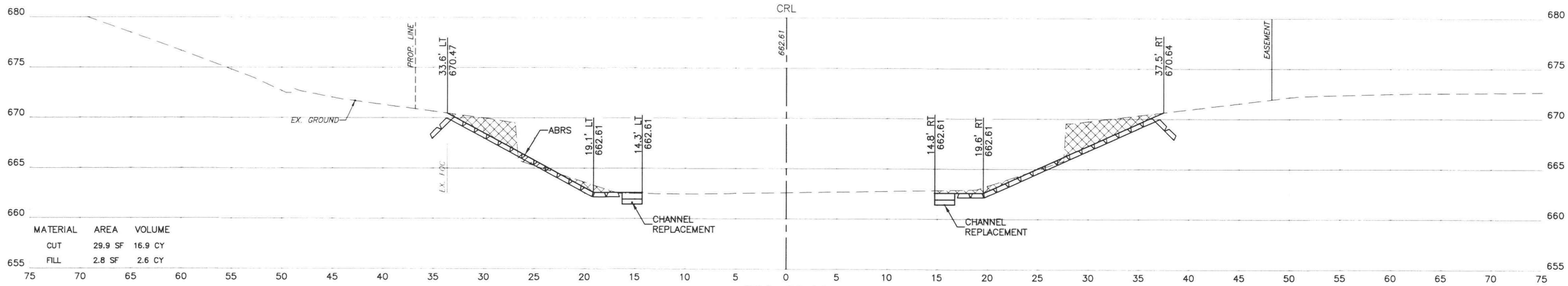
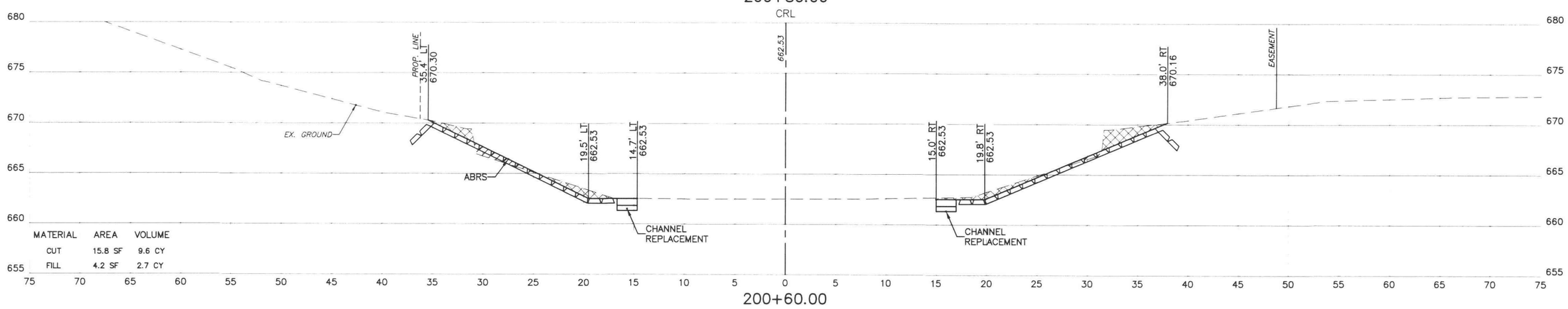


