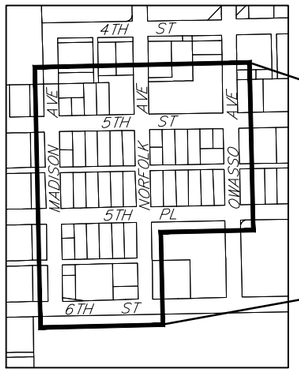
LEGEND

BENCH MARK	LIGHT POLE
BOREHOLE	ELECTRIC
EXISTING FIRE HYDRANT	POWER POLE
EXISTING WATERLINE	TREE
EXISTING WATER METER	TREE
EXISTING WATER VALVE	BUSH
FENCE LINE	TRAFFIC SIGN
GAS METER	MAIL BOX
GAS VALVE	TELEPHONE M.H.
GATE POST	OVERHEAD TELEPHONE
EXISTING GAS LINE	WELDED WIRE FENCE
SINGLE GRATE CURB INLET	STEEL POST
DOUBLE GRATE CURB INLET	UTILITY EASEMENT
SANITARY SEWER M.H.	SUBDIVISION R.O.W. LINE
STORM SEWER M.H.	SUBDIVISION EASEMENT LINE
TELEPHONE PEDESTAL	SUBDIVISION LOT LINE
SANITARY SEWER	BUILDING LINE
TELEPHONE UNDERGROUND	PROPOSED WATER LINE
ELECTRIC UNDERGROUND	PROPOSED R.O.W. LINE
LOW CHORD	FLOODPLAIN BOUNDARY

DESIGN DATA

SOUTH MADISON AVENUE, SOUTH NORFOLK AVENUE, SOUTH OWASSO AVENUE, EAST 5TH PLACE AND EAST 5TH STREET

AADT 2018	=	3,900
AADT 2038	=	10,000
D	=	55%
T_3 (% AADT)	=	5%
V	=	30 MPH
20yr. FLEX ESALS	=	2.3 M

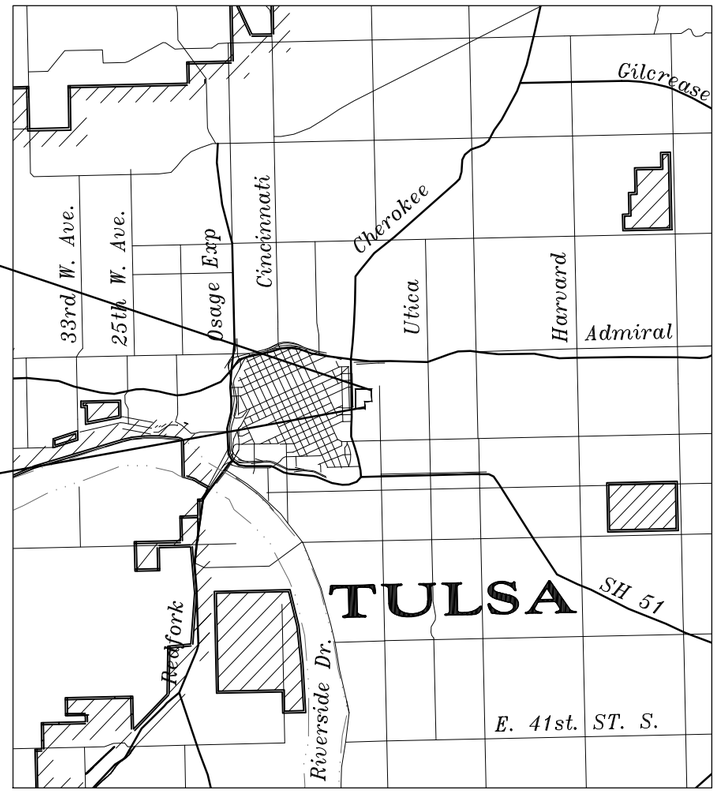


THE CITY OF TULSA, OKLAHOMA

FINAL PLANS FOR

ELM CREEK - WEST POND

SWD NO. 8845
PROJECT No. 148150
ACCOUNT NO. 6014-5451101-040522148150



UTILITY CONTACTS

UTILITY COMPANY	NUMBER
AEP/PSO – LONNY HICKS	918-250-6211
AT&T – KEVIN WINGARD	580-931-7688
AT&T DISTRIBUTION – ALFORD NICHOLS JR.	918-596-4237
CENTURYLINK – MIKE SMITH	405-853-7164
CITY OF TULSA (SEWER) – AARON JOHNSON	918-596-9564
CITY OF TULSA (STORM) – BRAD JACKSON	918-596-9569
CITY OF TULSA (TRAFFIC) – RUSSELL BAUSCH	918-591-4292
CITY OF TULSA (WATER) – RYAN MCKASKLE	918-596-9566
COX COMMUNICATIONS – GARY HAMILTON	918-286-4666
ONG – STEVE BOLIN	918-831-8389
VYVE – MARCUS WRIGHT	405-395-1100

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF THE CITY OF TULSA.
THIS PROJECT COMPLIES WITH ALL OKLA. DEPT. OF ENV. QUALITY (ODEQ) REQUIREMENTS

GUY ENGINEERING SERVICES, INC.
6910 E 14th St, Tulsa, OK 74112
Phone: (918)437-0282, FAX: (918)437-0455
Certificate of Authorization No. 1427
Renewal Date: June 30, 2020

MARVIN Z. VALENCIA, P.E. NO. 25539
SHEETS 01-15, 78-108, 112-123

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ALABACK DESIGN ASSOCIATES, INC.
3202 E. 21St Street, Suite 100,
Tulsa, Ok 74114
Phone: (918)742-1463, FAX: (918)742-1479
Certificate of Authorization No. 553
Renewal Date: June 30, 2019

DAN T. ALABACK, L.L.A. NO. 92
SHEETS 16-44

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BENHAM DESIGN, LLC
One West 3rd St, Ste. 200, Tulsa, OK, 74103
Phone: (918)492-1600
Certificate of Authorization No. 7569
Renewal Date: JUNE 30, 2020

KAREN SWATEK JONES, P.E. NO. 28517
SHEETS 63-77

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

D W GATES ENGINEERING SERVICES
616 Main St Ste 112, Tulsa, OK 74119
Phone: (918)583-6905, FAX: (918)583-4226
Certificate of Authorization No. 2572
Renewal Date: June 30, 2020

DEREK GATES, P.E. NO. 16502
SHEETS 45-62

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

FREESE AND NICHOLS, INC.
7633 E. 63rd Place Ste 300, Tulsa, OK 74133
Phone: (539)444-8677
Certificate of Authorization No. 511
Renewal Date: June 30, 2020

TRICIA H. HATLEY, P.E. NO. 20105
SHEETS 109-111

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

CITY OF Tulsa A New Kind of Energy.

APPROVED BY: _____ _____

PAUL ZACHARY, P.E.
CITY ENGINEER

DATE

Monday, October 15, 2018
V:\16-1050E Elm Ck West Pond\ 148150-1. CONC\V3D\PLANS\1050-COVER SHEET.dwg

PROJECT No.: 148150, CITY OF TULSA ELM CREEK WEST POND
GUY ENGINEERING, SERVICES INC.

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04	G03	PAY ITEM NOTES
05	G04	GENERAL CONSTRUCTION NOTES
06	G05	ROADWAY SUMMARY SHEET
07	G06	WATERLINE PAY QUANTITIES & NOTES
08	G07	WATERLINE SUMMARY & WASTEWATER PAY QUANTITIES & NOTES
09	R10	RIGHT-OF-WAY MAP
10	R11	SURVEY DATA - ALIGNMENT DATA SHEETS
11	R12	SITE PLAN
12	C10	GRADING PLAN OVER-ALL
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15	C13	GRADING PLAN SHEET NO. 3 OF 3
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84	C17	PLAN & PROFILE S. MADISON AVE. SHEET NO. 1 OF 3
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114	X03	CROSS SECTIONS - S. MADISON AVE. STA. 14+50 TO STA. 16+00
115	X04	CROSS SECTIONS - S. MADISON AVE. STA. 16+50 TO STA. 18+50
116	X05	CROSS SECTIONS - S. MADISON AVE. STA. 19+00 TO STA. 20+58.71
117	X06	CROSS SECTIONS - NORFOLK & 5TH PLACE STA. 30+50 TO STA. 31+86.19
118	X07	CROSS SECTIONS - NORFOLK & 5TH PLACE STA. 32+50 TO STA. 34+00
119	X08	CROSS SECTIONS - NORFOLK & 5TH PLACE STA. 34+50 TO STA. 36+00
120	X09	CROSS SECTIONS - NORFOLK & 5TH PLACE STA. 36+50 TO STA. 38+00
121	X10	CROSS SECTIONS - S. OWASSO AVE. STA. 40+50 TO STA. 42+50
122	X11	CROSS SECTIONS - S. OWASSO AVE. STA. 43+00 TO STA. 45+00
123	X12	CROSS SECTIONS - S. OWASSO AVE. STA. 45+50 TO STA. 47+10.15

THE FOLLOWING CITY OF TULSA STANDARD DRAWINGS WILL BE USED FOR THIS PROJECT:

102 - PROJECT SIGN
126 - STD SILT FENCE AND CONSTRUCTION ENTRANCE
304 - BEDDING DETAIL RIGID PIPE
309 - FIRE HYDRANT
312 - STD DETAIL FRAME & LID FOR WATER VAULTS
313 - VALVE BOX
315 - THRUST BLOCKS AND TRENCH CONDITIONS
501 - METER SETTINGS FOR 5/8" X 3/4" AND 3/4" WATER SERVICE
505 - METER CAN WITH RIM AND LID
601 - PULL BOX INSTALLATION
602 - CONDUIT INSTALLATION
603 - SIGNAL POLE FOOTING DETAILS
606 - EMERGENCY PRE-EMPTION DETAIL
607A - TRAFFIC SIGNAL SERVICE POLE AND SERVICE TO SIGNAL STANDARD
607B - TRAFFIC SIGNAL PEDESTAL SERVICE
608A - STREET NAME SIGNS
608B - TRAFFIC SIGNS
611A - POLE WIRING DETAIL
611B - DOWNTOWN PEDESTAL WIRING DETAIL
613 - PEDESTAL AND MAST ARM POLE DETAIL
614A - TRAFFIC SIGNALS AND ACCESSORIES
614B - SIGNAL HEAD WIRING
616 - MAST ARM BRACKETS
617A - SIGNAL POLES AND MAST ARMS
617B - SINGLE MAST ARM DETAILS
618 - BONDING DIAGRAM
625 - REMOVAL OF TRAFFIC ITEMS
727 - CONCRETE PAVEMENT STD DETAILS FOR RESIDENTIAL & COLLECTORS STREET (1 OF 2)
729 - CONCRETE PAVEMENT STD DETAILS FOR RESIDENTIAL & COLLECTOR STREETS (2 OF 2)
731 - STD CONCRETE PAVEMENT CUT & REPAIR
751 - STD PIPE BEDDING DETAIL FOR STORM SEWER
752 - STD DETAIL FRAME & LID FOR STORMWATER MANHOLE
753 - STD DETAIL FRAME & LID FOR 4' & 5' ID.
754 - STD DETAIL FRAME AND LID FOR 6' AND 8' I.D. STORMWATER MANHOLE AND JUNCTION BOXES
755 - CONFIGURATIONS OF CAST IRON CURB INLETS
764 - STD REINFORCED CONCRETE STORMWATER INLETS
765 - STD STORMWATER FRAMES
766 - STD STORMWATER GRATES
767 - STD CAST IRON CURB
770 - STANDARD DROP INLET 15", 18", 24"
775 - STD PRECAST CONCRETE STORMWATER MANHOLE
776 - STANDARD PIPE HEADWALLS 15" TO 42"
790 - STD SIDEWALK RAMP

THE FOLLOWING ODOT STANDARD DRAWINGS WILL BE USED FOR THIS PROJECT:

CET4S-3-2	RCB-C1-3&4&5(2-20)	SMD-3-0	TCS1-1-01	TCS5-1-00	TCS9-1-01
SCES-3-0	RWF-3-2	TFL-1-0	TCS2-1-00	TCS6-1-02	TCS14-1-00
	GPI-4-0	LTU-4-0	TCS4-1-01	TCS7-1-02	TCS24-1-02

SURVEY DATA

BENCHMARK LOCATION:
ADS BENCHMARK - #60 - 3" BRASS CAP-FLUSH-SET APPROXIMATELY 200' SOUTH OF THE INTERSECTION OF 21ST ST. AND S. UTICA AVE., IN LEFT TURN LANE OF NORTHBOUND TRAFFIC.
N=418593.311
E=2568765.684
ELEV. = 745.11

HORIZONTAL DATUM:
OKLAHOMA NORTH (ZONE 3501) STATE PLANE COORDINATE SYSTEM, NAD 1983 (1993)

VERTICAL DATUM:
NAVD 1988

SCALE FACTOR:
N/A

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

INDEX OF SHEETS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: N/A
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A

DRAWN	DGD	01/19	APPROVED:
DESIGNED	MZV	01/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
DATE:

FILE: DRAWING:
ATLAS PAGE NO: 01 & 08
PAGE NO. G01
SHEET NO. 02 OF 123

Thursday, April 25, 2019 1:45:22 PM
V:\16-1050E Elm Ck West Pond, 148150-1, CON\CIV3D\PLANS\1050-COVER SHEET.dwg

ROADWAY AND POND PAY QUANTITIES

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
1	201(A)	CLEARING & GRUBBING	1,48	AC	15.9
2	202(A)	UNCLASSIFIED EXCAVATION	2,10,40,60	CY	199,319
3	205(A)	TYPE A - SALVAGED TOPSOIL	107	CY	1,304
4	220	SWPPP DOCUMENTATION AND MANAGEMENT	64	EA	1
5	221(C)	TEMPORARY SILT FENCE	12	LF	2,949
6	221(D)	TEMPORARY SEDIMENT FILTER	12,61,62	EA	5
7	221(K)	TEMPORARY FIBER LOG	12	LF	414
8	230(A)	SOLID SLAB SODDING	13,14,15	SY	1,476
9	303(A)	AGGREGATE BASE TYPE A	2,3,4	CY	4,527
10	310(B)	SUBGRADE, METHOD B	2	SY	13,581
11	325	SEPARATOR FABRIC	2,5	SY	15,365
12	411(B)	SUPERPAVE, TYPE S3 (PG 64-22 OK)	16,17,50	TON	2,553
13	411(C)	SUPERPAVE, TYPE S4 (PG 64-22 OK) (INSOLUBLE)	16,17,50	TON	1,247
14	509(A)	CLASS AA CONCRETE	20,108	CY	408
15	510(A)	RETAINING WALL - (SEGMENTAL BLOCK)	43	SY	148
16	510(A)	RETAINING WALL - (CANTILEVER)	101,102,103,104	SY	1,330
17	510(A)	RETAINING WALL - (DRILLED SHAFT)	101,102,103,104	SY	6,356
18	511(A)	REINFORCING STEEL	109	LB	62,841
19	516(A)	DRILLED SHAFTS 36" DIAMETER	105	LF	4,619
20	516(C)	CROSSHOLE SONIC LOGGING	106	EA	67
21	609(B)	COMBINED CURB & GUTTER (6" BARRIER)	20,22,23,24	LF	5,883
22	610(A)	4" CONCRETE SIDEWALK	20,23,25	SY	853
23	610(A)	4" STAMPED CONCRETE SIDEWALK	52	SY	91
24	610(B)	6" CONCRETE DRIVEWAY (H.E.S.)	20,23,24,25	SY	694
25	610(I)	TACTILE WARNING DEVICE		SF	136
26	611(A)	4' I.D. MANHOLE, COMPLETE IN PLACE	26,28,34,44,57	EA	5
27	611(A)	5' I.D. MANHOLE, COMPLETE IN PLACE	26,28,34,44,57	EA	4
28	611(A)	6' I.D. MANHOLE, COMPLETE IN PLACE	26,28,34,44,57	EA	3
29	611(A)	8' I.D. MANHOLE, COMPLETE IN PLACE	26,28,34,44,57	EA	5
30	611(B)	ADDITIONAL DEPTH IN 4' I.D. MANHOLE (STORM SEWER)	44	VF	7
31	611(B)	ADDITIONAL DEPTH IN 5' I.D. MANHOLE (STORM SEWER)	44	VF	7
32	611(B)	ADDITIONAL DEPTH IN 8' I.D. MANHOLE (STORM SEWER)	44	VF	17
33	611(G)	INLET, TYPE CICI DES. 2 (STD), COMPLETE IN PLACE	31,32,33,34,35,56	EA	6
34	611(G)	INLET, TYPE CICI DES. 2 (B), COMPLETE IN PLACE	31,32,33,34,35,56	EA	4
35	611(G)	INLET, TYPE CICI DES. 2 (D), COMPLETE IN PLACE	31,32,33,34,35,56	EA	3
36	611(G)	INLET, TYPE CICI DES. 3 (STD), COMPLETE IN PLACE	31,32,33,34,35,56	EA	3
37	611(G)	INLET WITH MANHOLE, TYPE CICI DES. 3 (STD), COMPLETE IN PLACE	26,31,32,33,34,35,56	EA	2
38	611(G)	INLET, TYPE CICI DES. 3 (B), COMPLETE IN PLACE	31,32,33,34,35,56	EA	1
39	611(G)	INLET WITH MANHOLE, TYPE CICI DES. 3 (B), COMPLETE IN PLACE	26,31,32,33,34,35,56	EA	2
40	611(G)	INLET WITH MANHOLE, TYPE CICI DES. 3 (D), COMPLETE IN PLACE	26,31,32,33,34,35,56	EA	3
41	611(H)	ADD'L DEPTH IN INLET CI DES. 3	35	VF	19
42	612(A)	MANHOLES ADJUST TO GRADE (PUBLIC)	20,21,26,27,28	EA	8
43	619(A)	REMOVAL OF STRUCTURES & OBSTRUCTIONS	10,21,51,53,65,66	LSUM	1
44	619(B)	REMOVAL OF CONCRETE PAVEMENT	10,21	SY	5,092
45	619(B)	REMOVAL OF APC PAVEMENT	10,21,65	SY	15,579
46	619(B)	REMOVAL OF ASPHALT PAVEMENT	10,21,65	SY	1,198
47	619(B)	REMOVAL OF CURB AND GUTTER	10,21,65	LF	8,195
48	619(B)	REMOVAL OF EXISTING INLET	10,21,27,63,65	EA	17
49	619(B)	REMOVAL OF EXISTING STORM PIPE	10,21,63,65	LF	4,131
50	619(B)	REMOVAL OF EXISTING STORM MANHOLE	10,21,27,63,65	EA	18
51	619(B)	REMOVAL OF SANITARY PIPE	10,21,63,65	LF	3,526
52	619(B)	REMOVAL OF MANHOLE (SANITARY)	10,21,27,63,65	EA	19
53	619(B)	REMOVAL OF WATERLINE PIPE	10,21,63,65	LF	4,782
54	641	MOBILIZATION	58	EA	1
55	642	CONSTRUCTION STAKING	7,47	EA	1
56	SPECIAL	TYPE 1 APC ARTERIAL PATCH	9	CY	681
57	SPECIAL	PIPE FENCE		LF	73
58	SPECIAL	STONE VENEER		SY	3,577
59	SPECIAL	QUICK SET FLOWABLE FILL	19,32	CY	10
60	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	11,14,29,41,42,48,59	EA	1
61	SPECIAL	PROJECT SIGN (CITY OF TULSA)	46	EA	2
62	SPECIAL	HANDICAP RAMP		EA	17
63	SPECIAL	OWNER ALLOWANCE		ALLOW	1
64	SPECIAL	TRASH TREATMENT SYSTEM (COMPLETE IN PLACE)		EA	1

HARDSCAPE AND LANDSCAPE PAY QUANTITIES

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
65	SPECIAL	SHADE TREES		EA	174
66	SPECIAL	GROUNDCOVER PLANTINGS		SF	1,950
67	SPECIAL	LANDSCAPE PLANTINGS (SHRUBS AND ORN. GRASSES)		SF	5,250
68	SPECIAL	PLANTING SOIL MIX FOR LANDSCAPE AREAS		CY	780
69	SPECIAL	IMPORTED TOPSOIL (PLAZA PLANTERS - LAWN)		CY	545
70	SPECIAL	PEA GRAVEL MULCH (3" DEEP) FOR MID LEVEL PLANTER		TON	32
71	SPECIAL	BERMUDA SOD		SY	7,910
72	SPECIAL	SITE IRRIGATION SYSTEM		EA	1
73	SPECIAL	SITE IRRIGATION METER, BFP, AND CONTROLLER		EA	1
74	SPECIAL	PARK AMENITIES / FURNISHING (6TH/ MADISON AVE.)		EA	1
78	SPECIAL	AERATION FOUNTAINS (3 HP)		EA	6
79	SPECIAL	CONTROLLER FOR AERATION FOUNTAINS		EA	1
80	SPECIAL	DECORATIVE PEDESTRIAN PAVING (CONCRETE PAVERS)		SY	4,665
81	SPECIAL	CONCRETE EDGE RESTRAINT FOR PAVERS (6" WIDE)		LF	2,370
82	SPECIAL	CONCRETE RAMPS - 6" THICK		SY	525
83	610(A)	CONCRETE SIDEWALKS - 4" THICK		SY	3,195
84	SPECIAL	PAVILION - 40' x 40'		EA	1
85	SPECIAL	PAVILION - 35' x 35'		EA	2
86	SPECIAL	42" HT. ORNAMENTAL RAILING		LF	4,150
87	SPECIAL	STAIR HANDRAILS		SF	286
88	SPECIAL	BENCH (6 FT. LONG WITH BACK)		EA	35
89	SPECIAL	LITTER RECEPTACLE		EA	15
90	SPECIAL	BIKE RACK		EA	24
91	SPECIAL	8' WIDE BOARDWALK (ON PIERS)		SF	4,370
92	SPECIAL	PIER / OVERLOOKS (WITH STRUCTURE)		SF	11,400
93	SPECIAL	FISHING DOCK (EAST SIDE OF POND)		SF	875
94	SPECIAL	AUTOFILL WATER VALVE FOR POND		EA	1
95	SPECIAL	RAIN GARDENS (PARKING LOT ISLANDS)		SF	1,450
96	SPECIAL	SITE STAIRS (CONCRETE)		SF	1,075
97	SPECIAL	CONCRETE SEAT WALL (RAISED PLANTERS)		LF	770

ELECTRIC AND LIGHTING QUANTITIES

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
98	SPECIAL	IDENTIFICATION OF EQUIPMENT LAYDOWN AREA, LOCAL SITE LOCATION		LOT	1
99	607	ELECTRICAL SERVICE & METERING		EA	2
		SITE LIGHTING			
100	610	LIGHTING CONTROL PANELS		EA	3
101	800.2	12' POLE WITH LED LIGHT FIXTURE		EA	43
102	800.2	OUTDOOR UNDER DECK LED LIGHT FIXTURE		EA	16
103	610	CONCRETE POLE BASES		EA	43
104	602.1	3/4" RGS CONDUIT		FT	250
105	602.1	2" PVC CONDUIT/buried		FT	3,330
106	601.1	IN GROUND JUNCTION BOXES		EA	12
107	611	#12 THWN COPPER WIRE		FT	3,000
108	611	#10 THWN COPPER WIRE		FT	6,000
109	611	#8 THWN COPPER WIRE		FT	500
110	611	#6 THWN COPPER WIRE		FT	
111	611	#1 THWN COPPER WIRE		FT	1,500
		AERATORS			
112	SPECIAL	AND ASSOCIATED CONTROL EQUIP. INCLUDING 120V XFMR.		EA	2
113	SPECIAL	AND (3) #12 120V CONTROL WIRES		FT	800
114	602.1	2" PVC CONDUIT		FT	600
115	601.1	IN GROUND JUNCTION BOXES		EA	6
116	611	#12 THWN COPPER WIRE		FT	1,500
117	611	#10 THWN COPPER WIRE		FT	1,500
115	611	#8 THWN COPPER WIRE		FT	
116	611	#6 THWN COPPER WIRE		FT	1,000
		SHELTER ELECTRICAL			
117	SPECIAL	120V GFCI RECEPTACLES AT SHELTERS		EA.	8

TRAFFIC QUANTITIES

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
118	855(A)	TRAFFIC STRIPE (PLASTIC)(4" WIDE)	36	LF	5,980
119	855(A)	TRAFFIC STRIPE (PLASTIC)(24" WIDE)	36	LF	391
120	855(A)	TRAFFIC STRIPE (PLASTIC)(SYMBOL)	36	EA	2
121	880(B)	CONSTRUCTION SIGNS 0 TO 6.25 SF	37	SD	1,456
122	880(B)	CONSTRUCTION SIGNS 6.26 TO 15.99 SF	37	SD	4,456
123	880(B)	CONSTRUCTION SIGNS 16.00 TO 32.99 SF	37	SD	3,020
124	880(C)	BARRICADES (TYPE III)	37	SD	14,448
125	880(E)	WARNING LIGHTS (TYPE A)	38	SD	16,832
126	880(G)	CHANNELIZER CONES	37	SD	820
127	COT 608(A)	GROUND SIGN		SF	189
128	COT 608(B)	1 3/4" SIGN POST		LF	190
129	COT 608(B)	2" SIGN POST		LF	57

STORM WATER OPTION 1

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
130	613(A)	RCP 18" ROUND, COMPLETE IN PLACE	30,32,45,54	LF	939
131	613(A)	RCP 24" ROUND, COMPLETE IN PLACE	30,32,45,54	LF	354
132	613(A)	RCP 36" ROUND, COMPLETE IN PLACE	30,32,45,54	LF	200
133	613(A)	RCP 42" ROUND, COMPLETE IN PLACE	30,32,45,54	LF	185
134	613(A)	RCP 48" ROUND, COMPLETE IN PLACE	30,32,45,54	LF	384

STORM WATER OPTION 2

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
135	613(EE)	(SP) 18" CORRUGATED POLYPROPYLENE PIPE	32,45,54	LF	939
136	613(EE)	(SP) 24" CORRUGATED POLYPROPYLENE PIPE	32,45,54	LF	354
137	613(EE)	(SP) 36" CORRUGATED POLYPROPYLENE PIPE	32,45,54	LF	200
138	613(EE)	(SP) 42" CORRUGATED POLYPROPYLENE PIPE	32,45,54	LF	185
139	613(EE)	(SP) 48" CORRUGATED POLYPROPYLENE PIPE	32,45,54	LF	384

C.O.T. PAY ITEM LIST REV. DATE 08/09/2017

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

PAY QUANTITIES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: N/A
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A

DRAWN	DGD	01/19	APPROVED:
DESIGNED	MZV	01/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER
			DATE:

FILE: DRAWING:
ATLAS PAGE NO: 01 & 08
PAGE NO. G02
SHEET NO. 03 OF 123

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PAY ITEM NOTES (08/09/2017)

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 5% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL OR ADDITIONAL PATCHING AS DIRECTED BY THE ENGINEER.
3. TYPE A AGGREGATE BASE WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 90% OF THE PATCHING. QUICK SET FLOWABLE FILL WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 10% OF THE PATCHING. ACTUAL QUANTITIES TO BE DETERMINED BY THE ENGINEER.
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 AND CITY ARBORIST. 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. NOT USED.
19. LOCATIONS TO BE DETERMINED IN THE FIELD AND WORK TO BE PERFORMED AT THE DIRECTION OF THE FIELD ENGINEER. QUANTITY IS ESTIMATED AND MAY BE OMITTED IN ITS ENTIRETY.
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. ONE SIDEWALK PANEL ON EACH SIDE OF DRIVEWAYS SHALL BE A MINIMUM OF 6" THICK OR MATCH EXISTING DRIVEWAY THICKNESS, WHICHEVER IS GREATER. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE COST OF THE THICKENED SIDEWALK THROUGH THIS AREA.
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. 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.
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 ALL INLETS EXCEEDING 3.71 VERTICAL FT, CALCULATED FROM THE CENTER ELEVATION OF THE LOWEST CAST IRON CURB TO THE FLOWLINE OF THE OUTLET PIPE.
36. ALL PLASTIC PAVEMENT MARKINGS SHALL BE EITHER:

    EXTRUDED-APPLIED THERMOPLASTIC (USE ON ASPHALT PAVEMENT). THERMOPLASTIC PAVEMENT MARKINGS SHALL ONLY BE APPLIED WHEN THE SURFACE TEMPERATURE EXCEED 55°F FOR ALL OF THE SIX HOURS PRIOR TO INSTALLATION AND MAXIMUM WIND GUSTS ARE BELOW 15 MPH AT THE TIME OF APPLICATION. PRICE BID TO INCLUDE FLEX TABS OR LIKE KIND FOR POST CONSTRUCTION LANE MARKING/SEPARATION. MECHANICALLY APPLIED PREFORMED PLASTIC TAPE ("COLD TAPE") WILL NOT BE ACCEPTED.

    OR

    MULTI-POLYMER PAINT (USE ON CONCRETE PAVEMENT). MULTI-POLYMER PAVEMENT MARKINGS SHALL ONLY BE APPLIED 30 DAYS AFTER PAVING WHEN PAVEMENT SURFACE EXCEED 40°F FOR ALL OF THE SIX HOURS PRIOR TO INSTALLATION WITH A MINIMUM WIND CHILL TEMPERATURE OF 35°F. PRICE BID TO INCLUDE FLEX TABS OR LIKE KIND FOR POST CONSTRUCTION LANE MARKING/SEPARATION.
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. A CERTIFIED ARBORIST SHALL OVERSEE ALL PLANTINGS AND OR REMOVAL OF TREES. CONTACT CITY ARBORIST TO ACCEPT FINAL PLANTINGS. CONTACT #: 918-596-2548
42. TREE GRATES ARE NOT ACCEPTABLE PER CITY ARBORIST. CONCRETE PAVERS ARE TO BE USED AS NECESSARY AROUND TREES.
43. UNIT PRICE SHALL INCLUDE COST OF ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED TO CONSTRUCT WALL PER MANUFACTURER'S RECOMMENDATIONS.
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. 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. THE COST TO REPLACE REMOVED OR DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.
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. PG 70-28 OK OR PG 76-28 OK MAY BE DESIRABLE IN HIGH VOLUME AREAS WHERE SLOW, STANDING, OR TURNING TRAFFIC OCCURS, SUCH AS URBAN INTERSECTIONS OR OFF-RAMPS. OFF RAMPS SHOULD AT LEAST USE THE SAME BINDER AS THE MAINLINE.

    A HIGHER GRADE OF ASPHALT BINDER THAN INDICATED ON THE PLANS MAY BE USED, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

BINDER GRADE	MESALS	ADT	NOTES
PG 64-22 OK	< 3	< 5,000	USE WHEN MORE THAN 4-6 INCHES BELOW THE SURFACE. ALSO USE FOR SHOULDERS, DRIVEWAYS, BELOW PCC, AND TEMPORARY CONSTRUCTION.
PG 70-28 OK	< 10	< 10,000	USE ONLY IN THE TOP 4-6 INCHES FOR DRIVING LANES.
PG 76-28 OK	>= 10	>= 10,000	USE ONLY IN THE TOP 4-6 INCHES FOR DRIVING LANES.
PG 76-28 E	--	--	CONTACT ODOT MATERIALS DIVISION FOR RECOMMENDED USE.

[1] USE ADT ONLY WHEN ESAL COMPUTATIONAL DATA IS NOT AVAILABLE. CALCULATE THE DESIGN ESALS BASED ON 20 YEARS.

51. PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.
52. BOMANITE-BOMACRON, PATTERNED CONCRETE OR EQUAL, USE BRICK RUNNING BOND PATTERN, COLONIAL RED COLOR. PAINTING OF STAMPED CONCRETE IS PROHIBITED.
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. NOT USED.
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. MOBILIZATION FOR THE PROJECT (EXCLUDING WATER MOBILIZATION) 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. CONTRACTOR SHALL COORDINATE WITH HOMEOWNERS TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTING OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.
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. INCLUDES 5 TYPE 1-B SEDIMENT FILTERS.
63. SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.
64. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.
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. NOT USED.

101. EXCAVATION FOR RETAINING WALL AND FOOTING, BACKFILL BEHIND RETAINING WALL, DOWELS, WATERSTOPS, EXPANSION JOINT MATERIAL, BACKER ROD, SEALER, FILTERFABRIC AND PIPE UNDER DRAIN ASSEMBLY SHALL BE INCLUDED IN THE PRICE BID PER SY OF RETAINING WALL IN ACCORDANCE WITH ODOT SPECIFICATION 510.06.
102. PLACE BACKFILL IN ACCORDANCE WITH ODOT 2009 SPECIFICATION 202.04B EMBANKMENTS.BACKFILL SHALL BE IN ACCORDANCE WITH THE PARAMETERS SPECIFIED IN THE TERRACON REPORT 04175021 (MARCH 21, 2017).
103. IF EXCAVATED MATERIAL DOES NOT MEET CRITERIA FOR "BACKFILL" PER RETAINING WALL GENERAL NOTES,THE CONTRACTOR SHALL CONSIDER THE MATERIAL WASTE AND DISPOSE OF IN ACCORDANCE WITH ODOT SPECIFICATION 104.09.
104. THERE IS AN ESTIMATED XX LBS OF REINFORCING STEEL AND XX CY OF CLASS A CONCRETE IN THE RETAINING WALL AND FOOTING. RETAINING WALL IS MEASURED FROM TOP OF FOOTING TO TOP OF RETAINING WALL. WALL AND FOOTING CONCRETE AND ALL REINFORCING STEEL IS INCLUDED IN THE PRICE BID PER SY OF RETAINING WALL.
105. ALL DRILLED SHAFTS SHALL INCLUDE CROSS-HOLE SONIC LOGGING TUBES IN ACCORDANCE WITH THE SPECIAL PROVISIONS. INCLUDE ALL COSTS OF THE ACCESS TUBES IN THE UNIT PRICE BID FOR DRILLED SHAFTS. ALL REINFORCING STEEL IN THE DRILLED SHAFTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR DRILLED SHAFTS.
106. CROSSHOLE SONIC LOGGING SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISION. THE QUANTITIES INCLUDE THE TESTING OF A MINIMUM OF 1 DRILLED SHAFT FOR EACH SIZE DRILLED SHAFT PER WALL. THE FIRST PRODUCTION SHAFT OF EACH SIZE SHALL BE TESTED BEFORE THE OTHER SHAFTS OF THAT SIZE CAN BE DRILLED. AS A MINIMUM, ONE OUT OF EVERY SIX DRILLED SHAFTS SHALL BE TESTED PER WALL. ADDITIONAL TESTING SHALL BE PERFORMED AT THE DISCRETION OF THE ENGINEER BASED ON PREVIOUS TEST RESULTS, AT NO ADDITIONAL COST TO THE CITY.
107. THIS ITEM INCLUDES 205 CY OF TYPE A SALVAGED TOPSOIL TO BE USED FOR THE ROADWAY AND 1099 CY OF TYPE A SALVAGED TOPSOIL TO BE USED FOR THE PARK.
108. THIS ITEM INCLUDES 177 CY FOR THE 10X10 REINFORCED CONCRETE BOX, 14 CY FOR JUNCTION BOX NR. 1, 7 CY FOR JUNCTION BOX NR. 2, AND 210 CY FOR THE WEIR STRUCTURE.
109. THIS ITEM INCLUDES 27,896 LBS FOR THE 10X10 REINFORCED CONCRETE BOX, 2,536 LBS FOR JUNCTION BOX NR. 1, 1,268 LBS FOR JUNCTION BOX NR. 2, AND 31,141 LBS FOR THE WEIR STRUCTURE.

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

PAY ITEM NOTES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: N/A
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A

DRAWN	DGD	01/19	APPROVED:
DESIGNED	MZV	01/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED: _____ DESIGN MANAGER

_____ CITY ENGINEER

DATE:

FILE: DRAWING:

PAGE NO. G03

ATLAS PAGE NO: 01 & 08

SHEET NO. 04 OF 123

Thursday, April 25, 2019 2:09:18 PM
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GENERAL CONSTRUCTION NOTES (09/12/2016)

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. 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.

42. THE CONTRACTOR SHALL NOTIFY THE METROPOLITAN TULSA TRANSIT AUTHORITY (MTTA), ERIC SMITH 918-830-0024, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK, LANE CLOSURES OR PRIOR TO DETOURING TRAFFIC.

43. CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN.

BEFORE YOU DIG 811 CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL CONSTRUCTION NOTES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: N/A	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A	PROJ. MGR.			
	LEAD ENGR.			
	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:

FILE: DRAWING: PAGE NO. G04

ATLAS PAGE NO: 01 & 08 SHEET NO. 05 OF 123

SURFACING SUMMARY

STATIONS		LENGTH	UNCLASSIFIED EXCAVATION	AGGREGATE BASE	SEPARATOR FABRIC	SUBGRADE, METHOD B	SUPERPAVE, TYPE S3 (PG 64-22 OK)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	TYPE 1 APC PATCH ARTERIAL	COMBINED CURB & GUTTER (6" BARRIER)	STAMPED CONCRETE SIDEWALK	4" CONCRETE SIDEWALK
			202(A)	303(A)	325	310(B)	411(B)	411(C)	SPECIAL	609(B)	610(A)	610(A)
		L.F.	CY	CY	SY	SY	TON	TON	CY	LF	SY	SY
MADISON STREET												
10+22.50	20+75.95	1,053	3,694	1,847	6,242	5,540	1,344	537		2,284		315
NORFOLK AVENUE AND E. 5TH PLACE												
30+22.50	37+65.50	743	1,980	990	3,467	2,971	686	274		1,582	85	347
S OWASSO AVENUE												
39+67.00	47+18.50	752	1,598	799	2,897	2,396	523	209		1,438	6	72
4TH STREET												
		629	144	72	217	217		24	72	259		29
6TH STREET												
		259	1,206	603	1,810	1,810		203	608	320		90
		TOTAL =	**8,622**	**4,311**	**14,633**	**12,934**	**2,553**	**1,247**	**681**	**5,883**	**91**	**853**

SUMMARY OF REMOVALS

	REMOVAL OF CONCRETE PAVEMENT 619(B)	REMOVAL OF APC PAVEMENT 619(B)	REMOVAL OF ASPHALT PAVEMENT 619(B)	REMOVAL OF CURB AND GUTTER 619(B)	REMOVAL OF EXISTING INLET 619(B)	REMOVAL OF STORM PIPE 619(B)	REMOVAL OF MANHOLE (STORM) 619(B)	REMOVAL OF SANITARY PIPE 619(B)	REMOVAL OF MANHOLE (SANITARY) 619(B)	REMOVAL OF WATER LINE PIPE 619(B)
	S.Y.	S.Y.	S.Y.	L.F.	EA.	L.F.	EA.	L.F.	EA.	L.F.
DEMOLITION SHEET 1 OF 3										
	2299	4834	1198	3215	8	1576	8	1265	7	1622
DEMOLITION SHEET 2 OF 3										
	2601	5788		3,360	5	1,790	8	1,296	7	1,510
DEMOLITION SHEET 3 OF 3										
	192	4957		1,620	4	765	2	965	5	1,650
TOTALS =	5,092	15,579	1,198	8,195	17	4,131	18	3,526	19	4,782

SIGN SUMMARY

STATION		MUTCD NAME	MUTCD SIGN DES.	SECTION	SIZE	DESCRIPTION	NOTES	GROUND SIGN COT 608A (SF)	1-3/4" SIGN POST COT 608B (LF)	2" SIGN POST COT 608B (LF)
MADISON AVE										
10+40.80	RT	SUPPLEMENTAL WARNING PLAQUES	W16-7P	2D.28	24" X 12"	LEFT ARROW	INSTALL NEW SIGN	2.0		
10+40.80	RT	PEDESTRIAN	W11-2	2C.50	36" X 36"	PEDESTRIAN CROSSING	INSTALL NEW SIGN	9.0	10	3
10+53.00	LT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
10+64.50	LT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
10+64.50	LT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	E 6TH ST.	INSTALL NEW SIGN	2.0		
10+64.50	LT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	S MADISON AVE.	INSTALL NEW SIGN	2.0		
10+69.00	LT	BYCICLE SIGNS	R5-3	9B.08	24" X 24"	NO MOTOR VEHICLES	INSTALL NEW SIGN	4.0	10	3
20+32.00	LT	BYCICLE SIGNS	R5-3	9B.08	24" X 24"	NO MOTOR VEHICLES	INSTALL NEW SIGN	4.0	10	3
20+33.00	RT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
20+33.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	E 4TH ST	INSTALL NEW SIGN	2.0		
20+33.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	S MADISON AVE	INSTALL NEW SIGN	2.0		
20+46.00	RT	SUPPLEMENTAL WARNING PLAQUES	W16-7P	2D.28	24" X 12"	LEFT ARROW	INSTALL NEW SIGN	2.0		
20+46.00	RT	PEDESTRIAN	W11-2	2C.50	36" X 36"	PEDESTRIAN CROSSING	INSTALL NEW SIGN	9.0	10	3
NORFOLK AVE & 5TH PL										
30+36.00	RT	SUPPLEMENTAL WARNING PLAQUES	W16-7P	2D.28	24" X 12"	LEFT ARROW	INSTALL NEW SIGN	2.0		
30+36.00	RT	PEDESTRIAN	W11-2	2C.50	36" X 36"	PEDESTRIAN CROSSING	INSTALL NEW SIGN	9.0	10	3
30+55.00	LT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
30+55.00	LT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	VETERANS WAY	INSTALL NEW SIGN	2.0		
30+55.00	LT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	E 6TH ST	INSTALL NEW SIGN	2.0		
30+55.00	LT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	S NORFOLK AVE	INSTALL NEW SIGN	2.0		
32+30.00	RT	CHANGES IN HORIZONTAL ALIGN.	W1-1(R)	2C.04	24" X 24"	RIGHT CURVE	INSTALL NEW SIGN	4.0	10	3
32+30.00	RT	CHANGES IN HORIZONTAL ALIGN.	W13-1P (20)	2C.08	24" X 24"	ADVISORY SPEED (20 MPH)	INSTALL NEW SIGN	4.0		
33+13.00	LT	CHANGES IN HORIZONTAL ALIGN.	W1-6	2C.12	48" X 24"	ONE-DIRECTION LARGE ARROW	INSTALL NEW SIGN	8.0	10	3
33+78.00	LT	CHANGES IN HORIZONTAL ALIGN.	W1-6	2C.12	48" X 24"	ONE-DIRECTION LARGE ARROW	INSTALL NEW SIGN	8.0	10	3
35+58.00	LT	CHANGES IN HORIZONTAL ALIGN.	W1-1(L)	2C.04	24" X 24"	LEFT CURVE	INSTALL NEW SIGN	4.0	10	3
35+58.00	LT	CHANGES IN HORIZONTAL ALIGN.	W13-1P (20)	2C.08	24" X 24"	ADVISORY SPEED (20 MPH)	INSTALL NEW SIGN	4.0		
36+48.00	RT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
37+08.00	LT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
OWASSO AVE										
40+25.00	RT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
40+25.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	S OWASSO AVE	INSTALL NEW SIGN	2.0		
40+25.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	E 5TH ST	INSTALL NEW SIGN	2.0		
43+93.00	RT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
43+93.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	E 4TH ST	INSTALL NEW SIGN	2.0		
43+93.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	E 5TH ST	INSTALL NEW SIGN	2.0		
46+93.00	RT	STOP	R1-1	5B.02	36" X 36"	STOP	INSTALL NEW SIGN	9.0	10	3
46+93.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	E 4TH ST	INSTALL NEW SIGN	2.0		
46+93.00	RT	STREET NAME (1 LINE)	COT 608	2D.45	24" X 6"	S OWASSO AVE	INSTALL NEW SIGN	2.0		
E 4TH ST										
		DEAD END	W14-1	2C.26	36" X 36"	DEAD END	INSTALL NEW SIGN	9.0	10	3
							TOTAL =	**189.0**	**190**	**57**

SUMMARY OF DRIVES

DRIVE No.	STATION		DRIVE WIDTH, "W"	RETURN RADIUS	LENGTH	6" CONCRETE DRIVEWAY (H.E.S.) 610(B)
			FT	FT	LF	SY
MADISON ST.						
D1	19+60.00	RT	97.3	10	13.5	152.1
NORFOLK & 5TH PL.						
D2	30+75.00	LT	21.3	10	22.2	59.9
D3	31+86.19	RT	20.3	15	18.5	54.8
OWASSO ST.						
D4	41+85.10	RT	20.0	10	16.5	43.1
E 4TH ST.						
D5	101+36.68	RT	52.4	10	6.5	40.6
D6	101+79.82	RT	21.3	5	6.5	18.6
D7	102+09.45	RT	22.1	5	6.5	17.7
D8	102+46.03	RT	33.4	5	6.5	27.2
D9	103+19.83	RT	20.4	5	6.5	16.6
D10	103+61.27	RT	26.4	5	18.5	58.2
D11			41.3	6	18.2	85.6
D12			24.0	6	15.3	43.2
D13	104+09.11	RT	25.2	5	6.5	20.1
D14	105+11.92	RT	15.7	5	6.5	13.3
D15	105+84.78	RT	15.0	5	6.5	12.6
D16			13.3	5	18.7	30.1
					TOTAL =	**693.7**

SUMMARY OF PAVEMENT MARKINGS (PERMANENT)

LOCATION	TRAFFIC STRIPE (PLASTIC) (4" WIDE) (WHITE)	TRAFFIC STRIPE (PLASTIC) (4" WIDE) (YELLOW)	TRAFFIC STRIPE (PLASTIC) (24" WIDE) (WHITE)
	856(A)	856(A)	856(A)
	L.F.	L.F.	L.F.
MADISON AVE		1,924	258
NORFOLK & 5TH ST		1,333	133
OWASSO AVE		1,292	
4TH ST	144	1,287	
TOTALS =	**144**	**5,836**	**391**

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

ROADWAY SUMMARY SHEET

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: N/A	DRAWN	DGD	01/19
	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL: N/A	LEAD ENGR.		
	FIELD MGR.		
VERTICAL N/A	RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. G05

ATLAS PAGE NO: 01 & 08 SHEET NO. 06 OF 123

WATERLINE PAY ITEM NOTES (09/24/2018)

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. NOT USED.

5. NOT USED.

6. NOT USED.

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, STAR STARGRIP, 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. (OPTIONAL) AT THE DIRECTION OF THE ENGINEER, CONTRACTOR SHALL FURNISH A "LICENSED AND BONDED PLUMBER", WHICH SHALL INCLUDE ALL COSTS OF LABOR, TOOLS, PERMIT FEES, AND EQUIPMENT TO REROUTE THE EXISTING CUSTOMER SERVICE ON CUSTOMER PROPERTY TO THE PROPOSED CUSTOMER METER CAN. COST SHALL NOT EXCEED AN ALLOWANCE OF $1000 PER OCCURRENCE. MATERIALS SHALL BE PAID UNDER SEPARATE BID ITEMS. NO ADDITIONAL PAYMENT SHALL BE MADE.

14. CONTRACTOR IS REMINDED TO BACKFILL ALL TRENCHES EXCAVATED ACROSS ANY EXISTING OR PROPOSED DRIVING OR PARKING SURFACE WITH 1½ -IN TYPE A AGGREGATE BASE, PLACED IN 8-INCH MAXIMUM LIFTS AND COMPACTED TO 98% MODIFIED PROCTOR DENSITY. COST TO BE INCLUDED IN COST OF EXCAVATION AND BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE.

15. WATER SERVICE CONNECTIONS SHALL INCLUDE COST OF MATERIAL, LABOR AND EQUIPMENT TO REMOVE AND INSTALL SADDLES, SERVICE CLAMPS, CORPORATION STOPS, BENDS, 3-PART UNIONS, COUPLINGS, SETTERS AND ANY OTHER INCIDENTALS REQUIRED FOR A COMPLETE WATER SERVICE CONNECTION WITH EXCEPTION OF METER CANS, RIMS AND LIDS. NO ADDITIONAL PAYMENT SHALL BE MADE. METER CANS, LIDS AND RIMS SHALL BE PAID AS A SEPARATE BID ITEM.

   A. SHORT SERVICE SHALL BE ANY SERVICE LINE THAT IS 25-FEET OR LESS IN LENGTH. SHORT SERVICES DO NOT INCLUDE PAVEMENT REPLACEMENT. I.E. ¾-INCH WATER SERVICE CONNECTIONS (SHORT SERVICE)

   B. LONG SERVICE SHALL BE ANY SERVICE LINE THAT IS GREATER THAN 25-FEET UP TO 80-FEET IN LENGTH. LONG SERVICES INCLUDE PAVEMENT REPLACEMENT AND/ OR COST TO BORE. EXAMPLE: ¾-IN WATER SERVICE CONNECTIONS (LONG SERVICE)

   C. SHORT AND LONG SERVICE LINES EXCEEDING THE ABOVE PARAMETERS WILL BE COMPENSATED FOR LINEAR FOOTAGE ABOVE AND BEYOND. COMPENSATION SHALL BE PAID AS "SERVICE LINES, EXTENSION", PER LF

16. NOT SERVICE LINES ON NON-ARTERIALS SHALL BE EITHER COPPER TUBING (TYPE K SOFT ANNEALED CONFORMING TO ASTM B 88) OR PEX TUBING (UPONOR AQUA PEX 5206 BLUE CONFORMING TO ASTM F876/F877/F2023). PEX TUBING IS NOT PERMITTED WITHIN ARTERIAL RIGHT OF WAY. WHEN CONTRACTOR ELECTS TO USE PEX TUBING:

   A. ¾-INCH WATER SERVICE CONNECTION SHALL USE 1-INCH PEX TUBING MINIMUM
   B. 1-INCH WATER SERVICE CONNECTION SHALL USE 1¼-INCH PEX TUBING MINIMUM

17. CONTRACTOR'S PLUMBER SHALL PROVIDE AN INFORMATIONAL BROCHURE TO THE PROPERTY OWNERS OUTLINING THE STEPS REQUIRED TO THOROUGHLY FLUSH THEIR WATERLINES AFTER CONNECTION TO THE NEW WATER MAIN. ALL COSTS TO PRODUCE AND DISTRIBUTE THE BROCHURE SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM.

18. THE "OWNER ALLOWANCE" CAN BE USED FOR VARIOUS WORK AND MISCELLANEOUS ITEMS NOT IDENTIFIED IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING PROVISIONS: THE ALLOWANCE SHALL BE USED FOR COST OF MATERIALS, LABOR, INSTALLATION AND OVERHEAD AND PROFIT FOR ADDITIONAL WORK AND MISCELLANEOUS ITEMS THAT ARE NOT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AND PLANS, AND NOT INCLUDED IN THE BID ITEMS OF THE CONTRACT.

   A. THE ALLOWANCE SHALL BE USED ONLY AT THE DISCRETION OF THE CITY. ANY ALLOWANCE BALANCE REMAINING AT THE COMPLETION OF THE PROJECT WILL BE CREDITED BACK TO THE CITY ON THE FINAL APPLICATION FOR PAYMENT SUBMITTED BY THE CONTRACTOR.

   B. THE CONTRACTOR SHALL PROVIDE, TO THE CITY, A WRITTEN REQUEST FOR THE USE OF ANY ALLOWANCE, WITH A SCHEDULE OF VALUES, AND ALL ASSOCIATED BACKUP INFORMATION, INCLUDING ANY TIME EXTENSIONS REQUIRED TO PERFORM THE WORK.

   C. THE CONTRACTOR SHALL PROCEED WITH THE WORK INCLUDED IN THE ALLOWANCE ONLY AFTER RECEIVING A WRITTEN ORDER, FROM THE ENGINEER AND CITY AUTHORIZING SUCH WORK. PROCEEDING WITH WORK IN THE ALLOWANCE WITHOUT A WRITTEN ORDER FROM THE CITY WILL BE AT THE CONTRACTOR'S EXPENSE.

19. NOT USED.

20. NOT USED.

21. TOP OF VALVE BOX SHALL BE FLUSH WITH FINISHED GRADE.

22. NOT USED.

23. NOT USED.

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. NOT USED.

26. NOT USED.

27. PRESSURE TESTING AND CHLORINATION OF WATER MAINS SHALL NOT BE PERFORMED UNTIL THE CITY INSPECTOR HAS RECEIVED REQUIRED CONSTRUCTION AS-BUILT RECORDS.

WATERLINE PAY QUANTITIES

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
140	COT 302	EXCAVATION AND BACKFILL, UNCLASSIFIED	14	CY	1,519
141	COT 307	2 INCH DIP, CL 51 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11,27	LF	20
142	COT 307	6 INCH DIP, CL 51 POLYETHYLENE WRAPPED (RJ)	1,2,3,8,9,11,27	LF	1,085
143	COT 307	6 INCH DIP, CL 51 POLYETHYLENE WRAPPED	1,2,3,9,11,27	LF	1,630
144	COT 312	6 INCH DUCTILE IRON 11-1/4 DEGREE BEND (RJ)	2,8,24	EA	12
145	COT 312	6 INCH DUCTILE IRON 22-1/2 DEGREE BEND (RJ)	2,8,24	EA	12
146	COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND (RJ)	2,8,24	EA	8
147	COT 312	2 INCH DUCTILE IRON PLUG (RJ)	2,8,24	EA	2
148	COT 312	6 INCH DUCTILE IRON PLUG (RJ)	2,8,24	EA	11
149	COT 312	6 INCH X 6 INCH DUCTILE IRON TEE (RJ)	2,8,24	EA	11
150	COT 312	16 INCH X 6 INCH DUCTILE IRON TEE (RJ)	2,8,24	EA	1
151	COT 312	2 INCH DUCTILE IRON SLEEVE (RJ)	2,8,12	EA	2
152	COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	2,8,12	EA	2
153	COT 312	16 INCH DUCTILE IRON SLEEVE (RJ)	2,8,12	EA	1
154	COT 315	PRIVATE SERVICE CONNECTION BY LICENSED BONDED PLUMBER	13,17	EA	1
155	COT 315	3/4 INCH WATER SERVICE CONNECTION (SHORT)	15,16	EA	2
156	COT 315	1 INCH WATER SERVICE CONNECTION (SHORT)	15,16	EA	6
157	COT 315	1 INCH WATER SERVICE CONNECTION (LONG)	15,16	EA	4
158	COT 315	1 INCH WATER METER CAN, LID & RIM		EA	12
159	COT 317	6 INCH GATE VALVE (RJ)	8	EA	7
160	COT 317	6 INCH FIRE HYDRANT EXTENSION		EA	7
161	COT 317	3-WAY FIRE HYDRANT, IN PLACE	24	EA	7
162	COT 318	VALVE BOX	21,24	EA	7
163	COT 318	VALVE BOX EXTENSION	21,24	VF	14
164	SPECIAL	CONSTRUCTION AS-BUILT	24	EA	1
165	SPECIAL	OWNER ALLOWANCE	18	ALLOW	1

WATERLINE CONSTRUCTION NOTES (09/24/2018)

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

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

3. 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.

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

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

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

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

8. WATER OPERATIONS SHALL OPERATE ALL VALVES ON TRANSMISSION MAINS (16" AND LARGER). CONTRACTOR SHALL OPERATE ALL VALVES ON DISTRIBUTION MAINS (SMALLER THAN 16") WITH THE COORDINATION OF FIELD ENGINEERING AND WATER OPERATIONS AND IN THE PRESENCE OF A FIELD ENGINEERING INSPECTOR.

   a. ATTEMPTS WILL BE MADE WITH ASSISTANCE FROM THE CONTRACTOR TO NOTIFY ALL AFFECTED CUSTOMERS 48-HOURS IN ADVANCE, PARTICULARLY IF COMMERCIAL OR INDUSTRIAL CUSTOMERS ARE INVOLVED. PRIOR TO SHUTDOWN, FIELD ENGINEERING WILL NOTIFY WATER OPERATIONS, AT 918-596-9488, GIVING AN ESTIMATED DOWNTIME. WATER OPERATIONS WILL NOTIFY THE FIRE DEPARTMENT OF ALL FIRE HYDRANTS OUT OF SERVICE AND WHEN THEY ARE BACK IN SERVICE, BY STREET ADDRESS OR INTERSECTION.

   b. WHERE COMMERCIAL, INDUSTRIAL, OR CRITICAL CUSTOMERS ARE AFFECTED, AND FOR ALL LINES 16-INCH AND LARGER IN SIZE, FIELD ENGINEERING WILL REQUEST WATER OPERATIONS TO SHUT DOWN THE MAIN. THERE WILL BE A MINIMUM OF 48-HOUR NOTICE TO WATER OPERATIONS.

9. 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.

10. 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.

11. 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]

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

13. 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.

14. 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).

15. 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.

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

BEFORE YOU DIG 811 1-800-522-6543 CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

WATERLINE PAY QUANTITIES & NOTES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: N/A
PROFILE SCALE HORIZONTAL: N/A
VERTICAL N/A

DRAWN	DGD	01/19	APPROVED:
DESIGNED	MZV	01/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
DATE:

FILE: DRAWING: PAGE NO. G06
ATLAS PAGE NO: 01 & 08 SHEET NO. 07 OF 123

WATERLINE SUMMARIES

SPEC. NO.	ITEM	UNIT	TOTAL	LINE A	LINE B	LINE C	LINE D
COT 307	2 INCH DIP, CL51 POLYETHYLENE WRAPPED (RJ)	LF	20	-	10	10	-
COT 307	6 INCH DIP, CL51 POLYETHYLENE WRAPPED (RJ)	LF	1085	450	304	28	303
COT 307	6 INCH DIP, CL51 POLYETHYLENE WRAPPED	LF	1630	676	456	43	455
COT 312	6 INCH DUCTILE IRON 11-1/4 DEGREE BEND	EA	12	4	2	4	2
COT 312	6 INCH DUCTILE IRON 22-1/2 DEGREE BEND	EA	12	2	4	2	4
COT 312	6 INCH DUCTILE IRON 45 DEGREE BEND	EA	8	2	2	2	2
COT 312	2 INCH DUCTILE IRON PLUG (RJ)	EA	2	-	1	1	-
COT 312	6 INCH DUCTILE IRON PLUG (RJ)	EA	11	4	4	1	2
COT 312	6 INCH X 6 INCH DUCTILE IRON TEE (RJ)	EA	11	4	2	1	4
COT 312	16 INCH X 6 INCH DUCTILE IRON TEE (RJ)	EA	1	1	-	-	-
COT 312	2 INCH DUCTILE IRON SLEEVE (RJ)	EA	2	-	1	1	-
COT 312	6 INCH DUCTILE IRON SLEEVE (RJ)	EA	2	1	-	-	1
COT 312	16 INCH DUCTILE IRON SLEEVE (RJ)	EA	1	1	-	-	-
COT 315	PRIVATE SERVICE CONNECTION BY LICENSED BONDED PLUMBER	EA	1	-	-	-	-
COT 315	3/4 INCH WATER SERVICE CONNECTION (SHORT)	EA	2	1	1	-	-
COT 315	1 INCH WATER SERVICE CONNECTION (SHORT)	EA	6	1	4	-	1
COT 315	1 INCH WATER SERVICE CONNECTION (LONG)	EA	4	1	2	-	1
COT 315	1 INCH WATER METER CAN, LID & RIM	EA	12	3	7	-	2
COT 317	6 INCH GATE VALVE (RJ)	EA	7	3	1	-	3
COT 317	6 INCH FIRE HYDRANT EXTENSION	EA	7	3	1	-	3
COT 317	3-WAY FIRE HYDRANT, IN PLACE	EA	7	3	1	-	3
COT 318	VALVE BOX	EA	7	3	1		3
COT 318	VALVE BOX EXTENSION	VF	14	6	2	-	6

WASTEWATER PAY QUANTITIES

ITEM NO	SPEC. NO	DESCRIPTION	PAY NOTES	UNIT	TOTAL QUANTITY
166	302	EXCAVATION AND BACKFILL, UNCLASSIFIED	1	CY	1,881
167	307(A)	10" DIP, AWWA C151, CLASS 51		LF	492
168	307(A)	18" DIP, AWWA C151, CLASS 50		LF	1,025
169	307(B)	12" DIP, AWWA C151, CLASS 50		LF	364
170	616(S)	10" PLUG		EA	1
171	616(S)	12" PLUG		EA	2
172	616(S)	18" PLUG		EA	2
173	COT 314	4' I.D. MANHOLE, COMPLETE IN PLACE	101	EA	10
174	COT 314	ADD'L DEPTH IN MANHOLE	102	VF	33
175	421	MODIFICATION OF MANHOLE INVERT		EA	3

WASTEWATER PAY ITEM NOTES

1. IF BLASTING IS REQUIRED, IT SHALL BE DONE IN ACCORDANCE WITH THE CITY OF TULSA BLASTING ORDINANCE. ALL EXCAVATIONS SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION.