MATERIAL	AREA	VOLUME
CUT	29.9 SF	16.9 CY
FILL	2.8 SF	2.6 CY

200+80.00



MATERIAL	AREA	VOLUME
CUT	15.8 SF	9.6 CY
FILL	4.2 SF	2.7 CY

200+60.00

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
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	FIELD MGR.	RBV	9/16
VERTICAL: 1" = 5'	RECOMMENDED: DESIGN MANAGER	HAS	9/16
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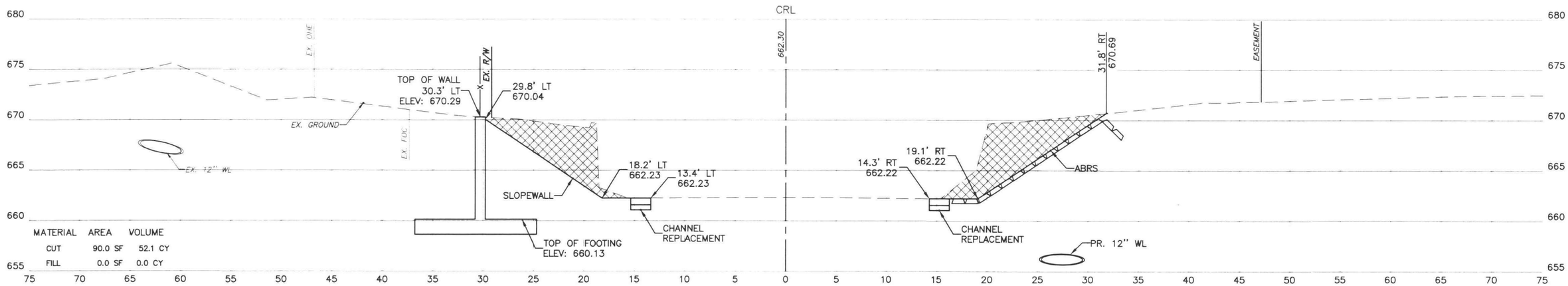
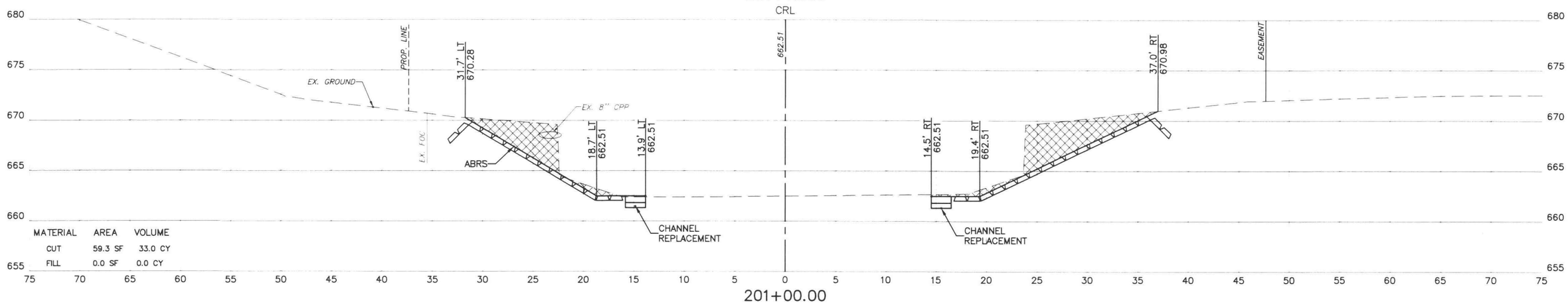


MATERIAL	AREA	VOLUME
CUT	90.0 SF	52.1 CY
FILL	0.0 SF	0.0 CY

201+18.86



MATERIAL	AREA	VOLUME
CUT	59.3 SF	33.0 CY
FILL	0.0 SF	0.0 CY

201+00.00

CUT

FILL

CROSS SECTIONS
PROJECT #143120-4
MINGO & CATFISH CREEKS
CHANNEL IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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HORIZONTAL: 1" = 5'	LEAD ENGR.		
	FIELD MGR.	RBH	9/16
VERTICAL: 1" = 5'	RECOMMENDED: DESIGN MANAGER	HBS	9/16
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ATLAS PAGE NO. 309			

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SHEET 44 OF 52 SHEETS

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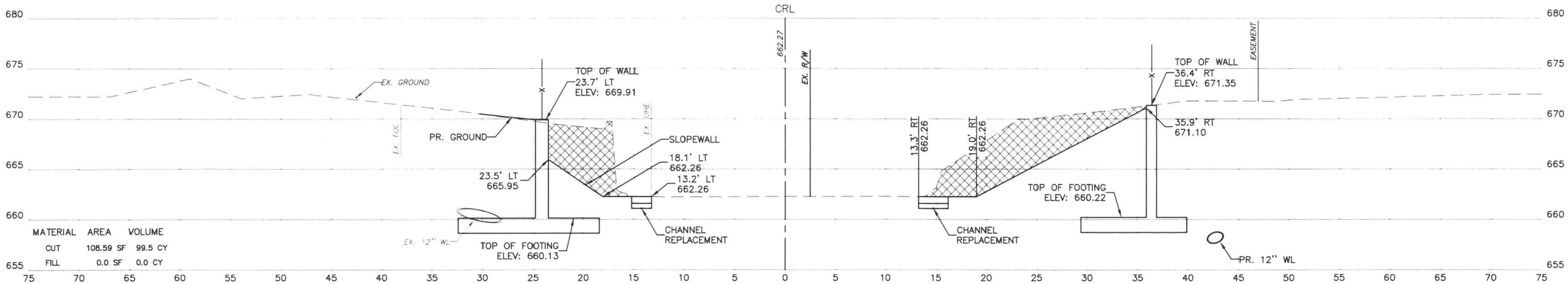
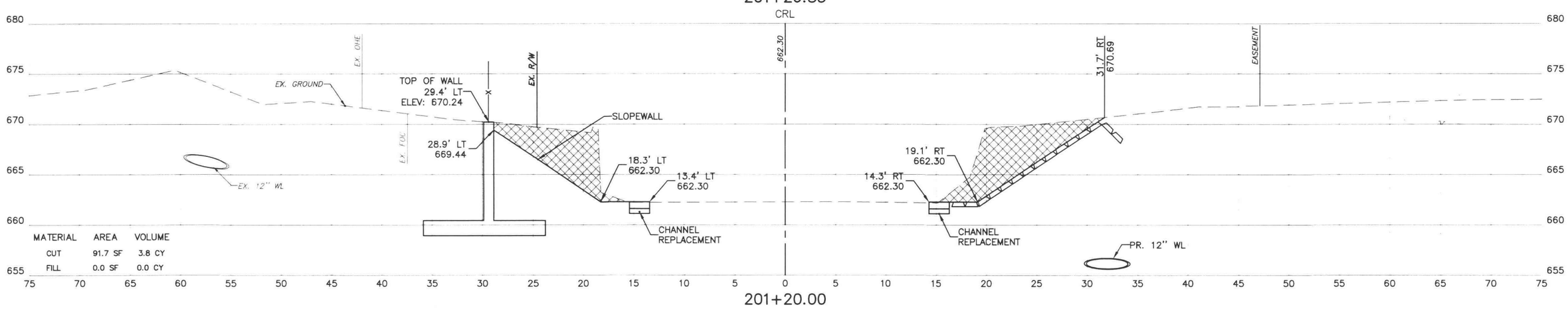