101. PAY ITEM INCLUDES MANHOLE RING, COVER, GROUT, SEALS, WATER-TIGHT LIDS.

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

WASTEWATER CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE OCTOBER, 2013, STANDARD SPECIFICATIONS AND STANDARD DRAWINGS FOR WATER AND WASTEWATER, CITY OF TULSA ENGINEERING SERVICES DEPARTMENT.

2. UTILITIES SHOWN HEREIN ARE INTENDED FOR INFORMATION PURPOSES ONLY AND ARE NOT TO BE CONSTRUED AS THE EXTENT OR EXACT LOCATION AND DEPTH OF UTILITIES THAT MAY BE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION. THE CONTRACTOR SHALL FIELD VERIFY THE PRESENCE, TYPE, SIZE, LOCATION AND DEPTH OF ALL EXISTING UTILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION.

3. CONTRACTOR SHALL GIVE THE NOTIFICATION CENTER OF THE OKLAHOMA ONE-CALL SYSTEM, INC. NOTICE OF ANY EXCAVATION NO EARLIER THAN TEN (10) DAYS, NOR LATER THAN 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, PRIOR TO COMMENCEMENT OF WORK. PHONE NUMBER IS 1-800-522-6543.

4. GEOTECHNICAL REPORT AVAILABLE FOR REVIEW AT THE OFFICE OF GUY ENGINEERING. NEITHER THE CITY OF TULSA OR GUY ENGINEERING. GUARANTEES THE ACCURACY OF THE SOIL CONDITIONS.

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

6. ANY DAMAGE TO THE ROADWAY PAVEMENT CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED TO THE ENGINEERS SATISFACTION AND SHALL BE ACCOMPLISHED AT THE CONTRACTOR'S SOLE EXPENSE.

7. FOR OPEN ROAD CUT, CONTRACTOR IS TO MAINTAIN ONE-WAY TRAFFIC. CONTRACTOR SHALL PRESENT A TRAFFIC CONTROL PLAN TO THE CITY OF TULSA FIELD ENGINEERING DIVISION.

8. CONSTRUCTION TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). 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. THE CONTRACTOR SHALL PLACE TRAFFIC CONTROL, FLAGMEN, BARRICADES AND SEVICES WITHIN THE VICINITY OF THE CONSTRUCTION AS REQUIRED. MAINTENANCE AND LIGHT CHECKS SHALL BE DONE WEEKLY AND INVOICE FURNISHED TO INSPECTOR AND SIGNED BY THE SUPERINTENDENT.

9. LOCAL AND THROUGH TRAFFIC SHALL BE MAINTAINED THROUGH THE PROJECT AT ALL TIMES. ALL PUBLIC STREETS SHALL BE ACCESSIBLE FOR TRAFFIC FROM ANY DETOUR DURING CONSTRUCTION OF THIS PROJECT.

10. CONTRACTOR SHALL VACUUM TEST ALL MANHOLES ACCORDING TO THE CITY OF TULSA, PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS.

11. MANHOLES IN THE FLOOD PLAIN SHALL HAVE SEALED LIDS AND FRAMES.

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

WATERLINE SUMMARY & WASTEWATER PAY QUANTITIES & NOTES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: N/A	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. G07
ATLAS PAGE NO: 01 & 08				SHEET NO. 08 OF 123

Thursday, April 25, 2019 3:45:40 PM
V:\16-1050E Elm Ck West Pond, 148150-1, COT\CIV3D\PLANS\1050-WATER PQ.dwg

ABBREVIATIONS

L/L = LOT LINE

P/L = PROPERTY LINE

R/W = PRESENT RIGHT OF WAY

LEGEND

RIGHT OF WAY LINE

CRL

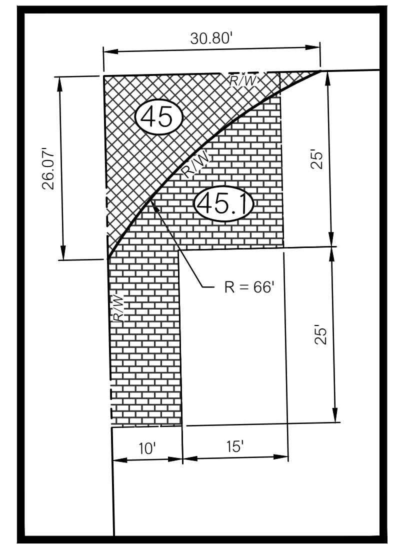
EXISTING PROPERTY BOUNDARY

CITY OWNED PROPERTY

REQUIRED PARCEL

PROPOSED EASEMENT

XXX PARCEL NUMBER



PARCEL DETAIL A1

Not To Scale

OWNERSHIP TABLE			
PARCEL NO.	DOC. NO.		OWNERSHIP
	BOOK	PAGE	IDENTIFICATION
1			Not Used
2	2015114560		Maboto, LLC
3	2004081560		City of Tulsa
4	2004140217		David Taylor and Julie Taylor
5	6818	2409	Anna J. Brundage
6	2014089219		Derold W. Wofford & Mark A. Woffard
7	5629	1371	Wiltom Enterprises, L.L.C.
8	6828	1555	Sokol Living Trust
9	2012056309		City of Tulsa
10	5923	123	Lee F. Hamrick
11	6738	784	Troy L. Imel
12	5390	255	William Keith Miller
13	2008104183		The City of Tulsa, Oklahoma
14	2016094854		Tulsa Development Authority
15	6904	978	Brightside Properties LLC
16	2016121893		Tulsa Development Authority Warranty Deed
17	2016112127		Matthew Tarvin and Gabriela Tarvin
18	4617	1184	Richard L. Thomas
19	2007022356		Veterans of Foreign Wars Post 577
20	2008104183		The City of Tulsa, Oklahoma Quit Claim Deed
21	2008104183		The City of Tulsa, Oklahoma Quit Claim Deed
22	2008124004		Good Day Properties, L.L.C. Special Warranty Deed
23	6461	2119	Koenig Properties, Inc.
24	2016017922		Evanston Properties, L.L.C. General Warranty Deed
25	2016120653		Tulsa Development Authority Warranty Deed
26	5807	589	Angelica Rodriguez
27	5767	906	Martha K. Plank
28	2017094829		Matthew Presley
29	6407 5997	1418 375	Alberto Villegas
30	5997	375	JDVB, Inc.
31	2008104183		The City of Tulsa, Oklahoma Quit Claim Deed
32	6916	2158	Brightside Properties, LLC
33	5767	906	Martha K. Plank
34	2011036023		Bryca Nikole Brewer, Trustee of the Brewer Family Irrevocable Trust
35	2015004897		Maynard Bernd Investments, LLC
36	4150	262	Lewis Roach
37	6904	978	Brightside Properties LLC
38	2013031791		Steve R. Lee
39	2007057503		Steve R. Lee
40	6904	978	Brightside Properties LLC
41	2008045405		Live Well Properties, LLC
42	5808	968	Phillip D. and Shian Morrow
43	2014042185		Zohra Eshtiba
44	4712	1417	Steve Cowen
45	2006071745		Indian Health Care Resource Center
45.1	2006071745		Indian Health Care Resource Center

GRAPHIC SCALE (HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

RIGHT-OF-WAY MAP

CITY OF TULSA, OKLAHOMA

ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE:	DRAWN	DGD	01/19	APPROVED:
1"=60'	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED: DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. R10
ATLAS PAGE NO: 01 & 08				SHEET NO. 09 OF 123

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

Tuesday, April 23, 2019 1:49:31 PM
V:\16-1050E Elm Ck West Pond, 148150-1, COT\CIV3D\PLANS\1050-ROW.dwg

BM #8
BM #9
BM #10
BM #11
STA 100+00 (4TH ST.) =
STA 20+75.95 (MADISON AVE.)
N = 426895.59
E = 2564858.99
N88° 26' 56"E
900.00'
STA 107+14.50 (4TH ST.) =
STA 47+18.52 (OWASSO AVE.)
N =426914.93
E = 2565573.24
105+00
E. 4TH ST.
20+00
45+00
40+00
35+00
15+00
10+00
30+00
Bore Hole
CP #7404
CP #7405
CP #7406
CP #7403
CP #7402
CP #7401
CP #7400
BM #7
BM #6
BM #5
BM #4
BM #3
BM #2
CRL
R/W
P/L
L/L
30'
35'
25'
60'
N01° 15' 53"W
850.00'
N01° 15' 53"W
1113.42'
N01° 15' 53"W
275.00'
N88° 44' 07"E
389.91'
MADISON AVE.
NORFOLK AVE.
OWASSO AVE.
S. 15TH PL.
E. 5TH PL.
E. 6TH ST.
CRL CURVE No. C1
PI STA 33+61.00
Δ=90°00'00"
D=66°37'23"
T=86.00'
L=135.09'
R=86.00'
EXT=35.62'
X=2565234.6853
Y=426188.7625
V= 20 MPH
STA 36+78.59 (5TH PL.) =
STA 40+00.00 (OWASSO AVE.)
N = 426196.59
E = 2565589.10
STA 38+00.00 (5TH PL.)
N = 426199.27
E = 2565710.48
STA 39+00.00 (OWASSO AVE.)
N = 426096.61
E = 2565591.31
STA 30+00 (NORFOLK AVE.)
N = 425827.85
E = 2565242.65
STA 10+00 (MADISON AVE.)
N = 425819.90
E = 2564882.74
CENTRAL
PLACE
INDIAN HEALTH CARE RESOURCE CENTER

BENCHMARK/CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM #1	426163.495	2566079.919	697.08	BM ~ CHISELED "X" ON CURB
BM #2	426173.355	2565607.488	692.07	BM ~ CHISELED "X" ON SIDEWALK
BM #3	426163.358	2565257.482	685.71	BM –80D NAIL IN POWER POLE
BM #4	425790.715	2565235.890	685.29	BM – CHISELED BOX ON NE CORNER OF ELECTRIC BOX PAD
BM #5	425799.869	2564840.978	682.17	BM – CHISELED "X" ON CURB
BM #6	426376.557	2564838.892	695.40	BM – 80D NAIL IN POWER POLE
BM #7	426861.225	2564809.830	706.32	BM – 80D NAIL IN POWER POLE
BM #8	426941.246	2565247.564	696.51	BM – CHISELED BOX ON SIDEWALK
BM #9	426954.473	2565589.782	689.61	BM – SW BOLT OF LIGHT POLE
BM #10	426857.709	2566113.142	704.84	BM – TOP NUT OF FIRE HYDRANT
BM #11	426537.313	2566123.208	704.08	BM – TOP NUT OF FIRE HYDRANT
CP #7400	426184.986	2566054.730	697.63	CP – 3/8" IP W/ ORANGE CAP
CP #7401	426201.512	2565588.722	692.08	CP – MAG NAIL
CP #7402	426192.955	2565235.837	684.69	CP – MAG NAIL
CP #7403	426185.352	2564872.248	691.73	CP – MAG NAIL
CP #7404	426545.000	2564853.080	695.99	CP – MAG NAIL
CP #7405	426550.316	2565228.002	690.95	CP – MAG NAIL
CP #7406	426565.827	2565582.509	687.01	CP – MAG NAIL

GRAPHIC SCALE
(HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

SURVEY DATA - ALIGNMENT DATA SHEETS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=60'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. R11
ATLAS PAGE NO: 01 & 08				SHEET NO. 10 OF 123

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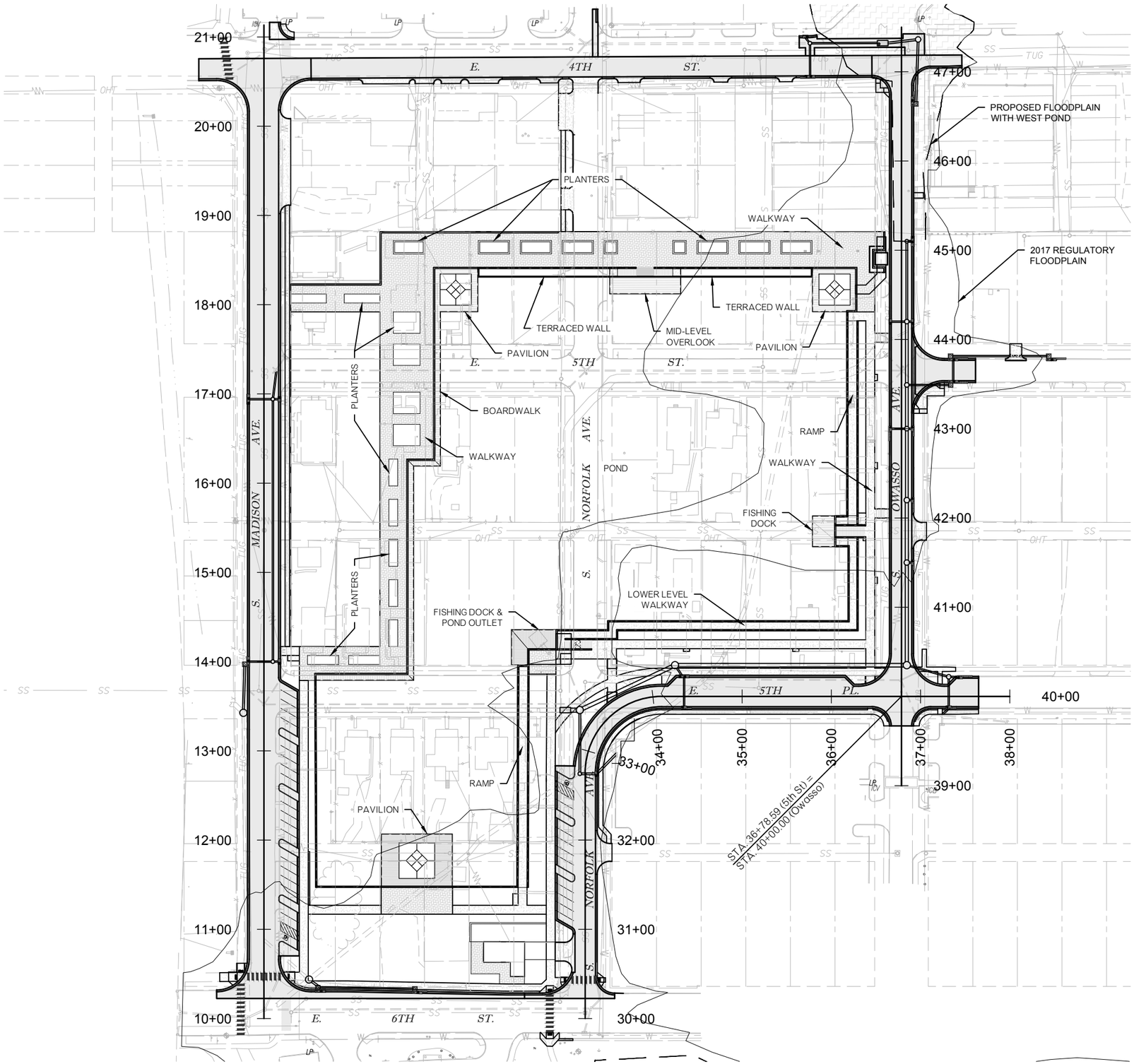

GRAPHIC SCALE
(HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

SITE PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=60'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
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FILE:	DRAWING:			PAGE NO. R12
ATLAS PAGE NO: 01 & 08				SHEET NO. 11 OF 123

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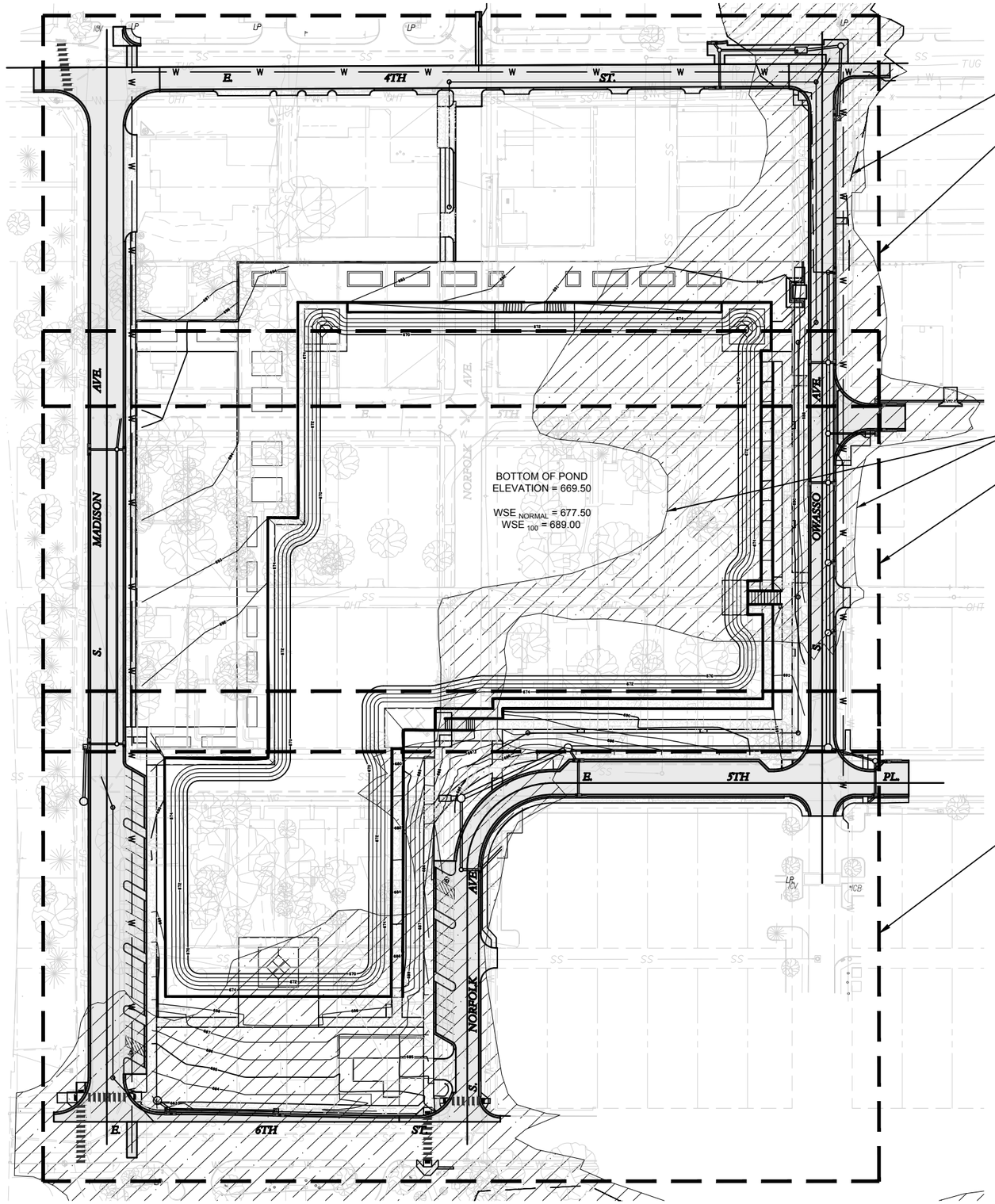

GRAPHIC SCALE
(HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

GRADING PLAN
OVER-ALL

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=60'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	01/19	
PROFILE SCALE	PROJ. MGR.			
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	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:

FILE: DRAWING: PAGE NO. C10

ATLAS PAGE NO: 01 & 08 SHEET NO. 12 OF 123

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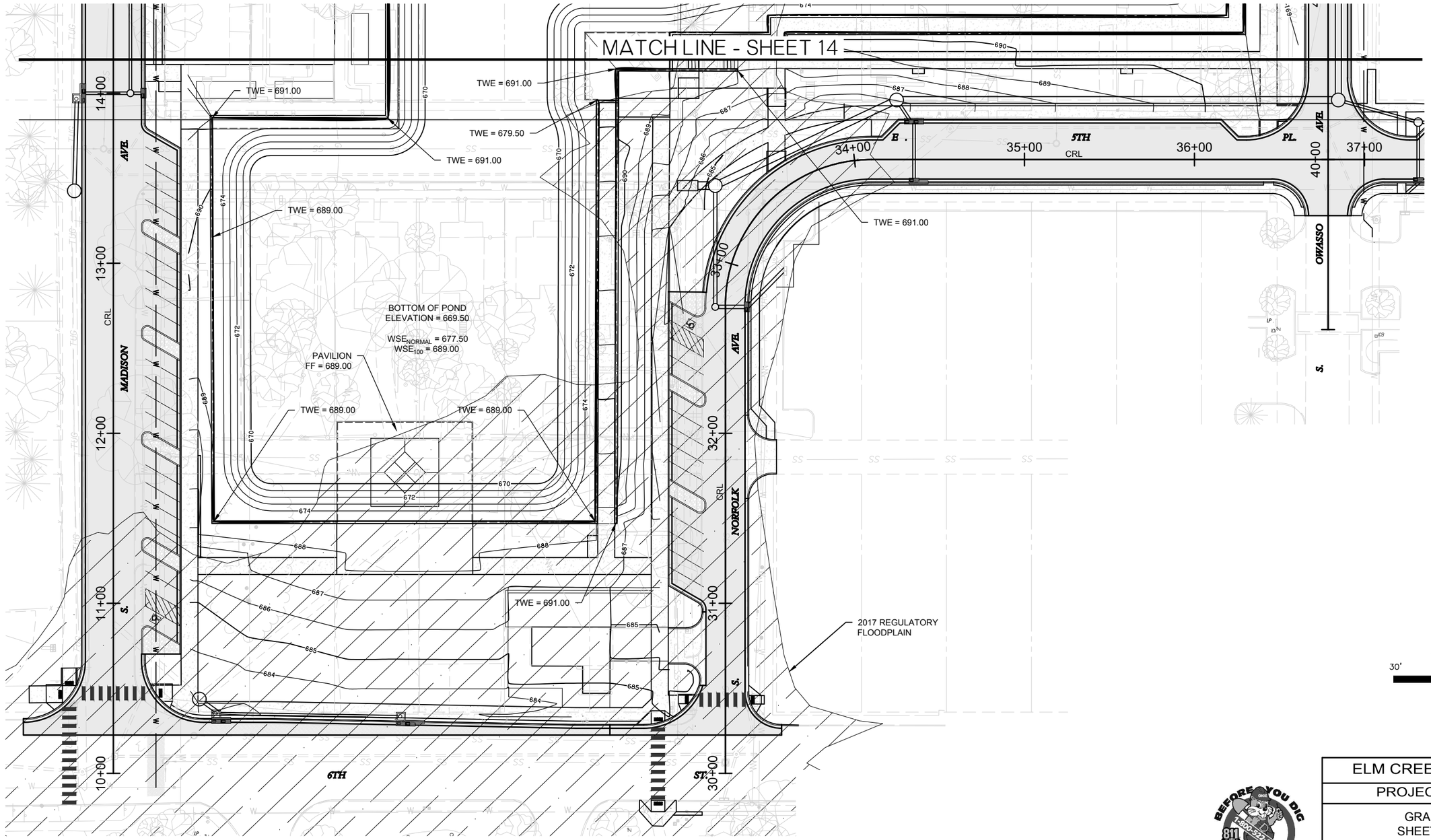

GRAPHIC SCALE
(HORIZ.)
1 inch = 30' ft.
30' 0 30' 60'

NOTE:

TWE = TOP OF WALL ELEVATION

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

GRADING PLAN
SHEET NO. 1 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=30'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
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VERTICAL N/A	FIELD MGR.			
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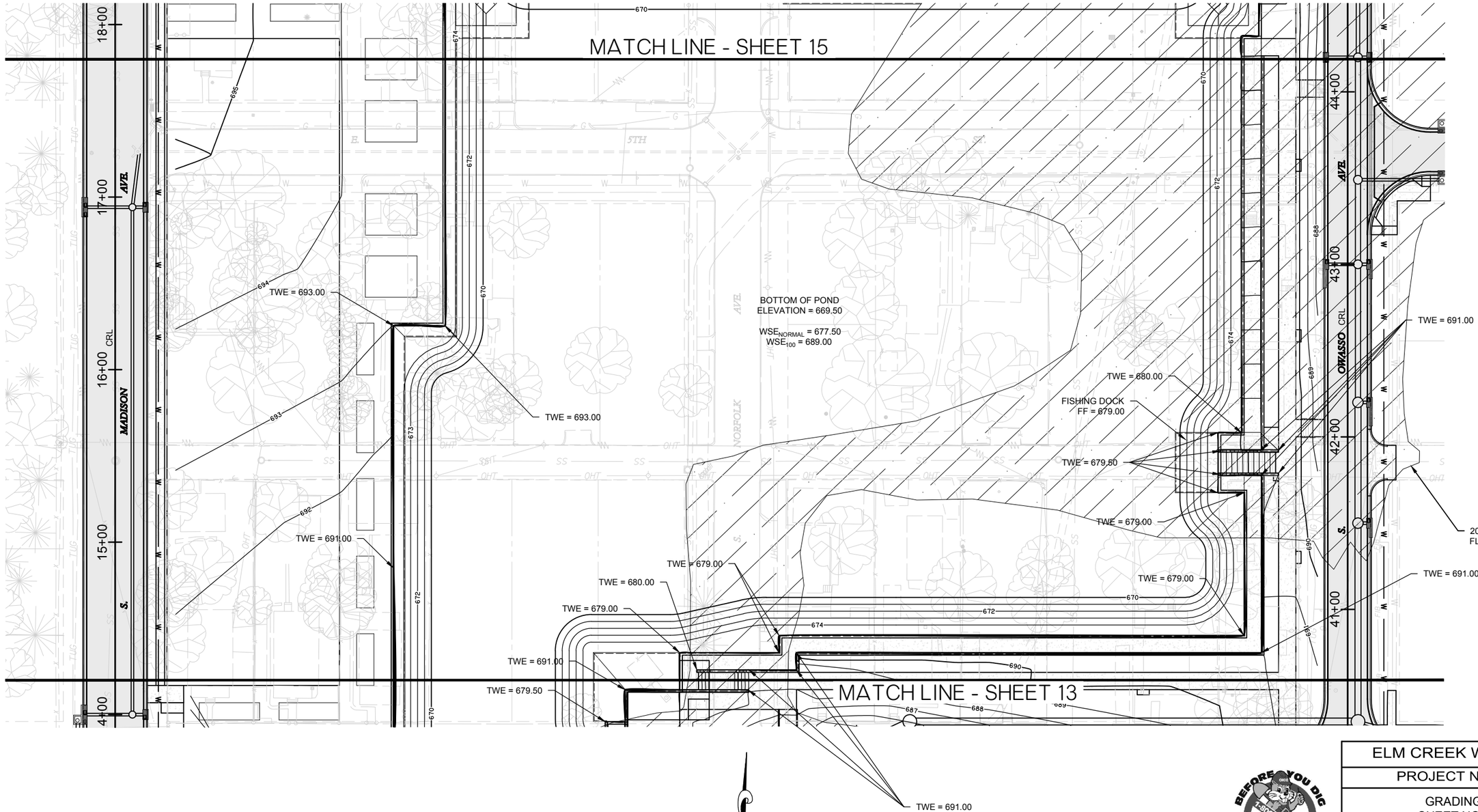

NOTE:

TWE = TOP OF WALL ELEVATION

GRAPHIC SCALE
(HORIZ.)
1 inch = 30' ft.
30' 0 30' 60'

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

GRADING PLAN
SHEET NO. 2 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=30'	DRAWN	DGD	01/19	APPROVED:
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	SURVEY	DMM	09/18	
PROFILE SCALE	PROJ. MGR.			
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	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
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FILE:	DRAWING:			PAGE NO. C12
ATLAS PAGE NO: 01 & 08				SHEET NO. 14 OF 123

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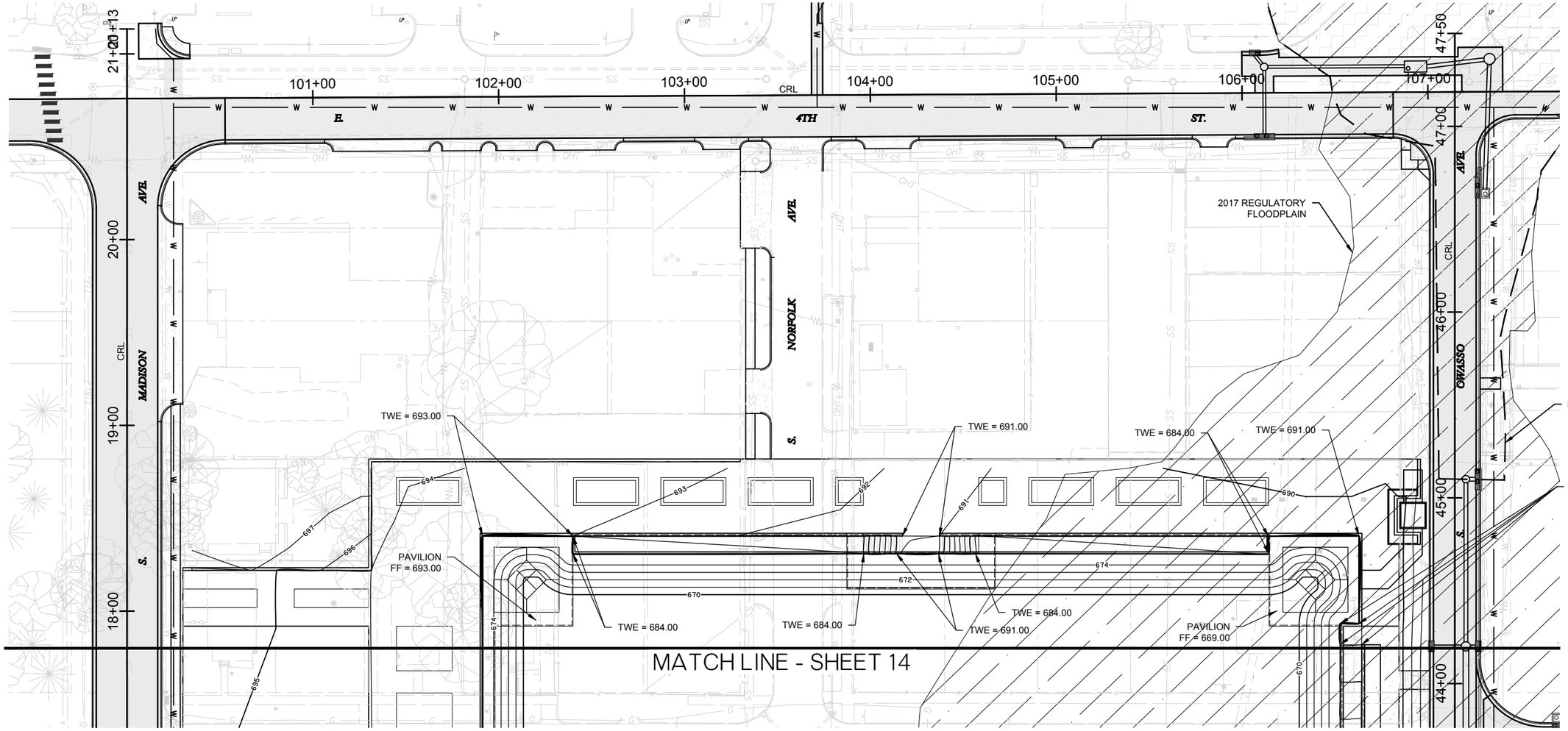

NOTE:

TWE = TOP OF WALL ELEVATION

GRAPHIC SCALE
(HORIZ.)
1 inch = 30' ft.
30' 0 30' 60'

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

GRADING PLAN
SHEET NO. 3 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=30'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
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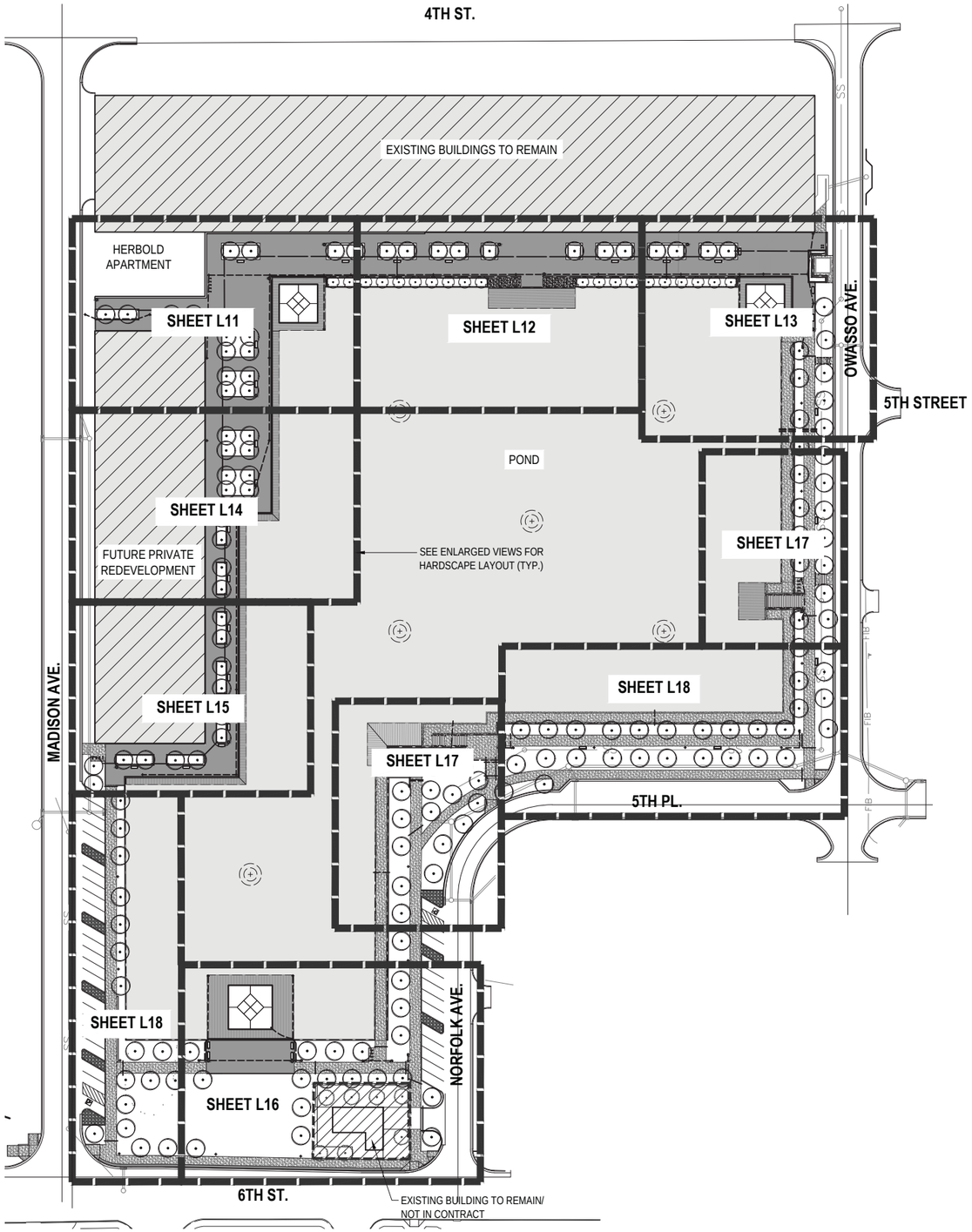

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE KEY PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
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VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
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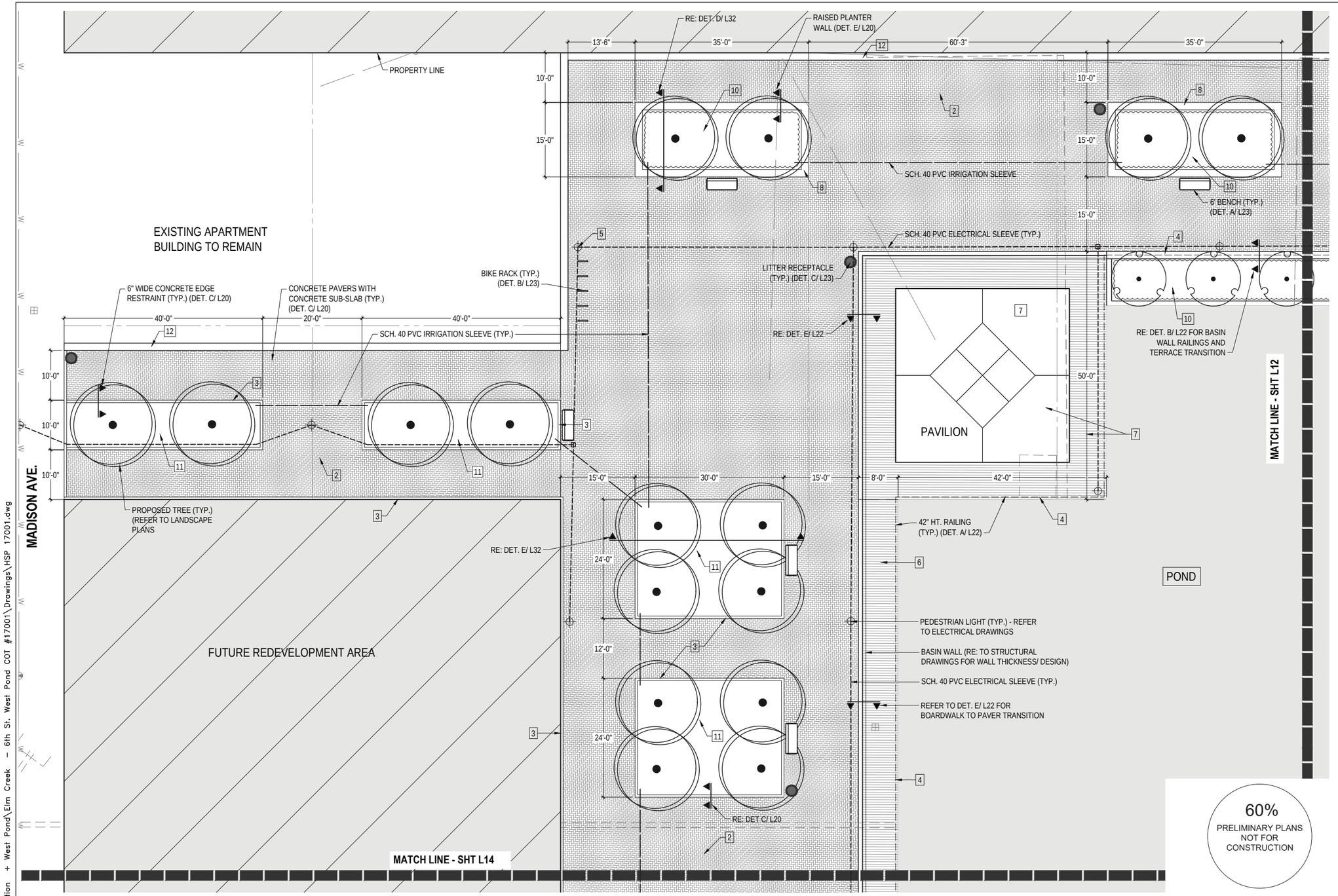
FILE:	DRAWING:			PAGE NO. L10
ATLAS PAGE NO: 01 & 08				SHEET NO. 16 OF 123

BEFORE YOU DIG CALL OKIE



HARDSCAPE LEGEND

KEY	ITEM
1	CONCRETE SIDEWALK
2	CONCRETE PAVERS WITH CONCRETE SUB-SLAB
3	CONCRETE EDGE RESTRAINT
4	42" HT. RAILING
5	PEDESTRIAN LIGHT
6	BOARDWALK/ DECKING
7	OVERLOOK/ DECKING
8	RAISED PLANTER WALL
9	CONCRETE STAIRS
10	LANDSCAPE BED/ PLANTINGS
11	LAWN AREA
12	SITE RETAINING WALL (SRW)

SITE FURNISHINGS LEGEND

- 6' BENCH (DETAIL A/ SHT. L23)
- BIKE RACK (DETAIL B/ SHT. L23)
- LITTER RECEPTACLE (DETAIL C/ SHT. L23)

N

0' 5' 10'

HARDSCAPE NOTES

1. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE CITY OF TULSA IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/TRENCHING OPERATIONS IN ANY AREA.
2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP UNTIL READY FOR IRRIGATION INSTALLATION. MARK LOCATIONS WITH FLAGS AND / OR 2" X 2" BLUE PAINT ON EDGE OF PAVING SLAB. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, UTILITY LINES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.
3. FOR HARDSCAPING LAYOUT, UTILIZE DIMENSIONS PROVIDED ON THE PLANS. DIMENSIONS ARE PERPENDICULAR / PARALLEL TO FACE OF WALLS AS SHOWN.
4. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING / ELEVATIONS FOR SIDEWALKS AND VEHICULAR PAVING. CLOSELY COORDINATE SIDEWALK ELEVATIONS WITH CURBS, DRIVES, WALLS, ETC.
5. REFER TO CIVIL PLANS FOR LOCATIONS OF SIGNS, ETC. THAT ARE LOCATED IN SIDEWALK AREAS. ENSURE THAT ALL FOOTINGS AND UNDERGROUND WORK ARE COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.
6. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS, CONDUITS AND ALL UNDERGROUND UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION. ELECTRICAL CONDUITS SHOWN ARE APPROXIMATE ONLY - ADJUST AS NEEDED AND PROVIDE ALL OTHER SLEEVES AS REQUIRED FOR ELECTRICAL / LIGHTING WORK. NOT ALL SLEEVES ARE SHOWN - REFER TO ELECTRICAL PLANS/ SPECIFICATIONS.

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE LAYOUT PLAN - A

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. L11

ATLAS PAGE NO: 01 & 08 SHEET NO. 17 OF 123

Friday, April 19, 2019 2:00:28 PM
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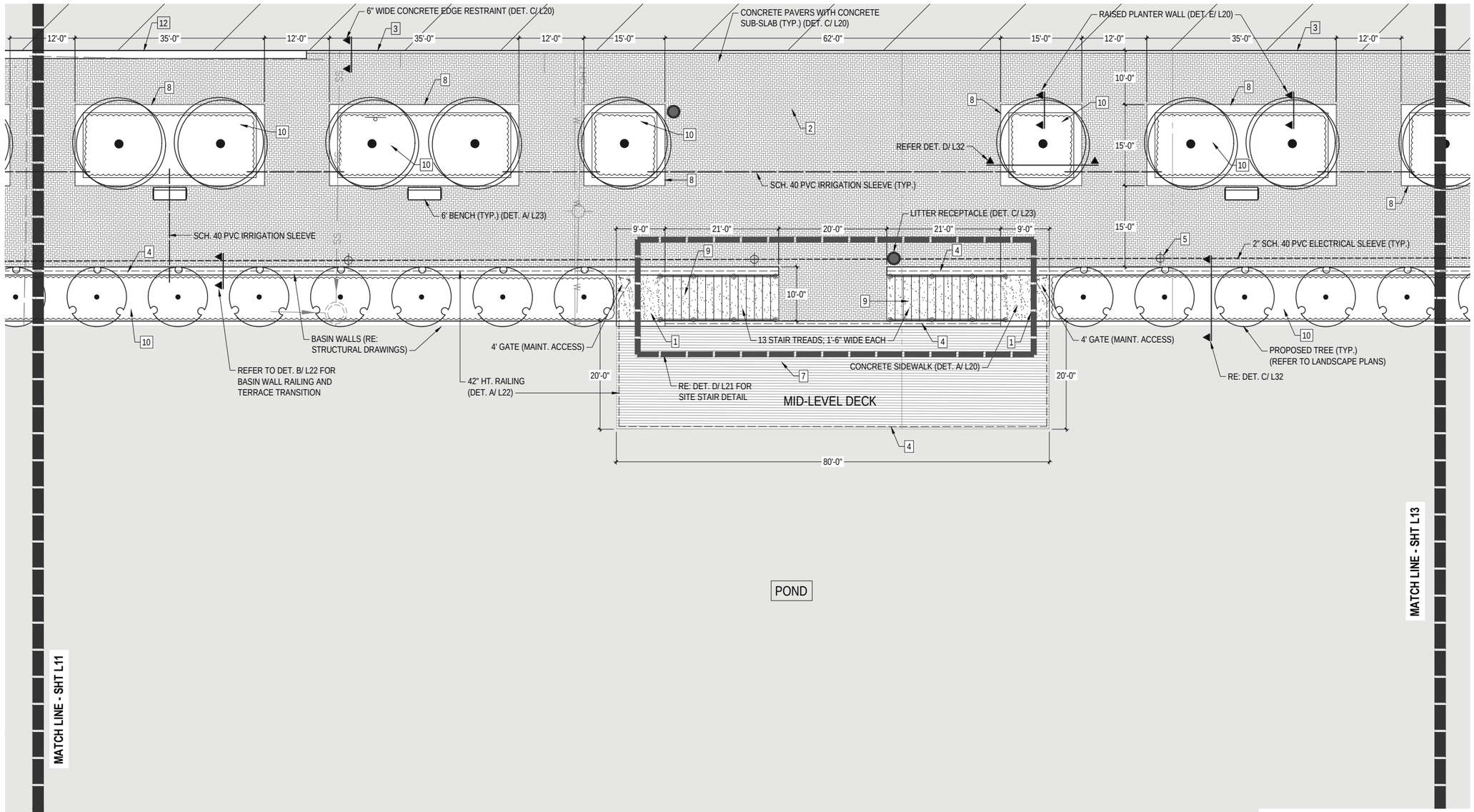

HARDSCAPE LEGEND

KEY	ITEM
1	CONCRETE SIDEWALK
2	CONCRETE PAVERS WITH CONCRETE SUB-SLAB
3	CONCRETE EDGE RESTRAINT
4	42" HT. RAILING
5	PEDESTRIAN LIGHT
6	BOARDWALK/ DECKING
7	OVERLOOK/ DECKING
8	RAISED PLANTER WALL
9	CONCRETE STAIRS
10	LANDSCAPE BED/ PLANTINGS
11	LAWN AREA
12	SITE RETAINING WALL (SRW)

SITE FURNISHINGS LEGEND

- 6' BENCH (DETAIL A/ SHT. L23)
- BIKE RACK (DETAIL B/ SHT. L23)
- LITTER RECEPTACLE (DETAIL C/ SHT. L23)

N

0' 5' 10'

HARDSCAPE NOTES

1. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE CITY OF TULSA IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/TRENCHING OPERATIONS IN ANY AREA.
2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP UNTIL READY FOR IRRIGATION INSTALLATION. MARK LOCATIONS WITH FLAGS AND / OR 2" X 2" BLUE PAINT ON EDGE OF PAVING SLAB. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, UTILITY LINES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.
3. FOR HARDSCAPING LAYOUT, UTILIZE DIMENSIONS PROVIDED ON THE PLANS. DIMENSIONS ARE PERPENDICULAR / PARALLEL TO FACE OF WALLS AS SHOWN.
4. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING / ELEVATIONS FOR SIDEWALKS AND VEHICULAR PAVING. CLOSELY COORDINATE SIDEWALK ELEVATIONS WITH CURBS, DRIVES, WALLS, ETC.
5. REFER TO CIVIL PLANS FOR LOCATIONS OF SIGNS, ETC. THAT ARE LOCATED IN SIDEWALK AREAS. ENSURE THAT ALL FOOTINGS AND UNDERGROUND WORK ARE COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.
6. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS, CONDUITS AND ALL UNDERGROUND UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION. ELECTRICAL CONDUITS SHOWN ARE APPROXIMATE ONLY - ADJUST AS NEEDED AND PROVIDE ALL OTHER SLEEVES AS REQUIRED FOR ELECTRICAL / LIGHTING WORK. NOT ALL SLEEVES ARE SHOWN - REFER TO ELECTRICAL PLANS/ SPECIFICATIONS.

BEFORE YOU DIG 811 PROTECT YOUR HOME CALL OKIE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE LAYOUT PLAN - B

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
VERTICAL	FIELD MGR.			
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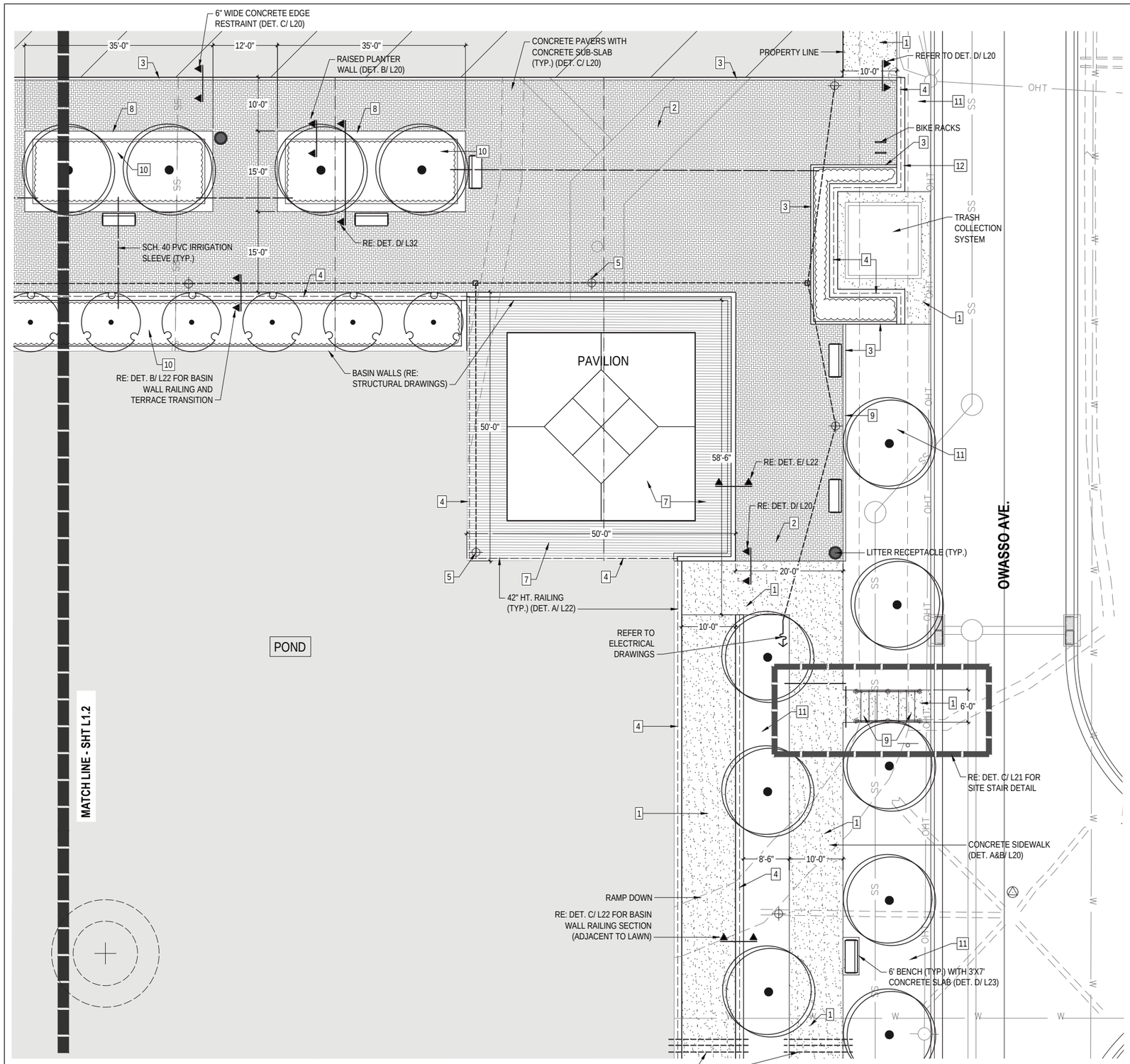


HARDSCAPE LEGEND

KEY	ITEM
1	CONCRETE SIDEWALK
2	CONCRETE PAVERS WITH CONCRETE SUB-SLAB
3	CONCRETE EDGE RESTRAINT
4	42" HT. RAILING
5	PEDESTRIAN LIGHT
6	BOARDWALK/ DECKING
7	OVERLOOK/ DECKING
8	RAISED PLANTER WALL
9	CONCRETE STAIRS
10	LANDSCAPE BED/ PLANTINGS
11	LAWN AREA
12	SITE RETAINING WALL (SRW)

SITE FURNISHINGS LEGEND

- 6' BENCH (DETAIL A/ SHT. L23)
- BIKE RACK (DETAIL B/ SHT. L23)
- LITTER RECEPTACLE (DETAIL C/ SHT. L23)

HARDSCAPE NOTES

1. CONTACT 811 PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK THEREOF ON THE PROJECT SITE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE CITY OF TULSA IN LOCATING THE UTILITIES PRIOR TO PERFORMING DIGGING/TRENCHING OPERATIONS IN ANY AREA.
2. PROVIDE SCHEDULE 40 PVC IRRIGATION SLEEVES BELOW PAVEMENT AS SHOWN. IRRIGATION SLEEVES ARE TO HAVE 18" MIN. COVER. EXTEND SLEEVES 18" MIN. BEYOND EDGE OF PAVEMENT INTO LANDSCAPE AREAS, AND CAP UNTIL READY FOR IRRIGATION INSTALLATION. MARK LOCATIONS WITH FLAGS AND / OR 2" X 2" BLUE PAINT ON EDGE OF PAVING SLAB. PRIOR TO PAVEMENT INSTALLATION, ENSURE THAT ALL IRRIGATION SLEEVES, ELECTRICAL CONDUITS, UTILITY LINES, AND ALL OTHER UNDERGROUND WORK IS COMPLETE.
3. FOR HARDSCAPING LAYOUT, UTILIZE DIMENSIONS PROVIDED ON THE PLANS. DIMENSIONS ARE PERPENDICULAR / PARALLEL TO FACE OF WALLS AS SHOWN.
4. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING / ELEVATIONS FOR SIDEWALKS AND VEHICULAR PAVING. CLOSELY COORDINATE SIDEWALK ELEVATIONS WITH CURBS, DRIVES, WALLS, ETC.
5. REFER TO CIVIL PLANS FOR LOCATIONS OF SIGNS, ETC. THAT ARE LOCATED IN SIDEWALK AREAS. ENSURE THAT ALL FOOTINGS AND UNDERGROUND WORK ARE COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION.
6. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF NEW PEDESTRIAN LIGHT POLES. ENSURE THAT FOOTINGS, CONDUITS AND ALL UNDERGROUND UTILITY WORK IS COMPLETED PRIOR TO NEW SIDEWALK CONSTRUCTION. ELECTRICAL CONDUITS SHOWN ARE APPROXIMATE ONLY - ADJUST AS NEEDED AND PROVIDE ALL OTHER SLEEVES AS REQUIRED FOR ELECTRICAL / LIGHTING WORK. NOT ALL SLEEVES ARE SHOWN - REFER TO ELECTRICAL PLANS/ SPECIFICATIONS.

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

BEFORE YOU DIG OKLAHOMA 811 CALL OKIE

REVISION	BY	DATE

ELM CREEK WEST POND

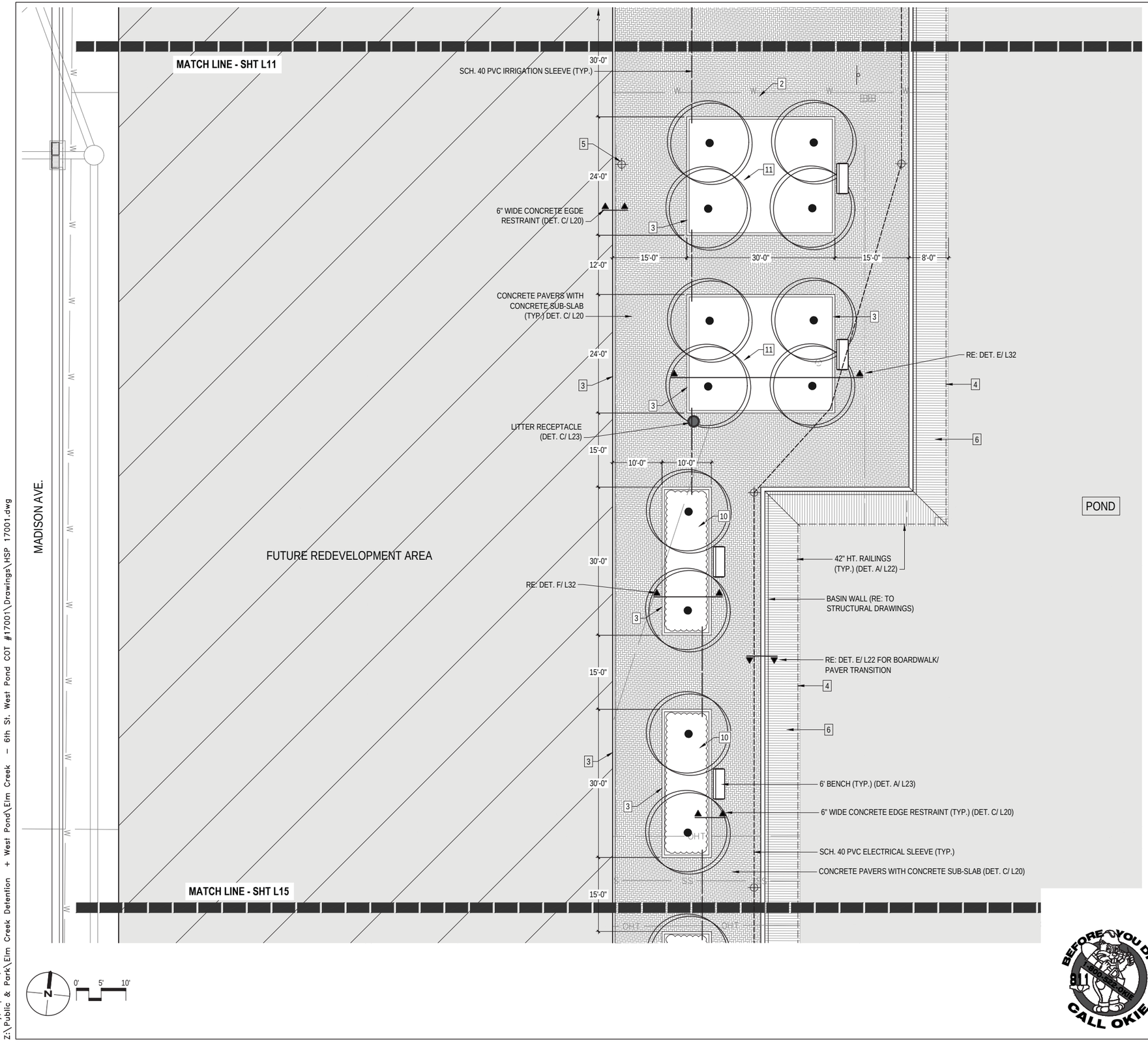
PROJECT No. 148150

HARDSCAPE LAYOUT PLAN - C

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. L13
ATLAS PAGE NO: 01 & 08				SHEET NO. 19 OF 123



HARDSCAPE LEGEND

KEY	ITEM
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11	LAWN AREA
12	SITE RETAINING WALL (SRW)

SITE FURNISHINGS LEGEND

- 6' BENCH (DETAIL A/ SHT. L23)
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HARDSCAPE NOTES

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60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

BEFORE YOU DIG 811 1-800-522-6543 CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE LAYOUT PLAN - D

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

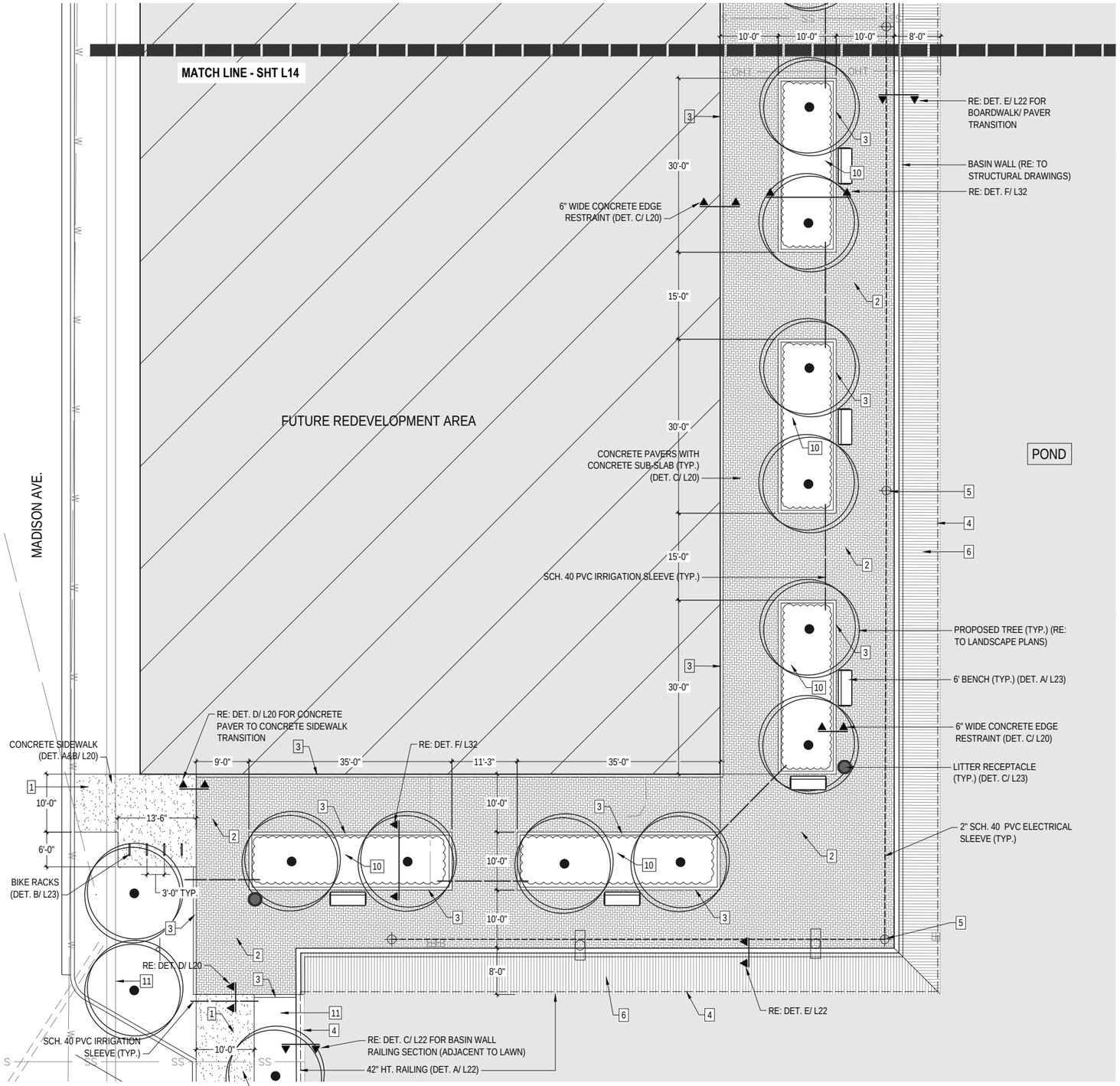
REVISION	BY	DATE

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. L14

ATLAS PAGE NO: 01 & 08 SHEET NO. 20 OF 123



HARDSCAPE LEGEND

KEY	ITEM
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SITE FURNISHINGS LEGEND

- 6' BENCH (DETAIL A/ SHT. L23)
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60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

BEFORE YOU DIG 811 CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE LAYOUT PLAN - E

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
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	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. L15
ATLAS PAGE NO: 01 & 08				SHEET NO. 21 OF 123

Friday, April 19, 2019 2:00:32 PM
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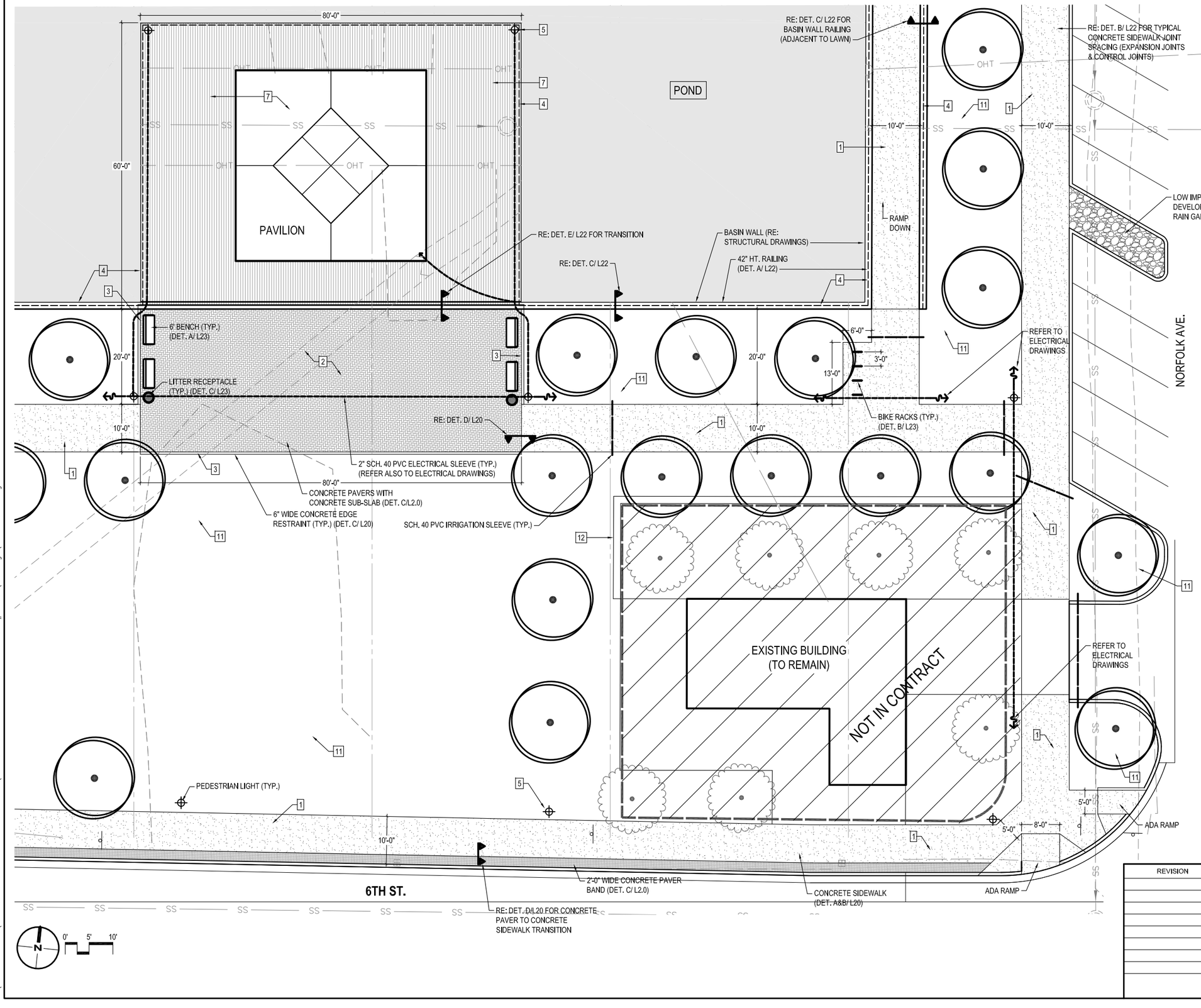

HARDSCAPE LEGEND

KEY	ITEM
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SITE FURNISHINGS LEGEND

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BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE LAYOUT PLAN - F

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

PLAN SCALE: AS SHOWN PROFILE SCALE: HORIZONTAL: VERTICAL	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
	PROJ. MGR.			
	LEAD ENGR.			
	FIELD MGR.			
	RECOMMENDED: DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. L16
ATLAS PAGE NO: 01 & 08				SHEET NO. 22 OF 123

Wednesday, August 22, 2018
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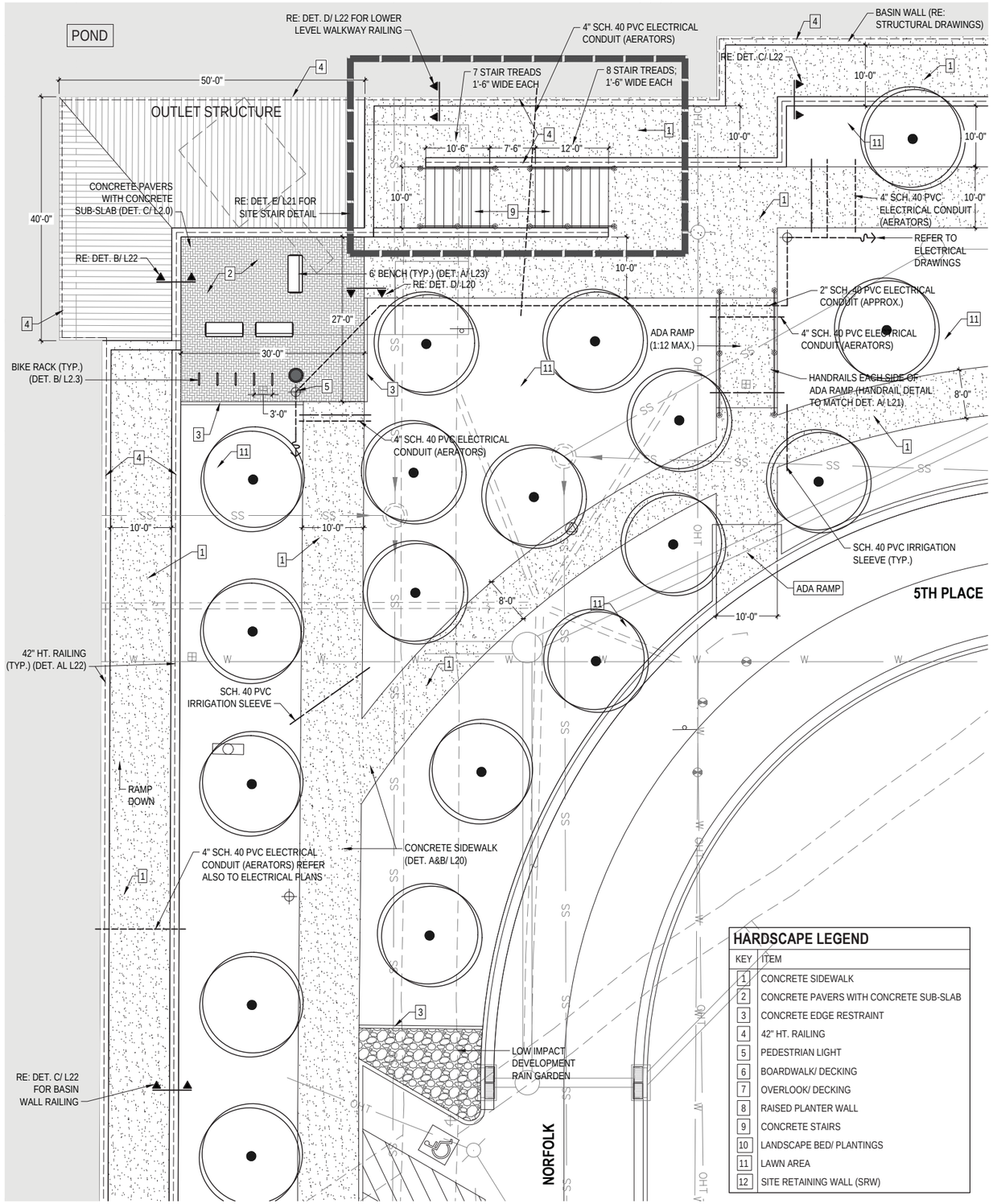
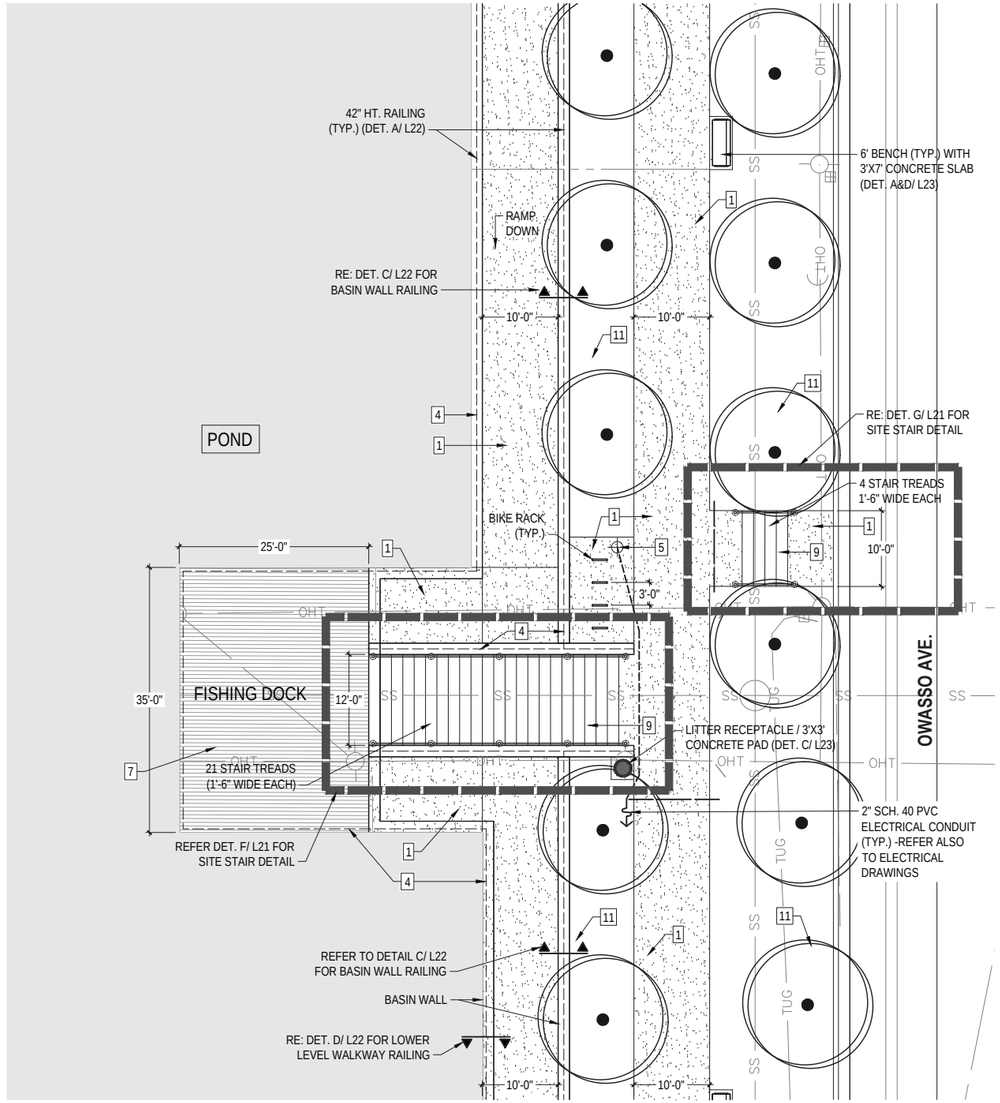


A OUTLET STRUCTURE - LAYOUT PLAN
SCALE: 1"=10'-0"



B FISHING DOCK AREA - LAYOUT PLAN
SCALE: 1"=10'-0"

HARDSCAPE LEGEND

KEY	ITEM
1	CONCRETE SIDEWALK
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9	CONCRETE STAIRS
10	LANDSCAPE BED/ PLANTINGS
11	LAWN AREA
12	SITE RETAINING WALL (SRW)

REFER TO SHEET L11 FOR HARDSCAPE NOTES

SITE FURNISHINGS LEGEND

6' BENCH (DETAIL A/ SHT. L23)

BIKE RACK (DETAIL B/ SHT. L23)

LITTER RECEPTACLE (DETAIL C/ SHT. L23)

0' 5' 10'

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE LAYOUT PLAN - G

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. L17
ATLAS PAGE NO: 01 & 08				SHEET NO. 23 OF 123

Friday, April 19, 2019 2:00:34 PM
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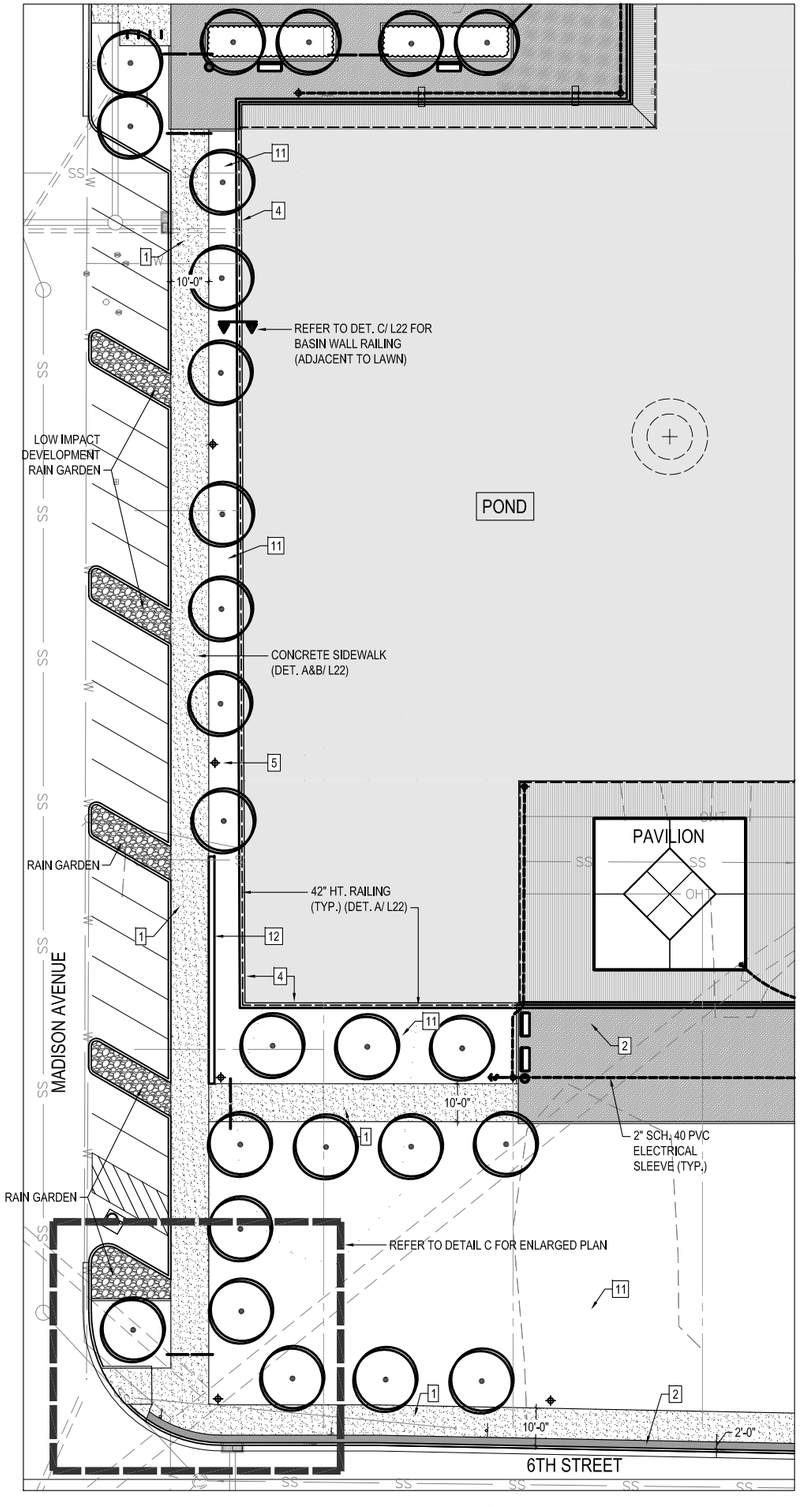
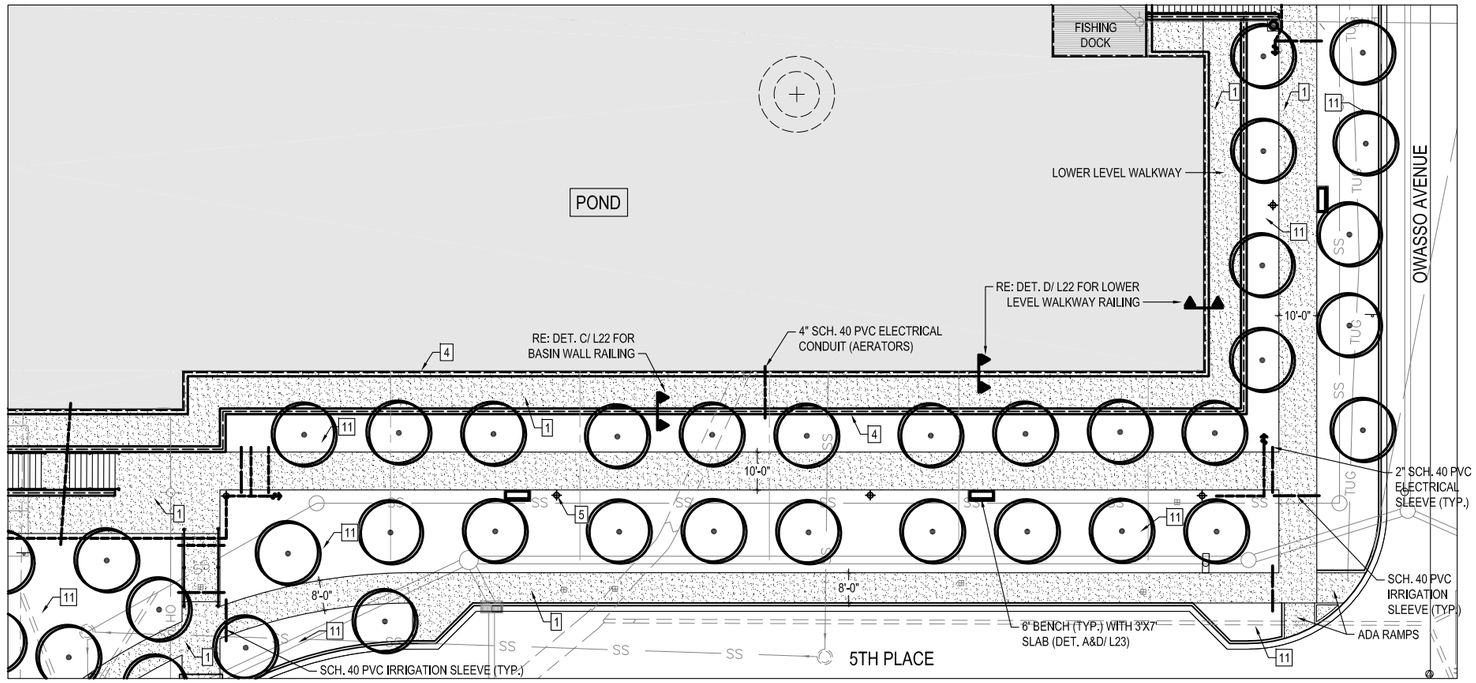
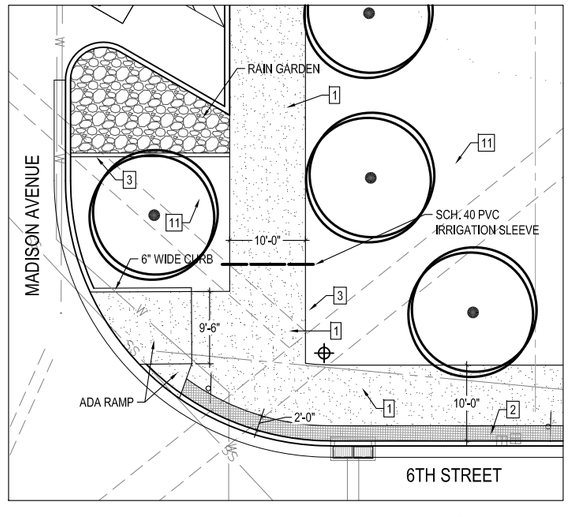


A **MADISON AVENUE SIDEWALK - LAYOUT PLAN**
SCALE: 1"=20'-0"



B **5TH PLACE SIDEWALK - LAYOUT PLAN**
SCALE: 1"=20'-0"



C **MADISON AVE. / 6TH ST CORNER - LAYOUT PLAN**
SCALE: 1"=10'-0"

HARDSCAPE LEGEND	
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- LITTER RECEPTACLE (DETAIL C/ SHT. L23)

REFER TO SHEET L11 FOR HARDSCAPE NOTES

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

HARDSCAPE LAYOUT ENLARGMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

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	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
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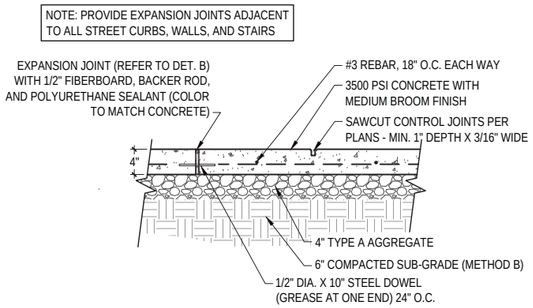
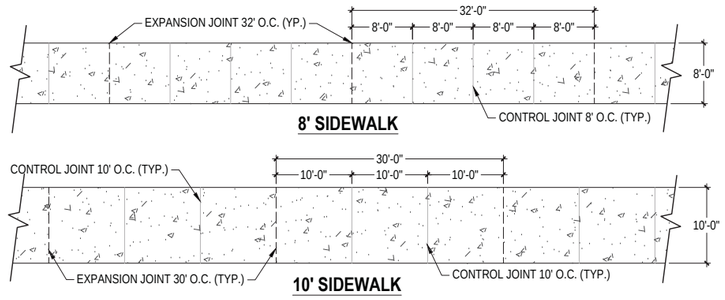
				DATE:
FILE:	DRAWING:			PAGE NO. L18
ATLAS PAGE NO: 01 & 08				SHEET NO. 24 OF 123

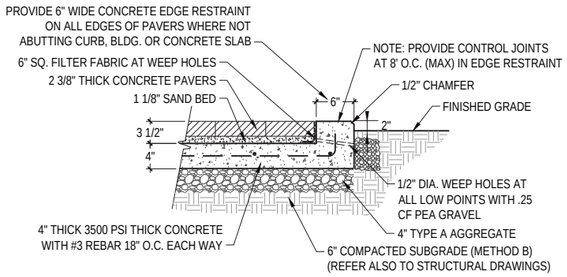
BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE



A **CONCRETE SIDEWALK DETAIL**
SCALE: 1"=1'-0"



B **CONCRETE SIDEWALK - TYPICAL JOINT PATTERN**
SCALE: 1"=10'-0"



C **CONCRETE PAVER EDGE DETAIL**
SCALE: 1"=1'-0"

D **CONCRETE PAVER TO CONCRETE SIDEWALK TRANSITION**
1" = 1'

E **NEW RAISED PLANTER WALL SECTION**
SCALE: 1"=1'-0"

CONCRETE PAVER NOTES

1. CONCRETE UNIT PAVERS ARE TO BE INSTALLED PER SPECIFICATION - CONCRETE UNIT PAVING.
2. ALL PAVERS SHALL ABUT A CONCRETE EDGE RESTRAINT, A PAVEMENT SLAB, OR WALL.
3. ALL PAVERS ARE TO BE 2 3/8" THICK (60 MM) BY PAVESTONE (OR APPROVED EQUAL).
4. PAVER STYLE / PATTERN IS TO BE DETERMINED
5. PROVIDE PAVER SAMPLES FOR APPROVAL.
6. JOINT SAND IS TO BE POLYMERIC JOINT SAND.

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

SITE DETAILS - A

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
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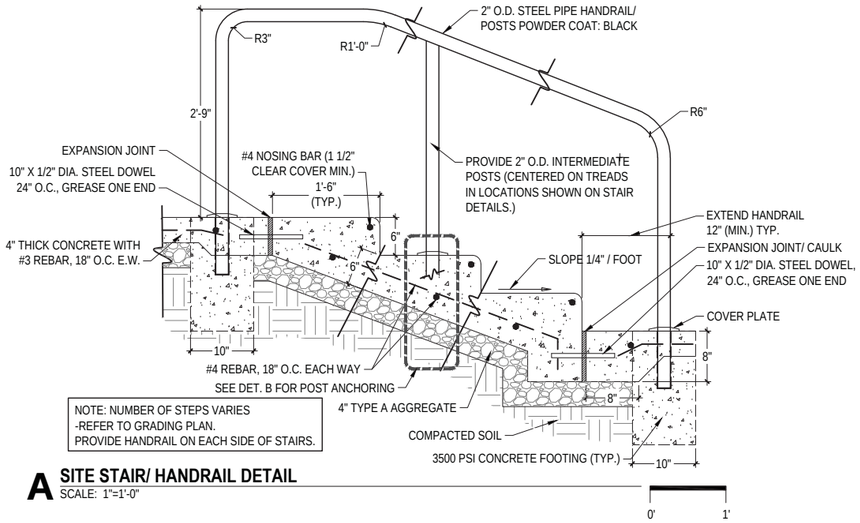
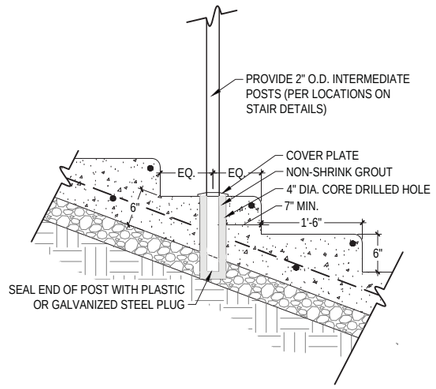
ATLAS PAGE NO: 01 & 08				SHEET NO. 26 OF 123



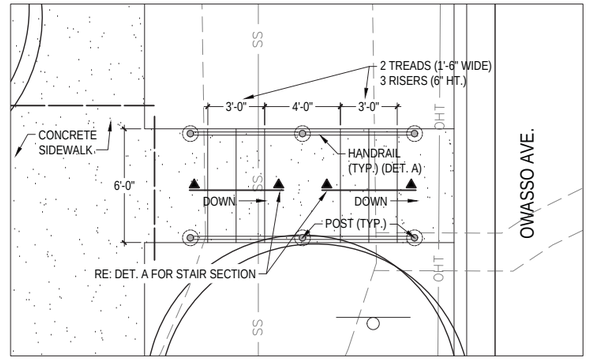
A **SITE STAIR/ HANDRAIL DETAIL**
SCALE: 1"=1'-0"

0' 1'



B **SITE STAIR - INTERMEDIATE POST ANCHORING**
SCALE: 1"=1'-0"

0' 1'

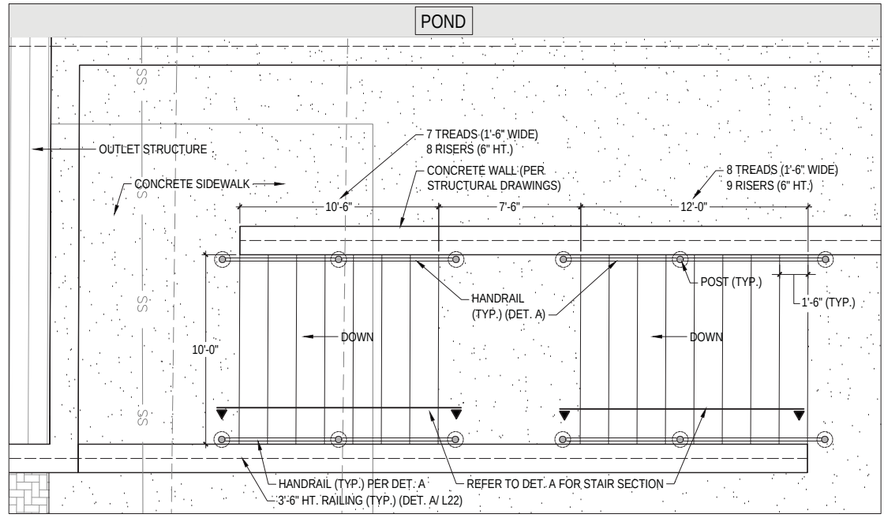


C **SITE STAIR DETAIL #1**
SCALE: 1"=4'-0"

0' 4'

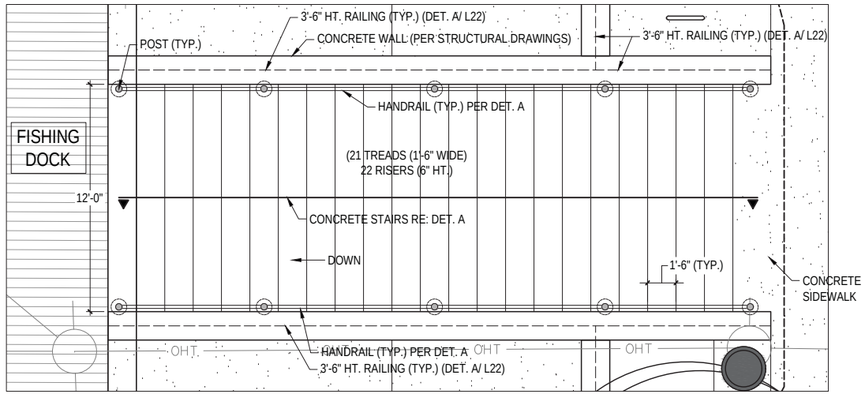
D **SITE STAIR DETAIL #2**
SCALE: 1"=4'-0"

0' 4'



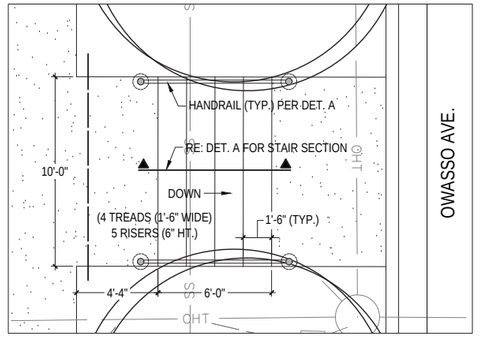
E **SITE STAIR DETAIL #3**
SCALE: 1"=4'-0"

0' 4'



F **SITE STAIR DETAIL #4**
SCALE: 1"=4'-0"

0' 4'



G **SITE STAIR DETAIL #5**
SCALE: 1"=4'-0"

0' 4'

NOTE: COORDINATE ALL SITE STAIRS WITH SITE GRADING PLAN TO VERIFY NUMBER OF RISERS REQUIRED AT EACH STAIR

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND

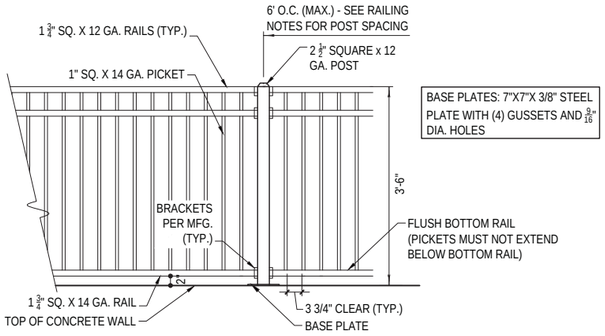
PROJECT No. 148150

SITE DETAILS - B

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. L21
ATLAS PAGE NO: 01 & 08				SHEET NO. 27 OF 123



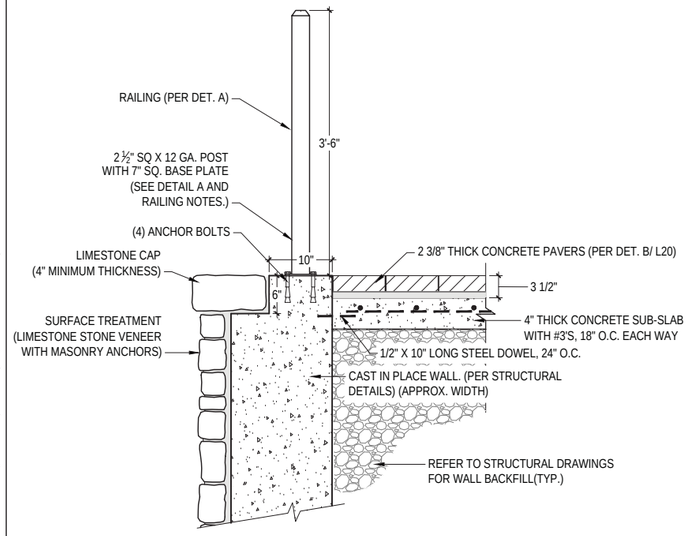
A 3'-6" RAILING ELEVATION

SCALE: 3/4"=1'-0"

3'-6" HT. RAILING NOTES

1. FENCING TO BE: AMERISTAR (OR APPROVED EQUIVALENT) MONTAGE II STEEL PANEL, GALV. STEEL WITH POWDER-COATED FINISH, COLOR BLACK. ALL RAILINGS SHALL BE MANUFACTURED BY AMERISTAR (OR APPROVED EQUAL); 1555 N. MINGO, TULSA, OK 74158; 1-(800)-321-8724; www.ameristarfence.net. INSTALL PER MFG. SPECIFICATIONS. CLOSELY COORDINATE POST LOCATIONS TO MATCH STANDARD FENCE PANEL LENGTHS.

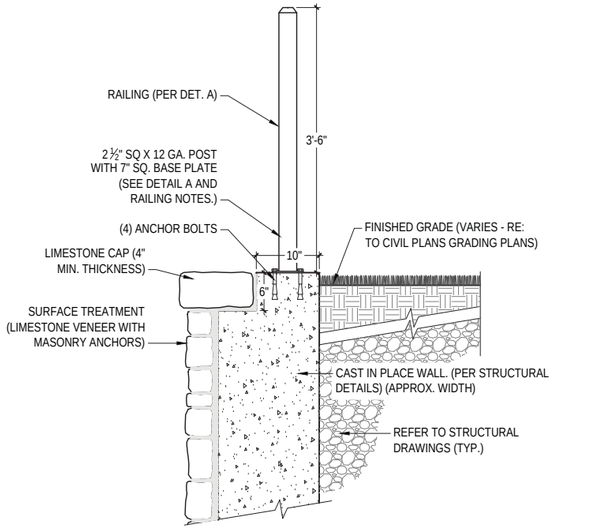
2. TYPICAL POST SPACING SHALL BE 72 7/16" (PLUS OR MINUS 1/2") ON CENTER (COORDINATE WITH MANUFACTURER'S STANDARD PANEL LENGTHS). FOR ALL FIELD CUTS, CAREFULLY PRIME AND PAINT ALL EXPOSED METAL PER MANUFACTURER'S DIRECTIONS USING AMERISTAR PAINT. WHERE SHOWN ON PLANS, PROVIDE 4' WIDE SWING GATES TO MATCH STANDARD RAILING DETAILING AND MATERIALS. RAILING IS TO ACCOMMODATE A 34' DEGREE (MAX.) SLOPE FOR USE ON TOP OF SLOPED WALLS.



B BASIN WALL RAILING - SECTION (ADJACENT TO THE TERRACE)

SCALE: 1"=1'-0"

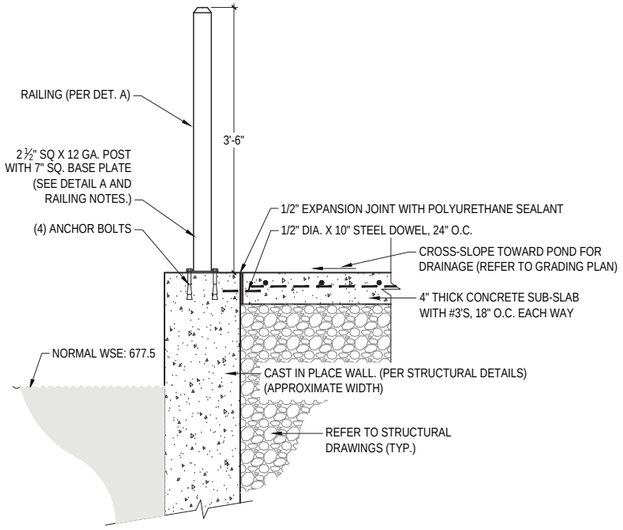
0' 1'



C BASIN WALL RAILING - SECTION (ADJACENT TO LAWN)

SCALE: 1"=1'-0"

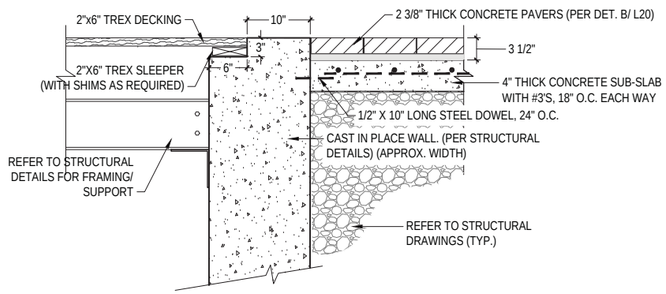
0' 1'



D LOWER LEVEL WALKWAY RAILING - SECTION

SCALE: 1"=1'-0"

0' 1'



E BASIN EDGE - BOARDWALK/ PAVER TRANSITION

SCALE: 1"=1'-0"

0' 1'

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

SITE DETAILS - C

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

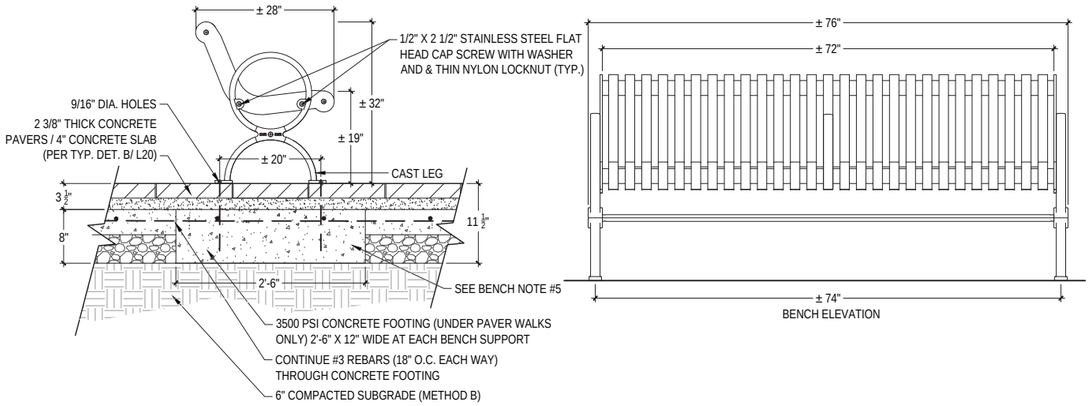
ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. L22
ATLAS PAGE NO: 01 & 08				SHEET NO. 28 OF 123

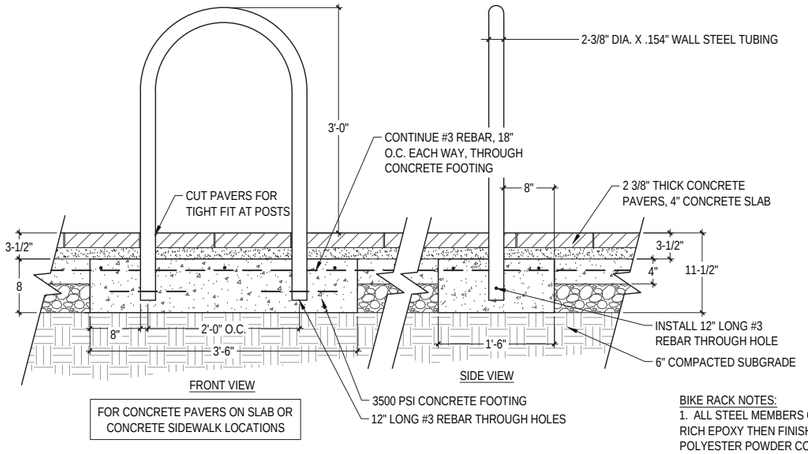
BENCH NOTES

1. ALL STEEL MEMBERS COATED WITH ZINC RICH EPOXY THEN FINISHED WITH POLYESTER POWDER COATING.
2. ACCEPTABLE BENCHES / MANUFACTURERS
   - DUMOR: MODEL 119
   - FAIR WEATHER: PLAZA SERIES MODEL PL-5
   - VICTOR STANLEY: CBF-12
3. PROVIDE CENTER ARMREST OPTION ON ALL BENCHES
4. IN CONCRETE SIDEWALK, INSTALL $\frac{1}{2}$" X 5" STAINLESS STEEL ALL-THREAD, EPOXIED INTO CONCRETE, 4" DEPTH.
5. IN PAVER SIDEWALK, INSTALL $\frac{1}{2}$" STAINLESS STEEL ALL-THREAD EPOXIED A MIN. OF 6" INTO CONCRETE FOOTING. AFTER PLACEMENT OF STAINLESS STEEL WASHER AND NUT, CUT ALL-THREAD FLUSH WITH TOP OF NUT. TACK WELD NUT IN PLACE.



A BENCH DETAIL
SCALE: 1"=1'-0"

0' 1'

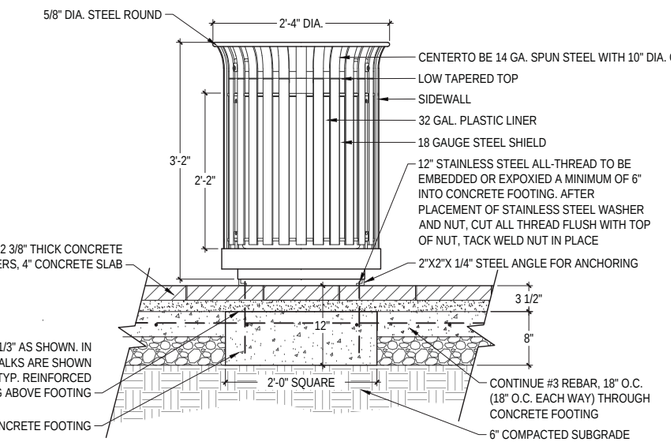


BIKE RACK FOOTING NOTES:
1. FOR A SINGLE BIKE RACK, FOOTING DIMENSIONS ARE TO BE 3'-6" LONG X 1'-6" WIDE.
2. WHERE BIKE RACKS ARE SHOWN IN CONCRETE SIDEWALK AREAS, PROVIDE 8" THICK CONCRETE FOOTING WITH TOP OF FOOTING RECESSED 4" BELOW FINISHED PAVING ELEVATION. PROVIDE TYPICAL 4" THICK CONCRETE SIDEWALK ON TOP OF FOOTING AND CAULK AROUND THE POSTS WITH POLYURETHANE SEALANT.

BIKE RACK NOTES:
1. ALL STEEL MEMBERS COATED WITH ZINC RICH EPOXY THEN FINISHED WITH POLYESTER POWDER COATING (BLACK).
2. ACCEPTABLE MANUFACTURERS:
   - SITESCAPES, INC.
   - DUMOR
   - MADRAX
   - THE WAGNER COMPANIES

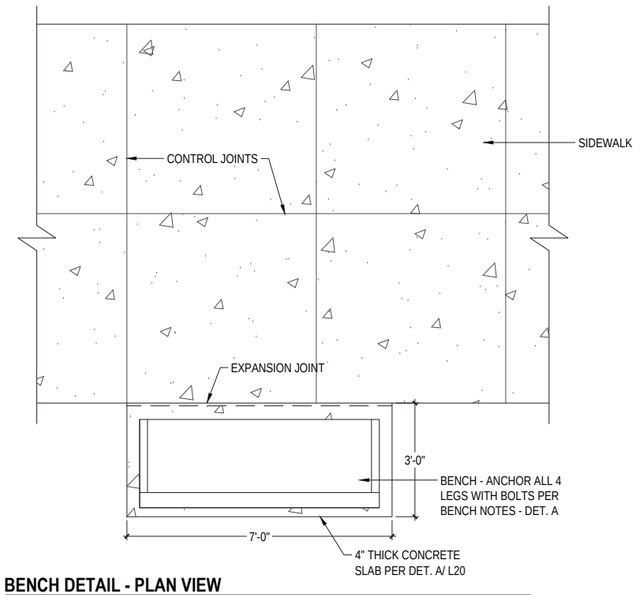
B BIKE RACK DETAIL
SCALE: 1"=1'-0"

0' 1'



C LITTER RECEPTACLE DETAIL
SCALE: 1"=1'-0"

0' 1'



D BENCH DETAIL - PLAN VIEW
SCALE: 1/2"=1'-0"

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND

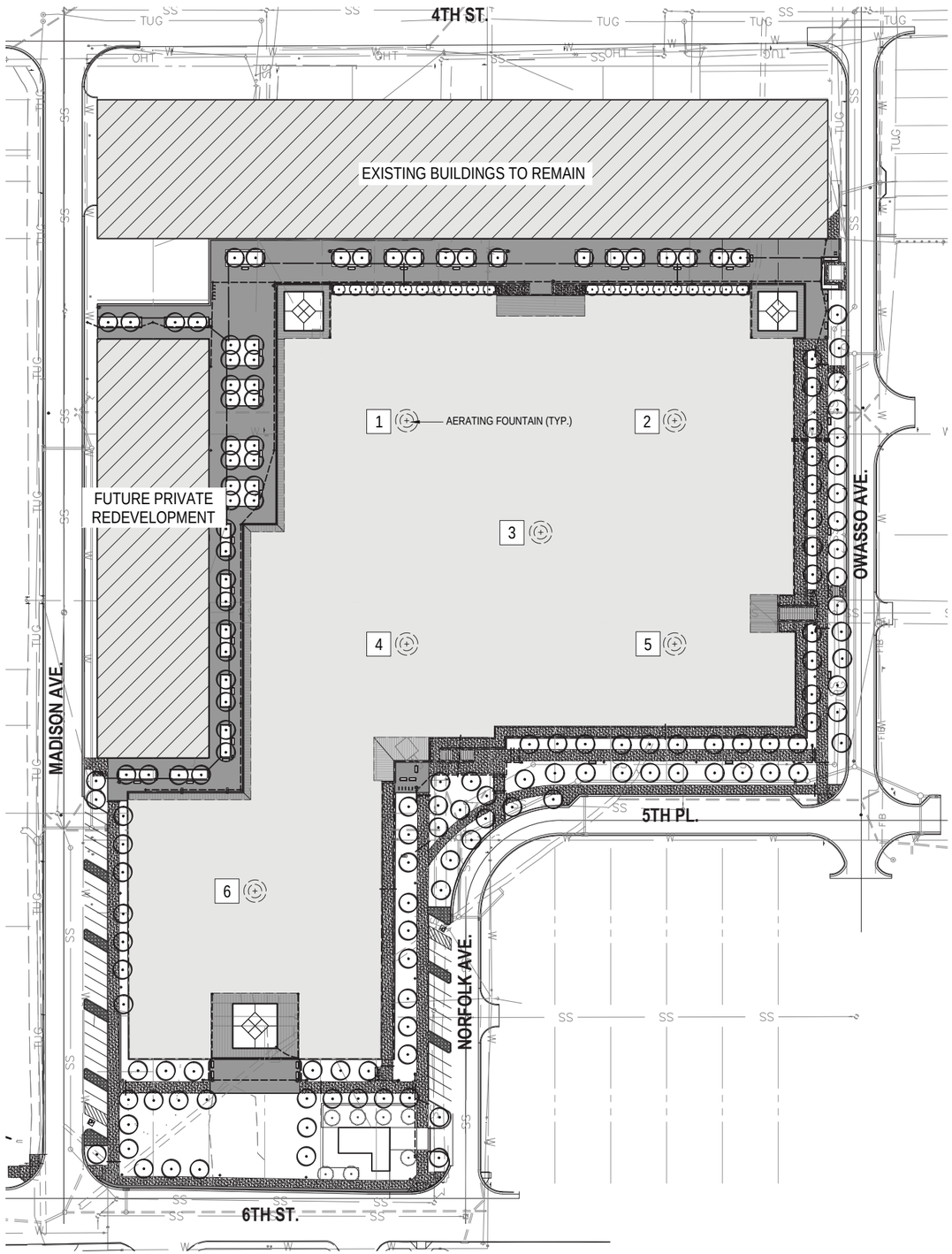
PROJECT No. 148150

SITE FURNISHINGS DETAILS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. L23
ATLAS PAGE NO: 01 & 08				SHEET NO. 29 OF 123



A AERATING FOUNTAIN - LAYOUT PLAN
SCALE: 1"=60'-0"

POND AERATOR / EQUIPMENT SCHEDULE

SYMBOL	QTY	ITEM	MANUFACTURER / MODEL / NOTES
⊕	6	'GEMINI' AERATING FOUNTAIN (3 HP)	OTTERBINE BAREBO, INC.; 'GEMINI' (3 HP) AERATING FOUNTAIN; OR APPROVED EQUAL / (GPM =800). PROVIDE OTTERBINE 4 LIGHT LED LIGHT KIT (5700K) WITH MOUNTING BRACKET. CONTACT: DAVIS SUPPLY CO., 5903 S. 118TH E. AVE., TULSA OK, 74146; PHONE: (918)940-3910; EMAIL: BILLY.STEGALL@DAVISSUPPLYCO.COM. PROVIDE AERATORS FOR ELECTRICAL POWER PER ELECTRICAL DRAWINGS (208V/ 3 PHASE). REFER TO SPECIFICATIONS. INCLUDE REQUIRED CABLE LENGTHS AND POWER CONTROL CENTER. ANCHOR FOUNTAIN TO BOTTOM PER MFG. DIRECTIONS, USING THREE 5 GAL. BUCKETS (FILLED WITH CONCRETE) AND FLEXIBLE TETHERS.

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

AERATING FOUNTAIN DETAILS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

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	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
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VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. L24
ATLAS PAGE NO: 01 & 08				SHEET NO. 30 OF 123

Friday, April 19, 2019 2:00:39 PM
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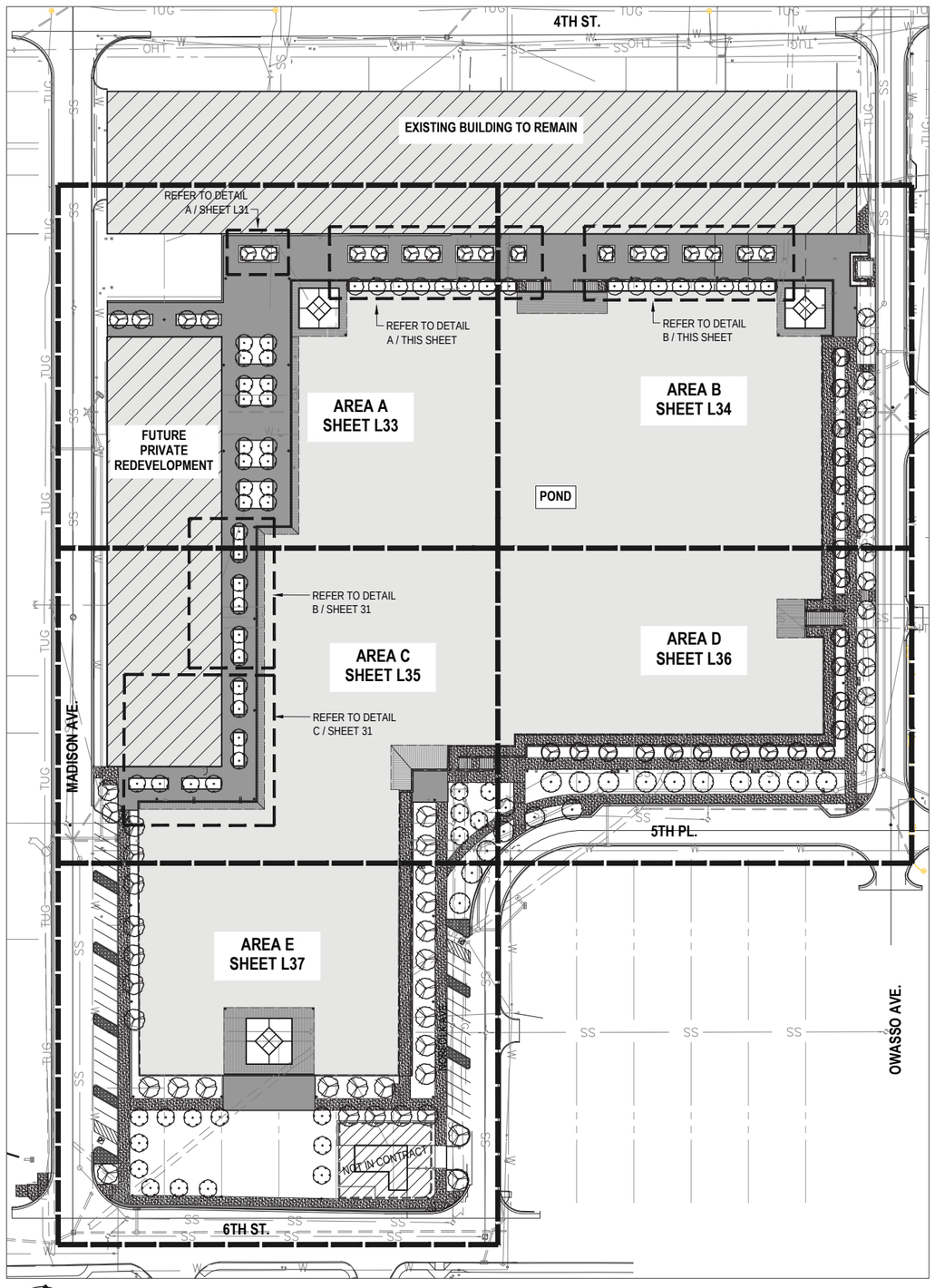
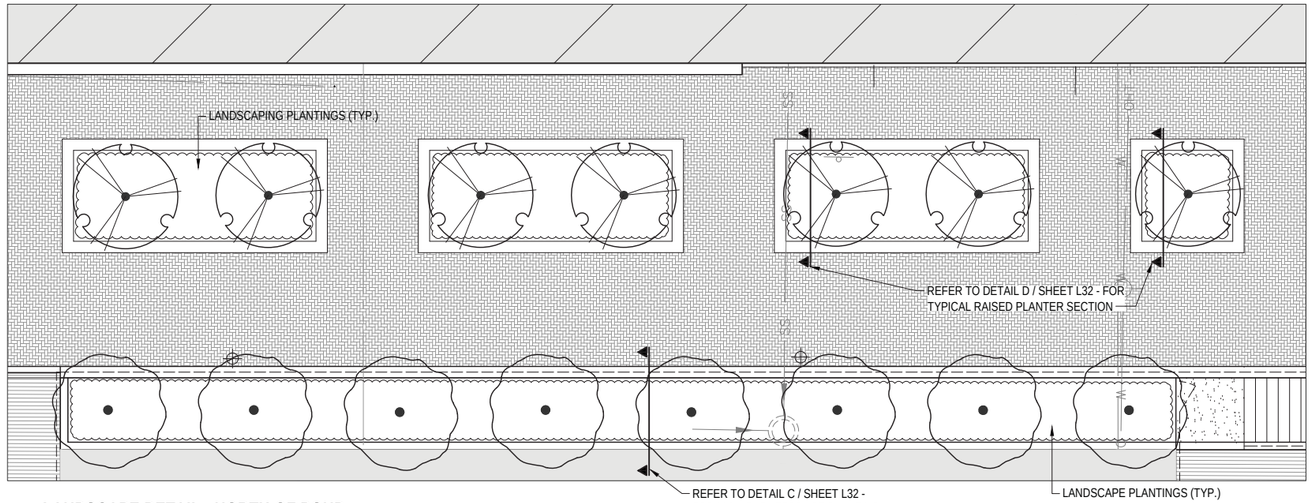
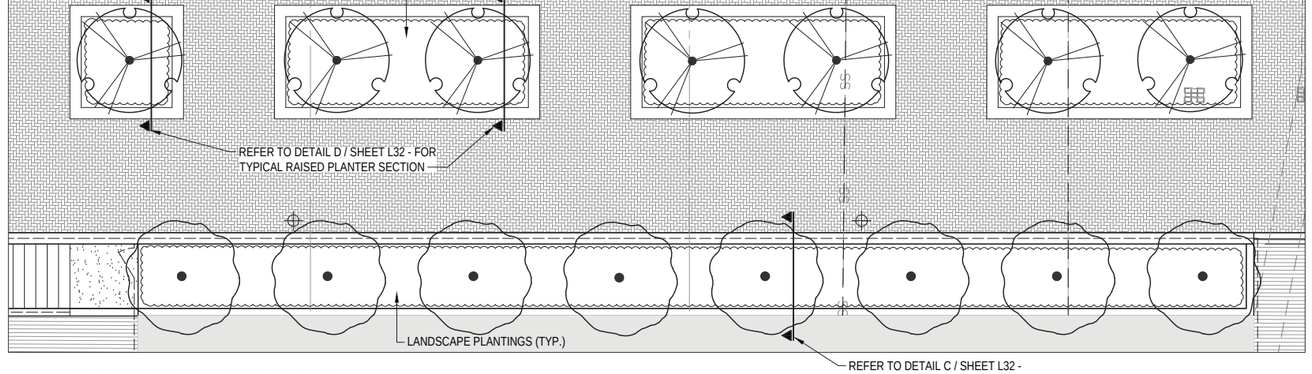


LANDSCAPE PLAN KEY MAP



A LANDSCAPE DETAIL - NORTH OF POND
SCALE: 1" = 10'-0"

0' 5' 10'



B LANDSCAPE DETAIL - NORTH OF POND
SCALE: 1" = 10'-0"

0' 5' 10'

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

LANDSCAPE PLAN KEY MAP

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
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FILE:	DRAWING:			PAGE NO. L30
ATLAS PAGE NO: 01 & 08				SHEET NO. 31 OF 123

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PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	COMMENTS
MSSM	30	Acer truncatum `Main Street`	Shantung Maple	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER, FULL
GINKGO	16	Ginkgo biloba `Princeton Sentry`	Princeton Sentry Ginkgo	B&B	3" CAL	12`-14` HT.; 3`-4` SPD.	CENTRAL LEADER, FULL
ECTULIP	18	Liriodendron tulipifera `Emerald city`	Emerald City Tulip Tree	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER, FULL
SWOAK	17	Quercus bicolor	Swamp White Oak	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER, FULL
NOAK	22	Quercus nuttallii	Nuttall Oak	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER, FULL
AGBC	37	Taxodium distichum `Autumn Gold`	Autumn Gold Bald Cypress	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER
SBBC	14	Taxodium distichum `Shawnee Brave`	Shawnee Brave Bald Cypress	B&B	3" CAL	12`-14` HT.; 3`-4` SPD.	FULL CANOPY
AELM	20	Ulmus parvifolia `Allee`	Allee Lacebark Elm	B&B	3" CAL	12`-14` HT.; 4`-5` SPD.	CENTRAL LEADER, FULL

SHRUBS, GROUNDCOVER, ORNAMENTAL GRASSES, & PERENNIALS

FINAL LANDSCAPE PLANS WILL INCLUDE A DETAILED LAYOUT OF ALL AREAS THAT ARE IDENTIFIED ON 60% PLANS FOR LANDSCAPE PLANTINGS. FINAL PLANS WILL INCLUDE SPECIFIC PLANT VARIETIES, SIZES AND QUANTITIES. THE FOLLOWING LIST DESCRIBES POTENTIAL PLANT VARIETIES THAT MAY BE USED FOR SPECIFIC AREAS:

PLAZA LEVEL PLANTERS: GROUNDCOVER PLANTING: EVERGREEN WINTERCREEPER (EUONYMUS FORTUNEI 'COLORATUS').