MATERIAL	AREA	VOLUME
CUT	108.59 SF	99.5 CY
FILL	0.0 SF	0.0 CY



MATERIAL	AREA	VOLUME
CUT	91.7 SF	3.8 CY
FILL	0.0 SF	0.0 CY

CUT

FILL

CROSS SECTIONS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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	FIELD MGR.	RBH	9/16
VERTICAL: 1" = 5'	RECOMMENDED, DESIGN MANAGER	HAS	9/16
FILE:	DRAWING:		
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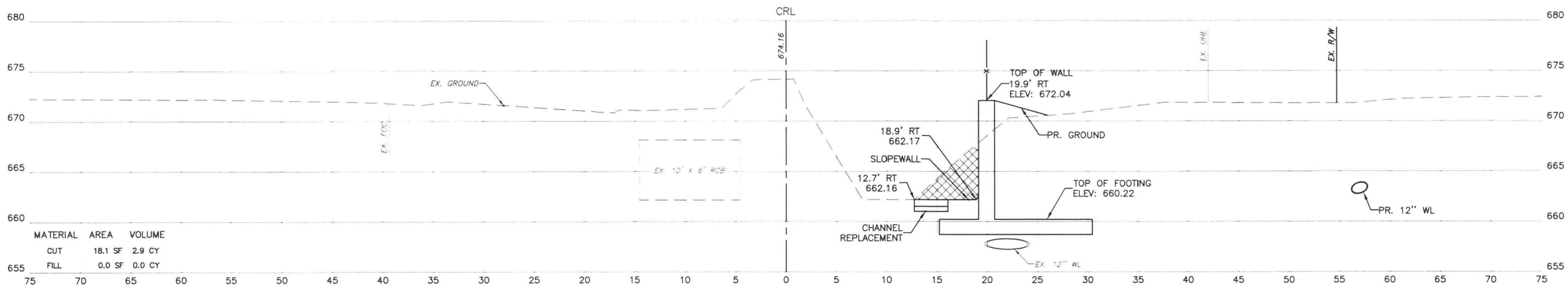
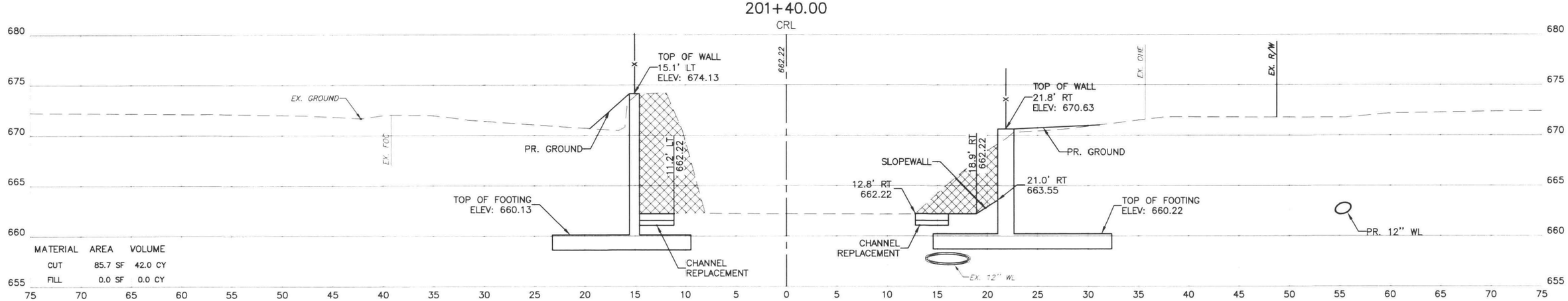