RAISED PLANTERS: POTENTIAL PLANT TYPES INCLUDE BLACK HELLERI HOLLY; ROSE CREEK ABELIA; DWARF YAUPON HOLLY; GRAY OWL JUNIPER; GREY GUARDIAN JUNIPER; BUFFALO JUNIPER; KARL FOERSTER FEATHER REED GRASS; PINK MUHLY GRASS; DAYLILLY; BLACK EYED SUSAN; AND LIRIOPE.

MID-LEVEL PLANTING TERRACE: THIS PLANTING AREA WILL BE PLANTED WITH WATER-TOLERANT PLANTS THAT WILL ARE ADAPTED TO POTENTIAL PERIODS OF FLOODING. POTENTIAL PLANT VARIETIES INCLUDE ITEA; SHENANDOAH SWITCH GRASS; AND HEAVY METAL SWITCH GRASS.

LANDSCAPE NOTES

CALL 811 FOR INFORMATION ON THE LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK OF ACTION ON THE PROJECT SITE DURING CONSTRUCTION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING LANDSCAPING OPERATIONS.

LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO STRUCTURES, WALLS, PAVING, AND ANY OTHER ITEMS LOCATED WITHIN AND OUTSIDE THE WORK AREA. ANY DAMAGE BY THE CONTRACTOR SHALL BE REPAIRED TO ORIGINAL CONDITION AT HIS OWN EXPENSE.

REFER TO LANDSCAPING SPECIFICATIONS FOR INSTALLATION OF TREES, SHRUBS, AND ALL OTHER PLANTS. PLANT TREES TWO (2) INCHES ABOVE FINISHED GRADE. CUT TWINE FROM AROUND THE TRUNK AND COMPLETELY REMOVE THE TOP 1/3 OF THE WIRE BASKET AND BURLAP FROM THE ROOT BALL. CAREFULLY REMOVE ANY EXCESS SOIL ON TOP OF ROOT BALL TO EXPOSE THE ROOT FLARES. PLANT SHRUBS ONE (1) INCH ABOVE FINISHED GRADE.

CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS. FIELD ADJUST TREE LOCATIONS FOR, UTILITIES, LIGHTS, SIGNAGE, ETC. CONTRACTOR SHALL FLAG LOCATIONS OF ALL TREES. LANDSCAPE ARCHITECT WILL FIELD REVIEW ALL TREE LOCATIONS PRIOR TO DIGGING TREE PITS.

TREE WELL AND PLANTING BED SOIL PREPARATION:

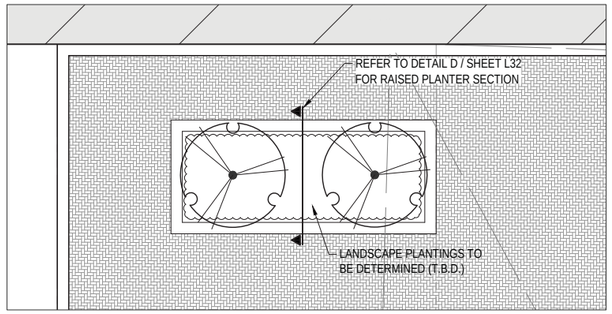
TREE PLANTING:
EXCAVATE EXISTING SOIL TO THE DEPTH OF THE ROOT BALL AND 24" BEYOND THE EDGE OF ROOTBALL. BACKFILL USING A MIXTURE OF TOPSOIL WITH 4 CUBIC FEET OF BACK TO NATURE AND 15 LBS OF STERILIZED COW MANURE PER TREE. APPLY ROOTS TRANSPLANT 1-STEP AT A RATE OF FOUR (4) OUNCES PER CALIPER INCH PER TREE. INCORPORATE AMENDMENTS INTO THE TOP 3"-4" OF SOIL BACKFILL. STAKE AND GUY TREES PER DETAILS ON PLANS.

PLANTING BEDS:
REFER TO DETAILS ON LANDSCAPE PLANS FOR PREPARATION OF ALL LANDSCAPE PLANTING BEDS (RAISED PLANTERS AND AT-GRADE PLANTERS). PROVIDE IMPORTED TOPSOIL (GEMDIRT 50 / 50 TOPMIX OR APPROVED EQUAL) IN DEPTHS INDICATED, AND INSTALL GEOTEXTILE FABRIC AS SHOWN. FOR ALL PLANTING BED AREAS, INCORPORATE ROOTS TRANSPLANT 1-STEP AT A RATE OF 5 POUNDS PER 100 SQUARE FEET INTO TOP 3"-4" OF SOIL.

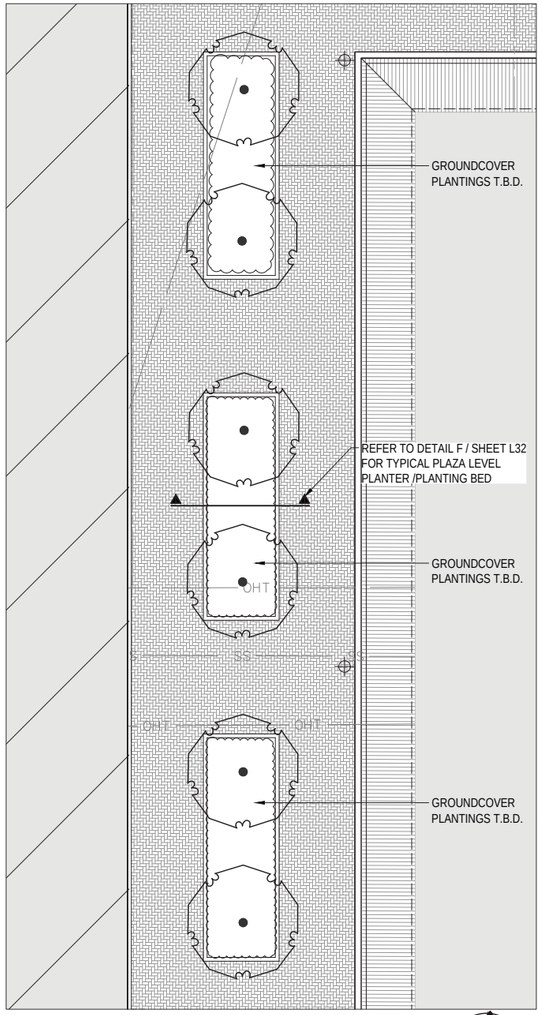
SOD:
ALL SITE AREAS DISTURBED BY CONSTRUCTION SHALL BE REVEGETATED WITH 'PATRIOT' BERMUDA GRASS SOD. REFER TO DRAWINGS FOR LIMITS OF SODDING AND REFER TO SODDING SPECIFICATIONS..

GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FINISH GRADE (1"±) FOR SODDING. LANDSCAPE CONTRACTOR (LC) SHALL PROVIDE FINE GRADE PRIOR TO SODDING. FINE GRADING OF LAWN AREAS SHALL PROVIDE A SMOOTH TRANSITION TO EXISTING GRADE AND BE FREE OF DEPRESSIONS OR OTHER IRREGULARITIES. SETTLING OF SOIL SHALL BE REPAIRED BY LANDSCAPE CONTRACTOR.

MULCH:
MULCH PLANTING BEDS AND RAISED PLANTERS WITH GRADE A CEDAR MULCH TO A DEPTH OF TWO (2) INCHES. TOP OF MULCH LAYER SHALL BE PLACED 1" BELOW TOP OF CURBS, WALKS, AND STEEL BED EDGING. MULCH ALL TREE WELLS WITH 3" DEPTH CEDAR MULCH. FOR MID-LEVEL PLANTING TERRACE (NORTH EDGE OF POND), MULCH WITH 3" THICK PEA GRAVEL / WEED BARRIER FABRIC PER DETAIL ON PLANS.



A LANDSCAPE DETAIL - NORTHWEST OF POND
SCALE: 1" = 10'-0"



B LANDSCAPE DETAIL - WEST OF POND
SCALE: 1" = 10'-0"

0' 5' 10'

C LANDSCAPE DETAIL - WEST OF POND
SCALE: 1" = 10'-0"

0' 5' 10'

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION

ELM CREEK WEST POND
PROJECT No. 148150
LANDSCAPE SCHEDULE & NOTES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

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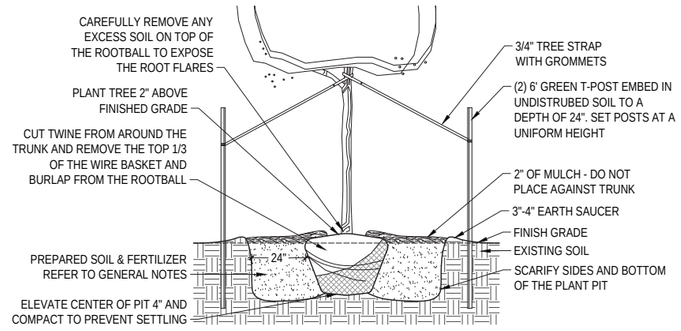
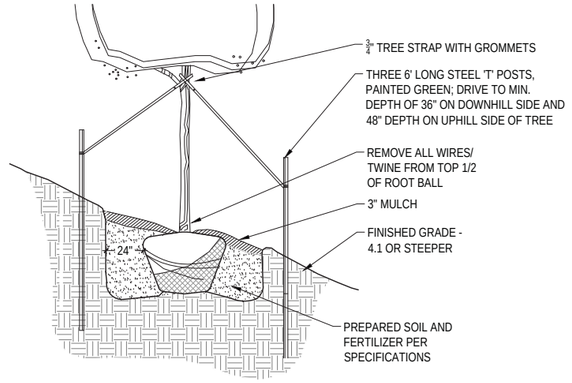
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. L31
ATLAS PAGE NO: 01 & 08				SHEET NO. 32 OF 123

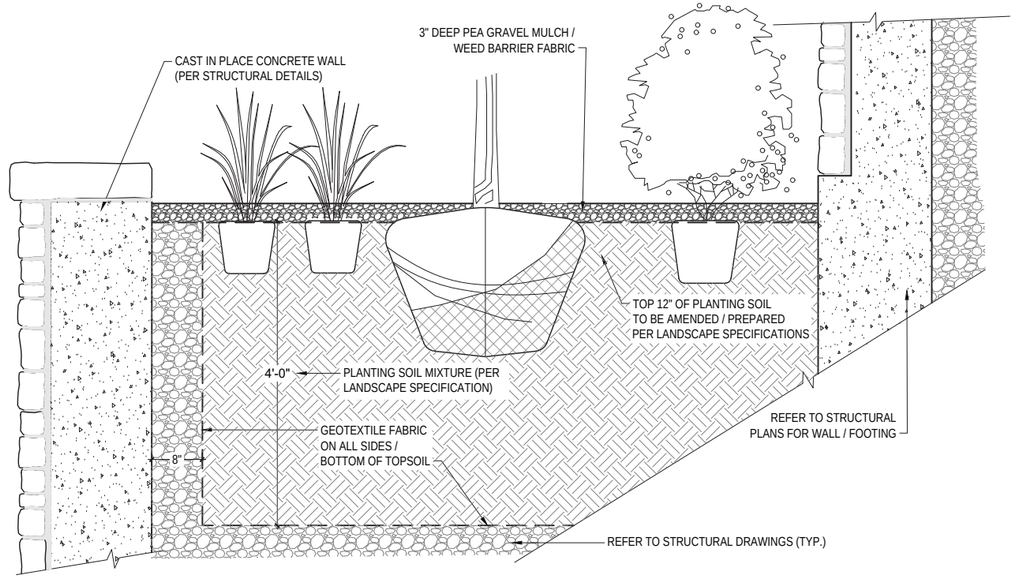


A **TREE DETAIL - LAWN AREAS**
SCALE: NOT TO SCALE

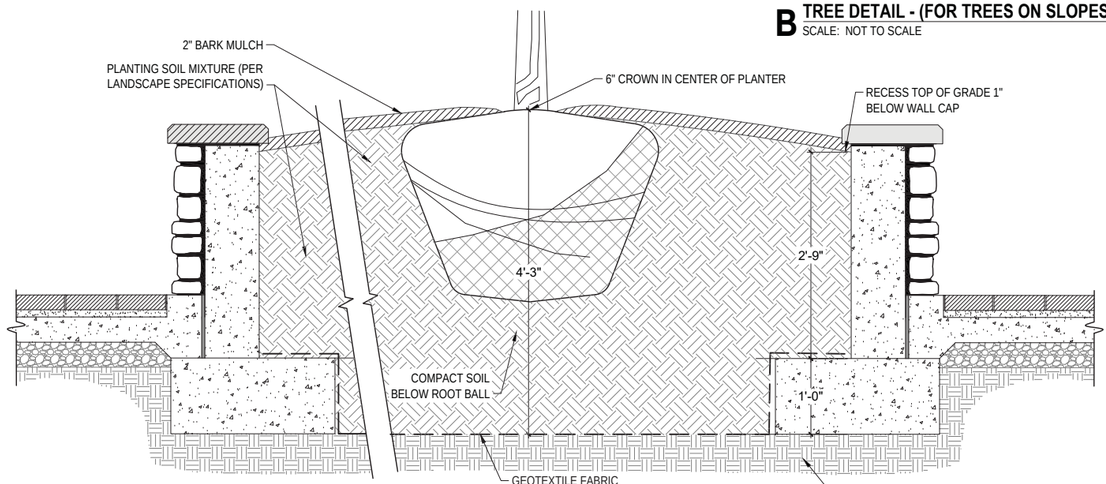


NOTE: PROVIDE THREE STAKES PER TREE AT EQUAL SPACING. ONE STAKE TO BE DIRECTLY DOWNSLOPE FROM TREE. 2 STAKES TO BE ABOVE TREE AND PARALLEL WITH SLOPE.

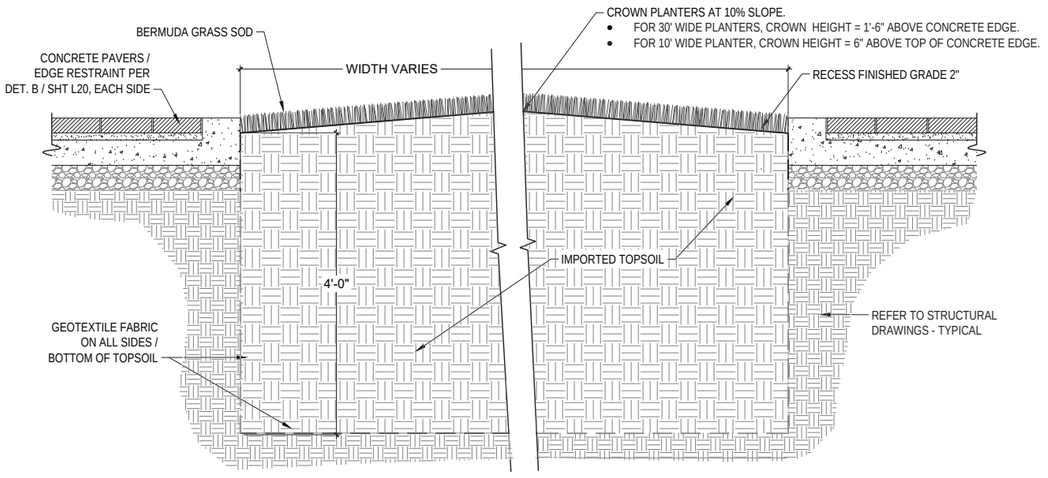
B **TREE DETAIL - (FOR TREES ON SLOPES ≥4:1)**
SCALE: NOT TO SCALE



C **MID-LEVEL TERRACE PLANTING DETAIL**
SCALE: 1" = 1'-0"
0' 1'



D **RAISED PLANTER DETAIL**
SCALE: 1"=1'-0"
0' 1'



E **PLAZA LEVEL PLANTER DETAIL - LAWN**
SCALE: 1"=1'-0"
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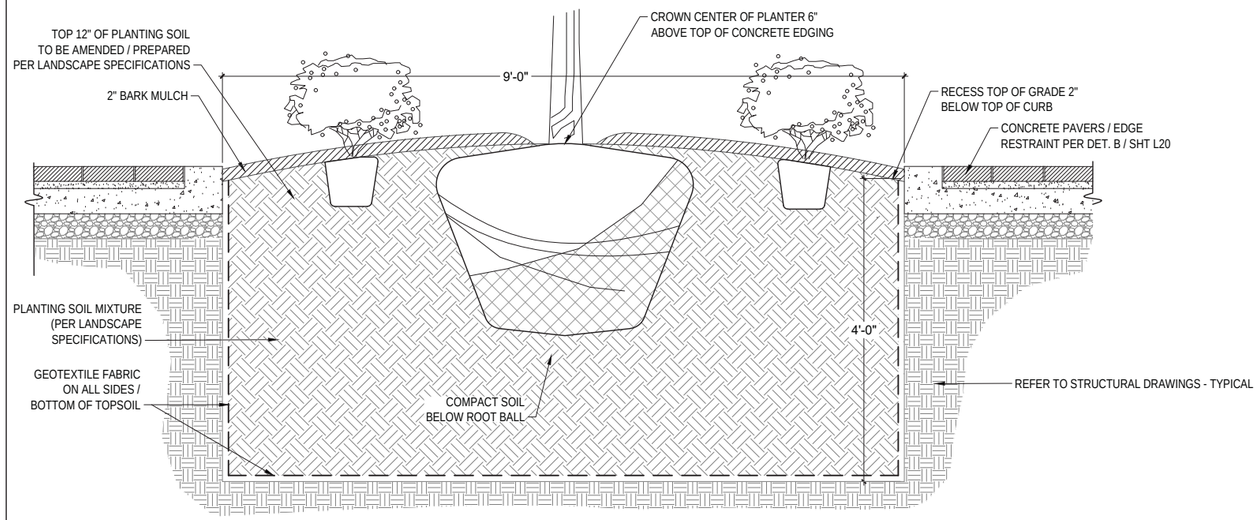

F **PLAZA LEVEL PLANTER DETAIL - PLANTING BEDS**
SCALE: 1"=1'-0"
0' 1'

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

REVISION	BY	DATE

ELM CREEK WEST POND
PROJECT No. 148150
LANDSCAPE DETAILS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
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HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
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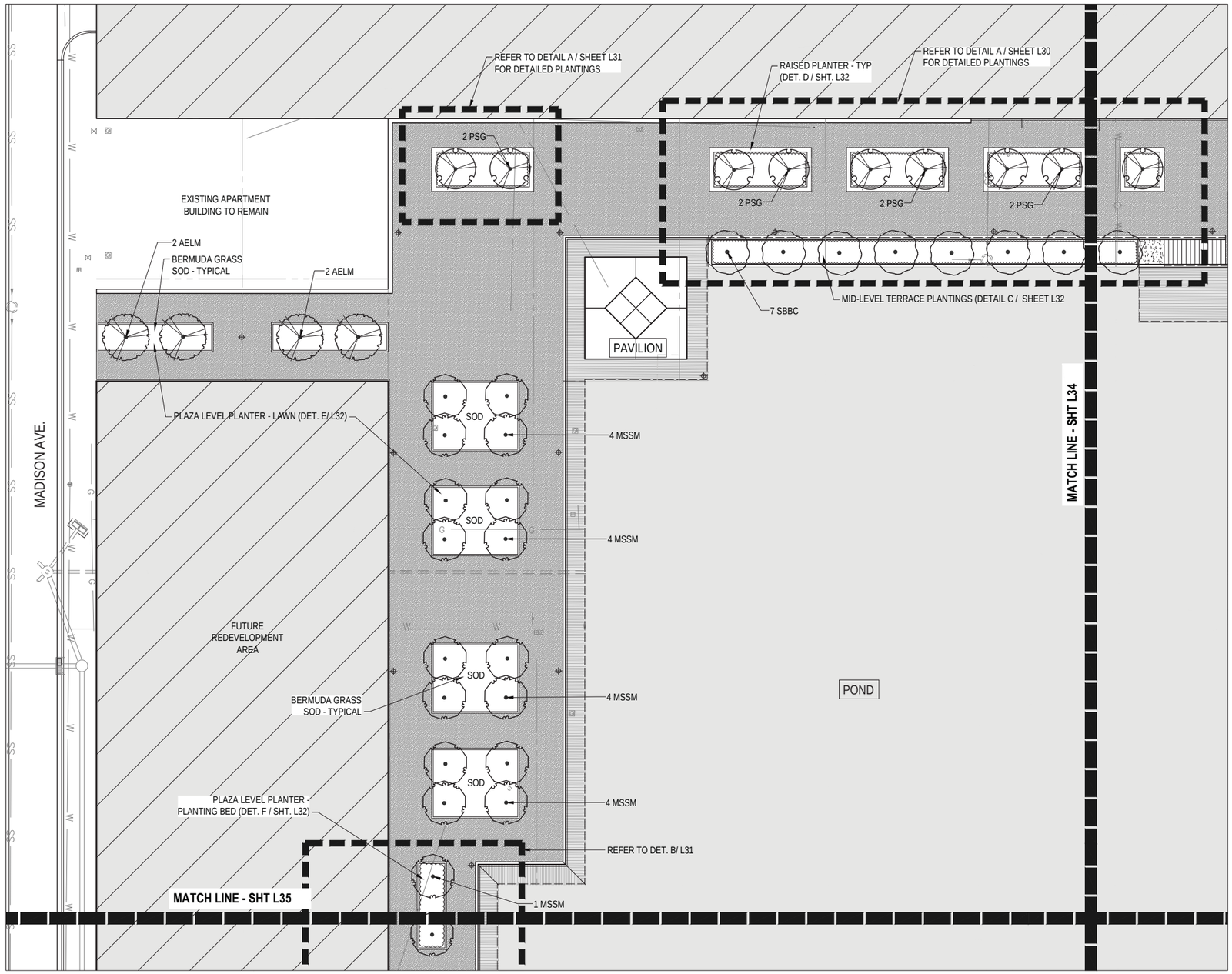
				DATE:
FILE:	DRAWING:			PAGE NO. L32
ATLAS PAGE NO: 01 & 08				SHEET NO. 33 OF 123



LANDSCAPE NOTES

1. REFER TO SHEET L31 FOR PLANT MATERIAL SCHEDULE AND LANDSCAPE NOTES.
2. REFER TO SHEET L32 FOR TYPICAL LANDSCAPE PLANTING DETAILS.
3. REFER TO HARDSCAPE PLANS FOR LAYOUT OF SIDEWALKS AND PEDESTRIAN PAVEMENT (SHEETS L11 - L18).
4. REFER TO SHEETS L38 - L43 FOR SITE IRRIGATION SYSTEM PLANS.
5. CLOSELY COORDINATE ALL TREE LOCATIONS WITH UTILITIES (EXISTING AND PROPOSED), SITE LIGHTING, AND OTHER SITE CONDITIONS. FIELD ADJUST LOCATIONS FOR PROPOSED TREES AS REQUIRED, AND NOTIFY OWNER IF THERE ARE SIGNIFICANT CONFLICTS.
6. ALL DISTURBED AREAS OF THE SITE THAT ARE NOT SHOWN FOR OTHER PLANTINGS ARE TO BE SODDED WITH 'PATRIOT" BERMUDA SOD, PER NOTES ON SHEET L31.

60%
PRELIMINARY PLANS
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CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

LANDSCAPE PLAN - A

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
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	DESIGN MANAGER			CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. L33

ATLAS PAGE NO: 01 & 08 SHEET NO. 34 OF 123

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Friday, April 19, 2019 2:00:45 PM
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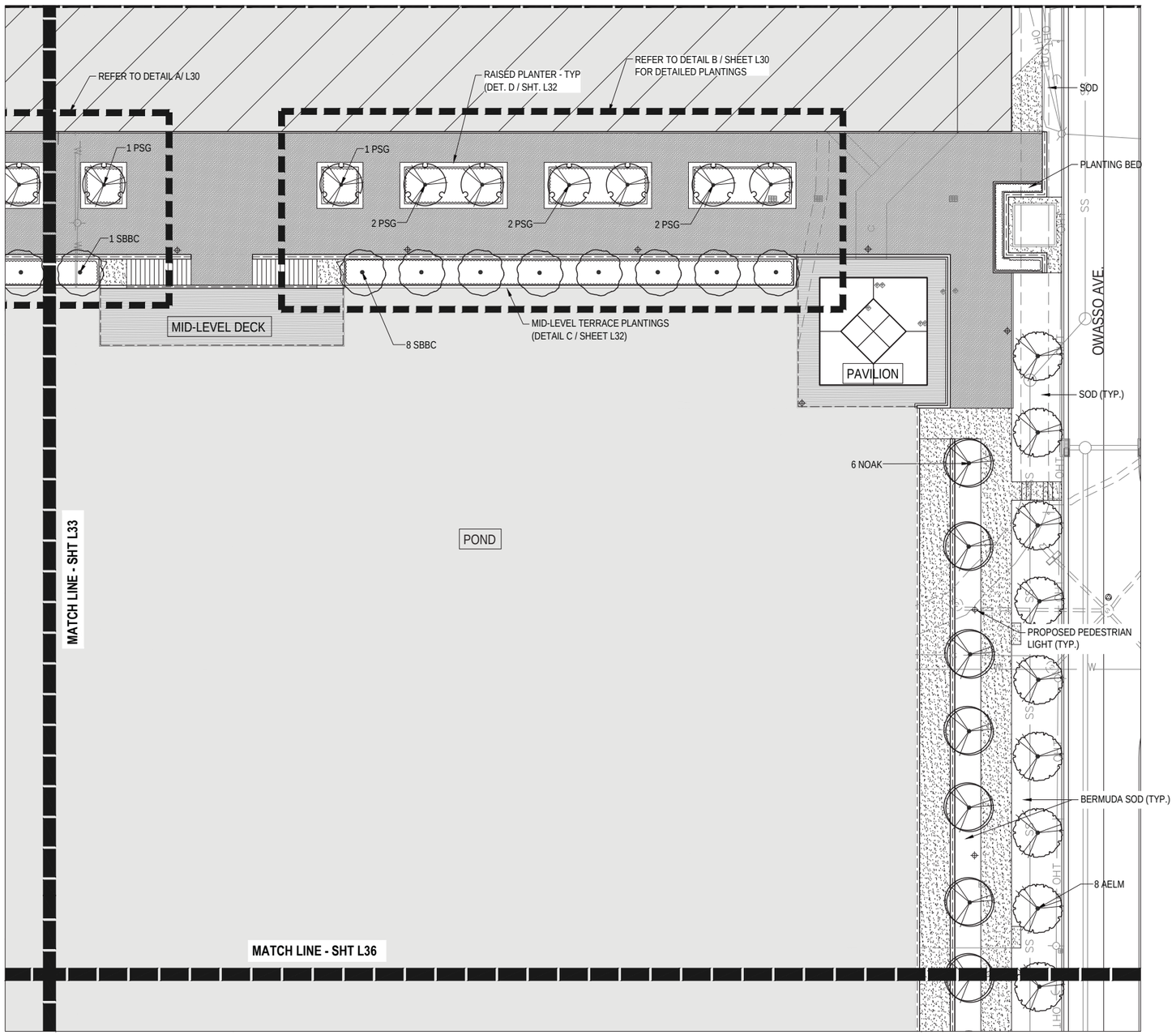

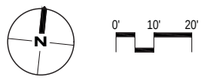

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

LANDSCAPE PLAN - B

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

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	DESIGNED	MP	4/26/19	
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PROFILE SCALE:	PROJ. MGR.			
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ATLAS PAGE NO: 01 & 08				SHEET NO. 35 OF 123

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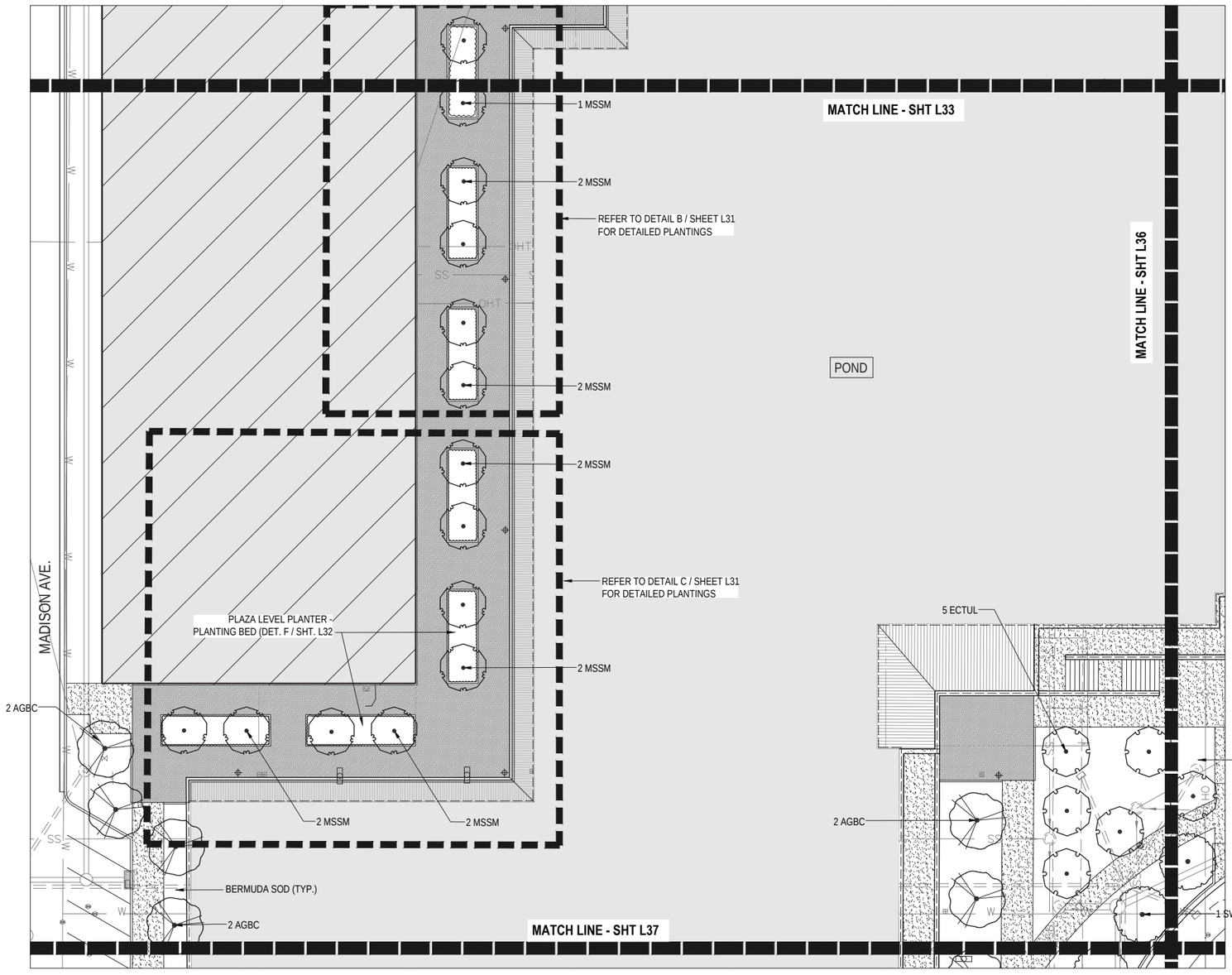

0' 10' 20'

LANDSCAPE NOTES

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PRELIMINARY PLANS
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CONSTRUCTION

BEFORE YOU DIG
811
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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

LANDSCAPE PLAN - C

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
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PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
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ATLAS PAGE NO: 01 & 08				SHEET NO. 36 OF 123

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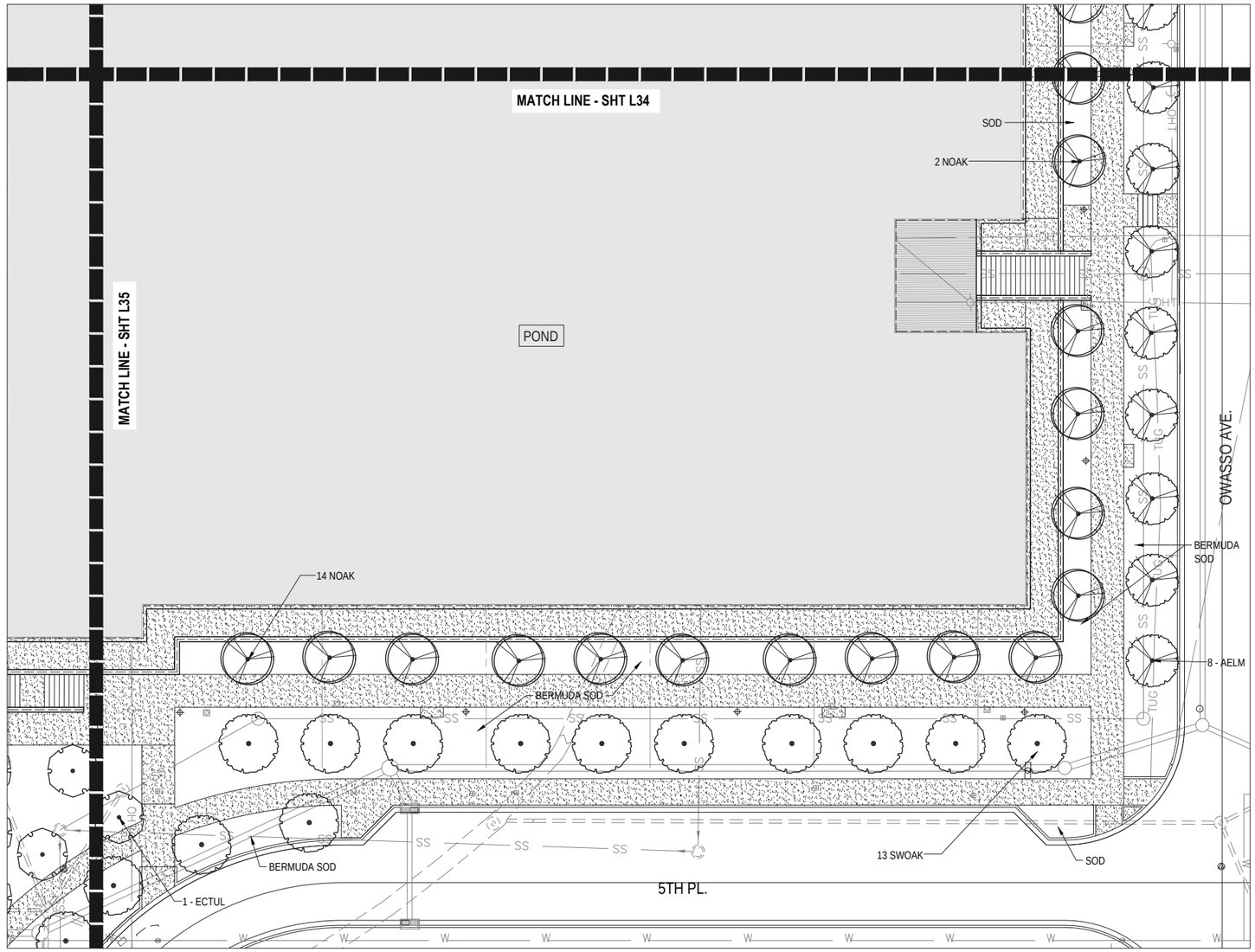

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60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

LANDSCAPE PLAN - D

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
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PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
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	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
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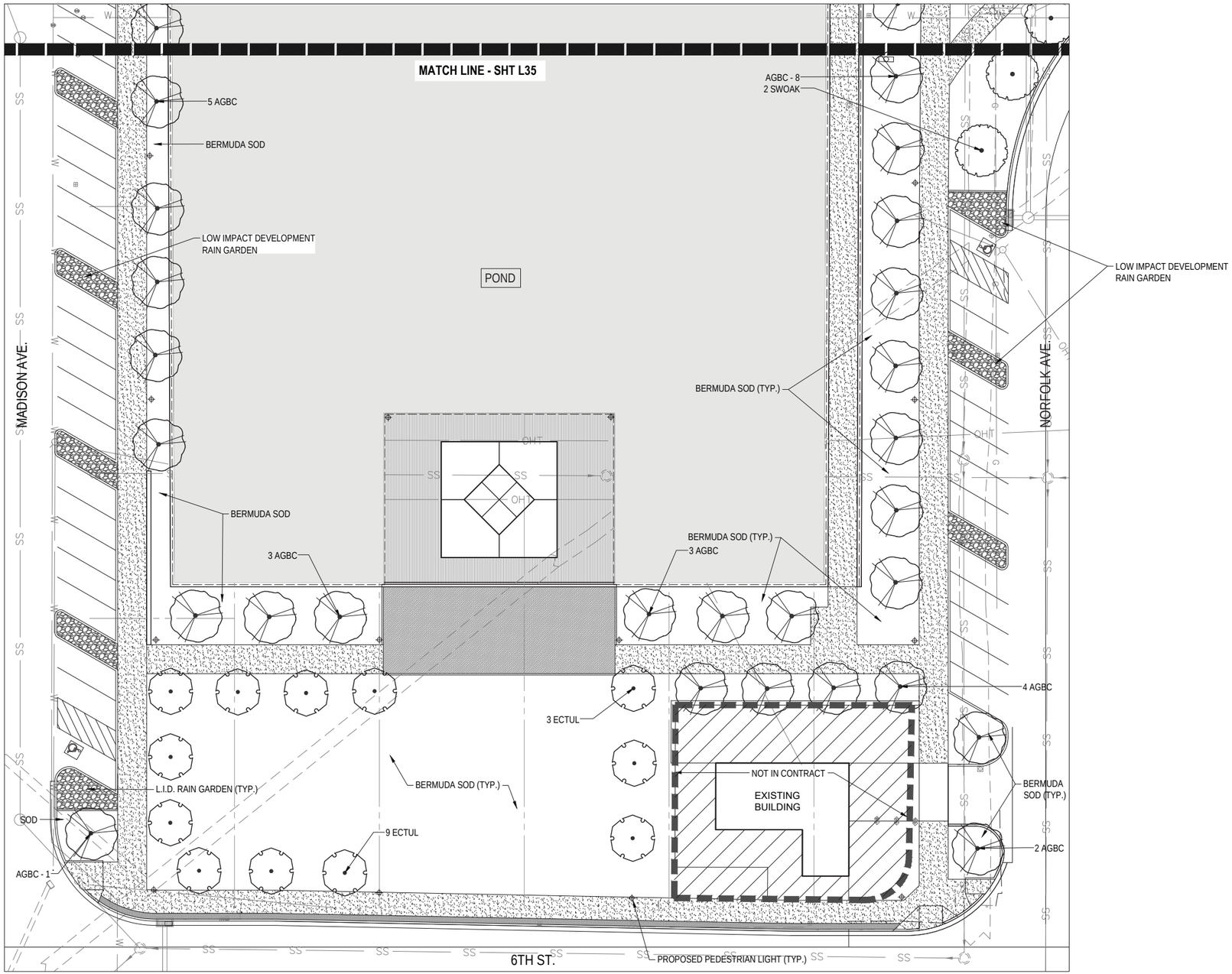

LANDSCAPE NOTES

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PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

LANDSCAPE PLAN - E

CITY OF TULSA, OKLAHOMA
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	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. L37
ATLAS PAGE NO: 01 & 08				SHEET NO. 38 OF 123

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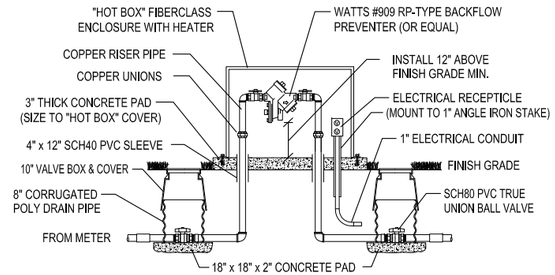
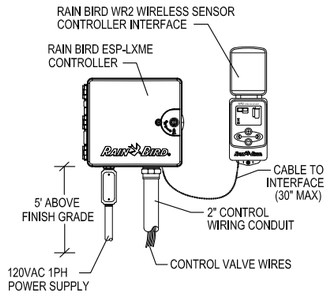
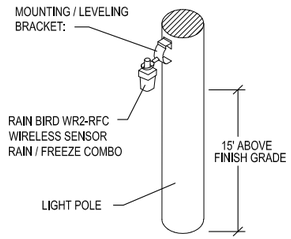


1 INSTALLATION DETAIL
RP-TYPE BACKFLOW PREVENTER



2 INSTALLATION DETAIL
WALL-MOUNT CONTROLLER



3 INSTALLATION DETAIL
RAIN / FREEZE SENSOR

IRRIGATION EQUIPMENT LEGEND

- 1-1/2" IRRIGATION WATER METER (50gpm @ 70psi REQUIRED)
- WILKINS 1-1/2" #975XL RP-TYPE BACKFLOW PREVENTER
- 1" AIR / VACUUM RELIEF VALVE
- WEATHERMATIC #11024FCR-15 1-1/2" ZONE VALVE
- RAINBIRD ESP-24LXME IRRIGATION CONTROLLER
- RAINBIRD WR2-RFC WIRELESS RAIN / FREEZE SENSOR
- RAINBIRD 3RC QUICK COUPLING VALVE (PROVIDE 2 KEYS)

- RAINBIRD 1804-PRS POP-UP TURF SPRAY with 8-HE-VAN NOZZLE
- RAINBIRD 1804-PRS POP-UP TURF SPRAY with 10-HE-VAN NOZZLE
- RAINBIRD 1804-PRS POP-UP TURF SPRAY with 12-HE-VAN NOZZLE
- RAINBIRD 1804-PRS POP-UP TURF SPRAY with 15-HE-VAN NOZZLE
- RAINBIRD 1804-PRS POP-UP TURF SPRAY with 18VAN NOZZLE

- RAINBIRD 1804-SAM-P45 4" POP-UP - MP1000-90-210 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MP1000-360 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MP2000-90-210 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MP2000-360 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MP3000-90-210 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MP3000-360 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MPCORNER NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MPSS-530 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MPRC-515 NOZZLE
- RAINBIRD 1804-SAM-P45 4" POP-UP - MPLC-515 NOZZLE

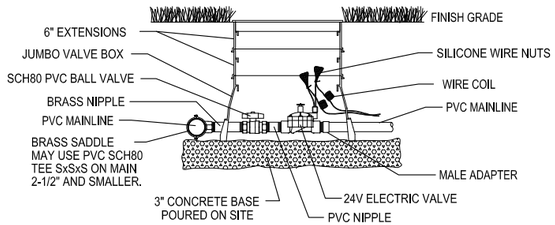
- RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 8-HE-VAN NOZZLE
- RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 10-HE-VAN NOZZLE
- RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 12-HE-VAN NOZZLE
- RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 15-HE-VAN NOZZLE
- RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 15SST NOZZLE
- RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 15RCS NOZZLE
- RAINBIRD 1812-PRS POP-UP SHRUB SPRAY with 15LCS NOZZLE

- CLASS 200 PVC LATERAL PIPING
- SCH40 PVC MAINLINE PIPING
- 4" SCHEDULE 40 PVC SLEEVING
- 6" SCHEDULE 40 PVC SLEEVING

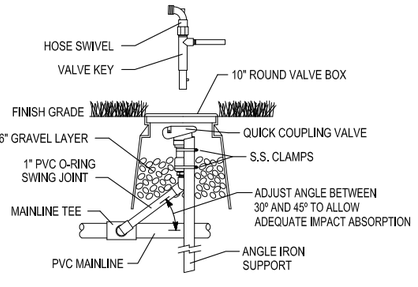
THE FOLLOWING NOTES ARE A PARTIAL SUMMARY ONLY OF IRRIGATION SPECIFICATIONS. REFER ALSO TO WRITTEN SPECIFICATIONS SECTIONS FOR THE IRRIGATION SYSTEM.

GENERAL IRRIGATION NOTES

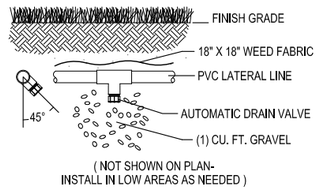
1. CALL 811 FOR INFORMATION ON THE LOCATION OF ALL UNDERGROUND UTILITIES. CONTACT PRIOR TO DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE UTILITIES (BOTH OVERHEAD AND BURIED) WHICH MAY OCCUR DUE TO HIS ACTION OR LACK OF ACTION ON THE PROJECT SITE DURING LANDSCAPE OR IRRIGATION INSTALLATION. CONTRACTOR SHALL SEEK THE ASSISTANCE OF LOCAL UTILITIES AND THE OWNER IN LOCATING THE UTILITIES PRIOR TO PERFORMING TRENCHING OPERATIONS IN ANY AREA.
2. CONTRACTOR SHALL CAREFULLY VERIFY A MINIMUM DYNAMIC WATER PRESSURE OF 70PSI @50GPM ADJACENT TO THE WATER METER LOCATION. IF THE MINIMUM WATER PRESSURE IS LESS THAN 70 PSI, CONTRACTOR SHALL NOTIFY THE OWNER OF SUCH AND SHALL RECEIVE OWNER'S APPROVAL PRIOR TO BEGINNING INSTALLATION OPERATIONS.
3. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF SCHEDULE 40 PVC SLEEVES AS INDICATED ON THE DRAWING. EXTEND SLEEVES 2' BEYOND BACK OF CURB AND CAP UNTIL CONTRACTOR IS READY TO BEGIN INSTALLATION OF SYSTEM. STAKE LOCATION OF SLEEVE WITH T-POSTS AND FLAGS.
4. CONTRACTOR SHALL SUPPLY A 2" CONDUIT FROM CONTROLLER LOCATION TO THE LANDSCAPE AREA AS SHOWN FOR VALVE WIRES.
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A J-BOX WITH 115VAC; 1PHASE POWER TO THE CONTROLLER AND BACKFLOW PREVENTER LOCATIONS. IRRIGATION CONTRACTOR SHALL HARD WIRE CONTROLLER TO J-BOX.
6. GENERAL CONTRACTOR SHALL SUPPLY WATER METER.
7. THE IRRIGATION DESIGN IS DIAGRAMMATIC. THE INTENT OF THE DRAWINGS IS TO SHOW THE GENERAL LAYOUT AND LOGIC OF THE SYSTEM. SCALED MEASUREMENTS MAY NOT BE ACCURATE. ACTUAL LOCATIONS AND QUANTITIES OF PIPE AND FITTINGS MAY VARY DUE TO FIELD ADJUSTMENTS FOR EXISTING AND NEW TREES AND OTHER OBSTRUCTIONS TO PROVIDE THE PROPER AND INTENDED COVERAGE.
8. CONTRACTOR SHALL INSURE THAT THE IRRIGATION MAIN LINE AND VALVES ARE INSTALLED WITHIN THE PROPERTY LINES. ANY LINES SHOWN OUTSIDE OF NORMAL INSTALLATION CORRIDORS ARE FOR PRESENTATION PURPOSES ONLY.
9. CONTRACTOR SHALL INSTALL SPECIFIED BACKFLOW PREVENTER AND PROTECTIVE HOUSING (IF SPECIFIED) AT THE LOCATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL CLOSELY FOLLOWING THESE CONTRACT DRAWINGS, THE IRRIGATION SPECIFICATIONS, AND THE SPECIFIED RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURES TO INSURE PROPER INSTALLATION OF THE IRRIGATION SYSTEM. CONTRACTOR SHALL IMMEDIATELY CONSULT WITH THE OWNER WHENEVER THERE APPEARS TO BE A CONFLICT BETWEEN ANY OF THE ABOVE STATED DOCUMENTS.
10. PROVIDE WINTERIZING FOR THE SYSTEM BY USING A COMBINATION OF AUTOMATIC FILTER DRAIN VALVES IN THE LATERAL LINES, MANUAL DRAIN VALVES IN THE LOW POINTS OF THE MAINLINE AND PROVIDE PIPE HEATING CABLE TO PROTECT BACKFLOW PREVENTER FROM FREEZING.
11. CONTRACTOR SHALL INSTALL AN AUTOMATIC FILL VALVE, FROM THE IRRIGATION MAINLINE, TO MAINTAIN A MINIMUM WATER LEVEL IN THE POND.



4 INSTALLATION DETAIL
ELECTRIC VALVE ASSEMBLY

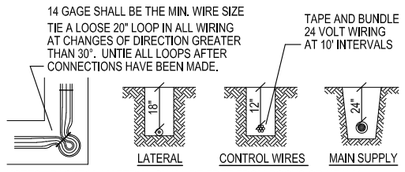


5 INSTALLATION DETAIL
QUICK COUPLING VALVE



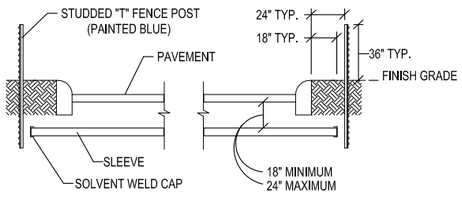
(NOT SHOWN ON PLAN-
INSTALL IN LOW AREAS AS NEEDED)

6 INSTALLATION DETAIL
AUTOMATIC DRAIN VALVE

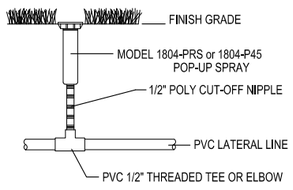


NOTES: BACKFILL MATERIAL SHALL BE FREE FROM ROCKS OR HEAVY UNSUITABLE SUBSTANCES WHICH COULD DAMAGE THE PIPE OR CREATE UNUSUAL SETTLING PROBLEMS. BACKFILL SHALL BE DONE IN SIX INCH LAYERS AND TAMPED DOWN AFTER EACH LAYER IS PUT BACK TO PREVENT EXCESSIVE SETTLING.

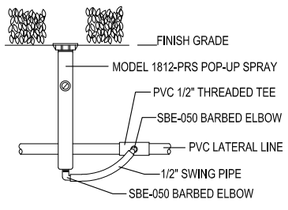
7 INSTALLATION DETAIL
MAINLINE, LATERAL & WIRING



8 INSTALLATION DETAIL
TYPICAL SLEEVING



9 INSTALLATION DETAIL
4" POP-UP TURF SPRAY



10 INSTALLATION DETAIL
12" POP-UP SHRUB SPRAY

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

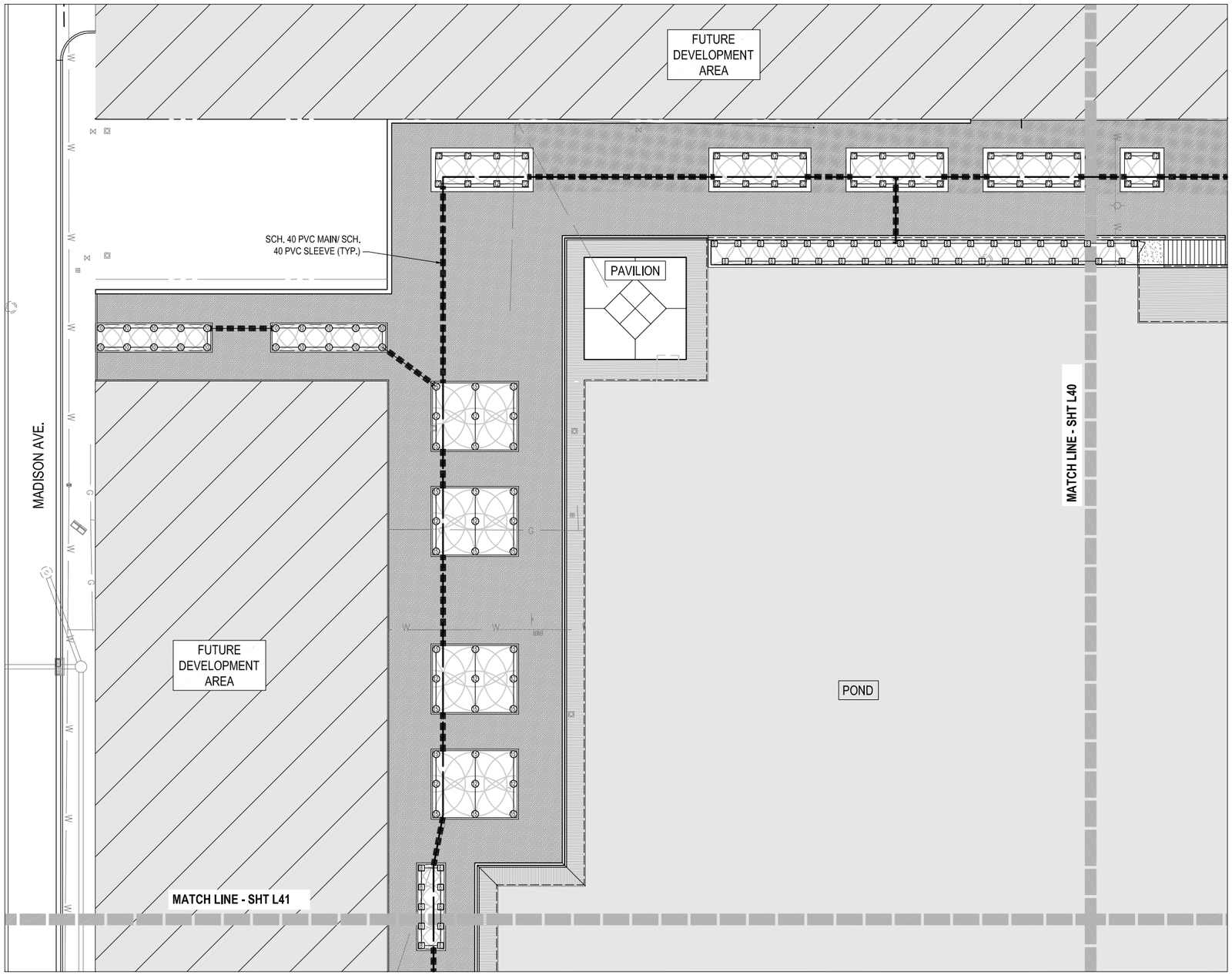
IRRIGATION LEGEND, NOTES & DETAILS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

PLAN SCALE: AS SHOWN	DRAWN	BC	4/26/19	APPROVED:
	DESIGNED	MP	4/26/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
	FILE: DRAWING:			PAGE NO. L38
	ATLAS PAGE NO: 01 & 08			SHEET NO. 39 OF 123



IRRIGATION EQUIPMENT LEGEND

- 1-1/2" IRRIGATION WATER METER (50gpm @ 70psi RQD)
- WILKINS 1-1/2" #975XL RP-TYPE BACKFLOW PREVENTER
- 1" AIR / VACUUM RELIEF VALVE
- WEATHERMATIC #11024FCR-15 1-1/2" ZONE VALVE
- RAINBIRD ESP-24LXME IRRIGATION CONTROLLER
- RAINBIRD WR2-RFC WIRELESS RAIN / FREEZE SENSOR
- RAINBIRD 3RC QUICK COUPLING VALVE (PROVIDE 2 KEYS)

- RAINBIRD 1804-PRS POP-UP TURF SPRAY with 8-HE-VAN NOZZLE
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- RAINBIRD 1804-SAM-P45 4" POP-UP - MPLC-515 NOZZLE

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- SCH40 PVC MAINLINE PIPING
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60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

IRRIGATION PLAN - AREA A

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

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PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. L39

ATLAS PAGE NO: 01 & 08 SHEET NO. 40 OF 123

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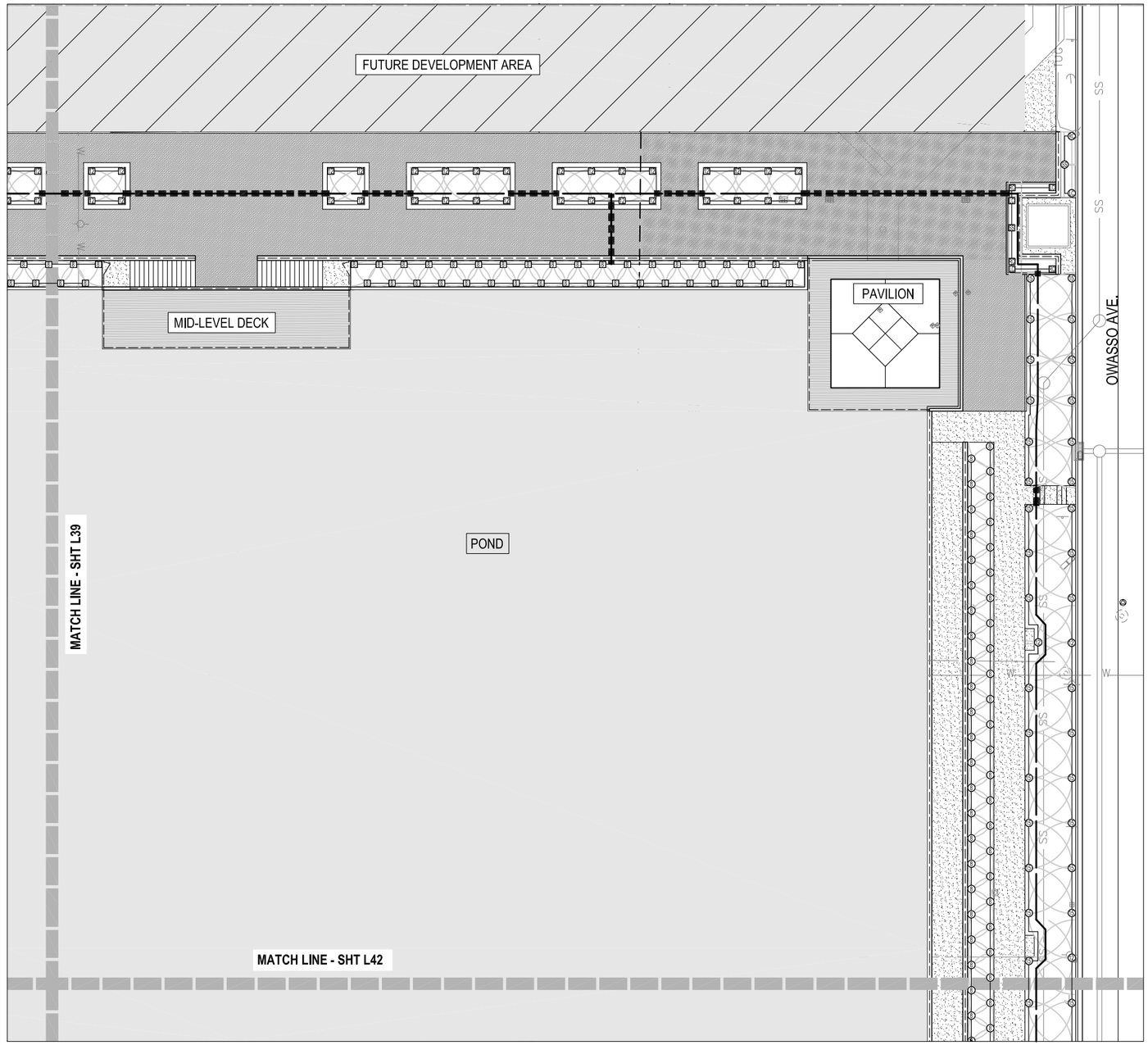