MATERIAL	AREA	VOLUME
CUT	18.1 SF	2.9 CY
FILL	0.0 SF	0.0 CY

201+40.00



MATERIAL	AREA	VOLUME
CUT	85.7 SF	42.0 CY
FILL	0.0 SF	0.0 CY

201+38.50

CUT

FILL

CROSS SECTIONS

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	FIELD MGR.	RBV	9/16
VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER	HBS	9/16
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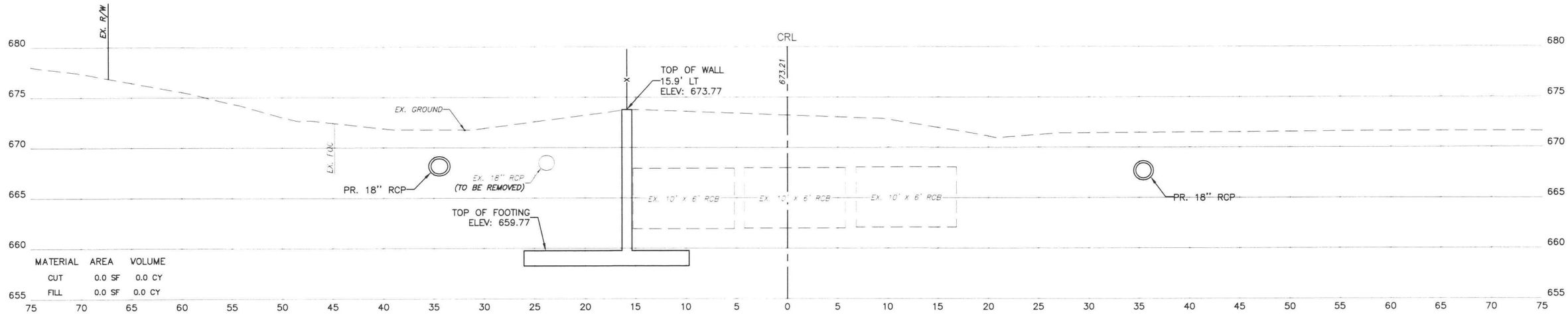
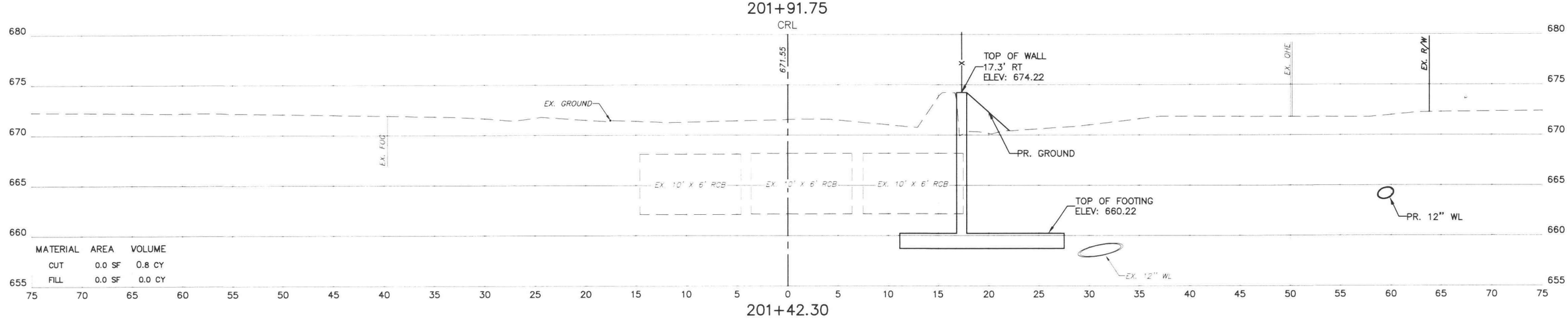