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60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

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ELM CREEK WEST POND

PROJECT No. 148150

IRRIGATION PLAN - AREA B

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

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FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. L40

ATLAS PAGE NO: 01 & 08 SHEET NO. 41 OF 123

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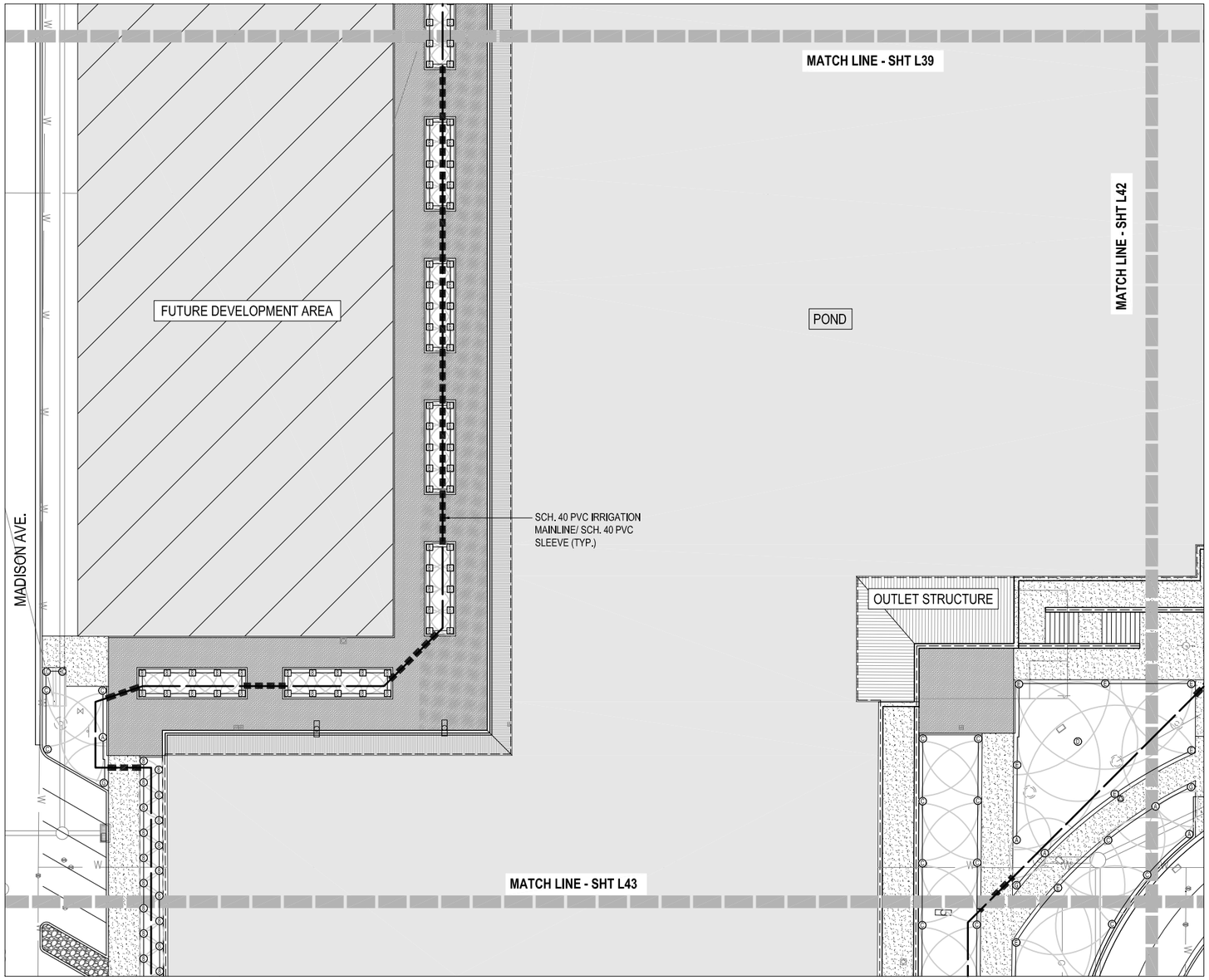

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60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION

ELM CREEK WEST POND

PROJECT No. 148150

IRRIGATION PLAN - AREA C

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

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	FIELD MGR.			
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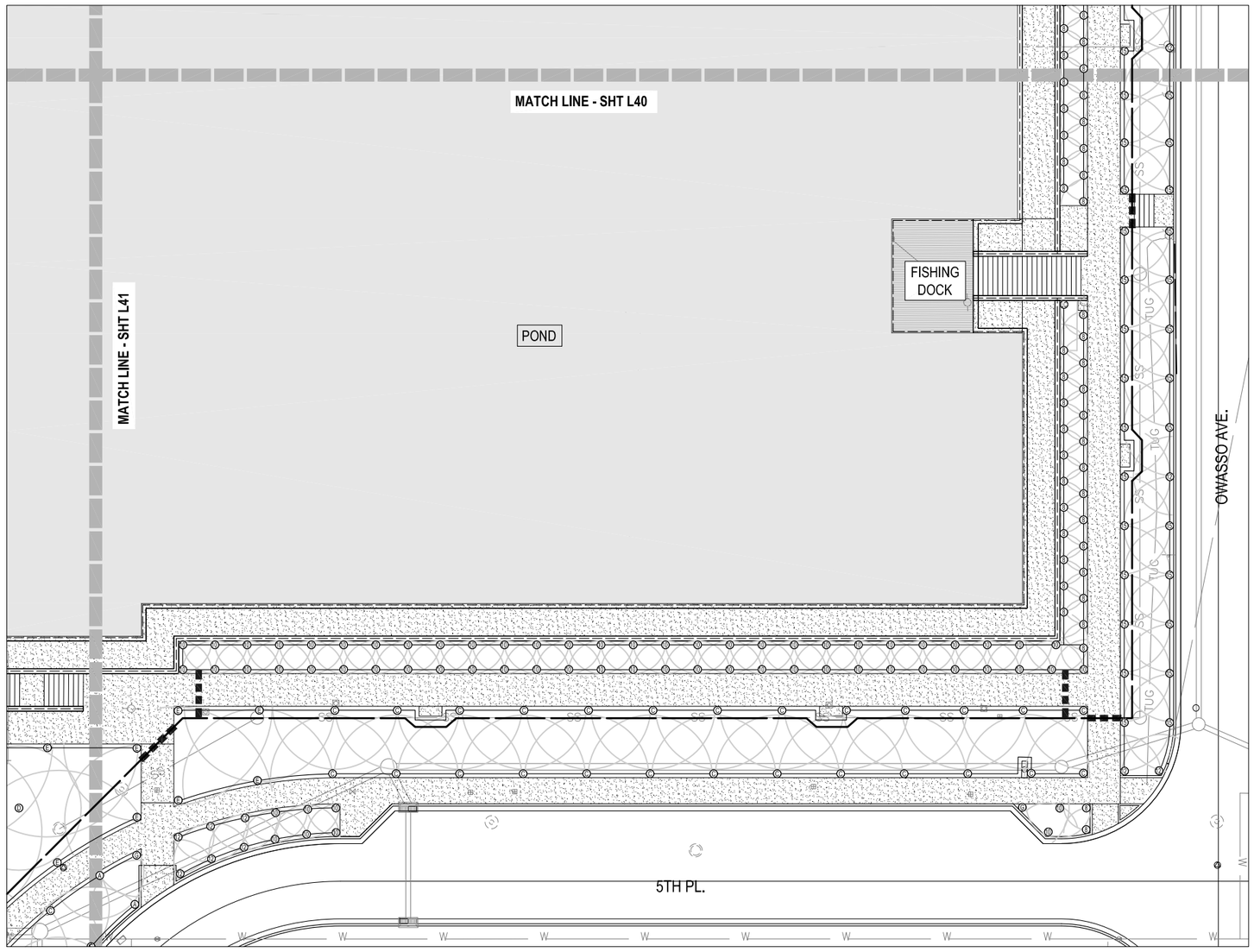

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PRELIMINARY PLANS NOT FOR CONSTRUCTION

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ELM CREEK WEST POND

PROJECT No. 148150

IRRIGATION PLAN - AREA D

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

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ATLAS PAGE NO: 01 & 08				SHEET NO. 43 OF 123

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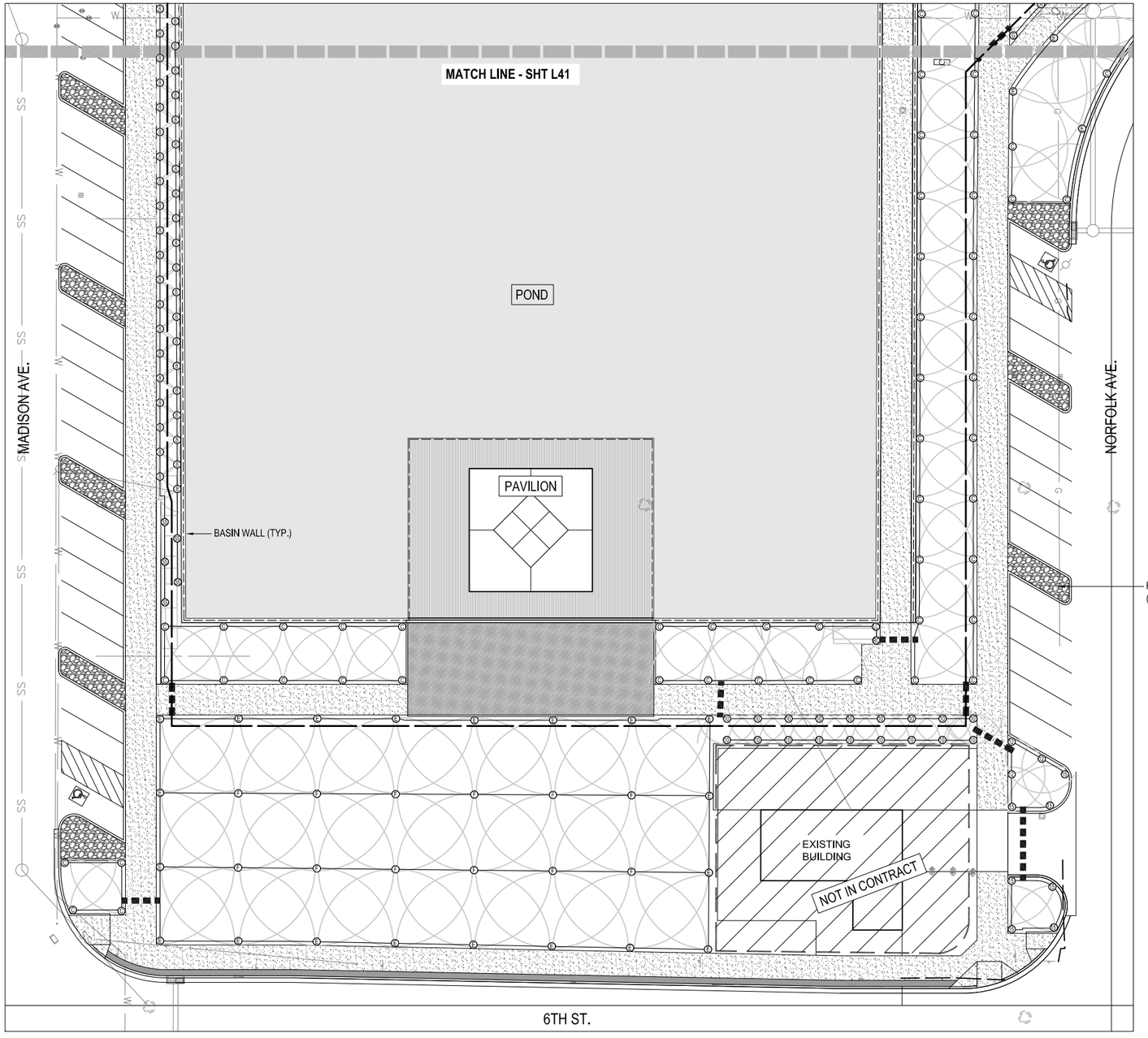

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ELM CREEK WEST POND

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IRRIGATION PLAN - AREA E

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

ALABACK DESIGN ASSOCIATES
3202 E. 21ST ST, TULSA OK 74114 | PH: 918.742.1463

REVISION	BY	DATE

PLAN SCALE: AS SHOWN
PROFILE SCALE: HORIZONTAL: VERTICAL

DRAWN	BC	4/26/19	APPROVED:
DESIGNED	MP	4/26/19	
SURVEY			
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
DATE:

FILE: DRAWING: PAGE NO. L43
ATLAS PAGE NO: 01 & 08 SHEET NO. 44 OF 123

BEFORE YOU DIG 811 CALL OKIE

Friday, April 19, 2019 2:16:23 PM
Z:\Public & Park\Elm Creek Detention + West Pond\Elm Creek – 6th St. West Pond COT #17001\Drawings\RP 17001.dwg

NOTES:

1. ELECTRICAL DEMOLITION FOR THIS PROJECT IS BASED UPON THE ASSUMPTION THAT PSO WILL REMOVE THEIR ELECTRICAL INFRASTRUCTURE WITHIN THE CONSTRUCTION AREA AND MODIFY THEIR DISTRIBUTION TO ALLOW THE REMAINING PROPERTIES TO BE SERVICED. AFTER PROPERTY HAS BEEN ACQUIRED, POLES, OVERHEAD WIRE, ETC. WILL BE REMOVED BY PSO.
2. BECAUSE THERE ARE NO HIGH VOLTAGE FEEDERS IN THE LOCATION AND THE INFRASTRUCTURE HAS BEEN PAID FOR AND UTILIZED , THE COST FOR REMOVAL IS ASSUMED TO BE COVERED BY PSO AND WILL NOT BE EXPENSED TO THE PROJECT. THIS IS PER DISCUSSIONS WITH PSO IN 2018. IF POLICIES CHANGE, THIS WILL NEED TO BE RE-VISITED.

ELECTRICAL LEGEND

— EXISTING OVERHEAD ELECTRIC LINE TO BE REMOVED

— EXISTING OVERHEAD ELECTRIC LINE TO REMAIN

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

ELM CREEK WEST POND

PROJECT No. 148150

EXISTING ELECTRICAL 1

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: DRAWN DJB | DESIGNED DWG | SURVEY | PROJ. MGR. | LEAD ENGR. | FIELD MGR. | RECOMMENDED: DESIGN MANAGER

PROFILE SCALES: HORIZONTAL: VERTICAL

APPROVED: CITY ENGINEER

DATE:

FILE: DRAWING:

PAGE NO. E-1

ATLAS PAGE NO: 01 & 08

SHEET NO. 45 OF 123

Tuesday, April 23, 2019 4:25:34 PM
\\DWGSVR\Server\@@@CURRENT JOBS\WEST POND\RECORD DWG'S\E-1 SITE OVERALL ELECTRICAL 1.dwg

NOTES:

1. ELECTRICAL DEMOLITION FOR THIS PROJECT IS BASED UPON THE ASSUMPTION THAT PSO WILL REMOVE THEIR ELECTRICAL INFRASTRUCTURE WITHIN THE CONSTRUCTION AREA AND MODIFY THEIR DISTRIBUTION TO ALLOW THE REMAINING PROPERTIES TO BE SERVICED. AFTER PROPERTY HAS BEEN ACQUIRED, POLES, OVERHEAD WIRE, ETC. WILL BE REMOVED BY PSO.
2. BECAUSE THERE ARE NO HIGH VOLTAGE FEEDERS IN THE LOCATION AND THE INFRASTRUCTURE HAS BEEN PAID FOR AND UTILIZED , THE COST FOR REMOVAL IS ASSUMED TO BE COVERED BY PSO AND WILL NOT BE EXPENSED TO THE PROJECT. THIS IS PER DISCUSSIONS WITH PSO IN 2018. IF POLICIES CHANGE, THIS WILL NEED TO BE RE-VISITED.

ELECTRICAL LEGEND

- EXISTING OVERHEAD ELECTRIC LINE TO BE REMOVED
- EXISTING OVERHEAD ELECTRIC LINE TO REMAIN

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

EXISTING ELECTRICAL 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	DJB		APPROVED:
	DESIGNED	DWG		
	SURVEY			
PROFILE SCALES:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. E-2
ATLAS PAGE NO: 01 & 08				SHEET NO. 46 OF 123

Tuesday, April 23, 2019 4:26:13 PM
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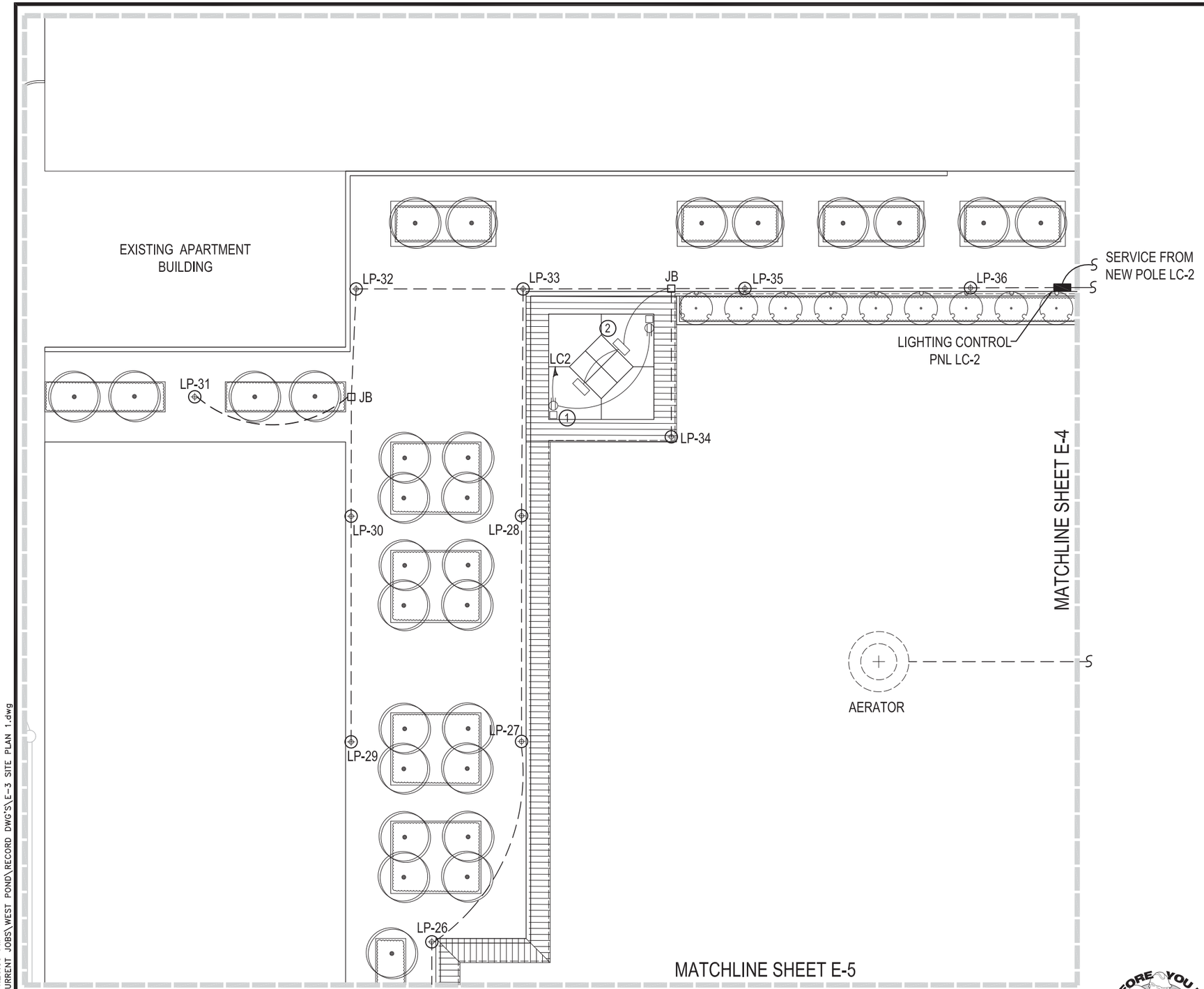

ELECTRICAL LEGEND

- LIGHTING CONTROL PANEL
- AERATOR CONTROL PANEL
- PEDESTRIAN LIGHT POLE
- ELECTRICAL HANDHOLE/ JUNCTION BOX
- OVERHEAD ELECTRIC LINE
- ELECTRIC POLE W/ XFMRS
- UNDERGROUND ELECTRIC

NOTES:

1. ANY PULL BOXES USED ARE TO CONTAIN A 6" CONCRETE APRON IF THEY ARE NOT INSTALLED IN A PAVED AREA.
2. MAXIMUM DISTANCE FOR PULLING WIRE (BETWEEN POLES AND PULL BOXES) IS 180'.
3. CONDUITS WITH OPENINGS EXTENDING IN POLE BASES OR PULL BOXES ARE TO HAVE PLASTIC BUSHINGS INSTALLED (INCLUDING PVC CONDUITS) TO PROTECT WIRE.
4. LIGHTING AND RECEPTACLE CIRCUITS ARE TO BE IN SEPARATE CONDUIT SYSTEMS AND ARE TO BE FED FROM DIFFERENT SERVICES.
5. ALL LIGHTING CONTROLLERS ARE TO HAVE SURGE PROTECTORS INSTALLED.

N

0' 30' 60'

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

SITE PLAN 1

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	DJB	APPROVED:
	DESIGNED	DWG	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
	FIELD MGR.		
VERTICAL	RECOMMENDED:		
	DESIGN MANAGER		CITY ENGINEER
			DATE:
FILE:	DRAWING:		PAGE NO. E-3
ATLAS PAGE NO: 01 & 08			SHEET NO. 47 OF 123

Tuesday, April 23, 2019 4:26:50 PM
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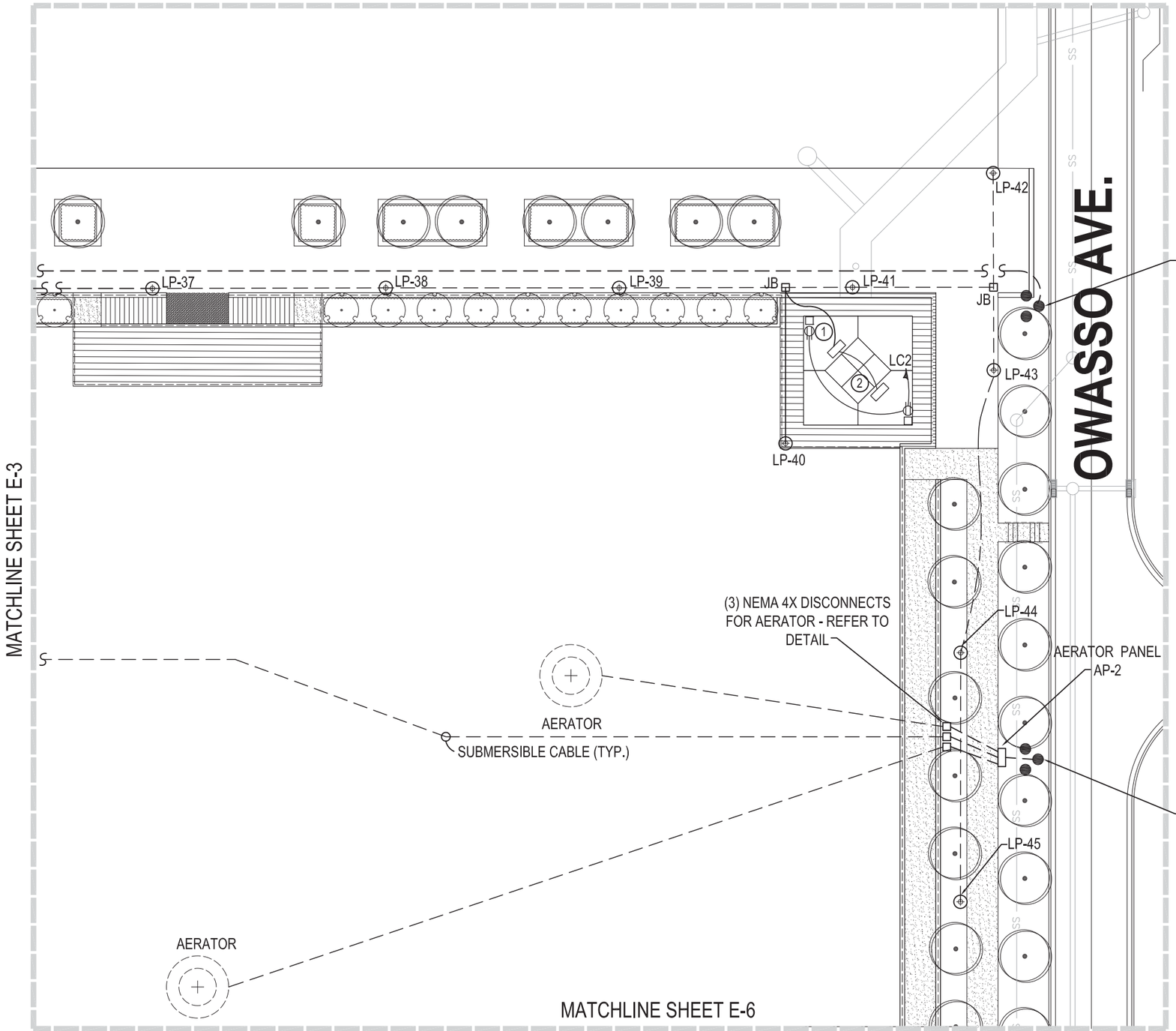

ELECTRICAL LEGEND

- LIGHTING CONTROL PANEL
- AERATOR CONTROL PANEL
- PEDESTRIAN LIGHT POLE
- ELECTRICAL HANDHOLE/ JUNCTION BOX
- OVERHEAD ELECTRIC LINE
- ELECTRIC POLE W/ XFMRS
- UNDERGROUND ELECTRIC

NOTES:

1. ALL CONDUIT TO BE BURIED UNDERGROUND A MINIMUM OF 30".
2. COORDINATE LOCATION OF CONDUIT WITH OTHER UNDERGROUND INFRASTRUCTURE.

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

SITE PLAN 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

	BY	DATE

PLAN SCALE: HORIZONTAL: PROFILE SCALE: VERTICAL

DRAWN	DJB		APPROVED:
DESIGNED	DWG		
SURVEY			
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. E-4

ATLAS PAGE NO: 01 & 08 SHEET NO. 48 OF 123

Tuesday, April 23, 2019 4:27:38 PM
\\DWGSVR\Server\@@@CURRENT JOBS\WEST POND\RECORD DWG'S\E-4 SITE PLAN 2.dwg

MATCHLINE SHEET E-3

MADISON AVE.

LP-25

LP-24

LP-22

LP-23

AERATOR

SUBMERSIBLE CABLE (TYP.)

MATCHLINE SHEET E-6

LP-15

JB

NEMA 4X
DISCONNECT FOR
AERATOR
REFER TO DETAIL

MATCHLINE SHEET E-7

N

0' 30' 60'

ELECTRICAL LEGEND

- LIGHTING CONTROL PANEL
- AERATOR CONTROL PANEL
- PEDESTRIAN LIGHT POLE
- ELECTRICAL HANDHOLE/ JUNCTION BOX
- OVERHEAD ELECTRIC LINE
- ELECTRIC POLE W/ XFMRS
- UNDERGROUND ELECTRIC

NOTES:

1. ALL CONDUIT TO BE BURIED UNDERGROUND A MINIMUM OF 30".
2. COORDINATE LOCATION OF CONDUIT WITH OTHER UNDERGROUND INFRASTRUCTURE.
3. SEPARATE BURIED CONDUITS TO BE USED FOR LIGHTING, RECEPTACLES AND AERATORS.
4. DISCONNECT FOR AERATOR TO BE LOCATED WHERE IT IS ACCESSIBLE AND CAPABLE OF BEING LOCKED OUT. DISCONNECT TO BE IN NEMA 4X STAINLESS STEEL ENCLOSURE.
5. LIGHTING CONTROLLER AND AERATOR CONTROLLERS TO BE IN TWO SEPARATE STAINLESS STEEL CONTROL PANELS.
6. LIGHT POLES ARE TO BE MOUNTED ON CONCRETE POLE BASES, 24"D AND EXTENDING 5' INTO THE GROUND. ANCHOR BOLTS TO BE A MINIMUM OF 36".

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

SITE PLAN 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

	BY	DATE

PLAN SCALE:
HORIZONTAL:
VERTICAL
PROFILE SCALE:

DRAWN	DJB	
DESIGNED	DWG	
SURVEY		
PROJ. MGR.		
LEAD ENGR.		
FIELD MGR.		

RECOMMENDED:

DESIGN MANAGER

APPROVED:

CITY ENGINEER

DATE:

FILE: DRAWING:

PAGE NO. E-5

ATLAS PAGE NO: 01 & 08

SHEET NO. 49 OF 123

Tuesday, April 23, 2019 4:28:16 PM
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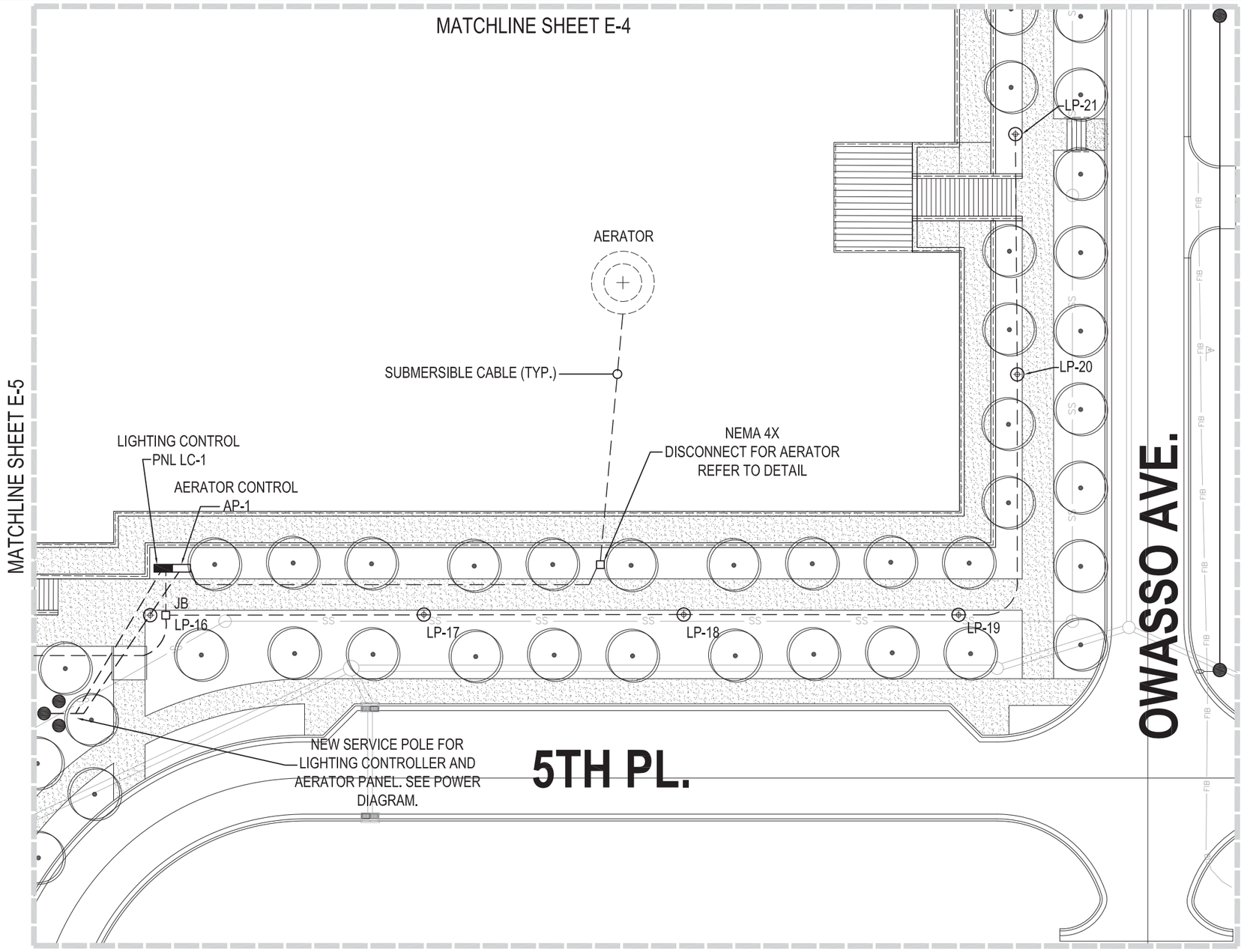

ELECTRICAL LEGEND

- LIGHTING CONTROL PANEL
- AERATOR CONTROL PANEL
- PEDESTRIAN LIGHT POLE
- ELECTRICAL HANDHOLE/ JUNCTION BOX
- OVERHEAD ELECTRIC LINE
- ELECTRIC POLE W/ XFMRS
- UNDERGROUND ELECTRIC

NOTES:

1. ALL CONDUIT TO BE BURIED UNDERGROUND A MINIMUM OF 30".
2. COORDINATE LOCATION OF CONDUIT WITH OTHER UNDERGROUND INFRASTRUCTURE.
3. SEPARATE BURIED CONDUITS TO BE USED FOR LIGHTING, RECEPTACLES AND AERATORS.
4. DISCONNECT FOR AERATOR TO BE LOCATED WHERE IT IS ACCESSIBLE AND CAPABLE OF BEING LOCKED OUT. DISCONNECT TO BE IN NEMA 4X STAINLESS STEEL ENCLOSURE.
5. LIGHTING CONTROLLER AND AERATOR CONTROLLERS TO BE IN TWO SEPARATE STAINLESS STEEL CONTROL PANELS.
6. LIGHT POLES ARE TO BE MOUNTED ON CONCRETE POLE BASES, 24"D AND EXTENDING 5' INTO THE GROUND. ANCHOR BOLTS TO BE A MINIMUM OF 36".

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

SITE PLAN 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	DJB		APPROVED:
	DESIGNED	DWG		
	SURVEY			
PROFILE SCALES:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. E-6
ATLAS PAGE NO: 01 & 08				SHEET NO. 50 OF 123

Tuesday, April 23, 2019 4:29:06 PM
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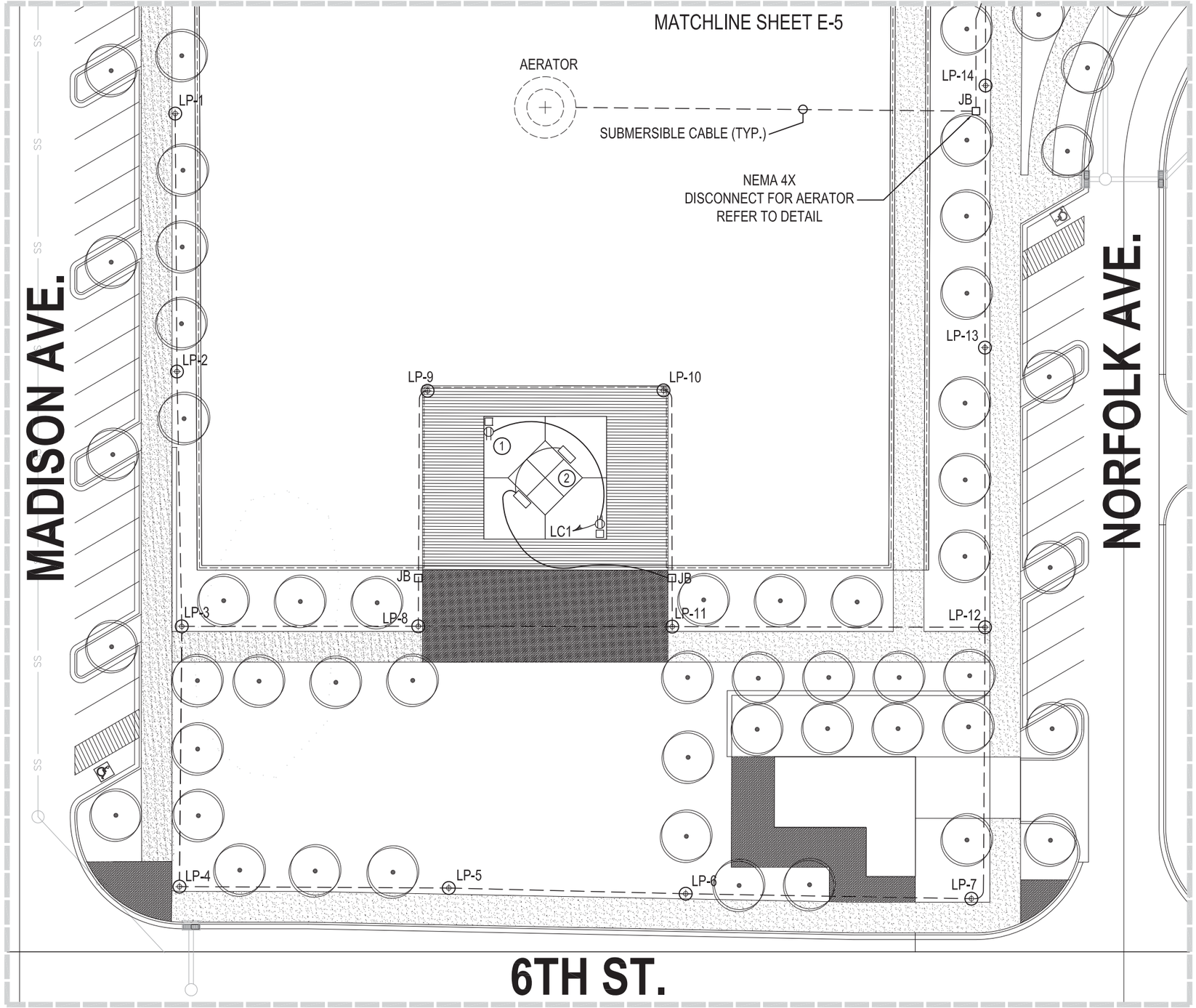


ELECTRICAL LEGEND

- LIGHTING CONTROL PANEL
- AERATOR CONTROL PANEL
- PEDESTRIAN LIGHT POLE
- ELECTRICAL HANDHOLE/ JUNCTION BOX
- OVERHEAD ELECTRIC LINE
- ELECTRIC POLE W/ XFMRS
- UNDERGROUND ELECTRIC

NOTES:

1. ALL CONDUIT TO BE BURIED UNDERGROUND A MINIMUM OF 30".
2. COORDINATE LOCATION OF CONDUIT WITH OTHER UNDERGROUND INFRASTRUCTURE.
3. SEPARATE BURIED CONDUITS TO BE USED FOR LIGHTING, RECEPTACLES AND AERATORS.
4. DISCONNECT FOR AERATOR TO BE LOCATED WHERE IT IS ACCESSIBLE AND CAPABLE OF BEING LOCKED OUT. DISCONNECT TO BE IN NEMA 4X STAINLESS STEEL ENCLOSURE.
5. LIGHTING CONTROLLER AND AERATOR CONTROLLERS TO BE IN TWO SEPARATE STAINLESS STEEL CONTROL PANELS.
6. LIGHT POLES ARE TO BE MOUNTED ON CONCRETE POLE BASES, 24"D AND EXTENDING 5' INTO THE GROUND. ANCHOR BOLTS TO BE A MINIMUM OF 36".

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-25-19

ELM CREEK WEST POND

PROJECT No. 148150

SITE PLAN 5

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

	BY	DATE

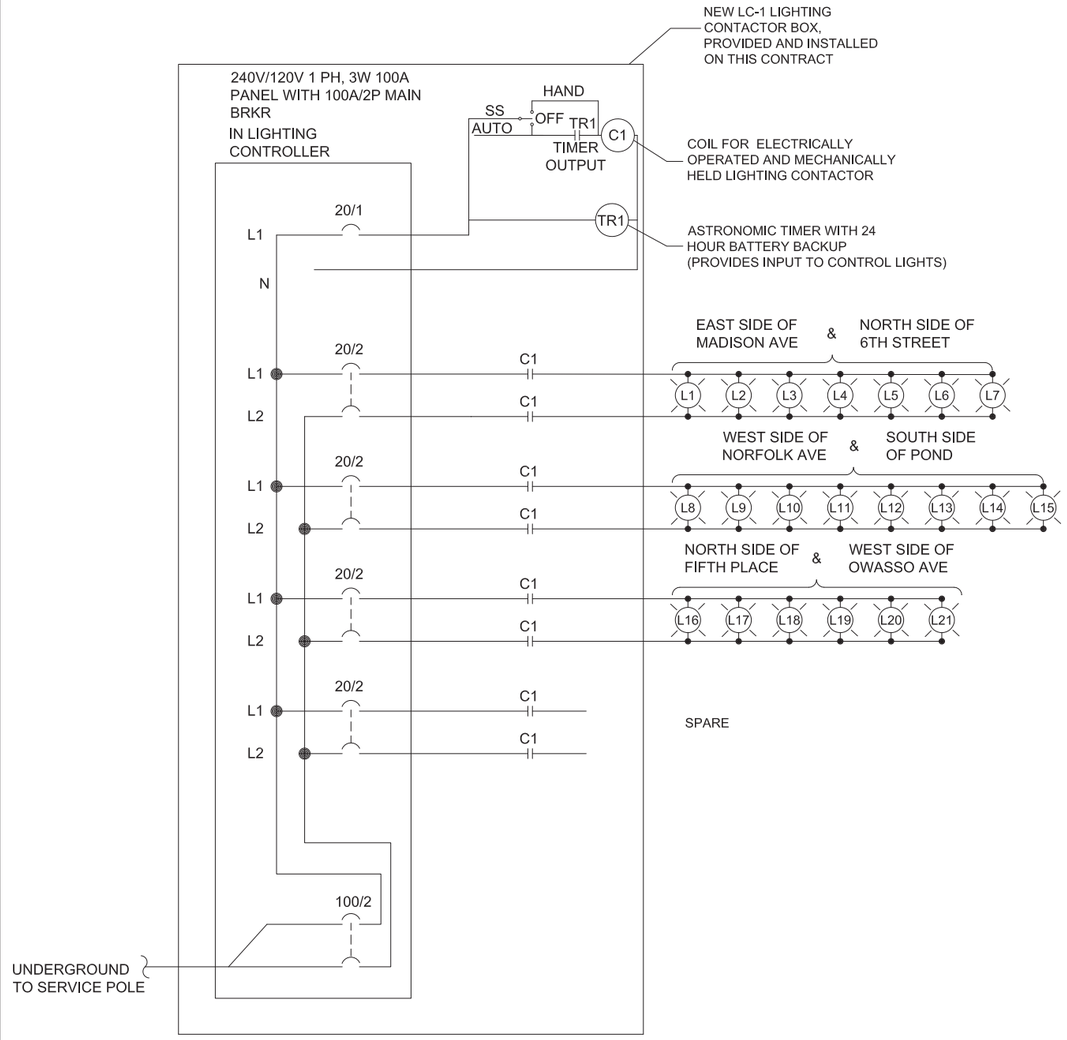
PLAN SCALE:	DRAWN	DJB	APPROVED:
	DESIGNED	DWG	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
	FIELD MGR.		
VERTICAL	RECOMMENDED:		
	DESIGN MANAGER		CITY ENGINEER
			DATE:
FILE:	DRAWING:		PAGE NO. E-7
ATLAS PAGE NO: 01 & 08			SHEET NO. 51 OF 123

BEFORE YOU DIG 811 1-800-922-OKIE CALL OKIE

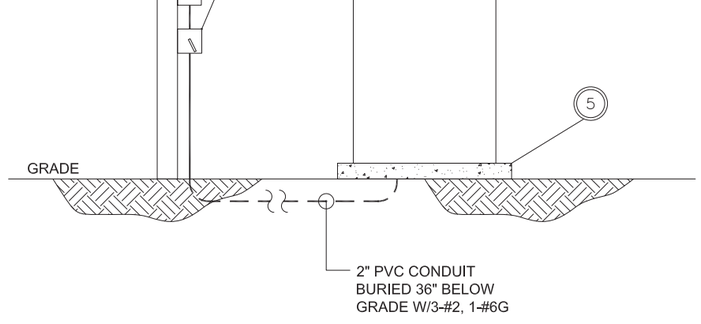
Tuesday, April 23, 2019 4:29:47 PM
\\DWGSVR\Server\@@@CURRENT JOBS\WEST POND\RECORD DWG'S\E-7 SITE PLAN 5.dwg

NOTES:

1. PROVIDE AND INSTALL ALL EQUIPMENT SHOWN FOR LIGHTING CONTROL.
2. COORDINATE WITH PSO SERVICE POLE FOR CONTROLLER AND SERVICE. PROVIDE ALL ASSOCIATED CONDUIT, TRENCHING AND CONCRETE SURFACE REPAIR. PAY ANY REQUIRED SERVICE CHARGES TO AEP/PSO FOR ELECTRICAL SERVICE.
3. ALL CIRCUIT WIRES TO BE (2)#4, (1)#8G. CONDUIT FROM CONTROLLERS TO LIGHT POLES TO BE 2" PVC BURIED 24" BELOW GRADE.
4. ALL WIRE FROM POLE BASES TO FIXTURES TO BE #12 THHN/THWN UNLESS SHOWN OTHERWISE. PROVIDE GROUND FOR ALL LIGHTS (SEPARATE FROM NEUTRAL).
5. MOUNT LIGHTING CONTROLLER ON 4" THICK CONCRETE PAD WITH BOTTOM EXITING CONDUITS.



1 LIGHTING CONTROLLER LC-1
NO SCALE



2 DETAIL FOR CONTROLLER SERVICE
NO SCALE

LIGHTING CONTROLLER SCHEMATIC
SCALE: NOT TO SCALE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

	BY	DATE

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

PLAN SCALE:	DRAWN	DJB	APPROVED:
	DESIGNED	DWG	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
	FIELD MGR.		
VERTICAL	RECOMMENDED:		
	DESIGN MANAGER		CITY ENGINEER
			DATE:
FILE:	DRAWING:		PAGE NO. E-8
ATLAS PAGE NO: 01 & 08			SHEET NO. 52 OF 123

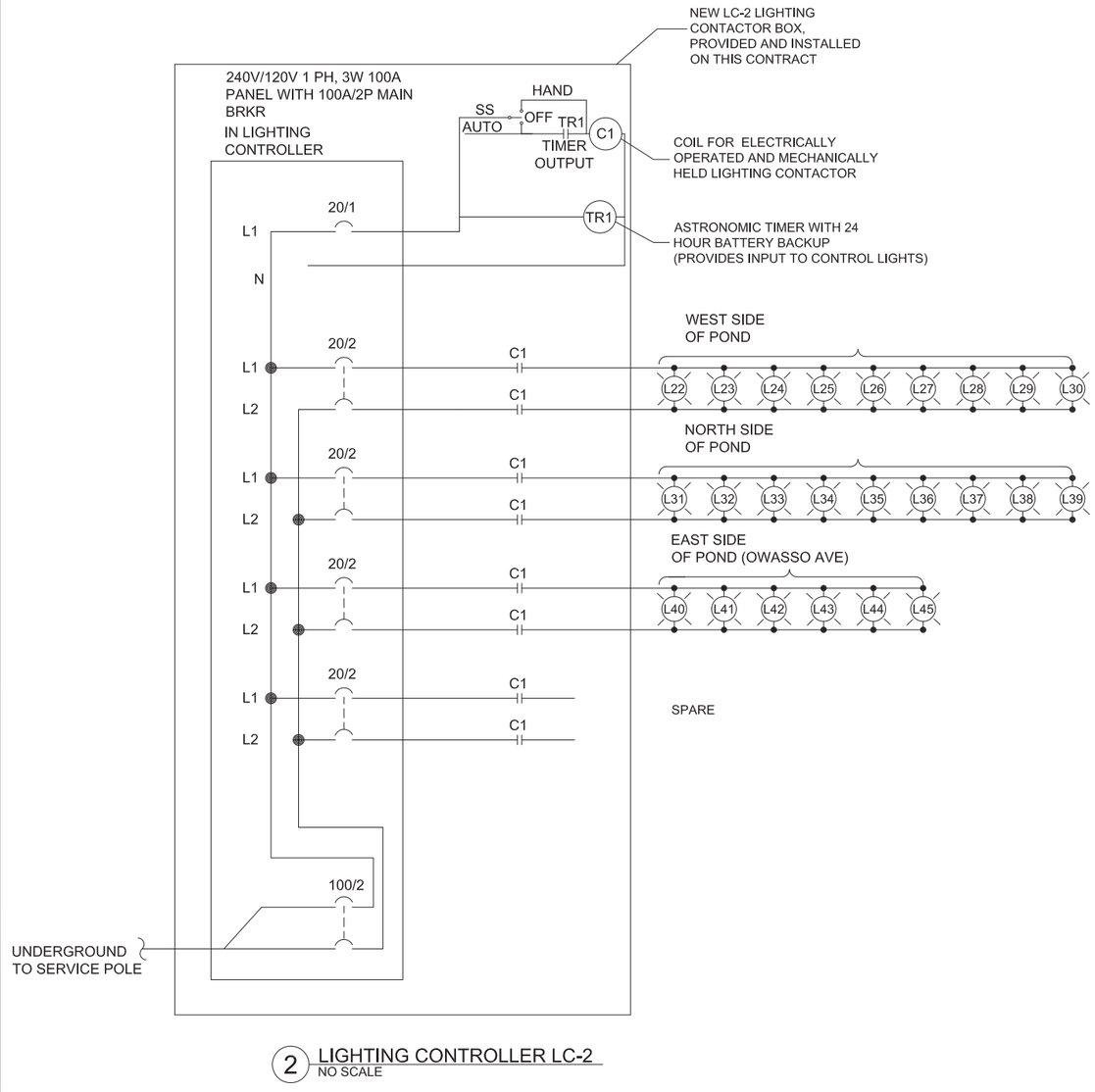
ELM CREEK WEST POND

PROJECT No. 148150

LIGHTING CONTROLLER SCHEMATIC 1

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM



2 LIGHTING CONTROLLER LC-2
NO SCALE

NOTES:

1. PROVIDE AND INSTALL ALL EQUIPMENT SHOWN FOR LIGHTING CONTROL.
2. COORDINATE WITH PSO SERVICE POLE FOR CONTROLLER AND SERVICE. PROVIDE ALL ASSOCIATED CONDUIT, TRENCHING AND CONCRETE SURFACE REPAIR. PAY ANY REQUIRED SERVICE CHARGES TO AEP/PSO FOR ELECTRICAL SERVICE.
3. ALL CIRCUIT WIRES TO BE (2)#4, (1)#8G. CONDUIT FROM CONTROLLERS TO LIGHT POLES TO BE 2" PVC BURIED 24" BELOW GRADE.
4. ALL WIRE FROM POLE BASES TO FIXTURES TO BE #12 THHN/THWN UNLESS SHOWN OTHERWISE. PROVIDE GROUND FOR ALL LIGHTS (SEPARATE FROM NEUTRAL).
5. MOUNT LIGHTING CONTROLLER ON 4" THICK CONCRETE PAD WITH BOTTOM EXITING CONDUITS.

LIGHTING CONTROLLER SCHEMATIC
SCALE: NOT TO SCALE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

PLAN SCALE: HORIZONTAL: VERTICAL
PROFILE SCALES

DRAWN	DJB		APPROVED:
DESIGNED	DWG		
SURVEY			
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. E-9

ATLAS PAGE NO: 01 & 08 SHEET NO. 53 OF 123

ELM CREEK WEST POND

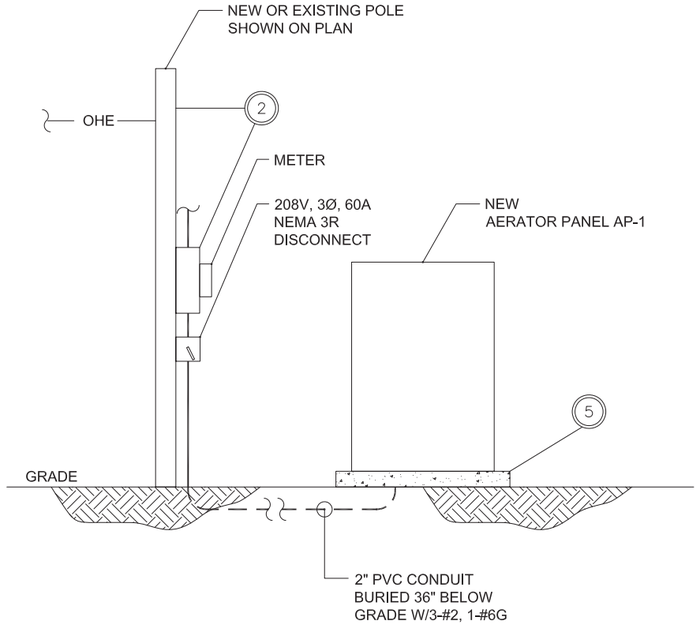
PROJECT No. 148150

LIGHTING CONTROLLER SCHEMATIC 2

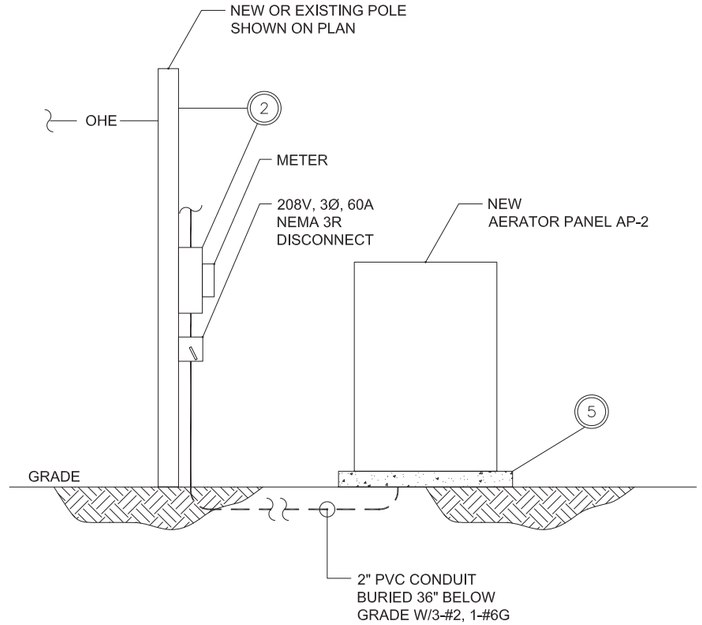
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

Tuesday, April 23, 2019 4:31:14 PM
\\DWGSVR\Server\@@@CURRENT JOBS\WEST POND\RECORD DWG'S\E-9 LIGHTING CONTROLLER SCHEMATIC 2.dwg



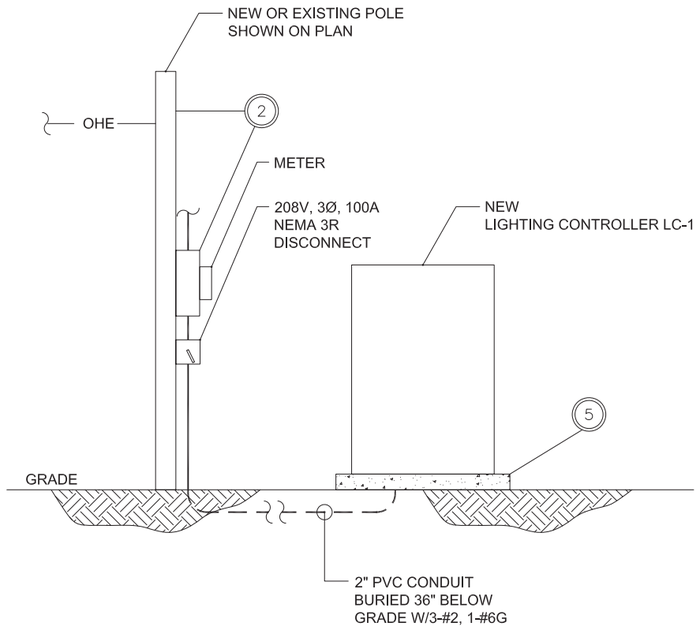
1 DETAIL FOR AERATOR SERVICE
NO SCALE



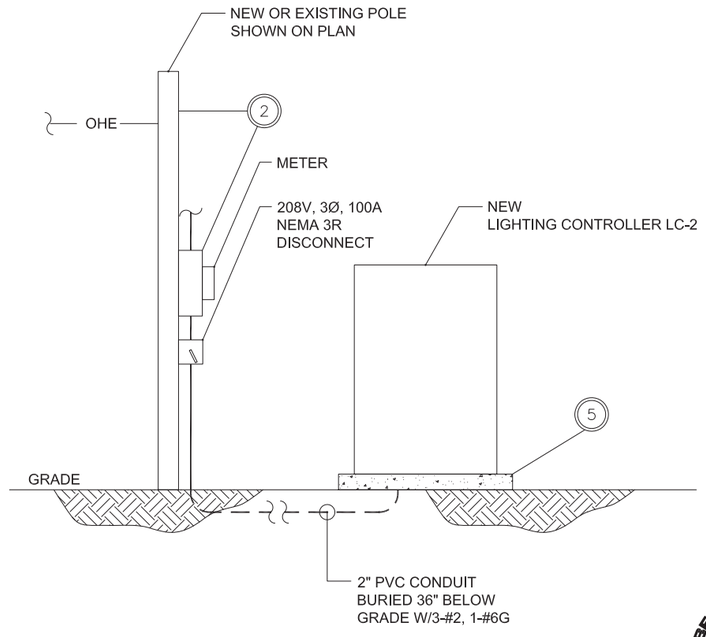
2 DETAIL FOR AERATOR SERVICE
NO SCALE

NOTES:

1. PROVIDE AND INSTALL ALL EQUIPMENT SHOWN FOR LIGHTING CONTROL.
2. COORDINATE WITH PSO SERVICE POLE FOR CONTROLLER AND SERVICE. PROVIDE ALL ASSOCIATED CONDUIT, TRENCHING AND CONCRETE SURFACE REPAIR. PAY ANY REQUIRED SERVICE CHARGES TO AEP/PSO FOR ELECTRICAL SERVICE.
3. ALL CIRCUIT WIRES TO BE (2)#4, (1)#8G. CONDUIT FROM CONTROLLERS TO LIGHT POLES TO BE 2" PVC BURIED 24" BELOW GRADE.
4. ALL WIRE FROM POLE BASES TO FIXTURES TO BE #12 THHN/THWN UNLESS SHOWN OTHERWISE. PROVIDE GROUND FOR ALL LIGHTS (SEPARATE FROM NEUTRAL).
5. MOUNT LIGHTING CONTROLLER ON 4" THICK CONCRETE PAD WITH BOTTOM EXITING CONDUITS.