MATERIAL	AREA	VOLUME
CUT	0.0 SF	0.0 CY
FILL	0.0 SF	0.0 CY

201+91.75



MATERIAL	AREA	VOLUME
CUT	0.0 SF	0.8 CY
FILL	0.0 SF	0.0 CY

201+42.30

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

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CITY OF TULSA, OKLAHOMA
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HORIZONTAL: 1" = 5'	LEAD ENGR.		
	FIELD MGR.	ZBV	9/16
VERTICAL: 1" = 5'	RECOMMENDED: DESIGN MANAGER	HAS	9/16
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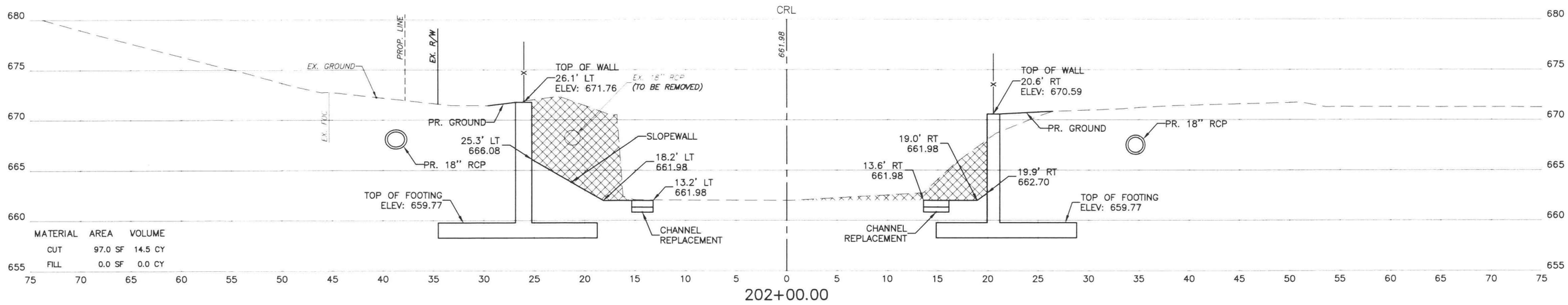
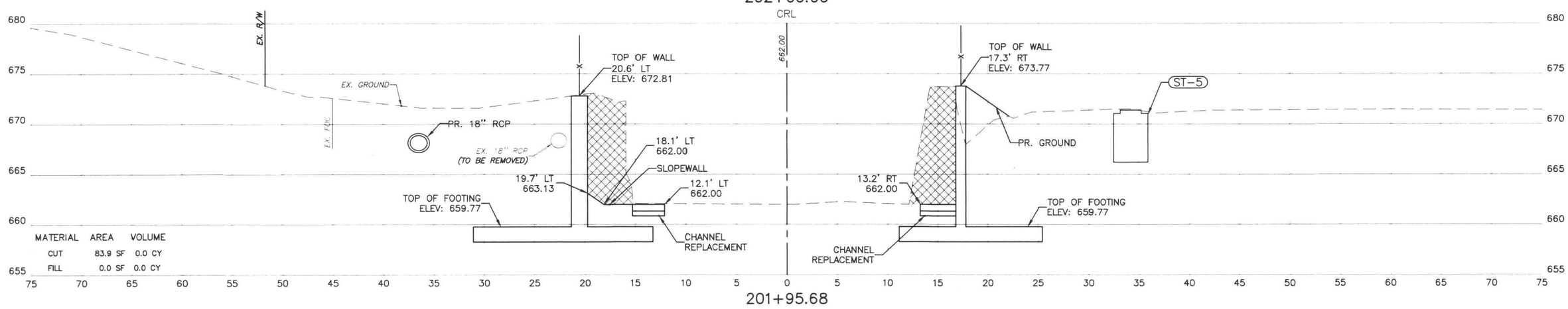


MATERIAL	AREA	VOLUME
CUT	97.0 SF	14.5 CY
FILL	0.0 SF	0.0 CY

202+00.00



MATERIAL	AREA	VOLUME
CUT	83.9 SF	0.0 CY
FILL	0.0 SF	0.0 CY

201+95.68

CUT

FILL

CROSS SECTIONS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

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	FIELD MGR.	RBV	9/16	
VERTICAL: 1" = 5'	RECOMMENDED: DESIGN MANAGER	HAS	9/16	CITY ENGINEER
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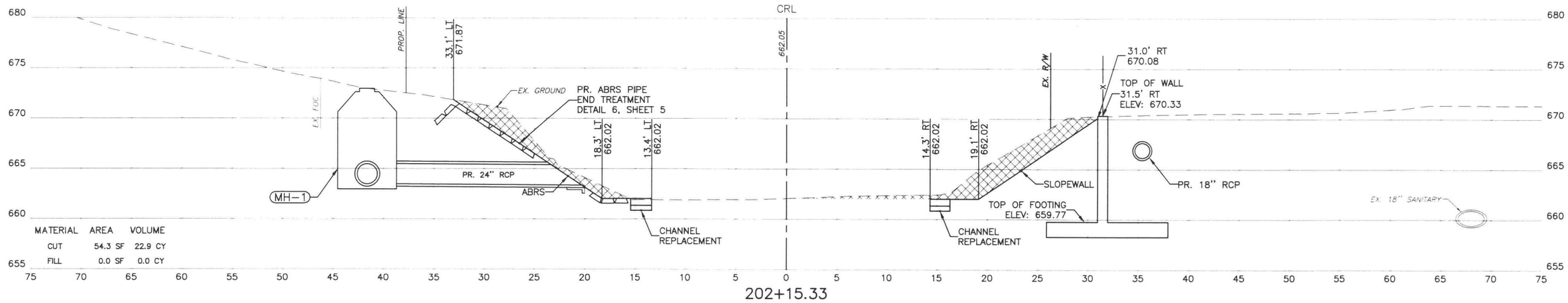
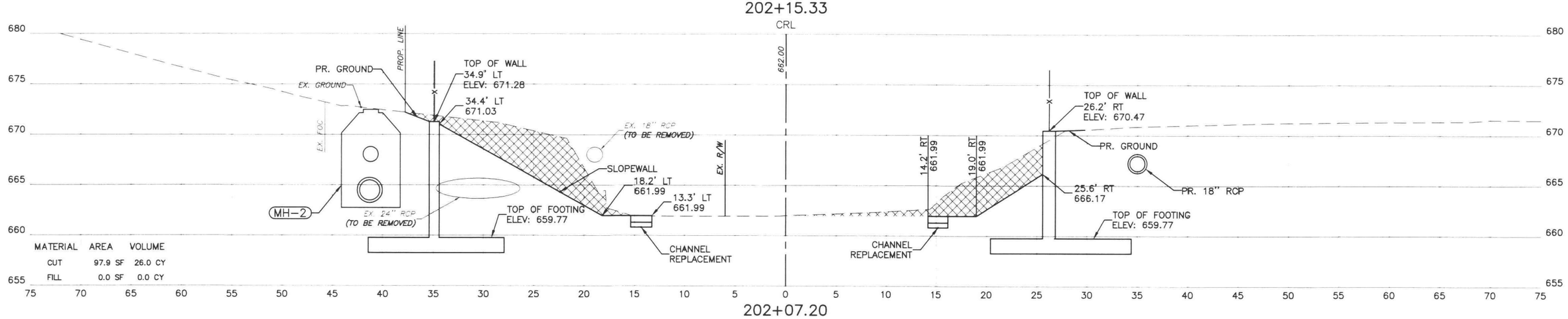


MATERIAL	AREA	VOLUME
CUT	54.3 SF	22.9 CY
FILL	0.0 SF	0.0 CY



MATERIAL	AREA	VOLUME
CUT	97.9 SF	26.0 CY
FILL	0.0 SF	0.0 CY

CUT

FILL

CROSS SECTIONS
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	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
HORIZONTAL: 1" = 5'	LEAD ENGR.			
	FIELD MGR.	RBY	9/16	
VERTICAL: 1" = 5'	RECOMMENDED: HAS 9/16 DESIGN MANAGER			CITY ENGINEER
FILE:	DRAWING:			DATE:
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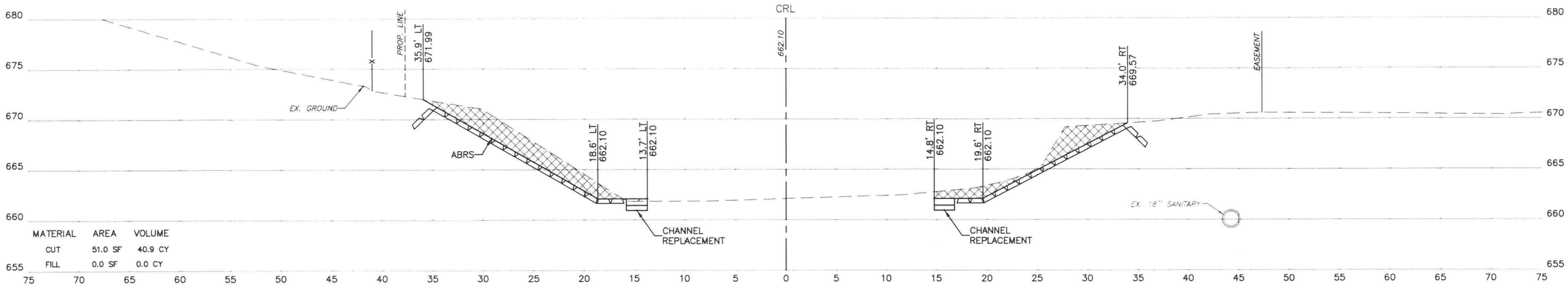
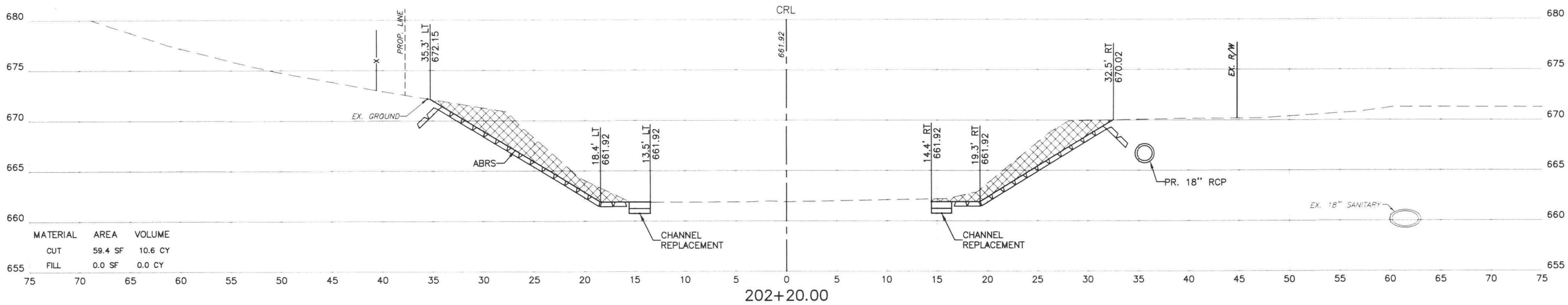
PRINT DATE: 08/19/2016 M:\City_of_Tulsa\14TUL05_On_Call_Stormwater_Services\Task_Order_4_Mingo_and_Catfish_Creeks\Design\Drawings\14TUL05_T04_CROSS_SECTIONS_NEW.dwg