3 DETAIL FOR CONTROLLER SERVICE
NO SCALE



4 DETAIL FOR CONTROLLER SERVICE
NO SCALE

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

AERATOR CONTROLLER SCHEMATIC

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

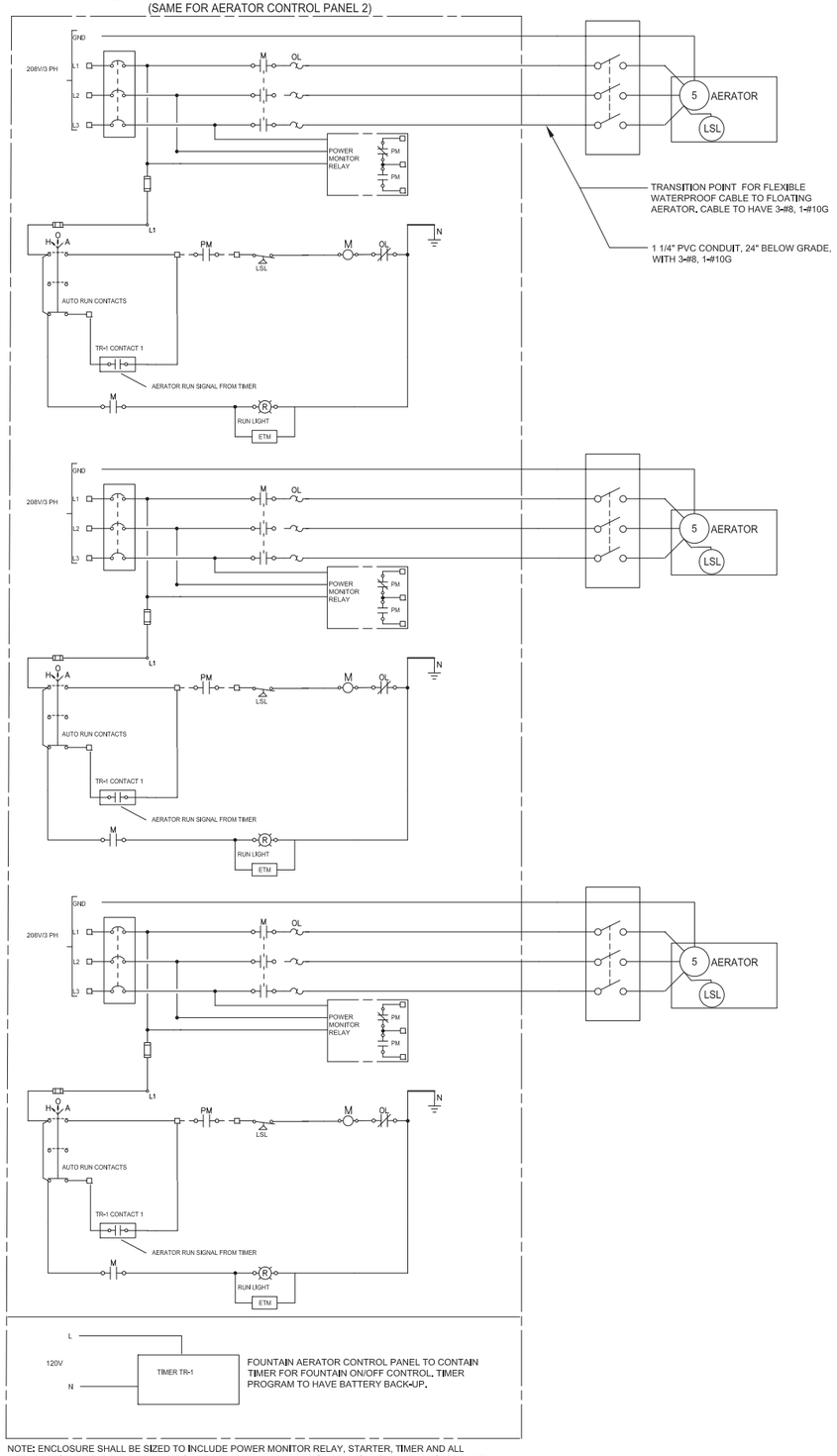
PLAN SCALE: DRAWN DJB
DESIGNED DWG
SURVEY
PROFILE SCALE:
HORIZONTAL: PROJ. MGR.
LEAD ENGR.
FIELD MGR.
VERTICAL
RECOMMENDED:
DESIGN MANAGER

APPROVED:
CITY ENGINEER
DATE:

FILE: DRAWING: E-10
ATLAS PAGE NO: 01 & 08
PAGE NO. E-10
SHEET NO. 54 OF 123

Tuesday, April 23, 2019 4:32:54 PM
\\DWGSVR\Server\@@@CURRENT JOBS\WEST POND\RECORD DWG'S\E-10 AERATOR CONTROLLER SCHEMATIC.dwg

NEMA 4X AERATOR CONTROL PANEL 1
(SAME FOR AERATOR CONTROL PANEL 2)



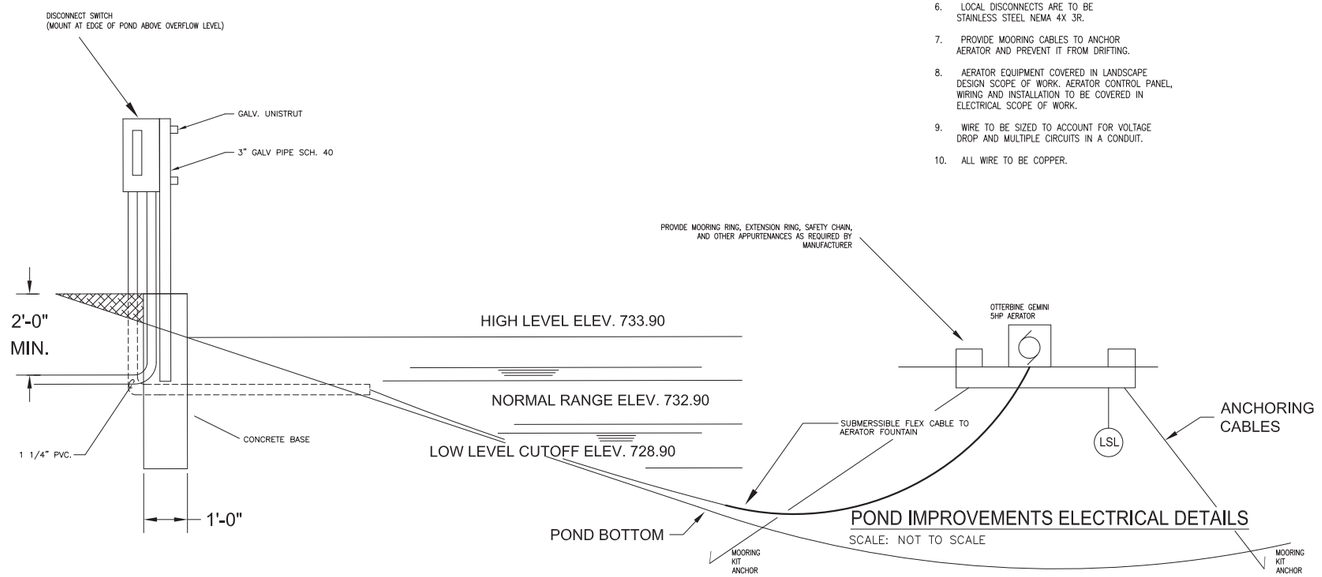
NOTE: ENCLOSURE SHALL BE SIZED TO INCLUDE POWER MONITOR RELAY, STARTER, TIMER AND ALL ACCESSORIES ENCLOSURE TO BE STAINLESS STEEL, NEMA 4X 3R WITH OUTSIDE OPERABLE DISCONNECT.

AERATOR CONTROL PANEL SCHEMATIC 1 & 2

SCALE: NOT TO SCALE

FOUNTAIN AERATOR SCHEMATIC NOTES

1. CIRCUIT BREAKER TO BE GROUND FAULT INTERRUPTING BREAKER, SIZED PER VENDOR REQUIREMENTS.
2. SIZE MOTOR STARTER AND OVERLOADS PER MOTOR SPECIFICATIONS FROM AERATOR SUPPLIER.
3. POWER MONITOR TO HAVE VISIBLE FAULT INDICATOR LIGHT AND MANUAL RESET BUTTON.
4. TIMER TO BE ASTRONOMIC TIMER WITH BATTERY BACKUP FOR PROGRAM.
5. LABEL PANEL "FOUNTAIN CONTROL PANEL" WITH ENGRAVED NAMEPLATE. LETTERS TO BE WHITE, 5/8" TALL MINIMUM ON BLACK BACKGROUND. LABEL TO BE PLASTIC.
6. LOCAL DISCONNECTS ARE TO BE STAINLESS STEEL NEMA 4X 3R.
7. PROVIDE MOORING CABLES TO ANCHOR AERATOR AND PREVENT IT FROM DRIFTING.
8. AERATOR EQUIPMENT COVERED IN LANDSCAPE DESIGN SCOPE OF WORK. AERATOR CONTROL PANEL, WIRING AND INSTALLATION TO BE COVERED IN ELECTRICAL SCOPE OF WORK.
9. WIRE TO BE SIZED TO ACCOUNT FOR VOLTAGE DROP AND MULTIPLE CIRCUITS IN A CONDUIT.
10. ALL WIRE TO BE COPPER.



POND IMPROVEMENTS ELECTRICAL DETAILS

SCALE: NOT TO SCALE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

POND ELECTRICAL DETAILS 1

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	DJB		APPROVED:
	DESIGNED	DWG		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. E-11
ATLAS PAGE NO: 01 & 08				SHEET NO. 55 OF 123

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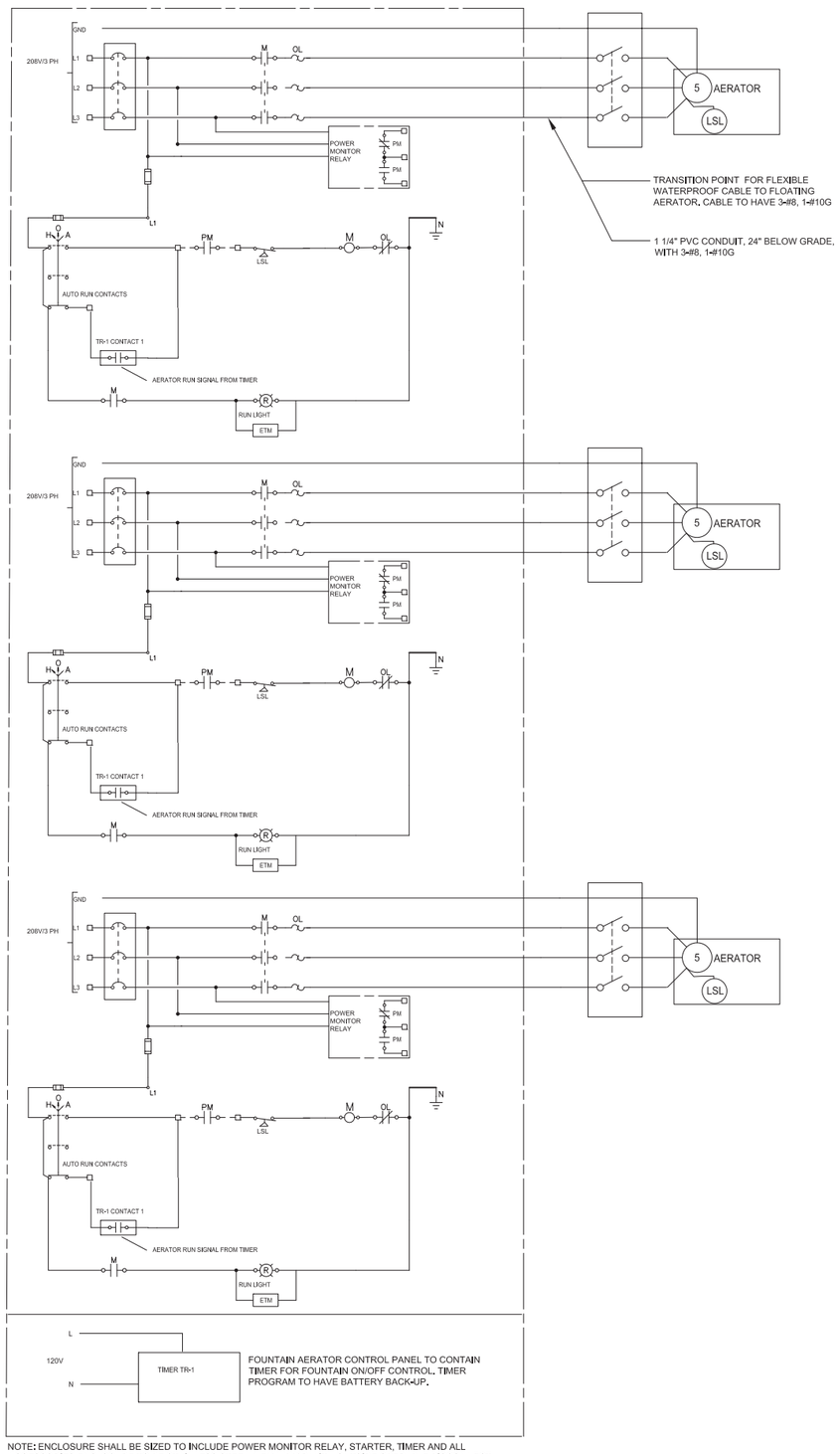
NEMA 4X AERATOR CONTROL PANEL 2



NOTE: ENCLOSURE SHALL BE SIZED TO INCLUDE POWER MONITOR RELAY, STARTER, TIMER AND ALL ACCESSORIES ENCLOSURE TO BE STAINLESS STEEL, NEMA 4X 3R WITH OUTSIDE OPERABLE DISCONNECT.

AERATOR CONTROL PANEL SCHEMATIC 2

SCALE: NOT TO SCALE

FOUNTAIN AERATOR SCHEMATIC NOTES

1. CIRCUIT BREAKER TO BE GROUND FAULT INTERRUPTING BREAKER, SIZED PER VENDOR REQUIREMENTS.
2. SIZE MOTOR STARTER AND OVERLOADS PER MOTOR SPECIFICATIONS FROM AERATOR SUPPLIER.
3. POWER MONITOR TO HAVE VISIBLE FAULT INDICATOR LIGHT AND MANUAL RESET BUTTON.
4. TIMER TO BE ASTRONOMIC TIMER WITH BATTERY BACKUP FOR PROGRAM.
5. LABEL PANEL "FOUNTAIN CONTROL PANEL" WITH ENGRAVED NAMEPLATE. LETTERS TO BE WHITE, 5/8" TALL MINIMUM ON BLACK BACKGROUND. LABEL TO BE PLASTIC.
6. LOCAL DISCONNECTS ARE TO BE STAINLESS STEEL NEMA 4X 3R.
7. PROVIDE MOORING CABLES TO ANCHOR AERATOR AND PREVENT IT FROM DRIFTING.
8. AERATOR EQUIPMENT COVERED IN LANDSCAPE DESIGN SCOPE OF WORK. AERATOR CONTROL PANEL, WIRING AND INSTALLATION TO BE COVERED IN ELECTRICAL SCOPE OF WORK.
9. WIRE TO BE SIZED TO ACCOUNT FOR VOLTAGE DROP AND MULTIPLE CIRCUITS IN A CONDUIT.
10. ALL WIRE TO BE COPPER.

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

POND ELECTRICAL DETAILS 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	DJB		APPROVED:
	DESIGNED	DWG		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. E-12
ATLAS PAGE NO: 01 & 08				SHEET NO. 56 OF 123

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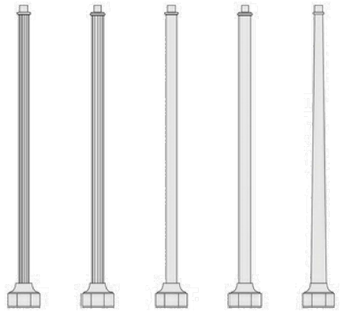
HOLOPHANE - PTUE2 - LATERN POST
TOP LED SERIES

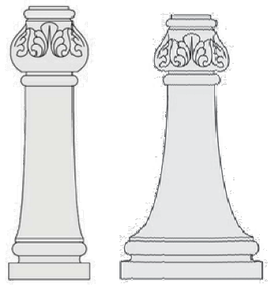


HOLOPHANE - COLORADO DECORATIVE
CAST ALUMINUM POLES SERIES

NOTES:

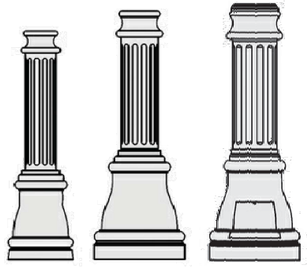
1. LIGHTING DESIGN UTILIZES A STANDARD LED FIXTURE OF 139W, OUTPUTTING APPROXIMATELY 12,800 LUMENS .
2. LIGHTS ARE FOR THE SIDEWALK AND PEDESTRIAN AREAS (NOT STREET LIGHTING). FOR THIS REASON, POLES ARE 12' TALL.
3. LIGHT FIXTURE ARE TO BE DARK SKY COMPATIBLE WITH LIGHT DIRECTED TO THE GRADE LEVEL. DESIGN ASSUMES STANDARD TYPE III DISTRIBUTION.
4. MULTIPLE FIXTURES AND POLES ARE AVAILABLE WITHIN THESE SPECIFICATIONS IN VARIOUS STYLES (BOTH POLES AND LUMINAIRES). EXACT LOOK CAN BE DETERMINED LATER AFTER GETTING INPUT FROM COMMUNITY STAKEHOLDERS.
5. ALL DESIGN IS BASED ON UNDERGROUND CONDUIT AND WIRE. CONDUIT TO BE SCHEDULE 40 PVC. WIRE TO BE COPPER.

HOLOPHANE - GPDRETRO2 - GRANVILLE II LED
PRISMATIC ACORN GLASS SERIES



HOLOPHANE - DUNWOODY DECORATIVE
CAST ALUMINUM POLES SERIES

HOLOPHANE - AUCL2 - POST TOP FULL
CUTOFF LED SERIES



HOLOPHANE - CHARLESTON DECORATIVE
CAST ALUMINUM POLES SERIES

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-25-19

	BY	DATE

PLAN SCALE:	DRAWN	DJB		APPROVED:
	DESIGNED	DWG		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. E-13
ATLAS PAGE NO: 01 & 08				SHEET NO. 57 OF 123

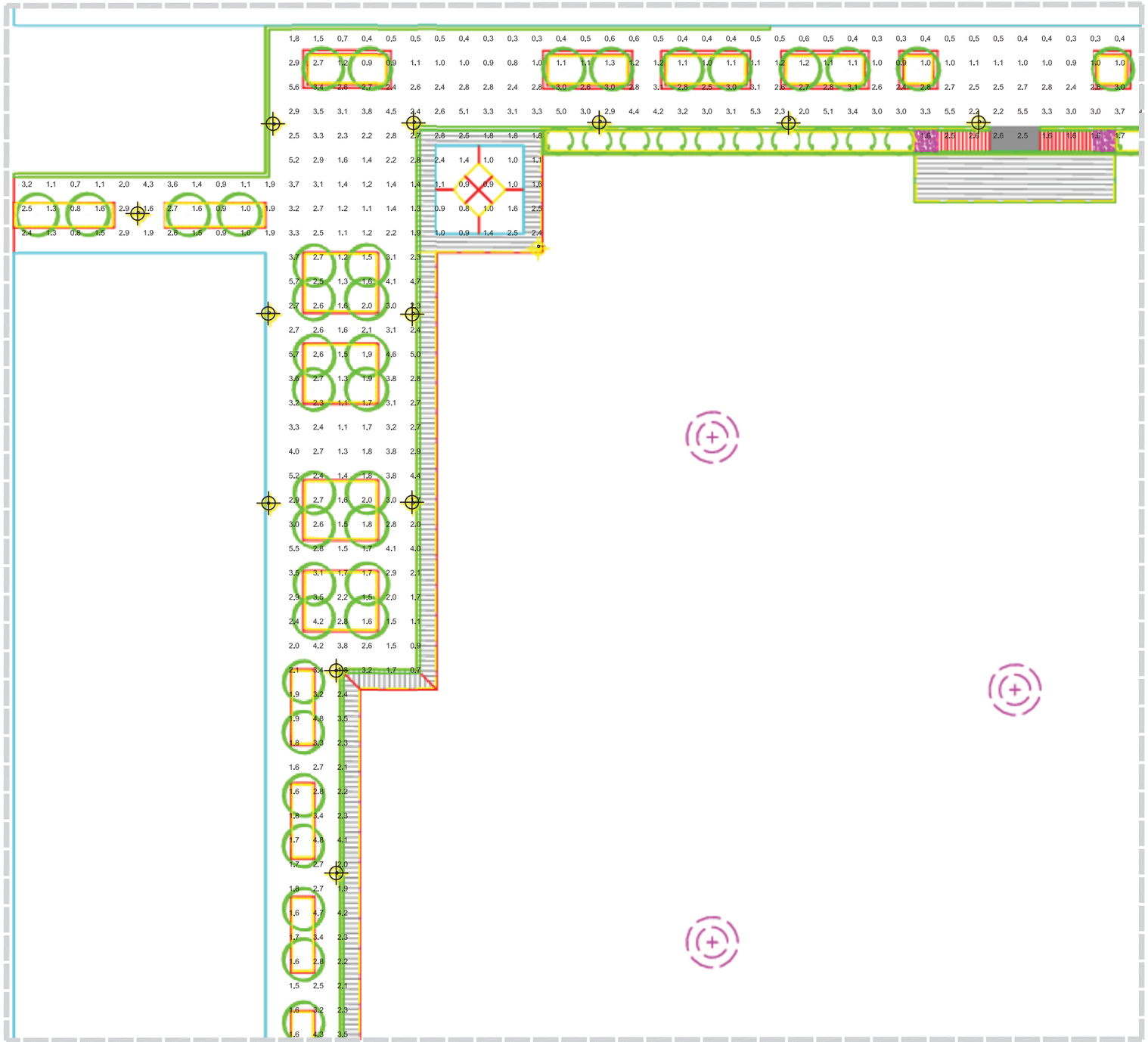
ELM CREEK WEST POND

PROJECT No. 148150

LIGHTING & POLE MOUNTING DETAIL

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM



PHOTOMETRIC READINGS:

1. THE FOLLOWING READINGS ARE BASED OFF OF A TOTAL LLF OF .95.

AVERAGE - 1.75 FC
MAXIMUM - 5.5 FC
MINIMUM - 0.25 FC
MAX/MIN - 35.15
AVERAGE/MIN - 7.0:1

NOTES:

1. THE FOLLOWING READINGS ARE BASED OFF A TOTAL OF 96 FIXTURES DISTRIBUTED AS SHOWN ON THE PLANS.
2. READINGS ARE TAKEN 36" ABOVE THE GRADE LEVEL.
3. POLE HEIGHT IS 12'.

N

0' 30' 60'

FIXTURE	LABEL	MANUFACTURER	CATALOG NO.	LAMP	LAMP NO.	LUMENS/LAMP	LIGHT LOSS FACTOR	WATTAGE
⌖	F	HOLOPHANE	PTUE2 _P50_40K XX_GL3	DISCRETE LED	1	12,881	0.950	139

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

PHOTOMETRIC 1

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	DJB		APPROVED:
	DESIGNED	DWG		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. E-14
ATLAS PAGE NO: 01 & 08				SHEET NO. 58 OF 123

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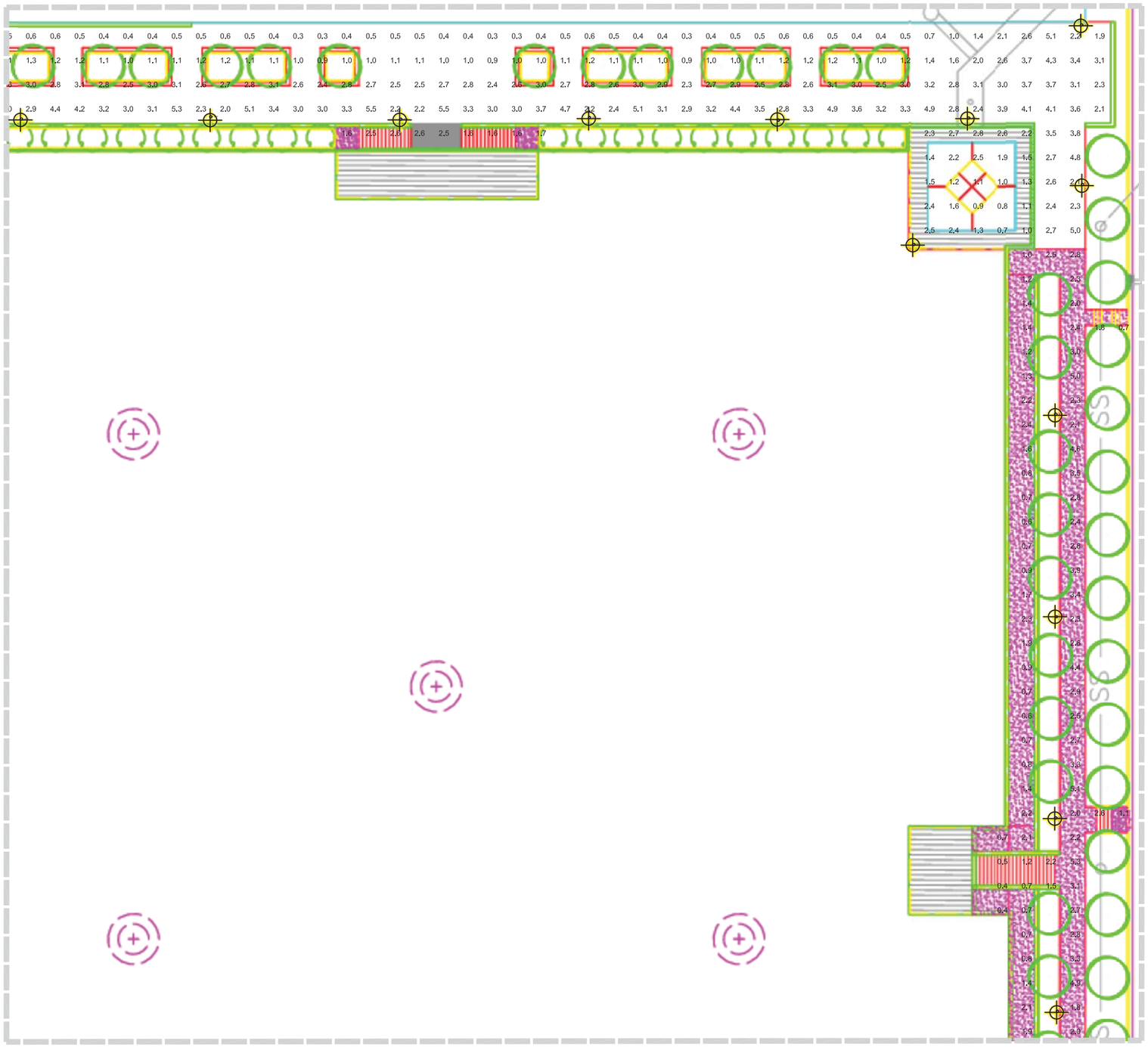

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0' 30' 60'

FIXTURE	LABEL	MANUFACTURER	CATALOG NO.	LAMP	LAMP NO.	LUMENS/LAMP	LIGHT LOSS FACTOR	WATTAGE
⌖	F	HOLOPHANE	PTUE2 _P50_40K XX_GL3	DISCRETE LED	1	12,881	0.950	139

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

ELM CREEK WEST POND

PROJECT No. 148150

PHOTOMETRIC 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

	BY	DATE

PLAN SCALE: DRAWN DJB | DESIGNED DWG | SURVEY | PROJ. MGR. | LEAD ENGR. | FIELD MGR. | RECOMMENDED: DESIGN MANAGER
PROFILE SCALE: HORIZONTAL: VERTICAL
APPROVED: CITY ENGINEER
DATE:
FILE: DRAWING:
PAGE NO. E-15
ATLAS PAGE NO: 01 & 08
SHEET NO. 59 OF 123

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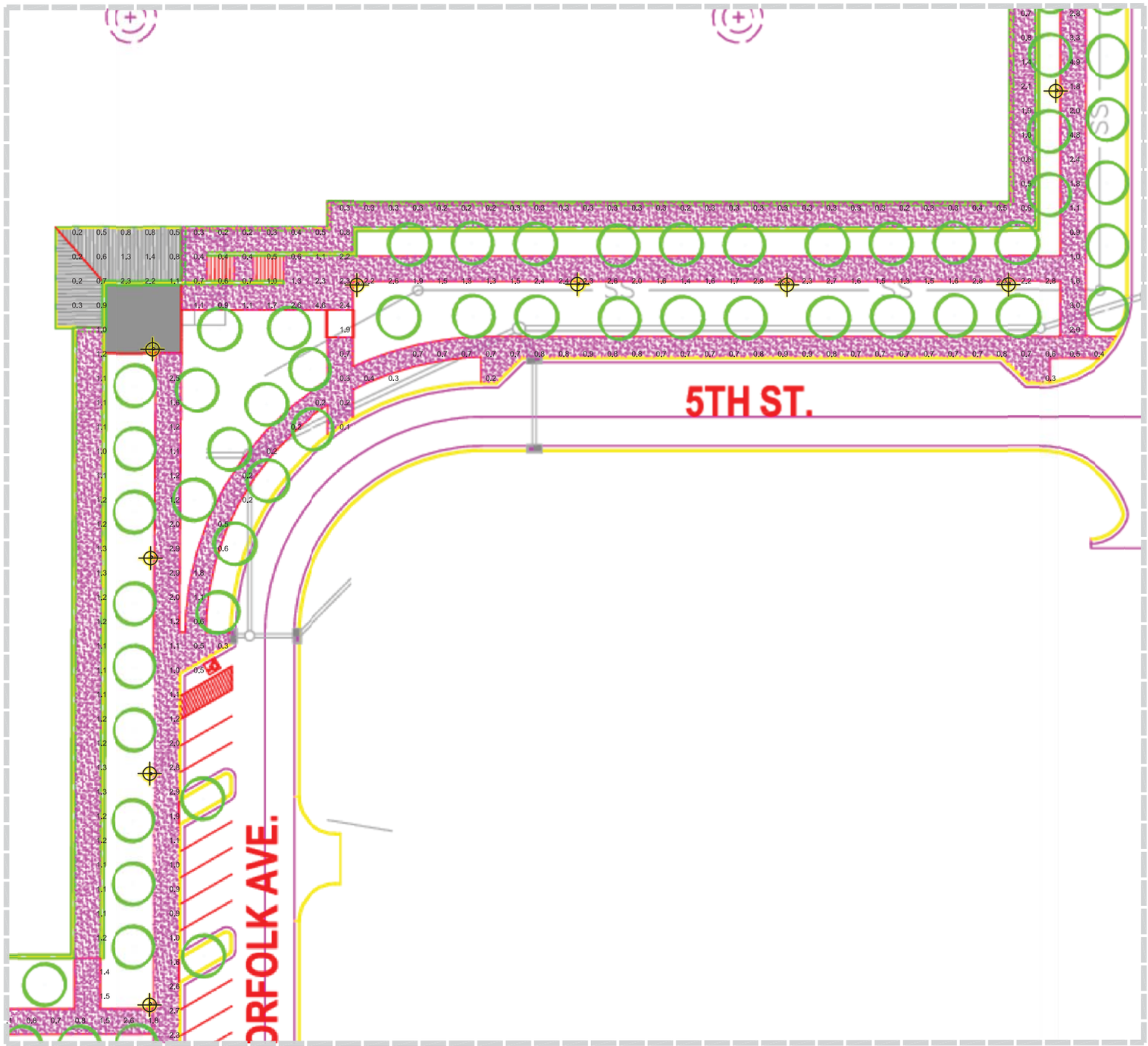

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AVERAGE - 1.75 FC
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MAX/MIN - 35.15
AVERAGE/MIN - 7.0:1

NOTES:

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3. POLE HEIGHT IS 12'.

0' 30' 60'

FIXTURE	LABEL	MANUFACTURER	CATALOG NO.	LAMP	LAMP NO.	LUMENS/LAMP	LIGHT LOSS FACTOR	WATTAGE
⌖	F	HOLOPHANE	PTUE2 _P50_40K XX_GL3	DISCRETE LED	1	12,881	0.950	139

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL

DRAWN	DJB	
DESIGNED	DWG	
SURVEY		
PROJ. MGR.		
LEAD ENGR.		
FIELD MGR.		
RECOMMENDED:		
DESIGN MANAGER		

APPROVED:
CITY ENGINEER
DATE:

FILE: DRAWING:
PAGE NO. E-16
ATLAS PAGE NO: 01 & 08
SHEET NO. 60 OF 123

ELM CREEK WEST POND

PROJECT No. 148150

PHOTOMETRIC 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

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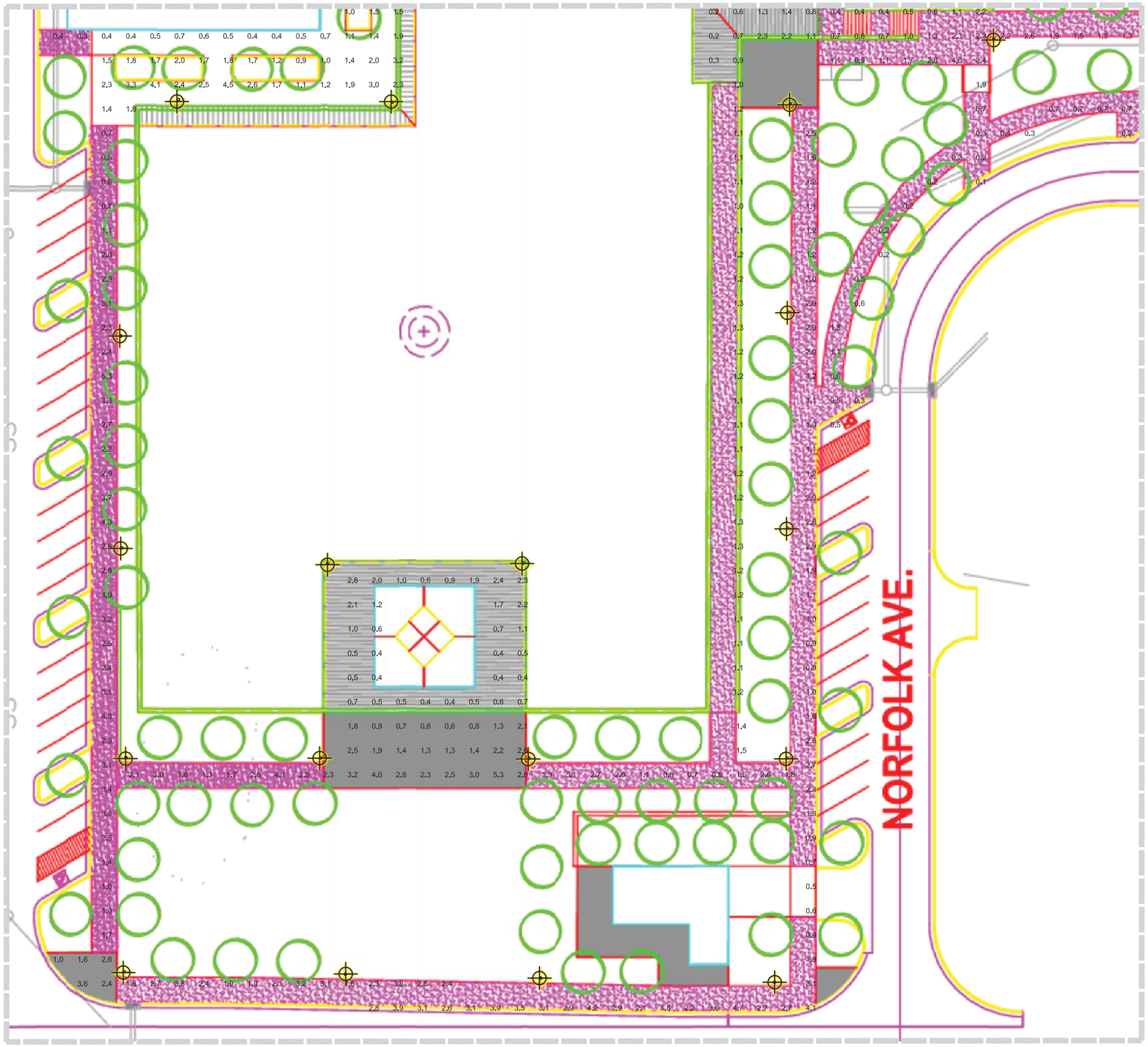

PHOTOMETRIC READINGS:

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AVERAGE - 1.75 FC
MAXIMUM - 5.5 FC
MINIMUM - 0.25 FC
MAX/MIN - 35.15
AVERAGE/MIN - 7.0:1

NOTES:

1. THE FOLLOWING READINGS ARE BASED OFF A TOTAL OF 96 FIXTURES DISTRIBUTED AS SHOWN ON THE PLANS.
2. READINGS ARE TAKEN 36" ABOVE THE GRADE LEVEL.
3. POLE HEIGHT IS 12'.

N

0' 30' 60'

FIXTURE	LABEL	MANUFACTURER	CATALOG NO.	LAMP	LAMP NO.	LUMENS/LAMP	LIGHT LOSS FACTOR	WATTAGE
⌖	F	HOLOPHANE	PTUE2_P50_40K XX_GL3	DISCRETE LED	1	12,881	0.950	139

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

PHOTOMETRIC 4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL

DRAWN	DJB	
DESIGNED	DWG	
SURVEY		
PROJ. MGR.		
LEAD ENGR.		
FIELD MGR.		
RECOMMENDED:		
DESIGN MANAGER		

APPROVED:

CITY ENGINEER

DATE:

FILE: DRAWING:

PAGE NO. E-17

ATLAS PAGE NO: 01 & 08

SHEET NO. 61 OF 123

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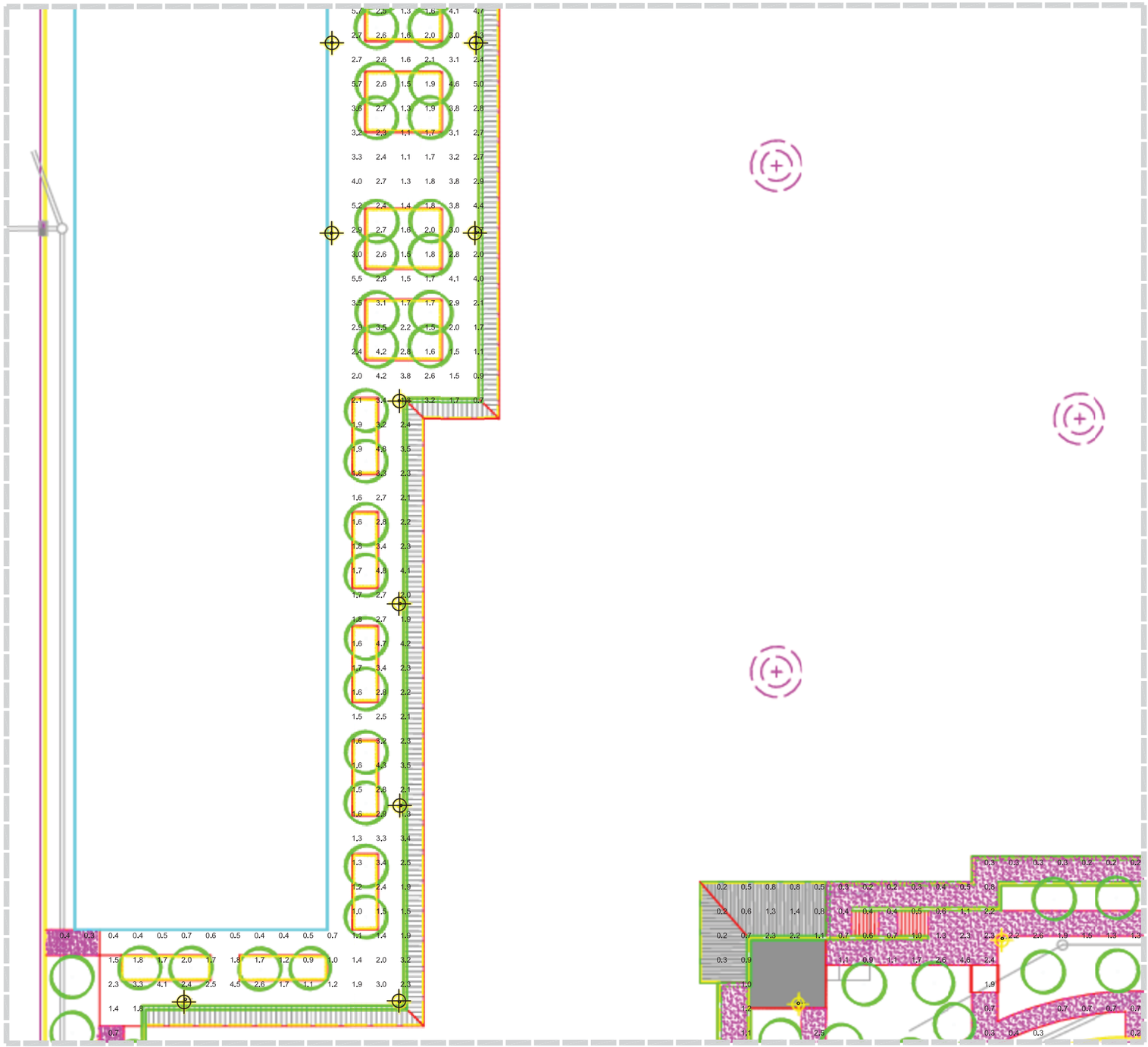

PHOTOMETRIC READINGS:

1. THE FOLLOWING READINGS ARE BASED OFF OF A TOTAL LLF OF .95.

AVERAGE - 1.75 FC
MAXIMUM - 5.5 FC
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AVERAGE/MIN - 7.0:1

NOTES:

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3. POLE HEIGHT IS 12'.

N

0' 30' 60'

FIXTURE	LABEL	MANUFACTURER	CATALOG NO.	LAMP	LAMP NO.	LUMENS/LAMP	LIGHT LOSS FACTOR	WATTAGE
⌖	F	HOLOPHANE	PTUE2_P50_40K XX_GL3	DISCRETE LED	1	12,881	0.950	139

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-25-19

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

	BY	DATE

PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL

DRAWN	DJB	
DESIGNED	DWG	
SURVEY		
PROJ. MGR.		
LEAD ENGR.		
FIELD MGR.		
RECOMMENDED:		
DESIGN MANAGER		

APPROVED:
CITY ENGINEER
DATE:

FILE: DRAWING:
PAGE NO. E-18
ATLAS PAGE NO: 01 & 08
SHEET NO. 62 OF 123

ELM CREEK WEST POND

PROJECT No. 148150

PHOTOMETRIC 5

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

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RETAINING WALL NOTES

RETAINING WALL NOTES:

SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS.

GENERAL NOTES:

THE DOUBLE CASING METHOD OF DRILLED SHAFT CONSTRUCTION SHALL NOT BE ALLOWED. TEMPORARY MAY BE USED AS NECESSARY.

THE GEOTECHNICAL REPORTS WERE PREPARED BY TERRACON FOR THIS PROJECT.

TERRACON PROJECT NO.	DATE	DESCRIPTION
04175021	March 21, 2017	6th Street / Elm Creek West Pond
04175021	October 11, 2018	6th Street / Elm Creek West Pond Addendum

LOCATIONS OF SOIL BORINGS ARE SHOWN ON THE PLANS. THE GEOTECHNICAL REPORTS ARE AVAILABLE FOR REVIEW AT THE OFFICE OF BENHAM DESIGN, ONE WEST 3RD ST., SUITE 200, TULSA, OK 74103. ANY INFORMATION CONTAINED IN THE GEOTECHNICAL REPORTS SHOULD NOT BE CONSTRUED AS REPRESENTATIVE OF ALL FIELD CONDITIONS.

EXCAVATIONS ARE ANTICIPATED TO EXTEND THROUGH SAND, CLAY, SOFT ROCK, AND HARD ROCK. EXCAVATIONS IN HARD ROCK WILL REQUIRE PNEUMATIC RAM HOES.

DRILLED SHAFTS WILL BEAR EITHER IN SAND OR SHALE/SANDSTONE BEDROCK. CONSTRUCTING PIERS IN THE SAND WILL REQUIRE THE USE OF MUD SLURRY. CONSTRUCTING DRILLED SHAFTS IN BEDROCK WILL REQUIRE THE USE OF A HEAVY-DUTY DRILLING RIG EQUIPPED WITH A ROCK AUGER OR CORE BARREL.

SPECIAL PROVISIONS:

REFER TO ODOT SPECIAL PROVISION 516-3(a-s)09 FOR CROSS-HOLE SONIC LOGGING (CSL) TUBES AND TESTING.

DESIGN DATA:

DESIGN
RETAINING WALLS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 17TH EDITION.

MATERIAL
CONCRETE IN RETAINING WALL STEMS, FOOTINGS, AND GRADE BEAMS SHALL BE CLASS A, F'C = 3,000 PSI.

CONCRETE IN DRILLED SHAFTS SHALL BE CLASS AA, F'C = 4,0000 PSI.

REINFORCING STEEL FOR RETAINING WALLS SHALL BE GRADE 60.

BACKFILL FOR RETAINING WALLS MAY BE ON-SITE NATIVE MATERIAL, EXISTING FILL OR IMPORTED FILL AND SHALL CLASSIFY AS A-1, A-2-4 AND A-3 SOILS, PER THE AASHTO SOIL CLASSIFICATION. IN ADDITION, ON-SITE NATIVE MATERIAL, EXISTING FILL OR IMPORTED FILL SHALL MEET THE REQUIREMENTS OF ODOT SECTION 705, SELECT BORROW.

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

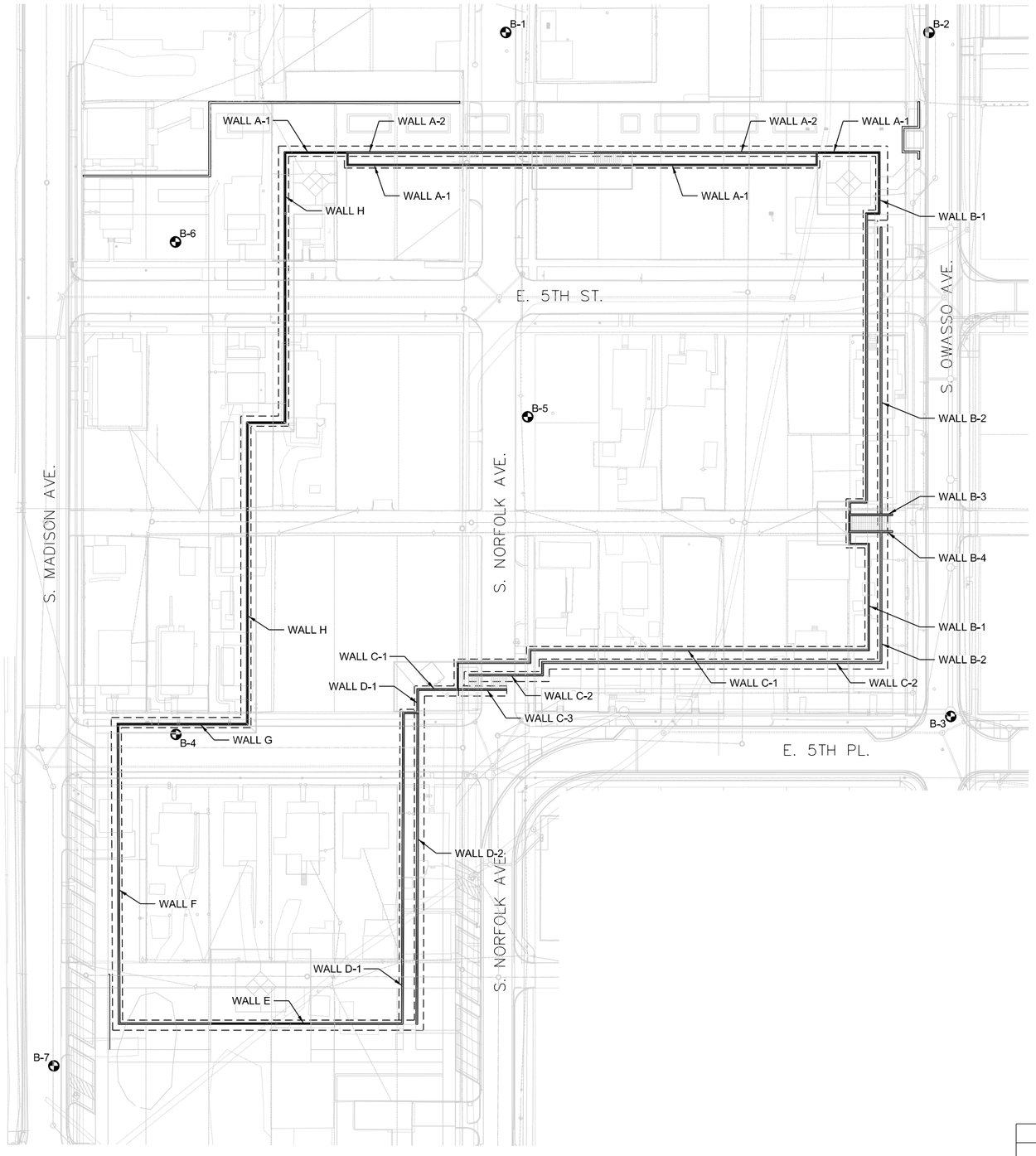
GENERAL NOTES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. S01
ATLAS PAGE NO: 01 & 08				SHEET NO. 63 OF 123



PLAN
SCALE: 1" = 50'

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

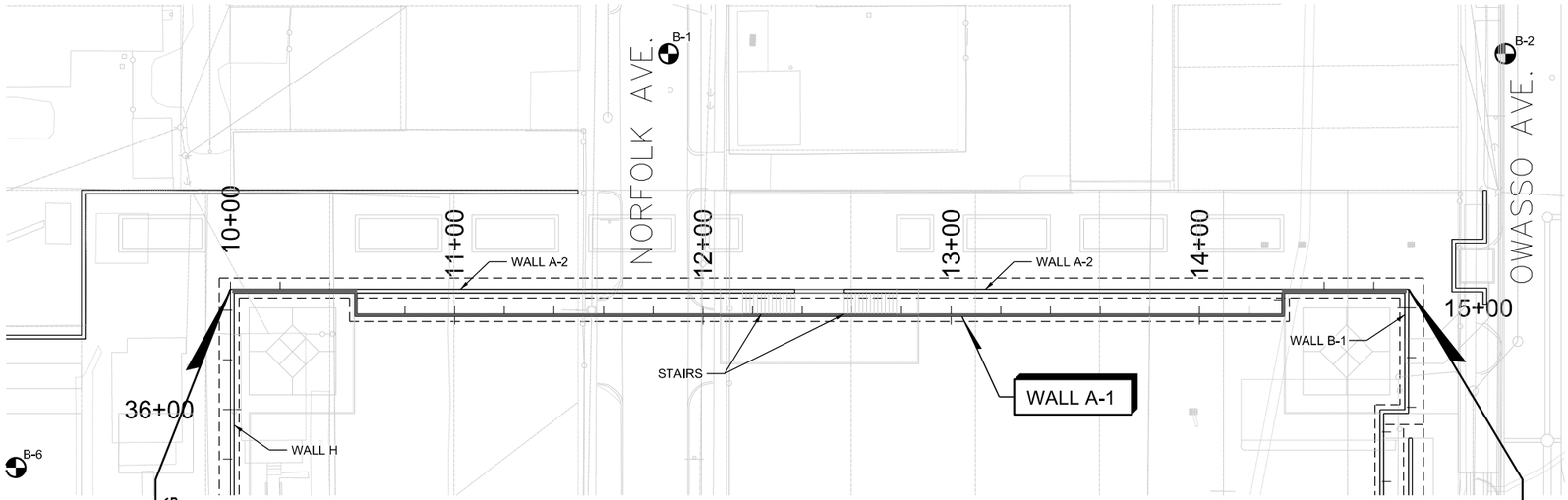
RETAINING WALL LOCATIONS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

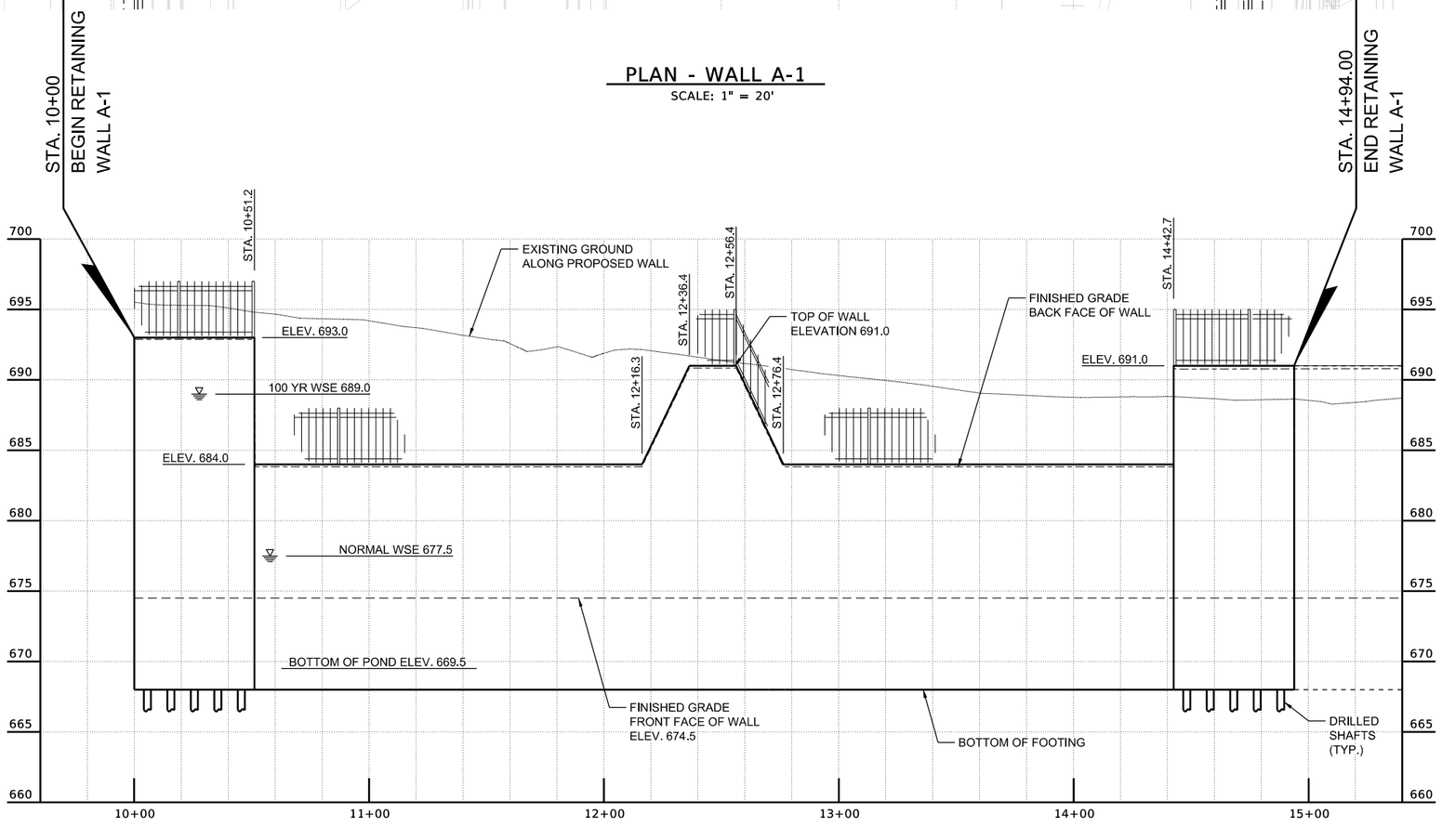
REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALES:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. S02
ATLAS PAGE NO: 01 & 08				SHEET NO. 64 OF 123



PLAN - WALL A-1

SCALE: 1" = 20'

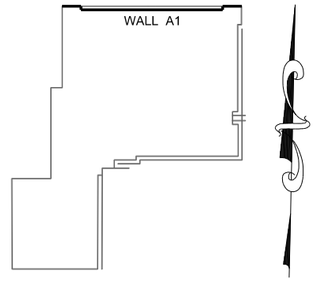


ELEVATION - WALL A-1

SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL PLAN AND ELEVATION
WALL A-1
STA. 10+00 TO STA. 14+94.00

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

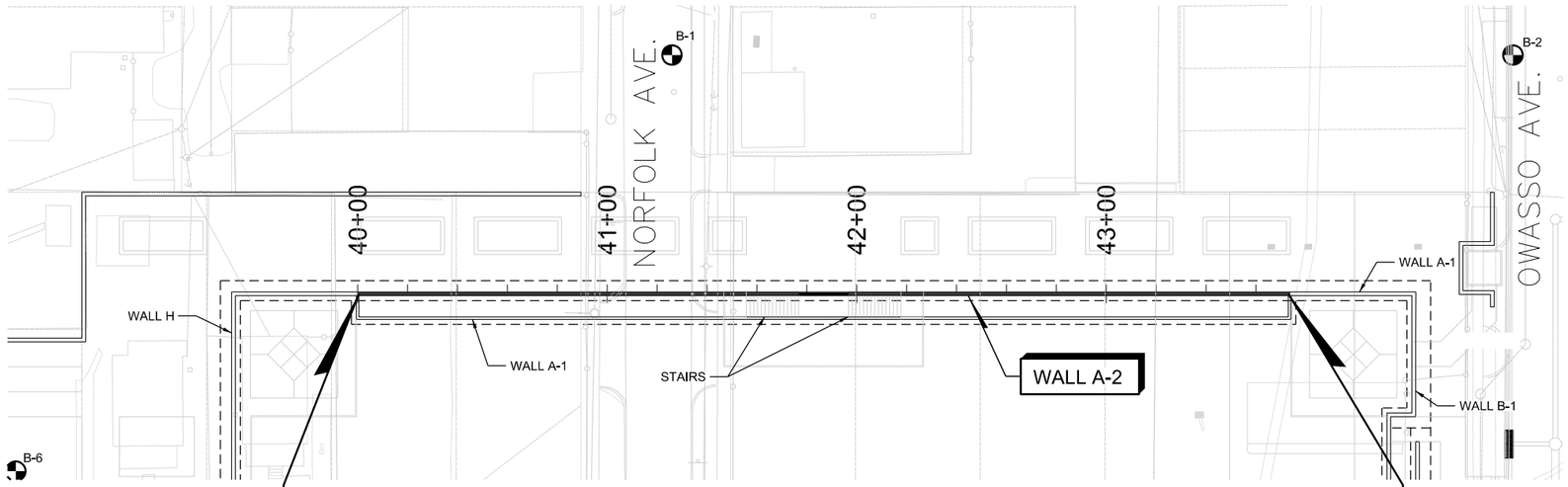
GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: HORIZONTAL: VERTICAL
PROFILE SCALE:

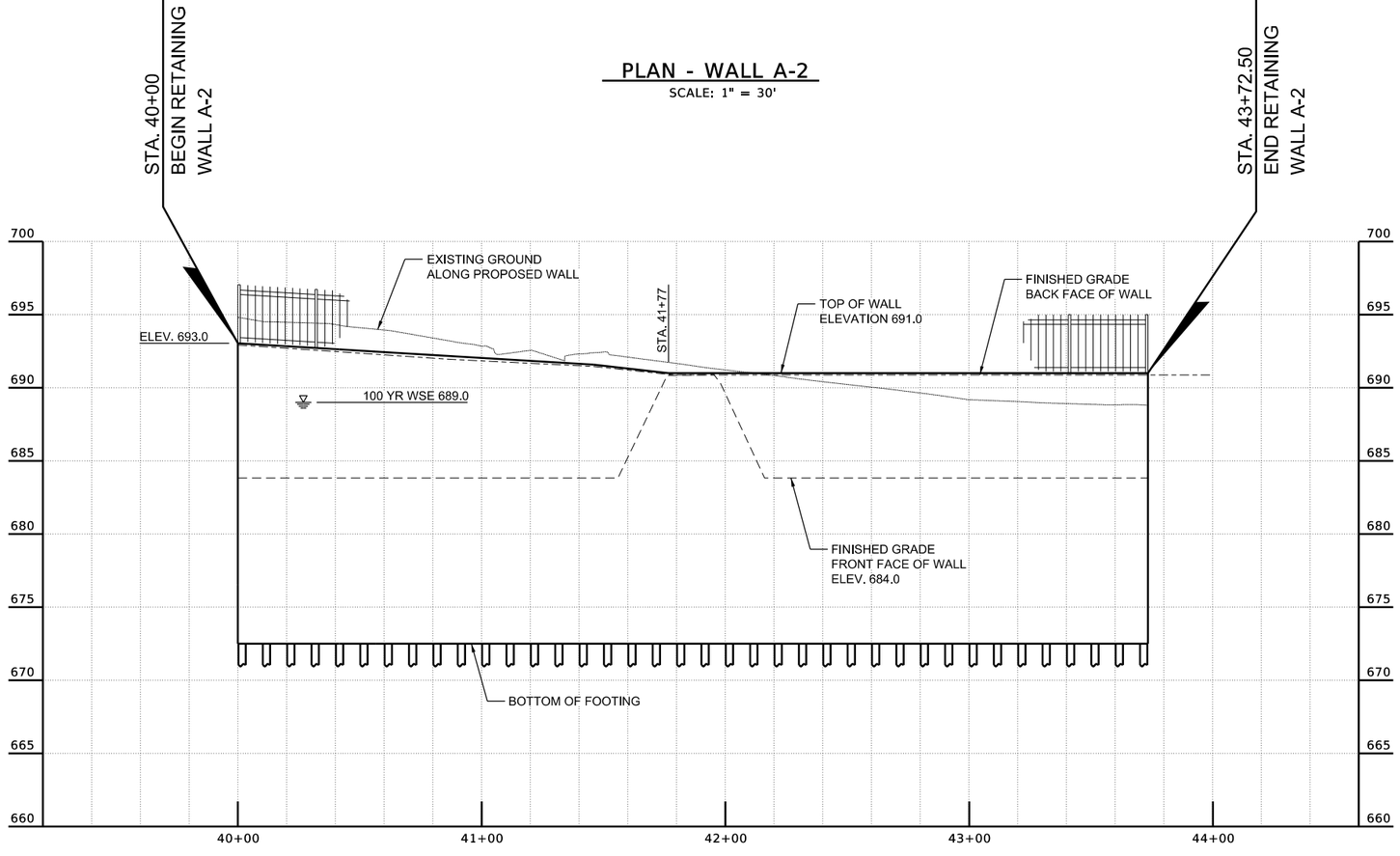
DRAWN	JT		APPROVED:
DESIGNED	KSJ		
SURVEY			
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER
			DATE:

FILE: DRAWING: | PAGE NO. S03
ATLAS PAGE NO: 01 & 08 | SHEET NO. 65 OF 123



PLAN - WALL A-2

SCALE: 1" = 30'

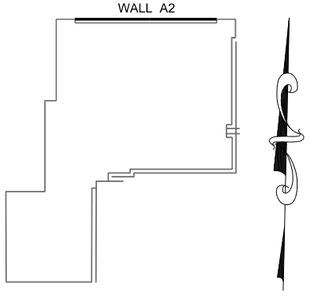


ELEVATION - WALL A-2

SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

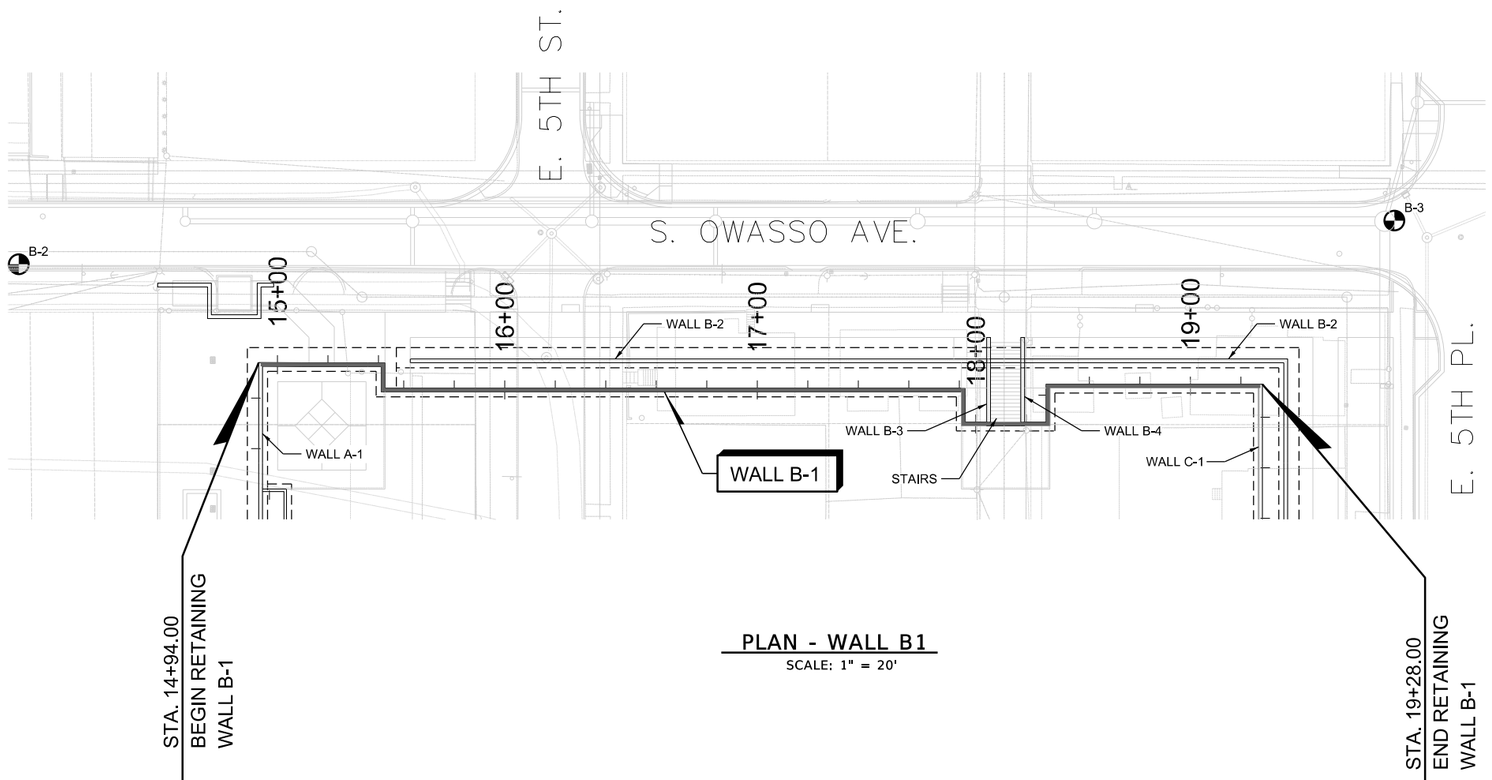
GENERAL PLAN AND ELEVATION
WALL A-2
STA. 40+00 TO STA. 43+72.50

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

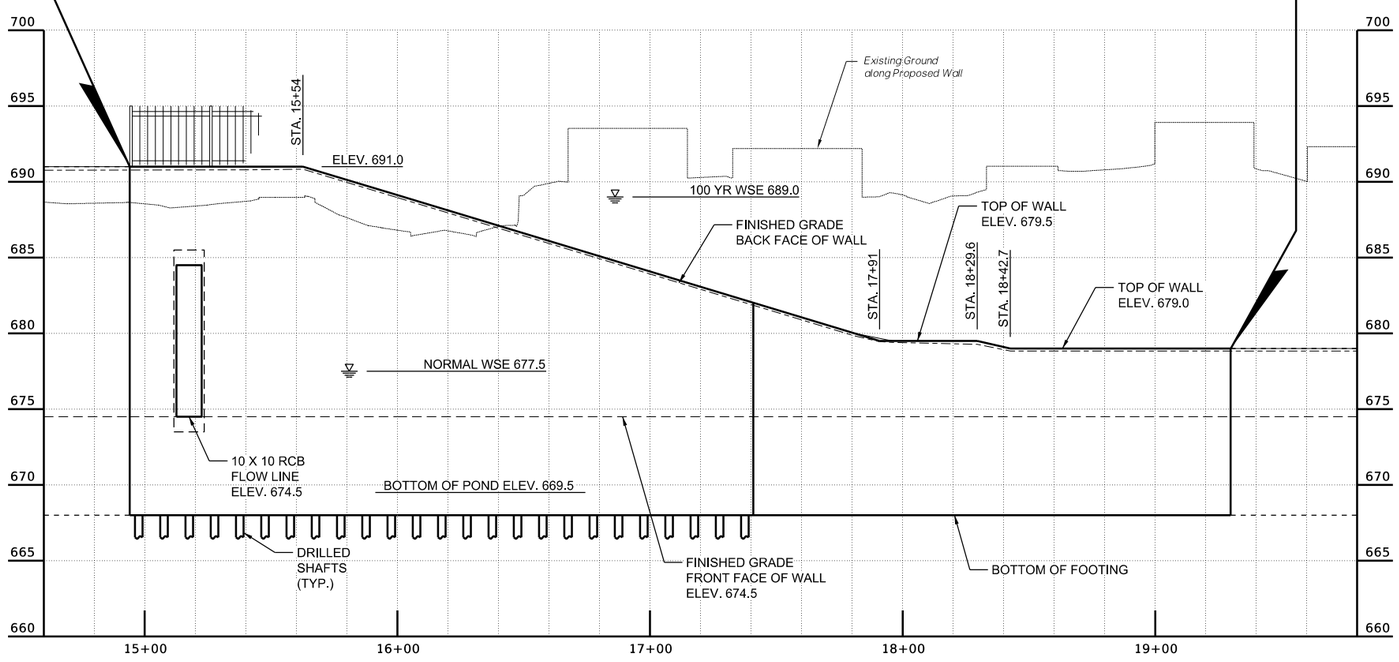
REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. S04
ATLAS PAGE NO: 01 & 08				SHEET NO. 66 OF 123



PLAN - WALL B1

SCALE: 1" = 20'

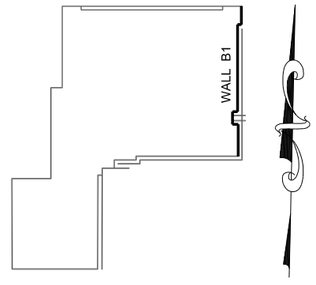


ELEVATION - WALL B-1

SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL PLAN AND ELEVATION
WALL B-1
STA. 14+94.00 TO STA. 19+28.00

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

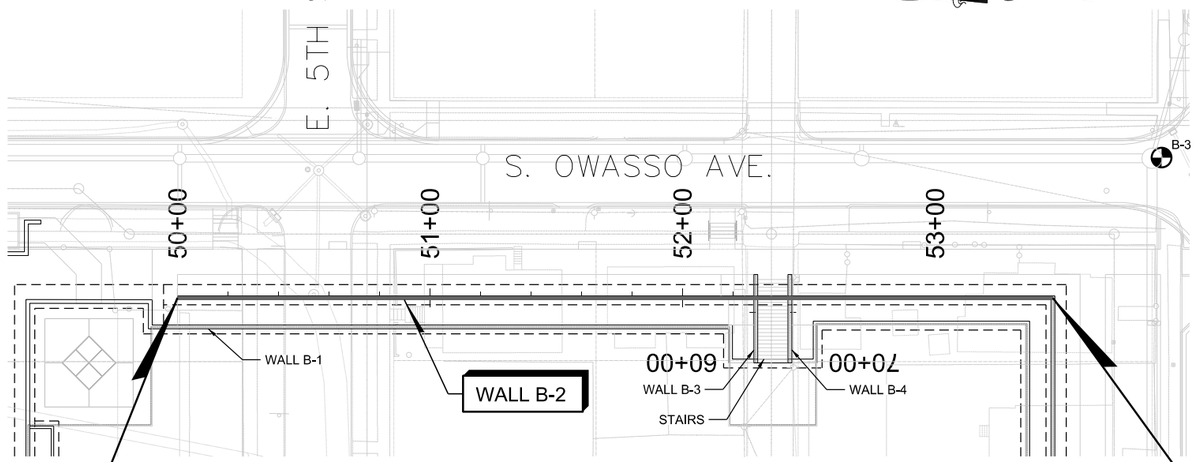
PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL

DRAWN	JT		APPROVED:
DESIGNED	KSJ		
SURVEY			
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER

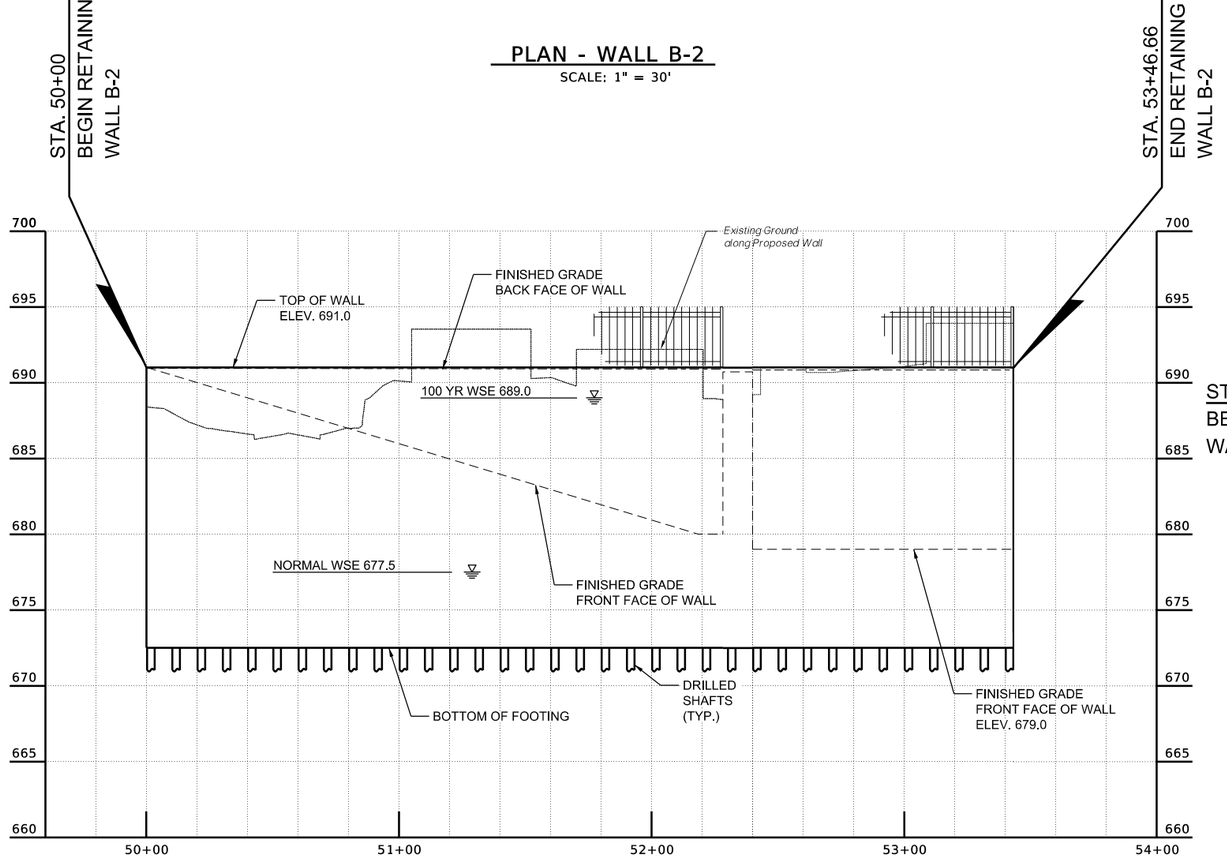
DATE:

FILE: DRAWING: PAGE NO. S05

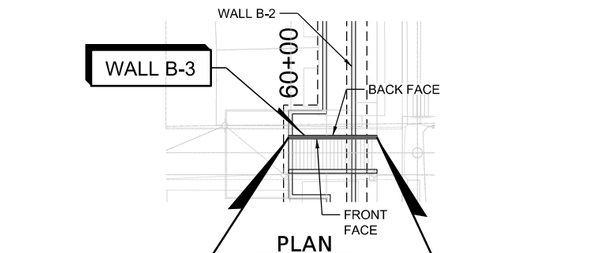
ATLAS PAGE NO: 01 & 08 SHEET NO. 67 OF 123



PLAN - WALL B-2
SCALE: 1" = 30'



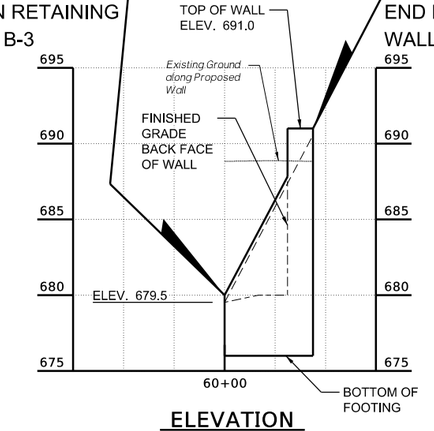
ELEVATION - WALL B-2
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'



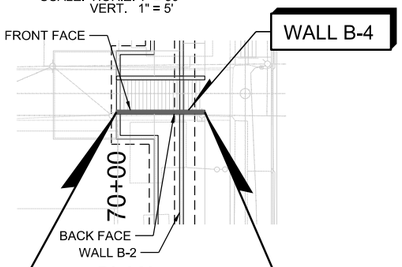
PLAN
SCALE: 1" = 30'

STA. 60+00
BEGIN RETAINING
WALL B-3

STA. 60+35
END RETAINING
WALL B-3



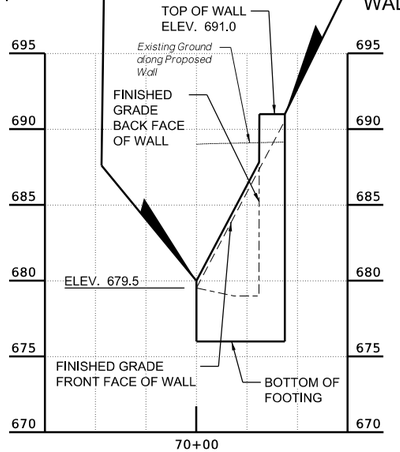
ELEVATION
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'



PLAN
SCALE: 1" = 30'

STA. 70+00
BEGIN RETAINING
WALL B-4

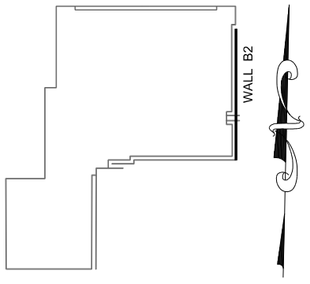
STA. 70+35
END RETAINING
WALL B-4



ELEVATION
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

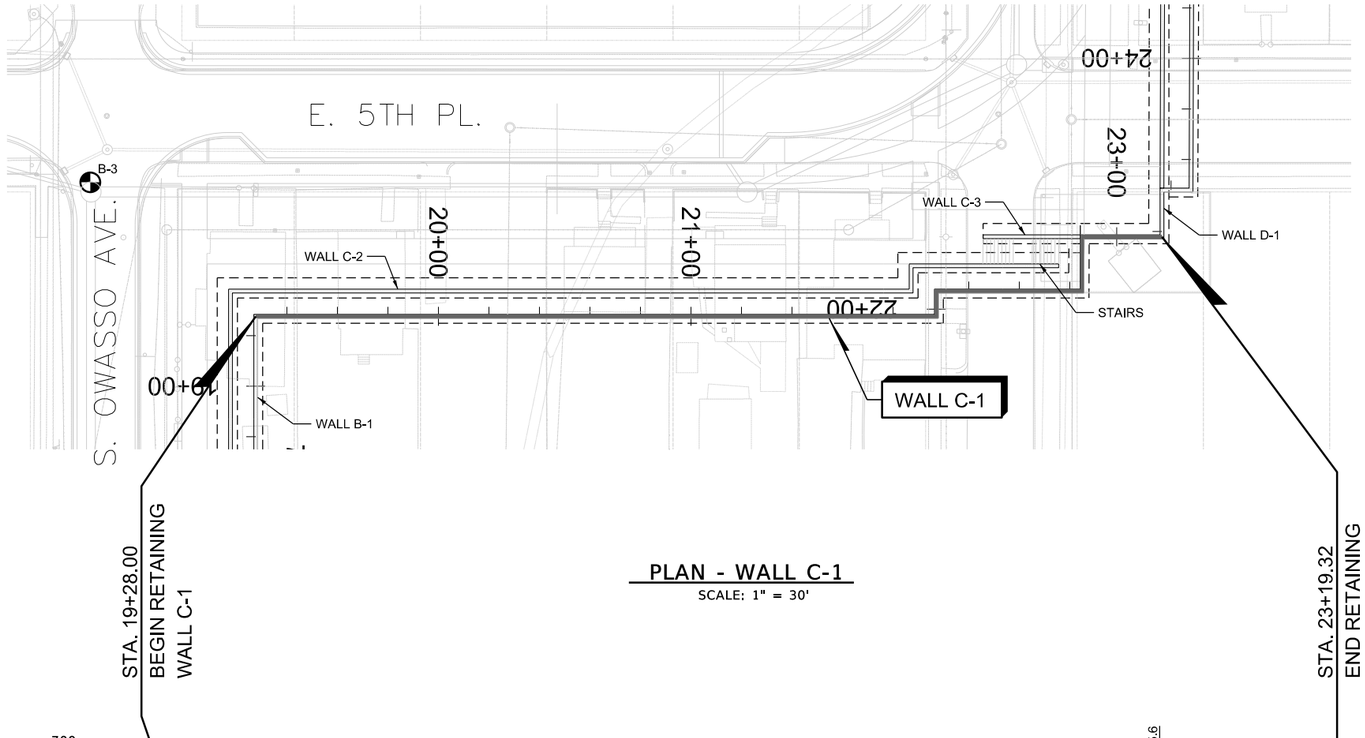
GENERAL PLAN AND ELEVATION
WALLS B-2, B-3 AND B-4

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

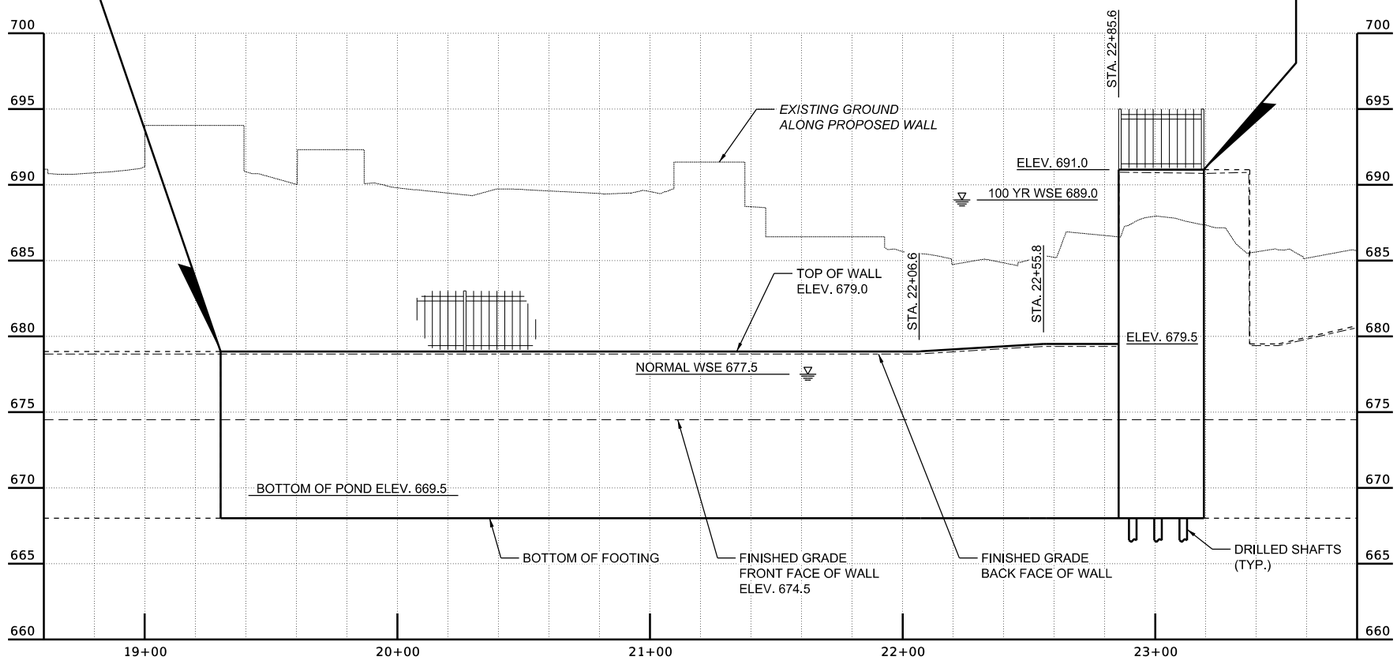
GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALES:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. S06
ATLAS PAGE NO: 01 & 08				SHEET NO. 68 OF 123



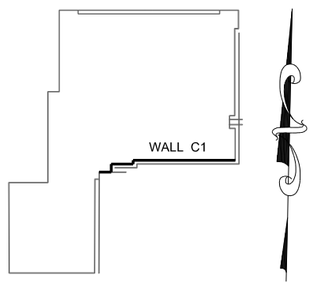
PLAN - WALL C-1
SCALE: 1" = 30'



ELEVATION - WALL C-1
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL PLAN AND ELEVATION
WALL C-1
STA. 19+28.00 TO STA. 23+19.32

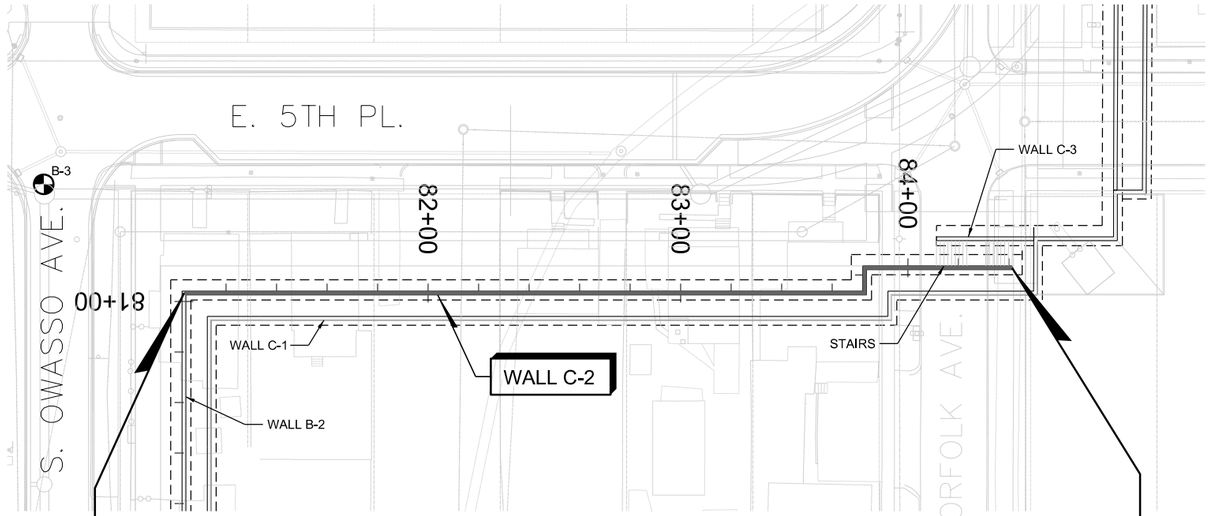
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

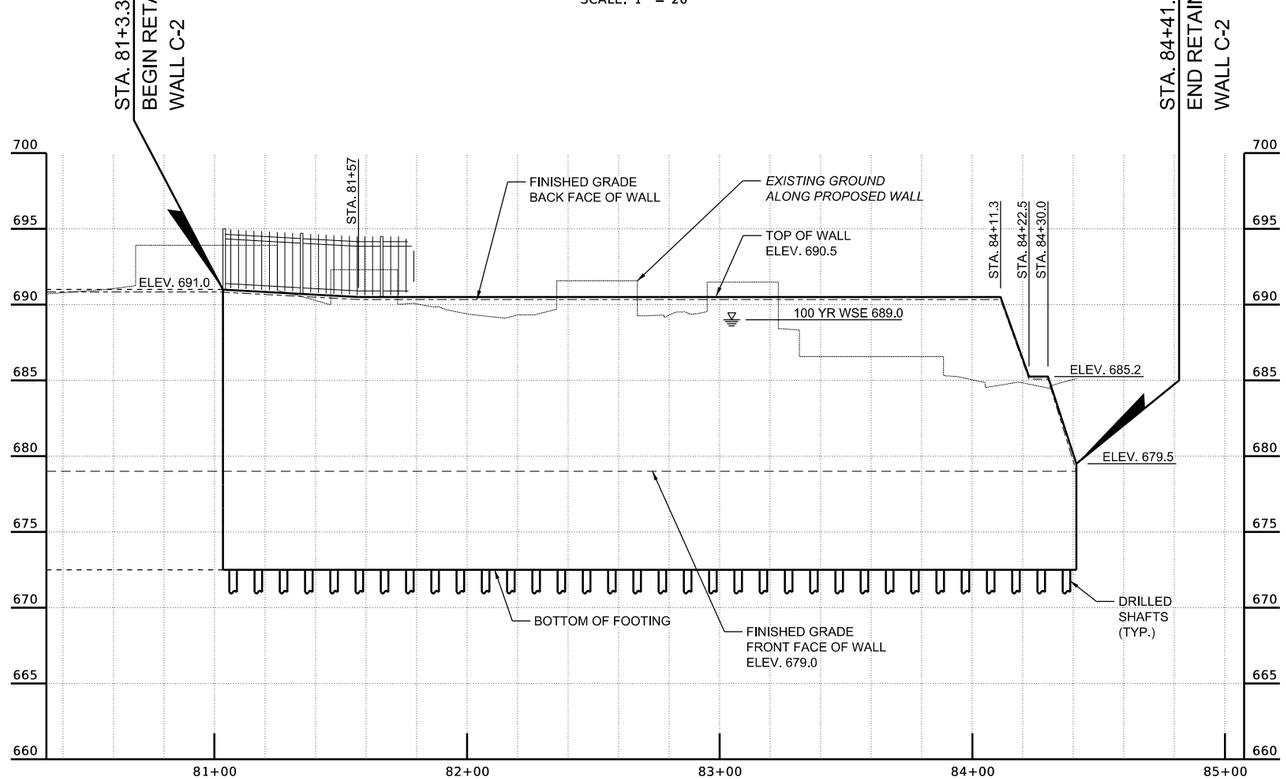
REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT	APPROVED:
	DESIGNED	KSJ	
	SURVEY		
PROFILE SCALES:	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
	FIELD MGR.		
VERTICAL	RECOMMENDED:		
	DESIGN MANAGER		CITY ENGINEER
			DATE:

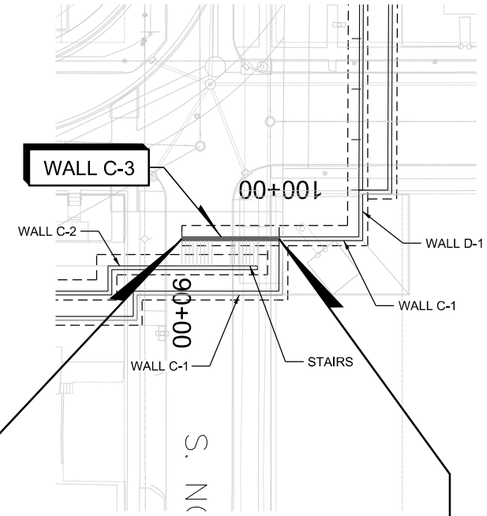
FILE:	DRAWING:	PAGE NO.	S07
ATLAS PAGE NO: 01 & 08		SHEET NO.	69 OF 123



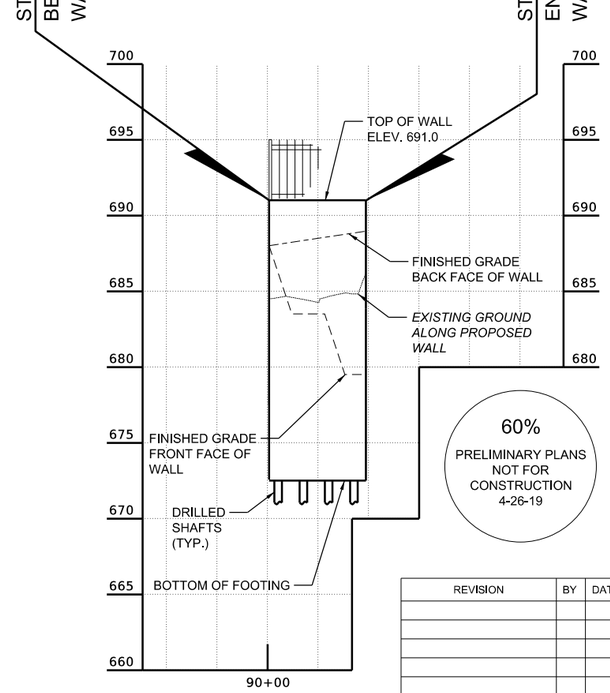
PLAN - WALL C-2
SCALE: 1" = 20'



ELEVATION - WALL C-2
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

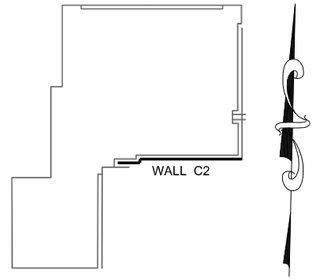


PLAN - WALL C-3
SCALE: 1" = 20'



ELEVATION - WALL C-3
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND
- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

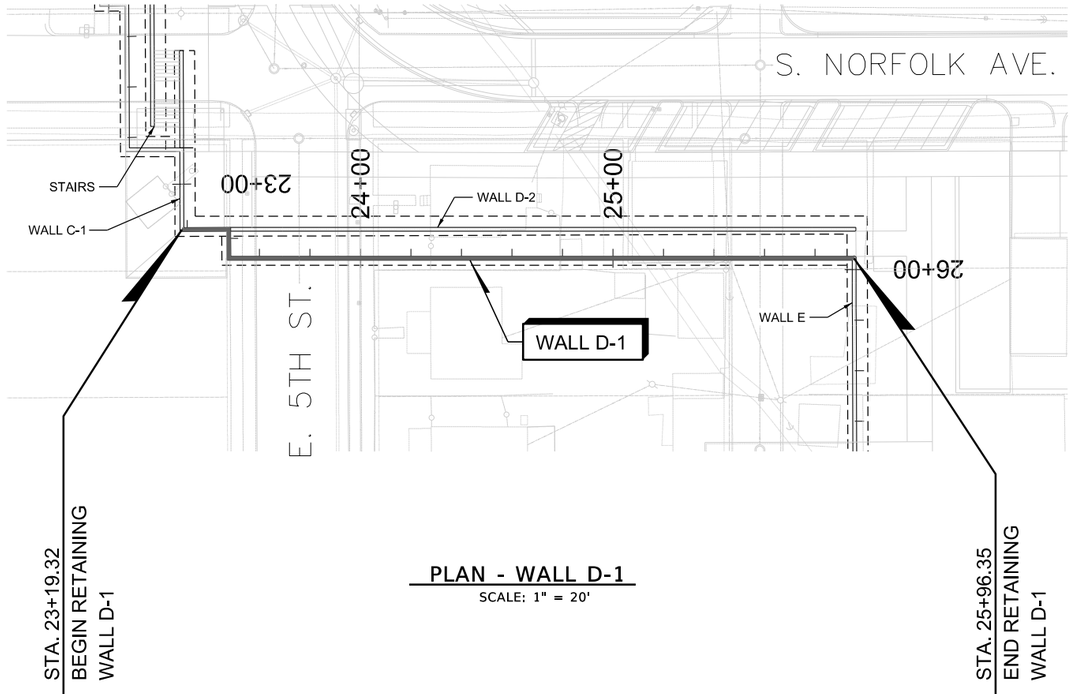
GENERAL PLAN AND ELEVATION
WALLS C-2 AND C-3
STA. 81+3.35 TO STA. 90+38.51

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

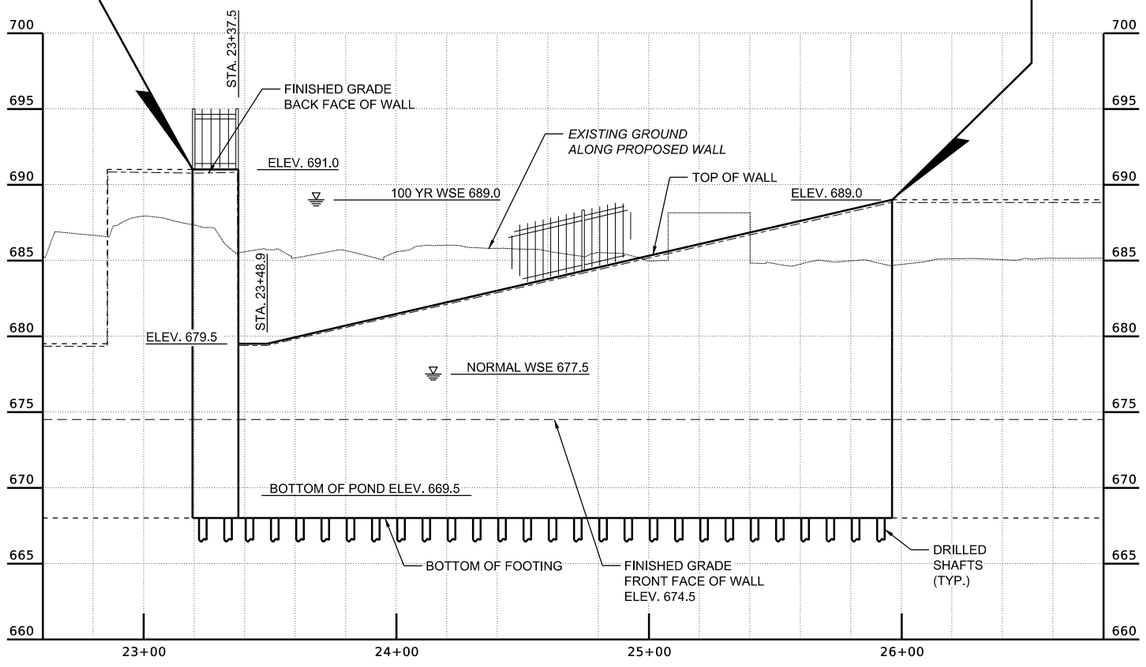
REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT	APPROVED:
	DESIGNED	KSJ	
	SURVEY		
PROFILE SCALES:	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
	FIELD MGR.		
VERTICAL	RECOMMENDED:		
	DESIGN MANAGER		CITY ENGINEER
			DATE:
FILE:	DRAWING:		PAGE NO. S08
ATLAS PAGE NO: 01 & 08			SHEET NO. 70 OF 123



PLAN - WALL D-1

SCALE: 1" = 20'

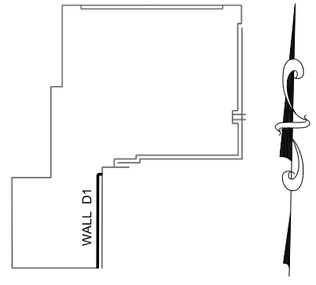


ELEVATION - WALL D-1

SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

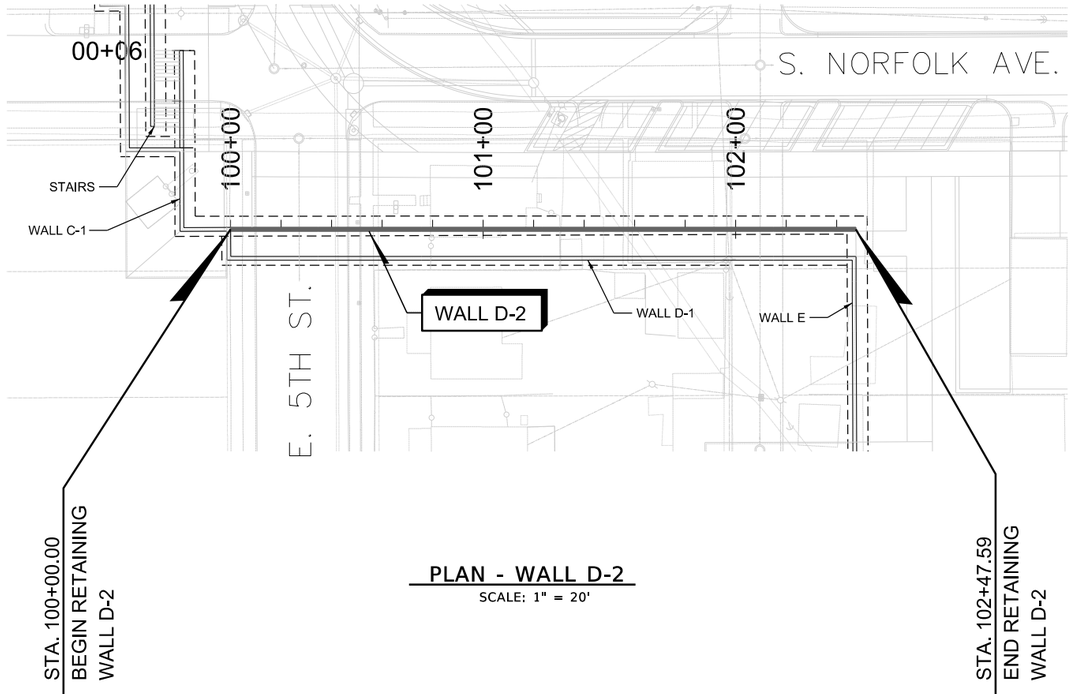
GENERAL PLAN AND ELEVATION
WALL D-1
STA. 23+19.32 TO STA. 25+96.35

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

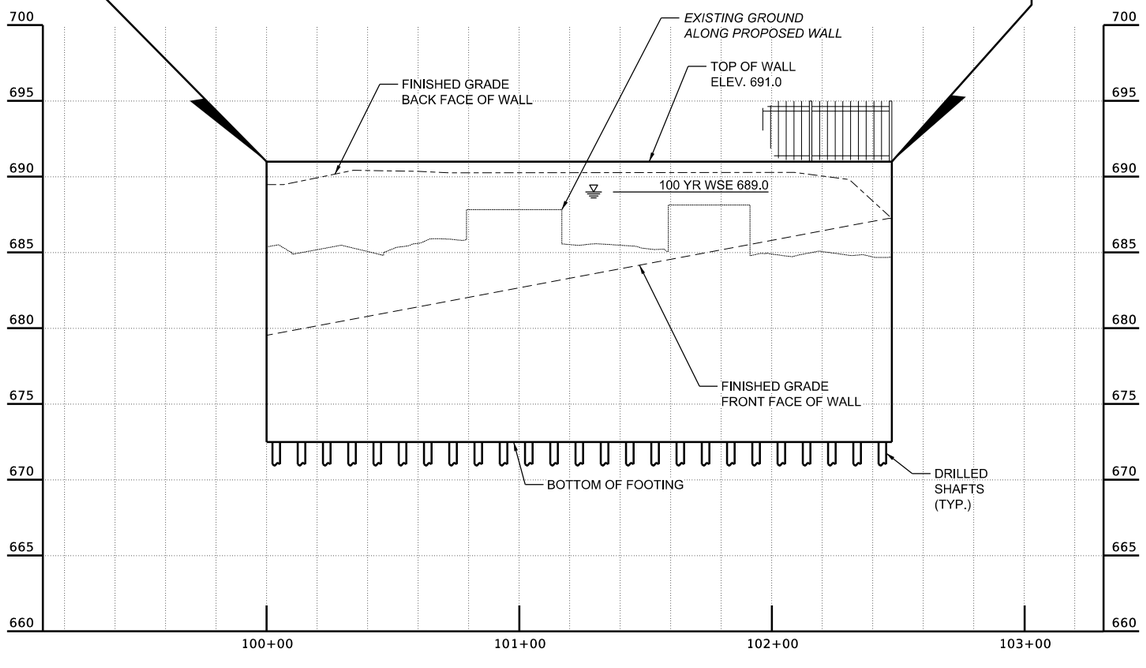
GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. S09
ATLAS PAGE NO: 01 & 08				SHEET NO. 71 OF 123



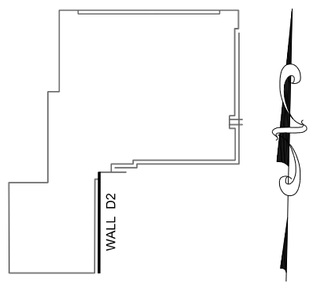
PLAN - WALL D-2
SCALE: 1" = 20'



ELEVATION - WALL D-2
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL PLAN AND ELEVATION
WALL D-2
STA. 23+19.32 TO STA. 25+96.35

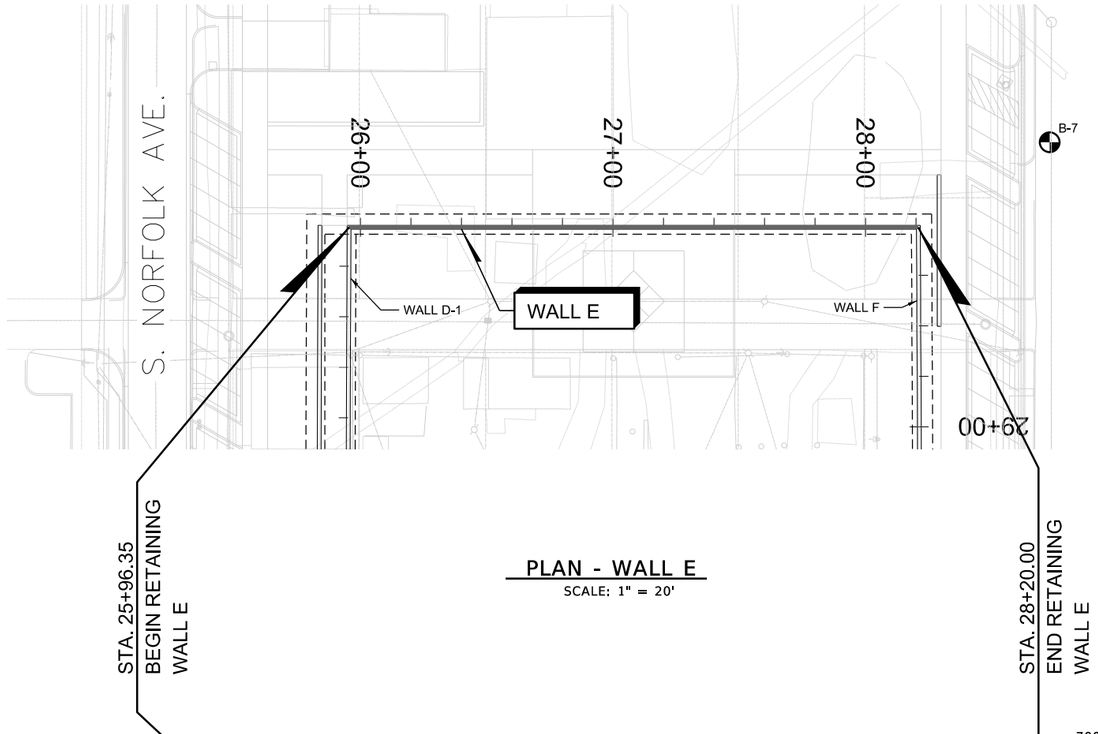
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

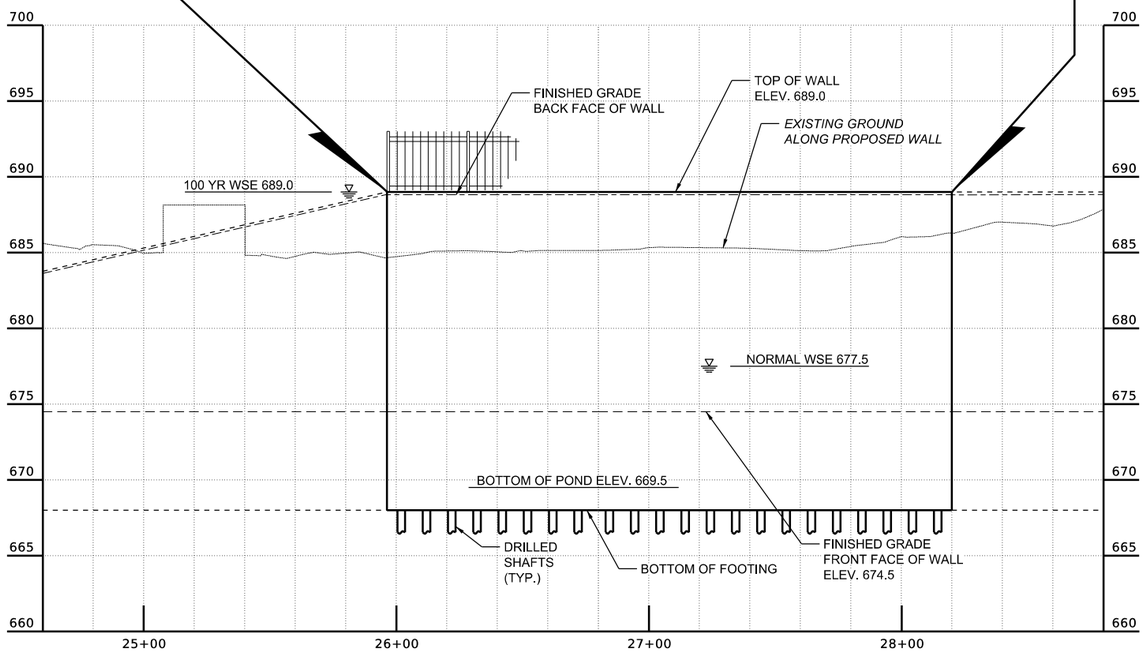
REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:

FILE:	DRAWING:	PAGE NO.	S10
ATLAS PAGE NO: 01 & 08		SHEET NO.	72 OF 123



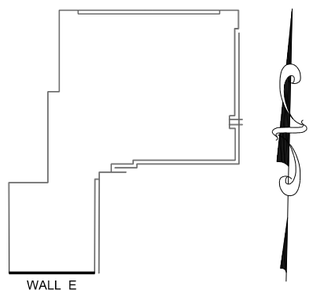
PLAN - WALL E
SCALE: 1" = 20'



ELEVATION - WALL E
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL PLAN AND ELEVATION
WALL E
STA. 25+96.35 TO STA. 28+20.00

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

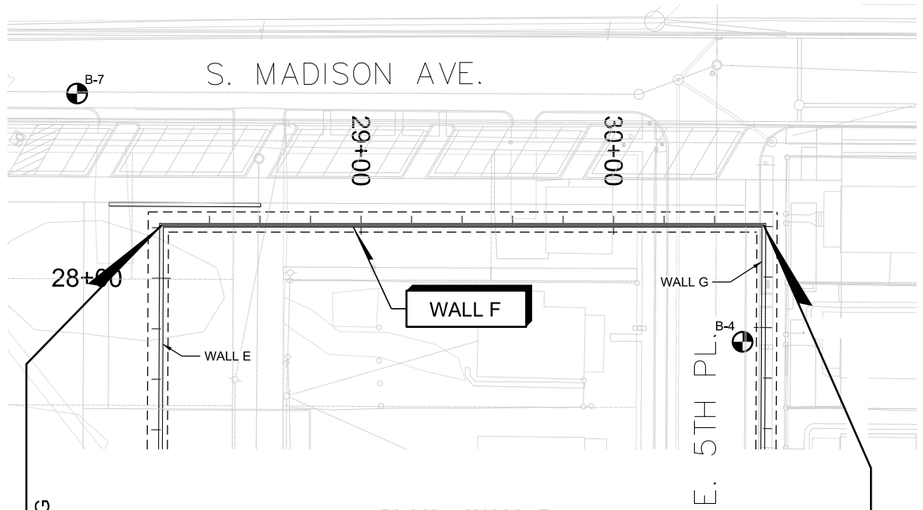
GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

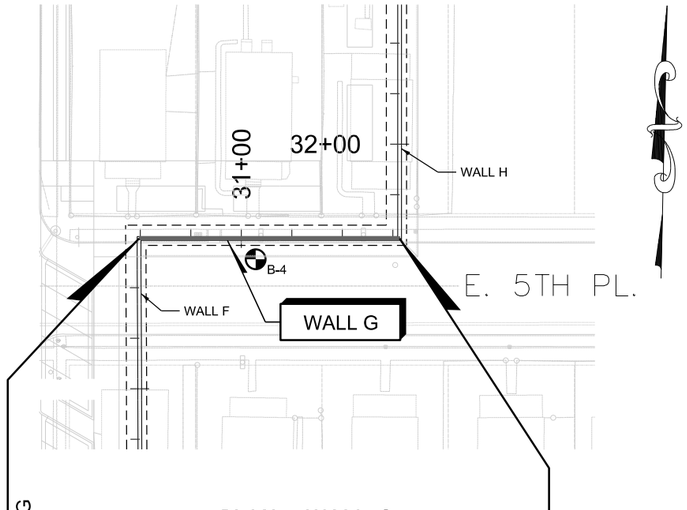
PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL

DRAWN	JT		APPROVED:
DESIGNED	KSJ		
SURVEY			
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER
			DATE:

FILE: DRAWING:
PAGE NO. S11
ATLAS PAGE NO: 01 & 08
SHEET NO. 73 OF 123



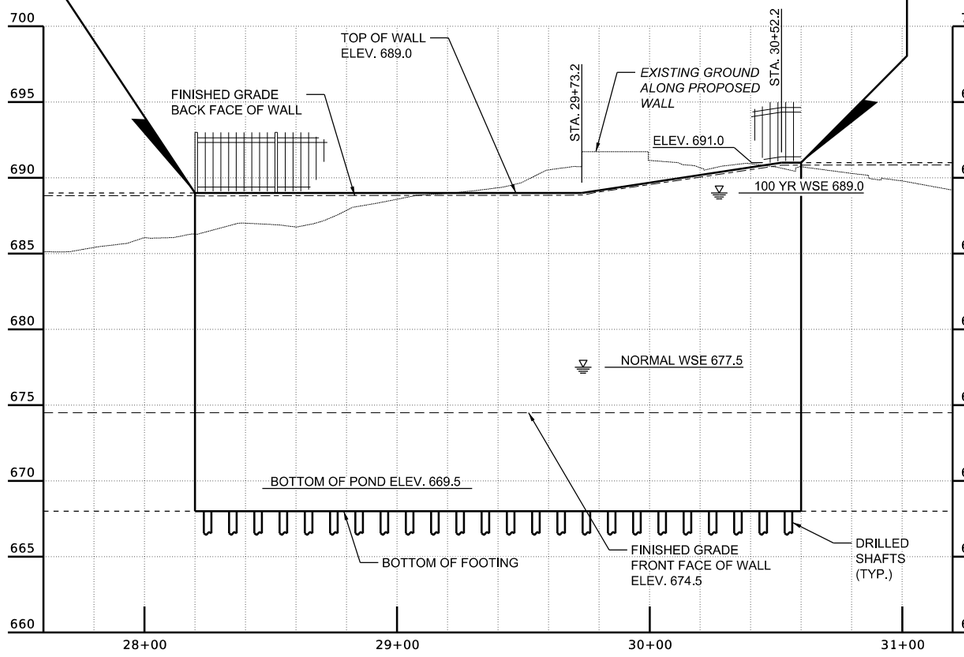
PLAN - WALL F
SCALE: 1" = 20'



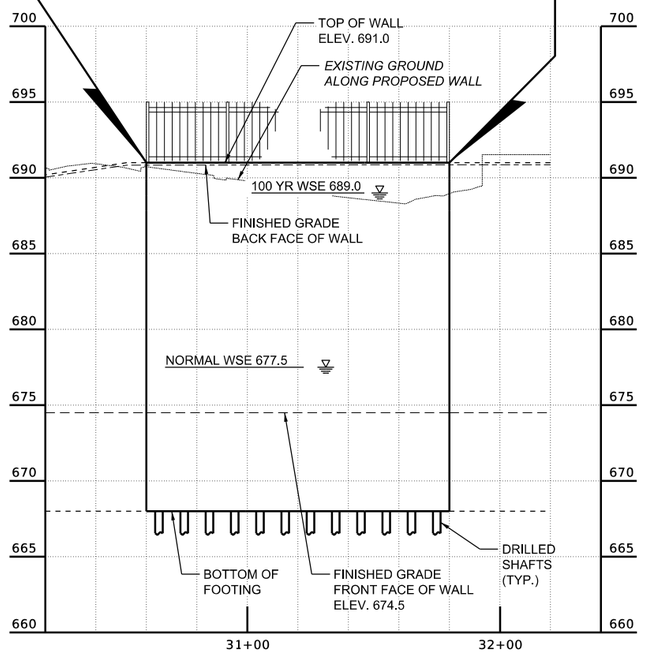
PLAN - WALL G
SCALE: 1" = 20'

LEGEND

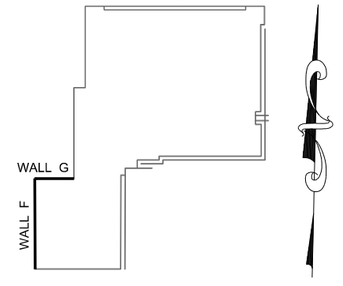
- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



ELEVATION - WALL F
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'



ELEVATION - WALL G
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'



KEY MAP

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL PLAN AND ELEVATION
WALLS F AND G
STA. 28+20.00 TO STA. 31+80.00

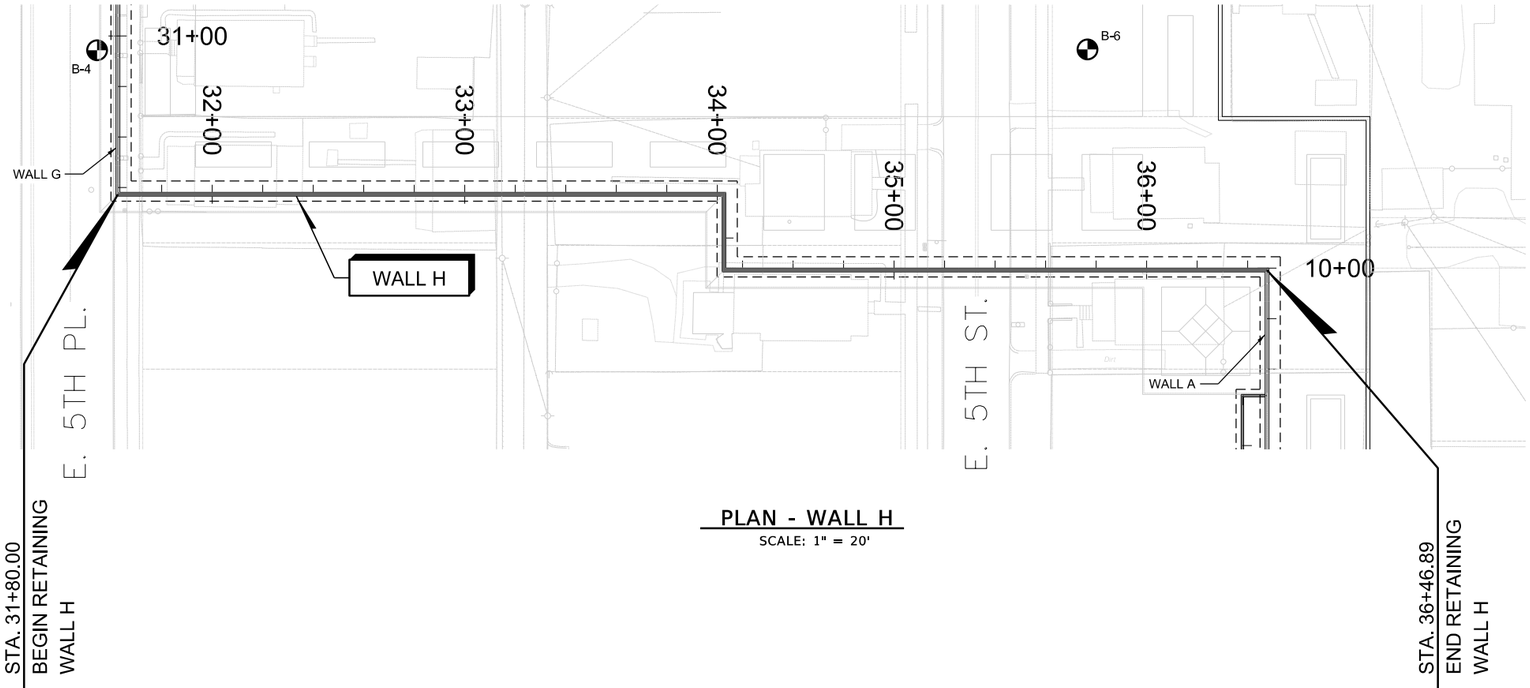
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

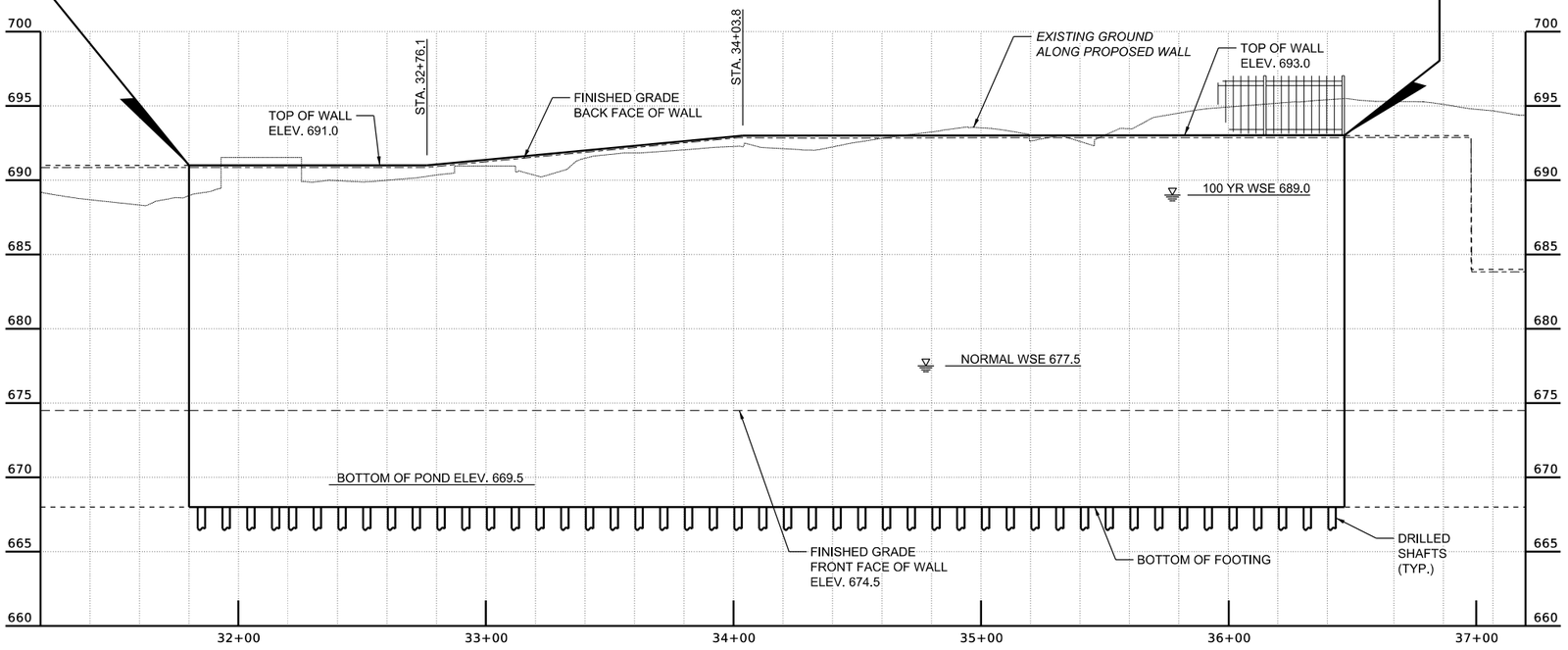
REVISION	BY	DATE

PLAN SCALE:	DRAWN	JT	APPROVED:
	DESIGNED	KSJ	
	SURVEY		
PROFILE SCALES:	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
	FIELD MGR.		
VERTICAL	RECOMMENDED:		
	DESIGN MANAGER		CITY ENGINEER
			DATE:

FILE: DRAWING:	PAGE NO. S12
ATLAS PAGE NO: 01 & 08	SHEET NO. 74 OF 123



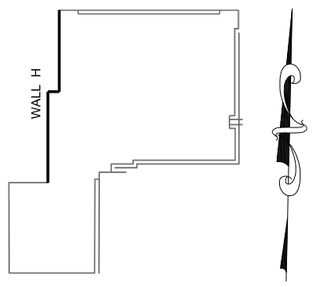
PLAN - WALL H
SCALE: 1" = 20'



ELEVATION - WALL H
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

LEGEND

- RETAINING WALL
- RETAINING WALL FOOTING
- BORING LOCATION



KEY MAP

60%
PRELIMINARY PLANS
NOT FOR
CONSTRUCTION
4-26-19

ELM CREEK WEST POND

PROJECT No. 148150

GENERAL PLAN AND ELEVATION
WALL H
STA. 31+80.00 TO STA. 36+46.89

CITY OF TULSA, OKLAHOMA
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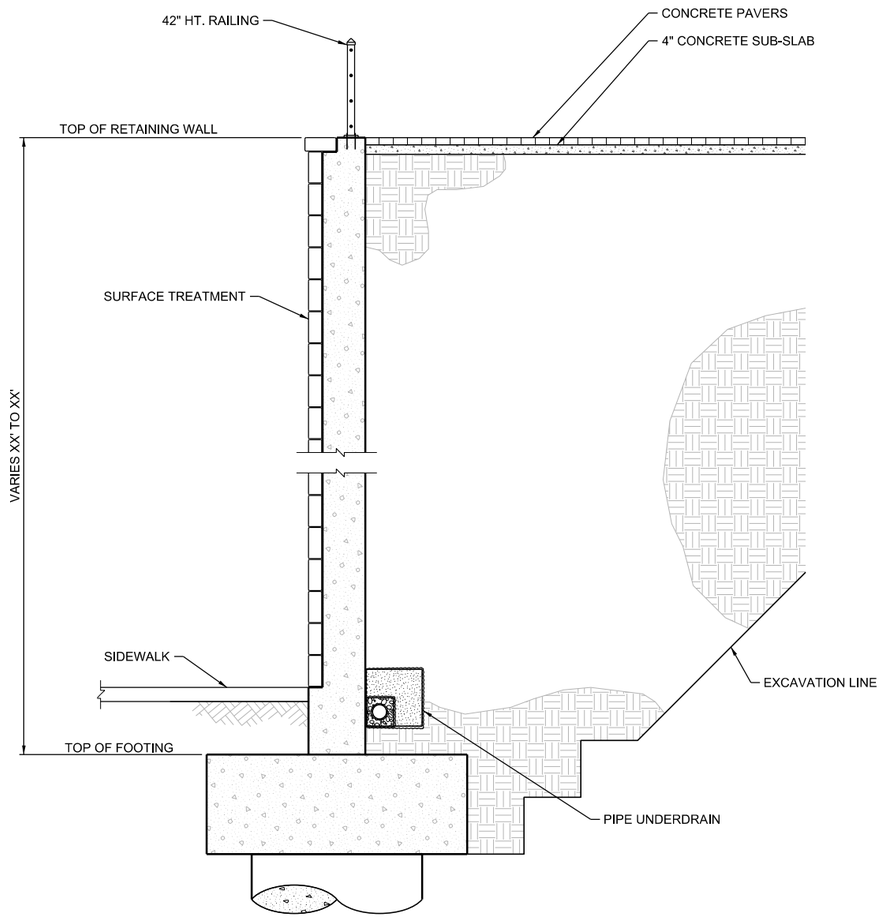
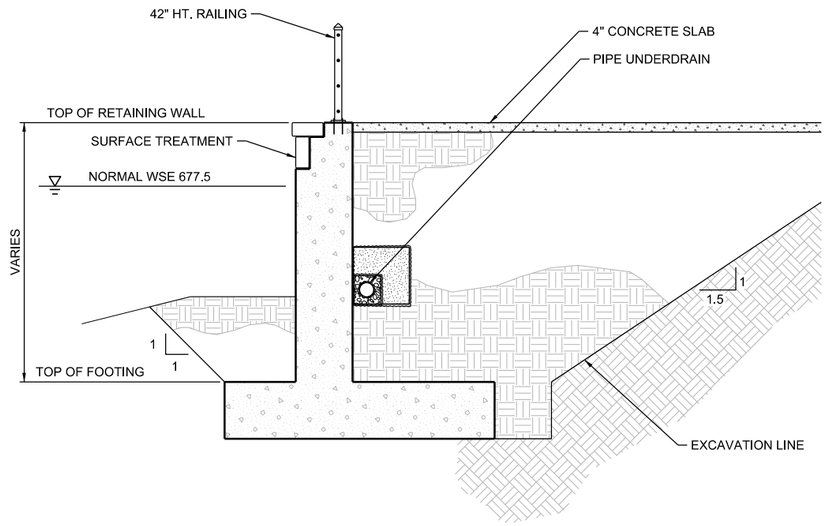
PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALES:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:

FILE:	DRAWING:	PAGE NO.	S13
ATLAS PAGE NO: 01 & 08		SHEET NO.	75 OF 123



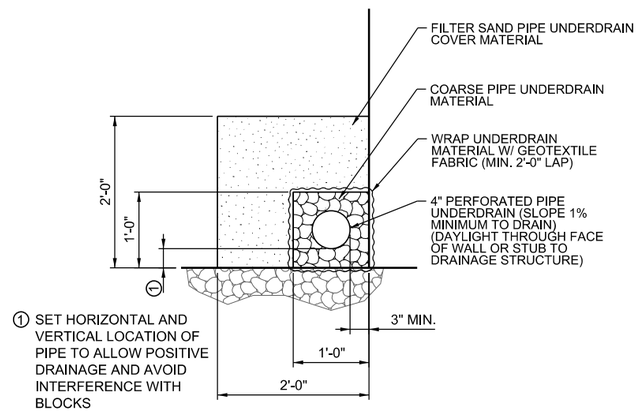
TYPICAL DRILLED SHAFT WALL SECTION

(UPPER WALL)



TYPICAL SECTION THRU CAST IN PLACE WALL

(LOWER WALL SHOWN)
(UPPER WALL SIMILAR)



① SET HORIZONTAL AND VERTICAL LOCATION OF PIPE TO ALLOW POSITIVE DRAINAGE AND AVOID INTERFERENCE WITH BLOCKS

PIPE UNDERDRAIN DETAIL

SCALE: NONE
(SEE ODOT STD. B-40-I-ABUT-MISC AND PUD-3)

NOTES:

1. EXTENT, LOCATION AND DEPTH OF 4" PERFORATED PIPE UNDERDRAIN MAY BE ADJUSTED BY THE ENGINEER DURING CONSTRUCTION. ALL COST OF PIPE UNDERDRAIN COVER MATERIAL (BOTH FINE AND COARSE), TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, EQUIPMENT AND LABOR FOR THE INSTALLATION SHALL BE INCLUDED IN THE PRICE BID PER L.F. OF 4" PERFORATED PIPE UNDERDRAIN ROUND. INSTALLATION SHALL BE AS SHOWN ON THE PLANS AND ON ODOT STANDARD B-40-I-ABUT-MISC AND PUD-3.