MATERIAL	AREA	VOLUME
CUT	51.0 SF	40.9 CY
FILL	0.0 SF	0.0 CY

202+40.00



MATERIAL	AREA	VOLUME
CUT	59.4 SF	10.6 CY
FILL	0.0 SF	0.0 CY

202+20.00

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA

ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, P.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE

PLAN SCALE N/A	DRAWN	SMC	08/2016	APPROVED:
	DESIGNED	EGZ	08/2016	
	SURVEY	PDH	08/2016	
PROFILE SCALE	PROJ. MGR.	TRB	9/16	
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VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER	HAS	9/16	CITY ENGINEER
FILE:	DRAWING:			DATE:
ATLAS PAGE NO. 309				SHEET 50 OF 52 SHEETS

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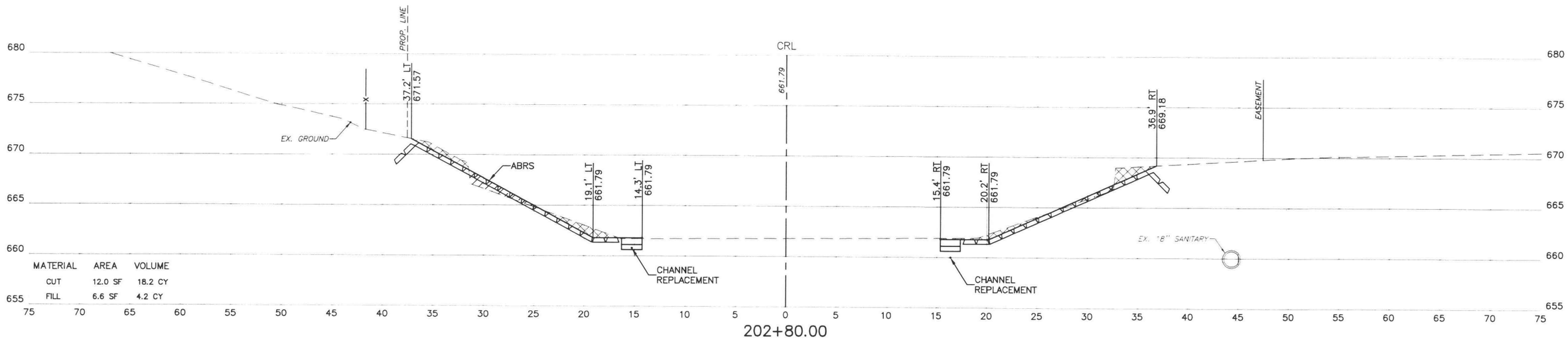

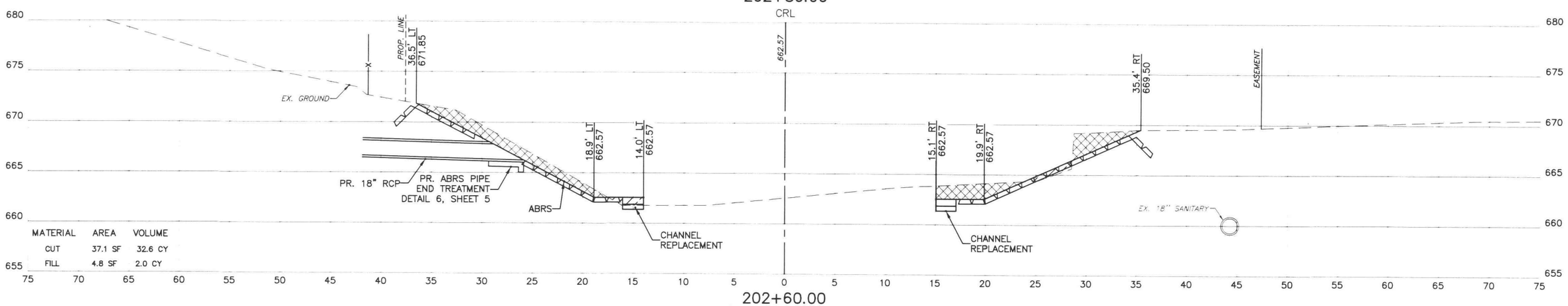

CUT

FILL

CROSS SECTIONS
PROJECT #143120-4
MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
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REVISION	BY	DATE

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	FIELD MGR.	CBV	9/16
VERTICAL: 1" = 5'	RECOMMENDED DESIGN MANAGER	HAS	9/16
FILE:	DRAWING:		
ATLAS PAGE NO. 309			

APPROVED:

CITY ENGINEER

DATE:

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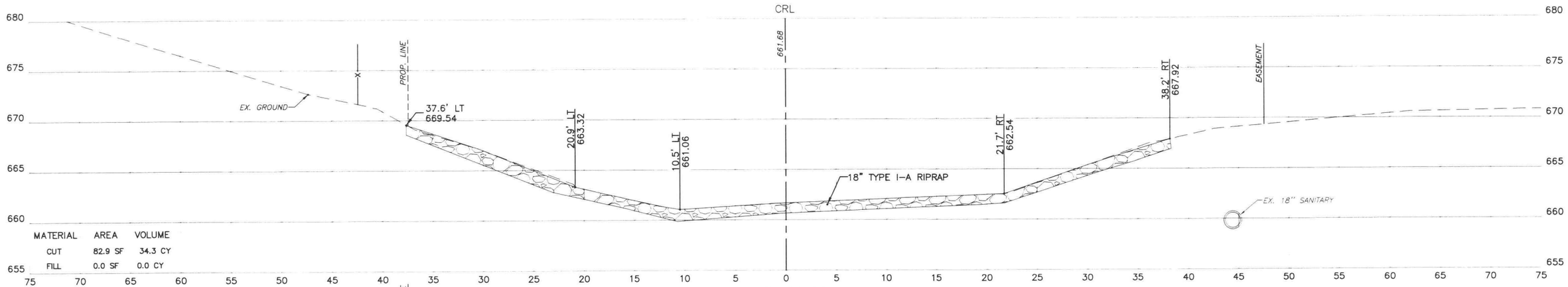
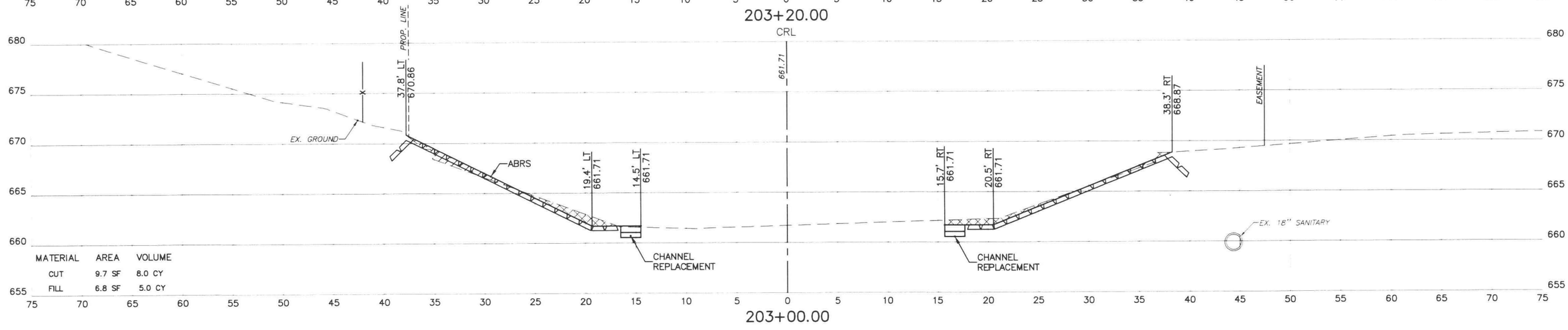


MATERIAL	AREA	VOLUME
CUT	82.9 SF	34.3 CY
FILL	0.0 SF	0.0 CY



MATERIAL	AREA	VOLUME
CUT	9.7 SF	8.0 CY
FILL	6.8 SF	5.0 CY

CUT

FILL

CROSS SECTIONS

PROJECT #143120-4

MINGO & CATFISH CREEKS CHANNEL IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
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	FIELD MGR.	EBM	9/16	
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