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-26-19

REVISION	BY	DATE

ELM CREEK WEST POND

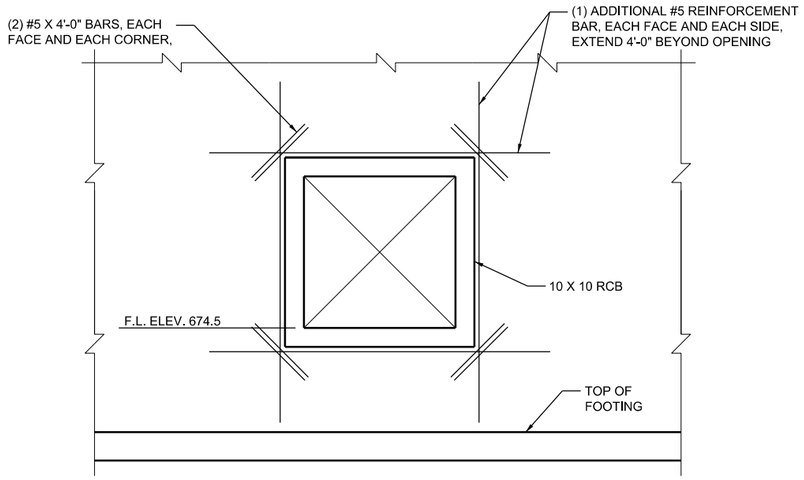
PROJECT No. 148150

TYPICAL SECTIONS

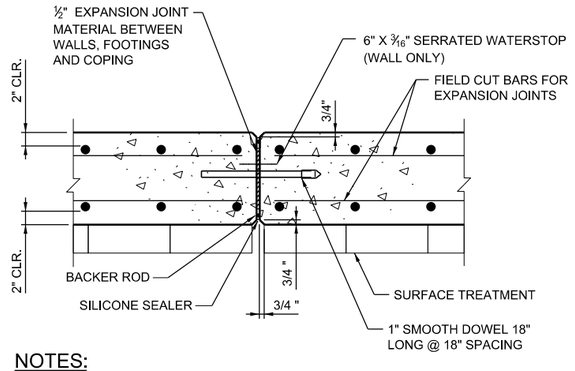
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALES:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. S14
ATLAS PAGE NO: 01 & 08				SHEET NO. 76 OF 123



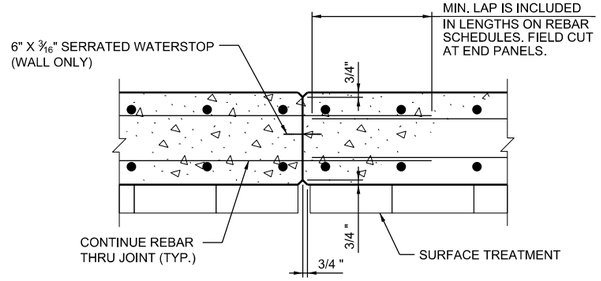
RCB PENETRATION DETAIL AT WALL B-1



NOTES:

1. SEE ODOT STD LECS-4 FOR SEALED EXPANSION JOINT DETAIL DOWEL DETAILS, DIMENSIONS AND NOTES, EXCEPT AS SHOWN OTHERWISE. BACKER ROD & SEALER TYP. BOTH SIDES OF WALL AND TOP SIDE OF FOOTING.
2. DOWEL,WATERSTOP,EXPANSION JOINT MATERIAL,BACKER ROD,SEALER,WATERLINE WALL PENETRATION SEAL, AND ALL COST OF LABOR, MATERIALS, TOOLS, AND OTHER INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID FOR CLASS A CONCRETE.
3. WHERE A SAWCUT LINE IS DESIGNATED, THE USE OF A CONSTRUCTION JOINT IS PERMITTED IF THE CONTRACTOR PREFERS OR FINDS IT NECESSARY.

TYPICAL EXPANSION JOINT RETAINING WALL SEE GP&E FOR LOCATIONS



TYPICAL CONSTRUCTION JOINT RETAINING WALL

60%
PRELIMINARY PLANS NOT FOR CONSTRUCTION
4-26-19

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

RETAINING WALL DETAILS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE:	DRAWN	JT		APPROVED:
	DESIGNED	KSJ		
	SURVEY			
PROFILE SCALES:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. S15
ATLAS PAGE NO: 01 & 08				SHEET NO. 77 OF 123

MATCH LINE SHEET 79

108" STORM DRAIN TO REMAIN SOUTH OF PROPOSED WEIR

REMOVE EXISTING 12" SANITARY SEWER

REMOVE EXISTING CICI

REMOVE EXISTING 18" SANITARY SEWER

REMOVE EXISTING 12" STORM SEWER AND INLETS

REMOVE EXISTING 48" STORM SEWER AND MANHOLES

REMOVE EXISTING 12" SANITARY SEWER

REMOVE EXISTING STORM SEWER MH

REMOVE EXISTING CICI

REMOVE EXISTING 12" STORM SEWER

REMOVE EXISTING 15" STORM SEWER

REMOVE EXISTING 6" WATERLINE

EXISTING 6" WATERLINE TO REMAIN

REMOVE EXISTING 12" STORM SEWER MANHOLE AND INLETS

REMOVE EXISTING 12" STORM SEWER

REMOVE EXISTING SANITARY SEWER MH

REMOVE EXISTING STORM SEWER MH

REMOVE EXISTING 2" WATERLINE

ALL TREES WEST OF S. MADISON AVE. TO REMAIN

REMOVE EXISTING 12" STORM SEWER

REMOVE EXISTING SANITARY SEWER MH

REMOVE EXISTING 60" STORM SEWER

REMOVE EXISTING CICI

REMOVE EXISTING STORM SEWER MH & PIPE TO INLET

REMOVE EXISTING 15" STORM SEWER

REMOVE EXISTING 18" STORM SEWER

REMOVE EXISTING 8" SANITARY SEWER

REMOVE EXISTING SANITARY SEWER MH

REMOVE EXISTING 6" WATERLINE

REMOVE EXISTING SANITARY SEWER MH

REMOVE EXISTING 2" WATERLINE

REMOVE EXISTING 8" SANITARY SEWER

POND BOUNDARY

REMOVE EXISTING 60" STORM SEWER

REMOVE EXISTING 12" STORM SEWER

REMOVE EXISTING 12" SANITARY SEWER

EXISTING 2" WATERLINE ABANDON IN PLACE

REMOVE EXISTING CICI

REMOVE EXISTING 15" STORM SEWER

REMOVE EXISTING CICI

STA 10+49.64 - 58' RT. CL OF S. MADISON AVE. REMOVE EXISTING 60" STORM SEWER TO HERE

REMOVE EXISTING 12" STORM SEWER

EXISTING SANITARY SEWER MH TO REMAIN

REMOVE EXISTING SANITARY SEWER MH

E. 5TH PL.

E. 6TH ST.

S. MADISON AVE.

S. NORFOLK AVE.

S. OWASSO AVE.

14+00 13+00 12+00 11+00 10+00

34+00 35+00 36+00 37+00 40+00

33+00 32+00 31+00 30+00

GRAPHIC SCALE
(HORIZ.)
1 inch = 30' ft.
30' 0 30' 60'

DEMOLITION NOTES

1. REMOVE ALL TREES EXCEPT WHEN NOTED.
2. PRIVATE SIGNS AND LIGHTS FIXTURES SHALL BE REMOVED BY THE PROPERTY OWNER.
3. DEMOLITION OF EXISTING HOUSES SHALL BE DONE BY OTHERS.

DEMOLITION LEGEND

- REMOVE CONCRETE DRIVEWAY/PARKING
- REMOVE ASPHALT DRIVEWAY/PARKING
- REMOVE ROADWAY PAVEMENT
- REMOVE EXISTING BUILDING (BY OTHERS)
- REMOVE EXISTING SIDEWALK
- REMOVE EXISTING TRAIL
- SAW CUT FULL DEPTH
- EXISTING RIGHT OF WAY
- CONSTRUCTION REFERENCE LINE (CRL)

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

DEMOLITION PLAN
SHEET NO. 1 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=30'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. D01
ATLAS PAGE NO: 01 & 08				SHEET NO. 78 OF 123

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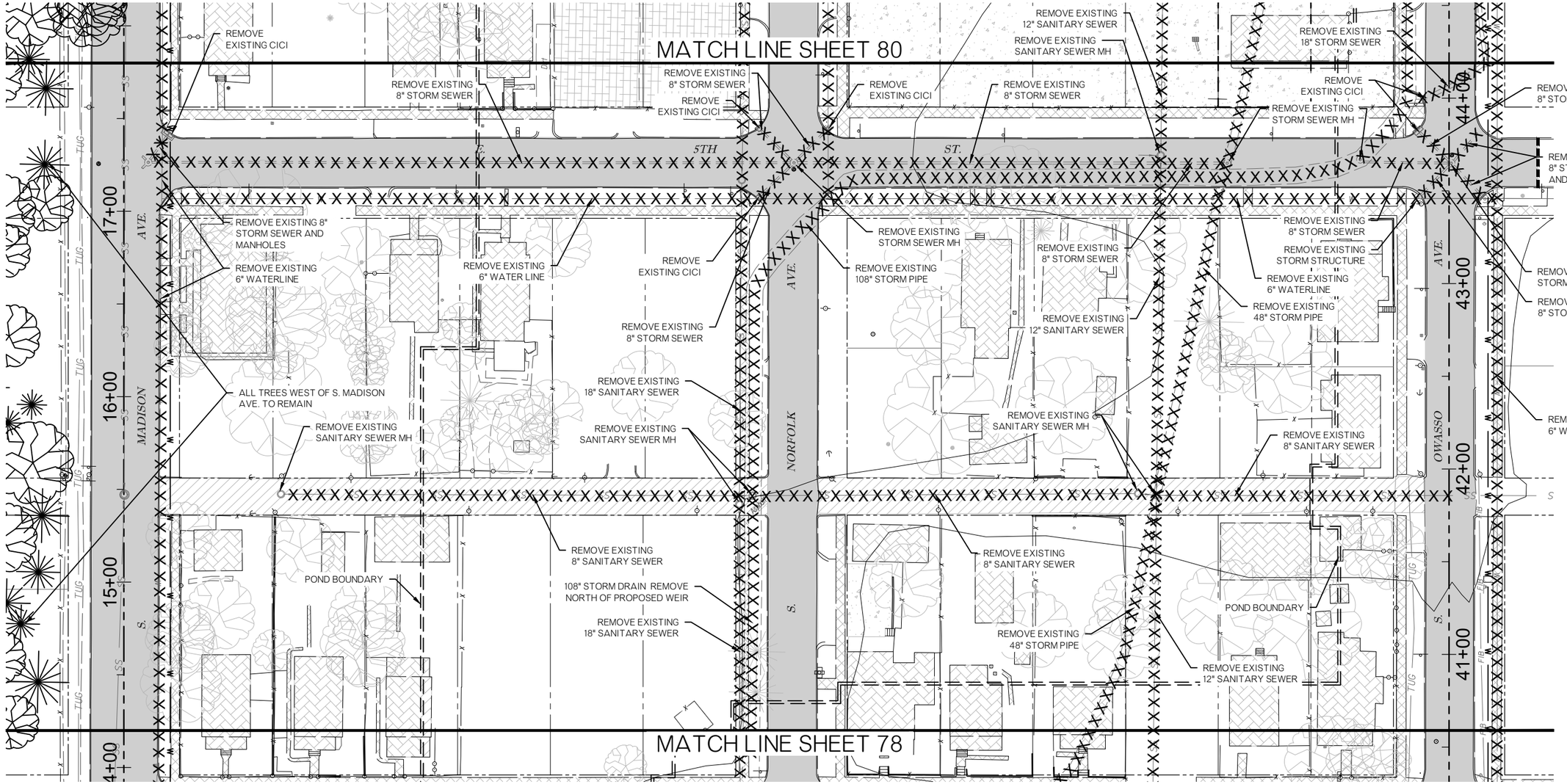

GRAPHIC SCALE
(HORIZ.)
1 inch = ft. 30'
30' 0 30' 60'

DEMOLITION NOTES

1. REMOVE ALL TREES EXCEPT WHEN NOTED.
2. PRIVATE SIGNS AND LIGHTS FIXTURES SHALL BE REMOVED BY THE PROPERTY OWNER.
3. DEMOLITION OF EXISTING HOUSES SHALL BE DONE BY OTHERS.

DEMOLITION LEGEND

- REMOVE CONCRETE DRIVEWAY/PARKING
- REMOVE ASPHALT DRIVEWAY/PARKING
- REMOVE ROADWAY PAVEMENT
- REMOVE EXISTING BUILDING (BY OTHERS)
- REMOVE EXISTING SIDEWALK
- REMOVE EXISTING TRAIL
- SAW CUT FULL DEPTH
- EXISTING RIGHT OF WAY
- CONSTRUCTION REFERENCE LINE (CRL)

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

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ELM CREEK WEST POND

PROJECT No. 148150

DEMOLITION PLAN
SHEET NO. 2 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=30'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL N/A

DRAWN	DGD	01/19	APPROVED:
DESIGNED	MZV	01/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
DATE:

FILE: DRAWING:
PAGE NO. D02
ATLAS PAGE NO: 01 & 08
SHEET NO. 79 OF 123

Wednesday, April 24, 2019 9:12:18 AM
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REMOVE EXISTING SANITARY SEWER MH
REMOVE EXISTING 18" SANITARY SEWER
REMOVE EXISTING SANITARY SEWER MH
REMOVE EXISTING 12" SANITARY SEWER
REMOVE EXISTING CICI
REMOVE EXISTING STORM SEWER MH
REMOVE EXISTING 18" SANITARY SEWER
E. 4TH ST.
21+00
20+00
19+00
47+00
46+00
45+00
44+00
S. MADISON AVE.
S. NORFOLK AVE.
S. OWASSO AVE.
REMOVE EXISTING 6" WATERLINE
REMOVE EXISTING 2" WATERLINE
REMOVE EXISTING CICI
REMOVE EXISTING SANITARY SEWER MH
REMOVE EXISTING 18" SANITARY SEWER
REMOVE EXISTING SANITARY SEWER MH
CUT AND PLUG EXISTING WATERLINE
REMOVE EXISTING 12" SANITARY SEWER
REMOVE EXISTING CICI
CUT AND PLUG EXISTING SANITARY SEWER
REMOVE EXISTING STORM SEWER
REMOVE EXISTING 6" WATERLINE
TREE TO REMAIN
TREES TO REMAIN
REMOVE FENCE
TREES TO REMAIN
REMOVE EXISTING 48" STORM SEWER
REMOVE EXISTING 18" STORM SEWER
REMOVE EXISTING 6" WATERLINE
REMOVE EXISTING 108" STORM SEWER SOUTH OF STA. 45+15.00 - 22.5' LT. CL OF S. OWASSO AVE.
REMOVE EXISTING 18" SANITARY SEWER
REMOVE EXISTING SANITARY SEWER MH
REMOVE FENCE
POND BOUNDARY
POND BOUNDARY
REMOVE INLET AND CONNECTING PIPES
REMOVE INLET AND CONNECTING PIPE
REMOVE EXISTING 6" WATERLINE
REMOVE STORM MANHOLE
TREES ON THE WEST SIDE OF S. MADISON AVE. TO REMAIN
MATCH LINE SHEET 79

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GRAPHIC SCALE
(HORIZ.)
1 inch = 30' ft.
30' 0 30' 60'

DEMOLITION NOTES

1. REMOVE ALL TREES EXCEPT WHEN NOTED.
2. PRIVATE SIGNS AND LIGHTS FIXTURES SHALL BE REMOVED BY THE PROPERTY OWNER.
3. DEMOLITION OF EXISTING HOUSES SHALL BE DONE BY OTHERS.

DEMOLITION LEGEND

- REMOVE CONCRETE DRIVEWAY/PARKING
- REMOVE ASPHALT DRIVEWAY/PARKING
- REMOVE ROADWAY PAVEMENT
- REMOVE EXISTING BUILDING (BY OTHERS)
- REMOVE EXISTING SIDEWALK
- REMOVE EXISTING TRAIL
- SAW CUT FULL DEPTH
- EXISTING RIGHT OF WAY
- CONSTRUCTION REFERENCE LINE (CRL)

BEFORE YOU DIG OKIE 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

DEMOLITION PLAN
SHEET NO. 3 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=30'	DRAWN	DGD	01/19
	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL: N/A	LEAD ENGR.		
VERTICAL N/A	FIELD MGR.		
	RECOMMENDED:		
	DESIGN MANAGER		

APPROVED:
CITY ENGINEER
DATE:

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ATLAS PAGE NO: 01 & 08 SHEET NO. 80 OF 123

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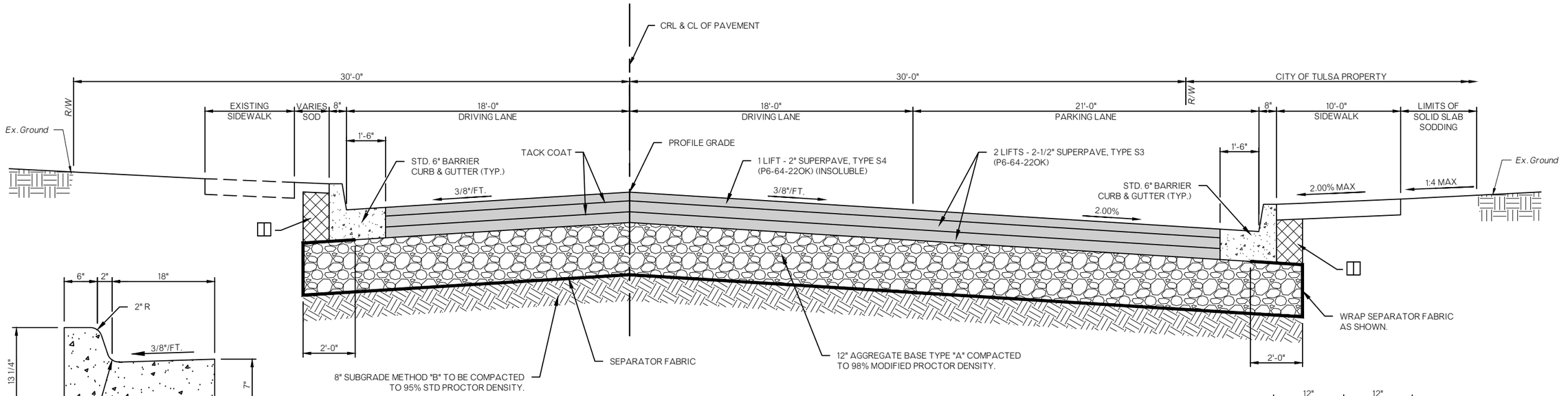
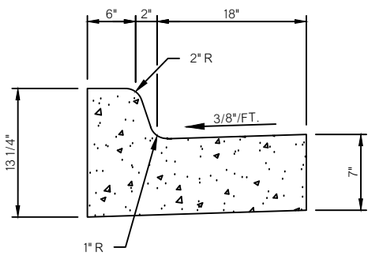


TYPICAL SECTION #1

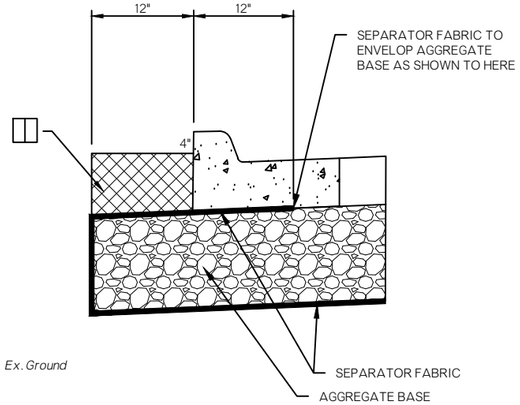
S. MADISON AVE.
STA. 10+82.75 TO STA. 13+82.31
Not To Scale

BACKFILL NOTE:
THIS AREA IS TO BE BACKFILLED AND COMPACTED TO 95% STD. PROCTOR DENSITY. COST TO BE INCLUDED IN COST OF CURB. TYPICAL BOTH SIDES.



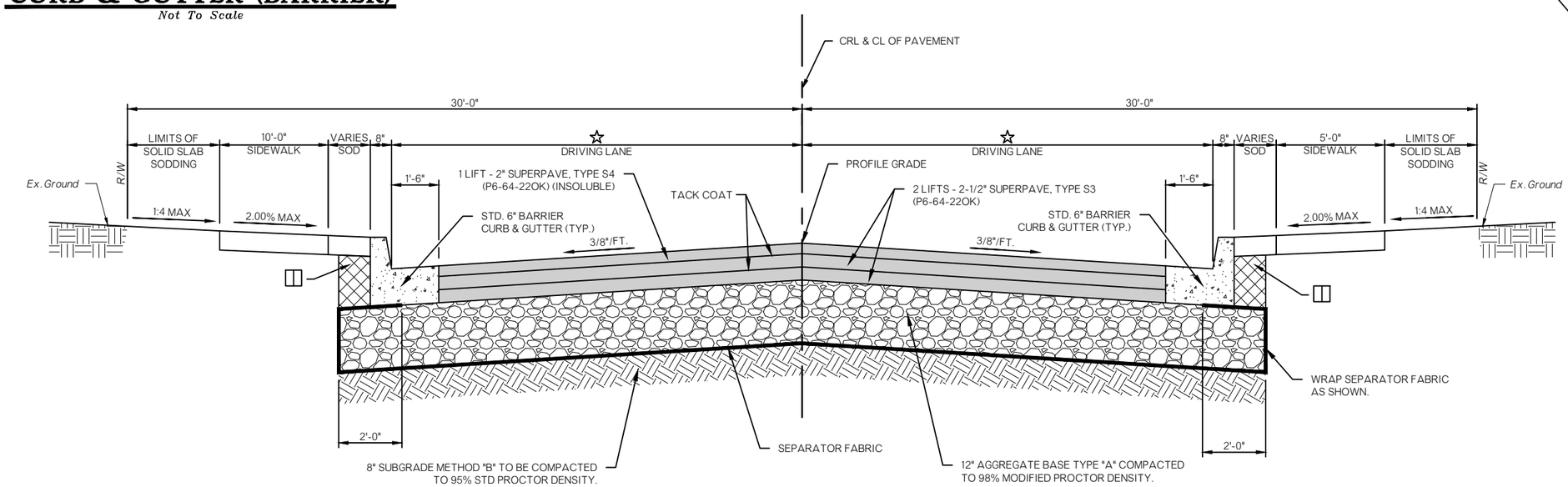
STANDARD 6" COMBINED CURB & GUTTER (BARRIER)

Not To Scale



SEPARATOR FABRIC/ AGGREGATE BASE DETAIL

Not To Scale



TYPICAL SECTION #2

S. MADISON AVE.
STA. 13+82.31 TO STA. 20+18.21

S. NORFOLK AVE. & E. 5TH PLACE
STA. 30+95.48 TO STA. 32+59.34
STA. 36+15.58 TO STA. 37+50.00

S. OWASSO AVE.
STA. 39+52.00 TO STA. 47+10.19
Not To Scale

☆ 18'-0" - S. MADISON AVE.
13'-0" - S. NORFOLK AVE & E. 5TH PLACE
13'-0" - S. OWASSO AVE.

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

TYPICAL SECTION
SHEET NO. 1 OF 2

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GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: N/A	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C14
ATLAS PAGE NO: 01 & 08				SHEET NO. 81 OF 123

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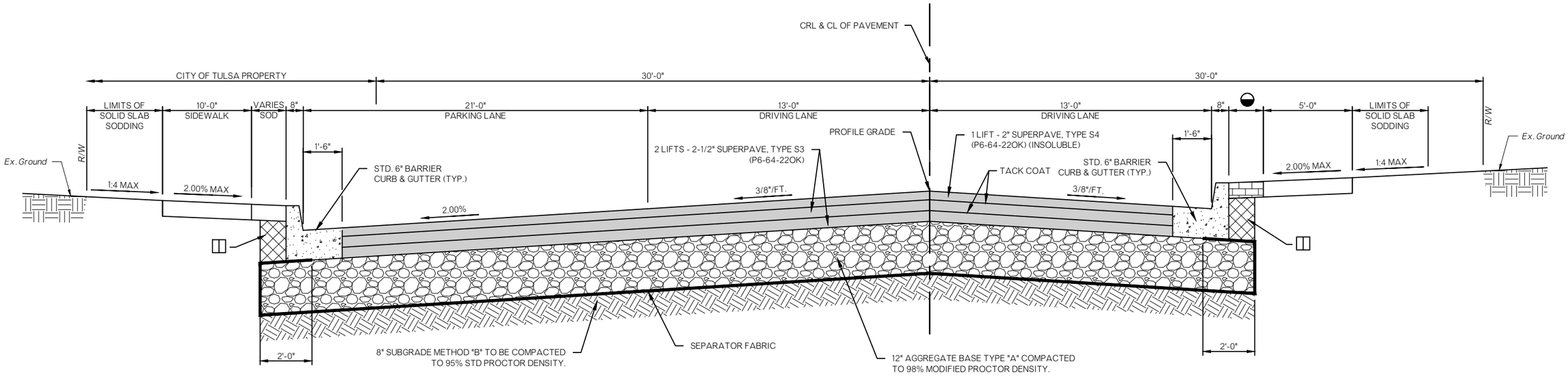


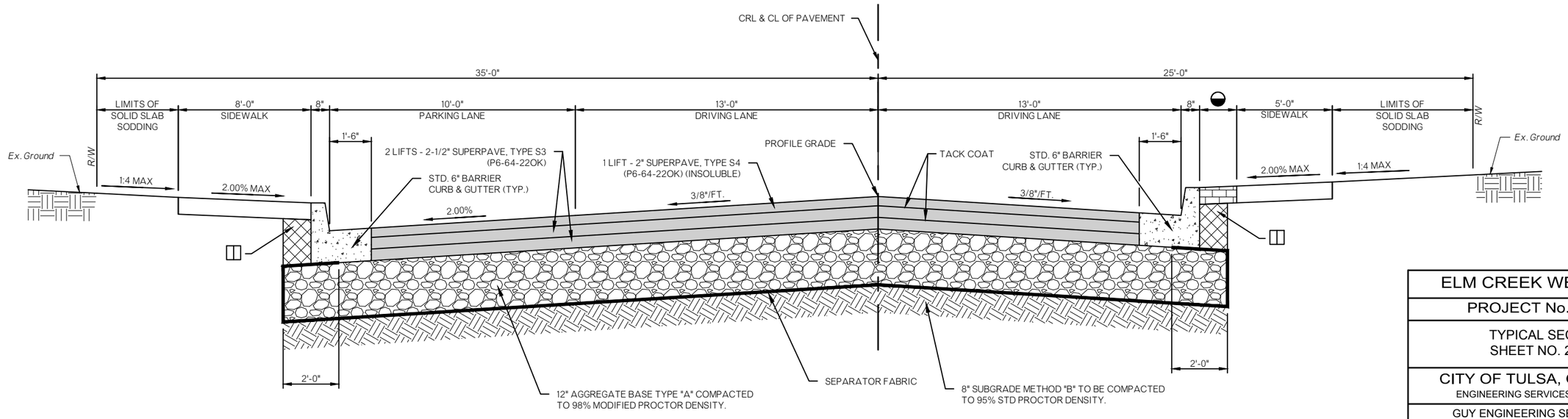
TYPICAL SECTION #3

S. NORFOLK AVE.
STA. 30+63.00 TO STA. 32+59.34
Not To Scale

BACKFILL NOTE:
THIS AREA IS TO BE BACKFILLED AND COMPACTED TO 95% STD. PROCTOR DENSITY. COST TO BE INCLUDED IN COST OF CURB. TYPICAL BOTH SIDES.

4" STAMPED CONCRETE SIDEWALK, VARIES IN WIDTH

SEE PREVIOUS SHEET FOR CURB & GUTTER DETAILS.



TYPICAL SECTION #4

E. 5TH PLACE
STA. 32+59.34 TO STA. 34+26.10
Not To Scale

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

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REVISION	BY	DATE

ELM CREEK WEST POND

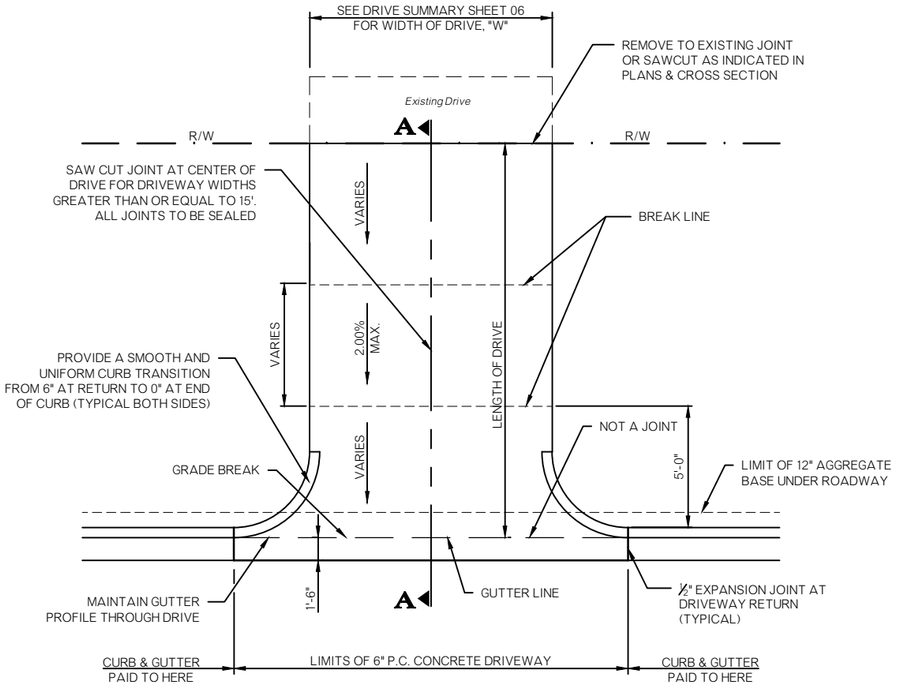
PROJECT No. 148150

TYPICAL SECTION
SHEET NO. 2 OF 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

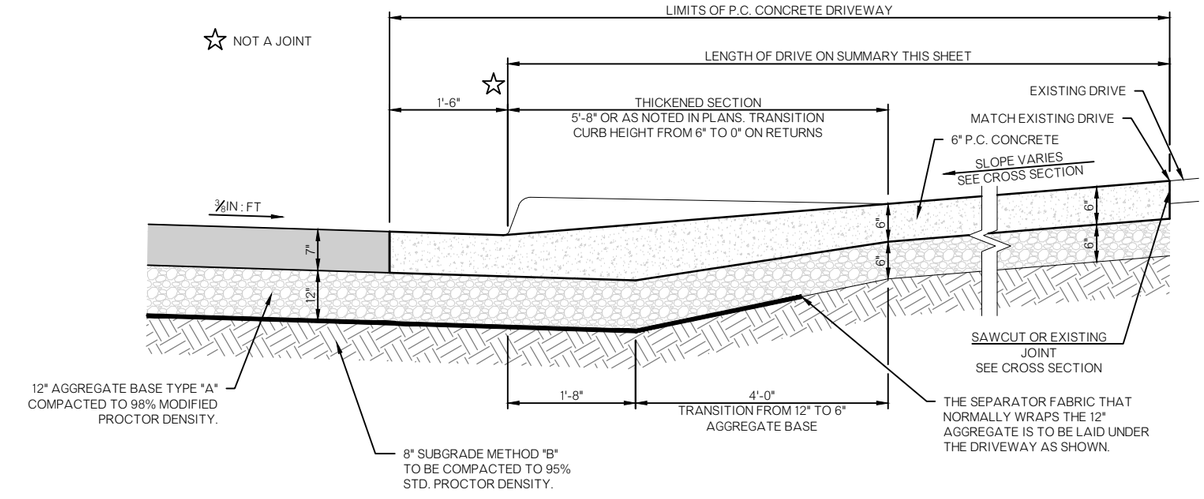
GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: N/A	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A	PROJ. MGR.			
	LEAD ENGR.			
	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. C15
ATLAS PAGE NO: 01 & 08				SHEET NO. 82 OF 123



TYPICAL DRIVEWAY DETAIL

Not To Scale



SECTION A-A

Not To Scale

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

DRIVEWAY DETAIL

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: N/A	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C16
ATLAS PAGE NO: 01 & 08				SHEET NO. 83 OF 123

Tuesday, April 23, 2019 5:31:54 PM
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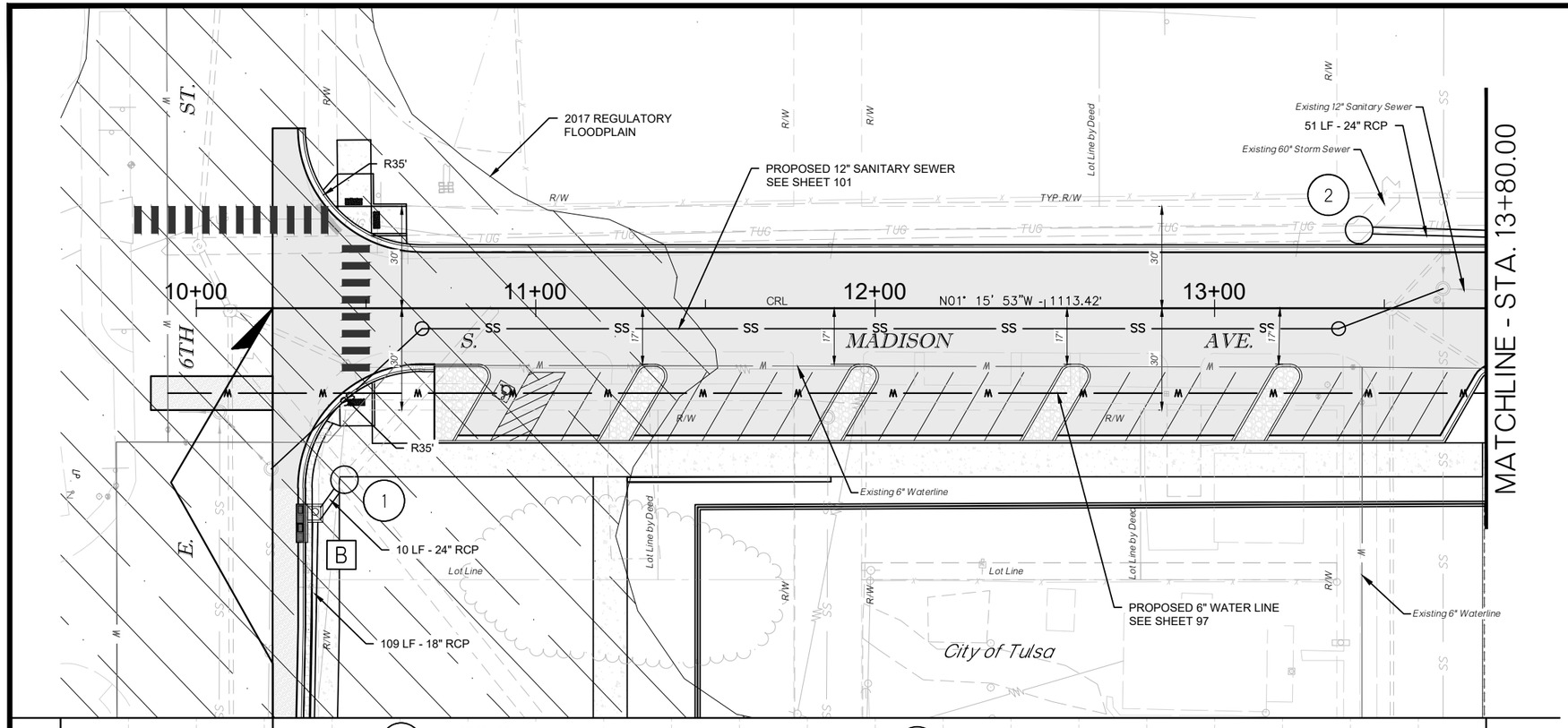
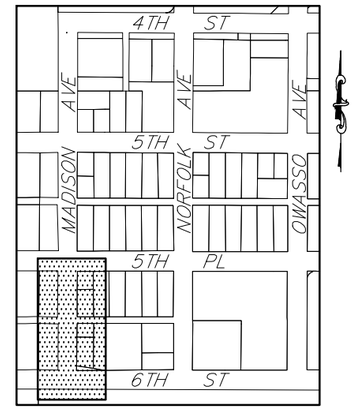




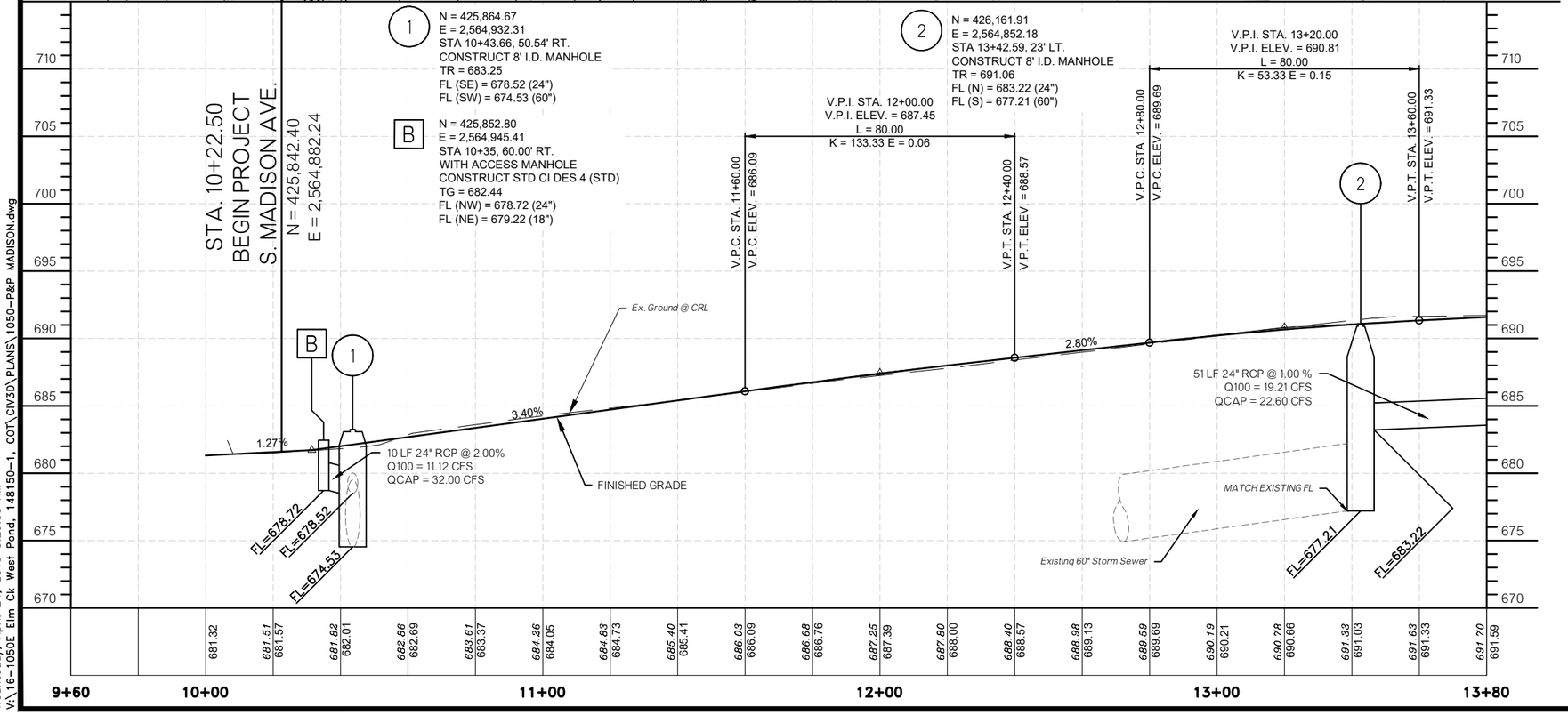
KEY MAP

NOT TO SCALE

GRAPHIC SCALE
(HORIZ.)
1 inch = 20' ft.
20' 0 20' 40'

5' 0 5' 10'
(VERT)
1 inch = 5' ft.

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT



REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19
	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE: HORIZONTAL: 1"=20' VERTICAL 1"=5'	PROJ. MGR.		
	LEAD ENGR.		
	FIELD MGR.		
	RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER

DATE:

FILE: DRAWING:

PAGE NO. C17

ATLAS PAGE NO: 01 & 08

SHEET NO. 84 OF 123

ELM CREEK WEST POND

PROJECT No. 148150

PLAN & PROFILE
S. MADISON AVE.
SHEET NO. 1 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

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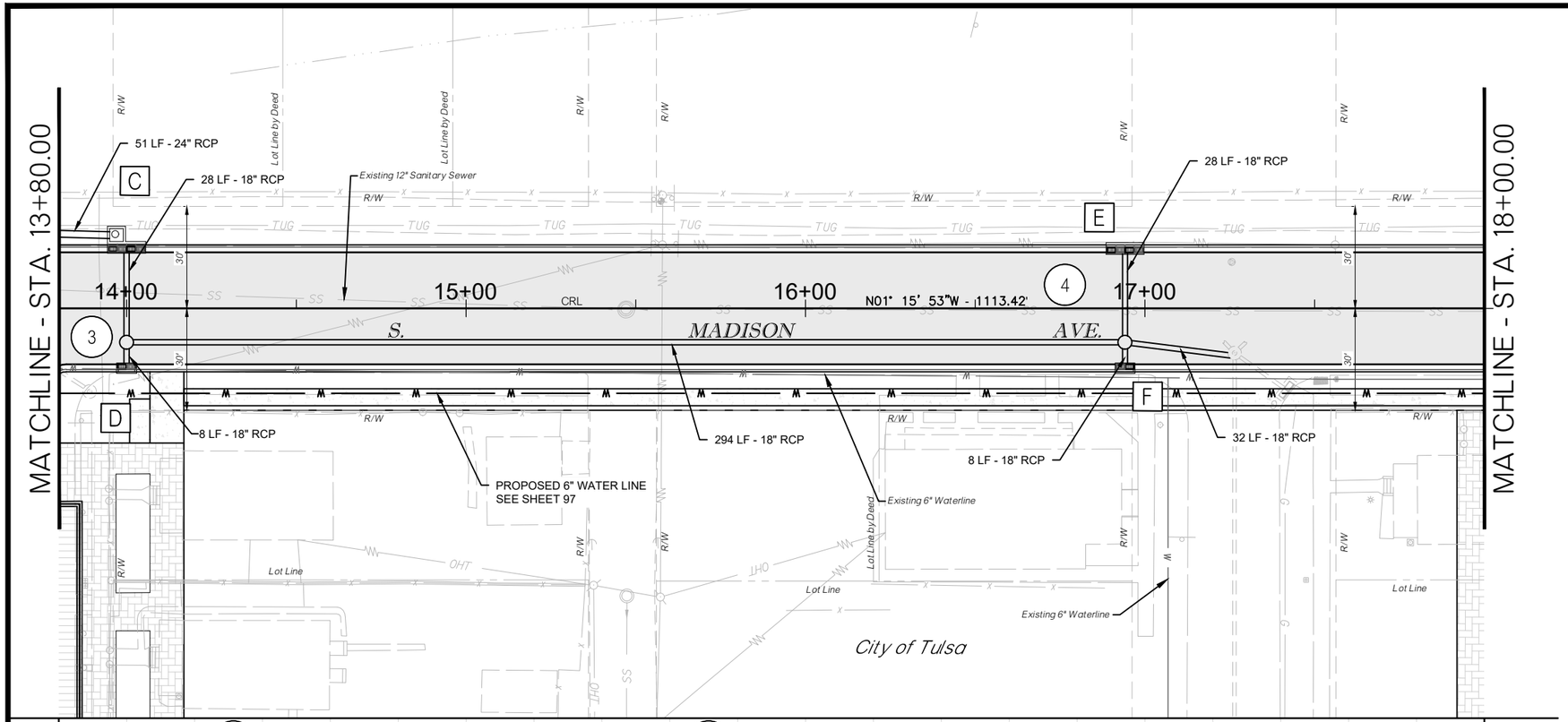

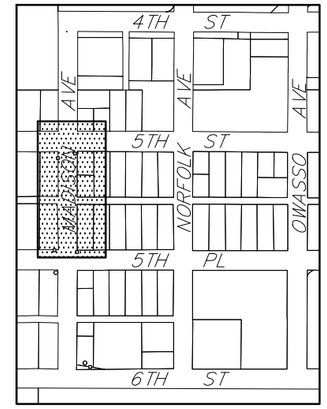

KEY MAP

NOT TO SCALE

GRAPHIC SCALE
(HORIZ.)
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20' 0 20' 40'
5' 0 5' 10'
(VERT)
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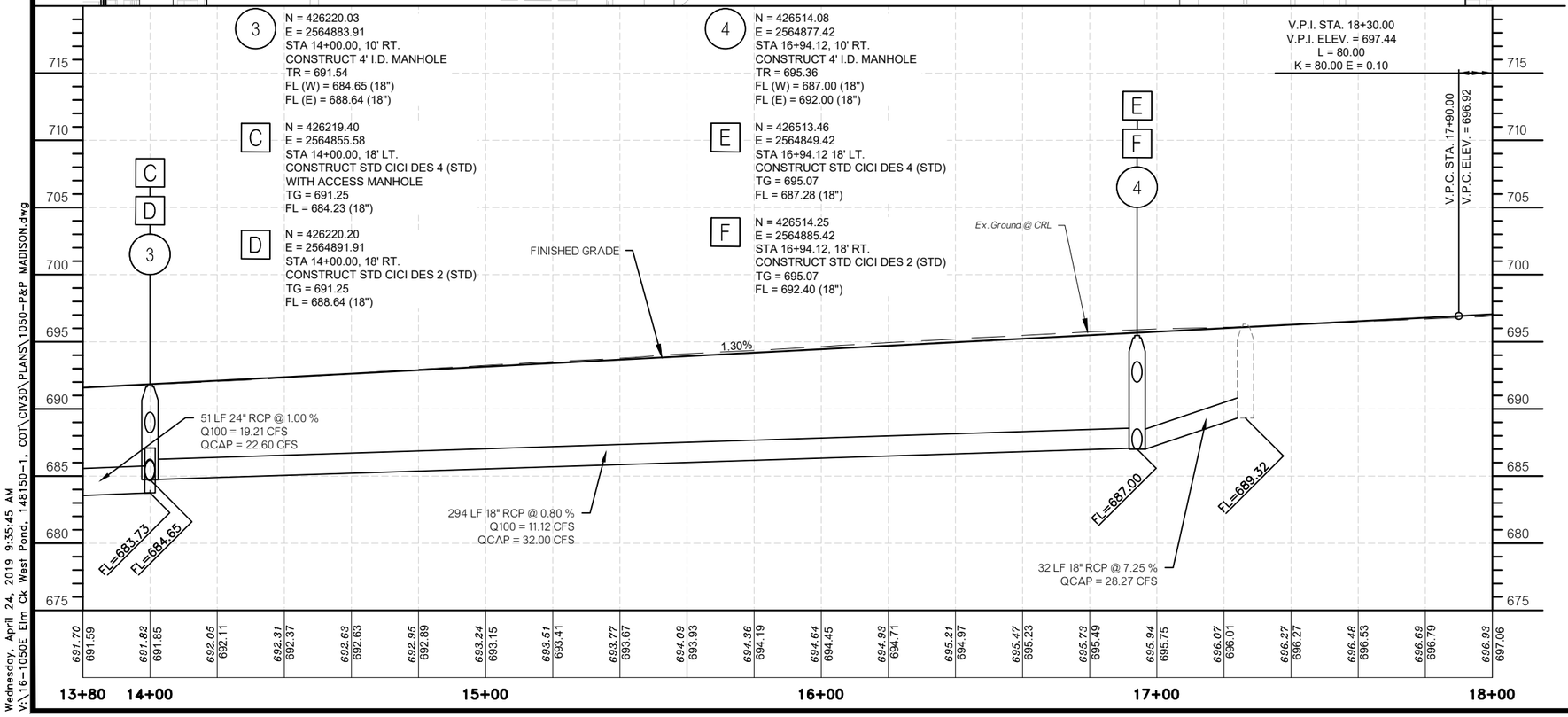

BEFORE YOU DIG CALL OKIE 811 1-800-522-OKIE

REVISION	BY	DATE

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	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: 1"=20'	LEAD ENGR.			
	FIELD MGR.			
VERTICAL 1"=5'	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C18
ATLAS PAGE NO: 01 & 08				SHEET NO. 85 OF 123

ELM CREEK WEST POND

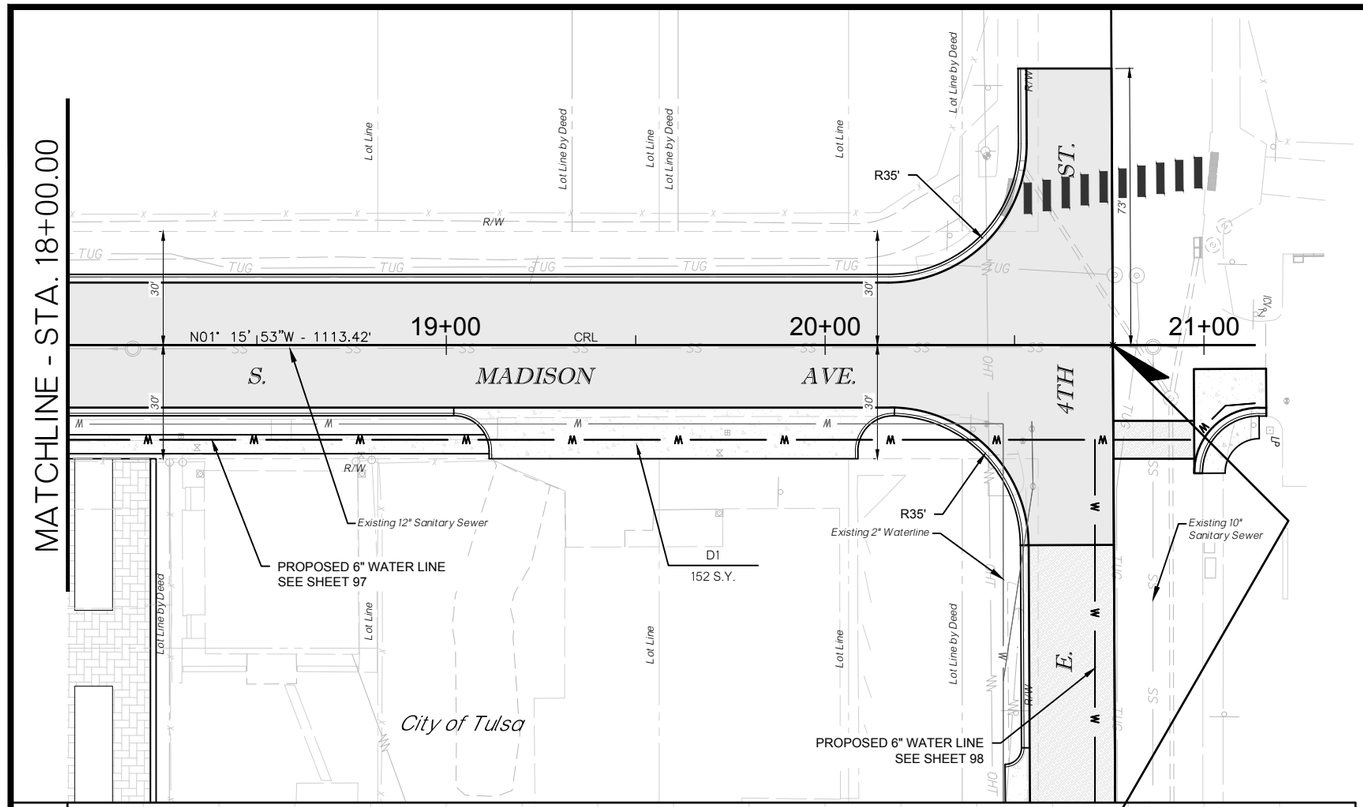
PROJECT No. 148150

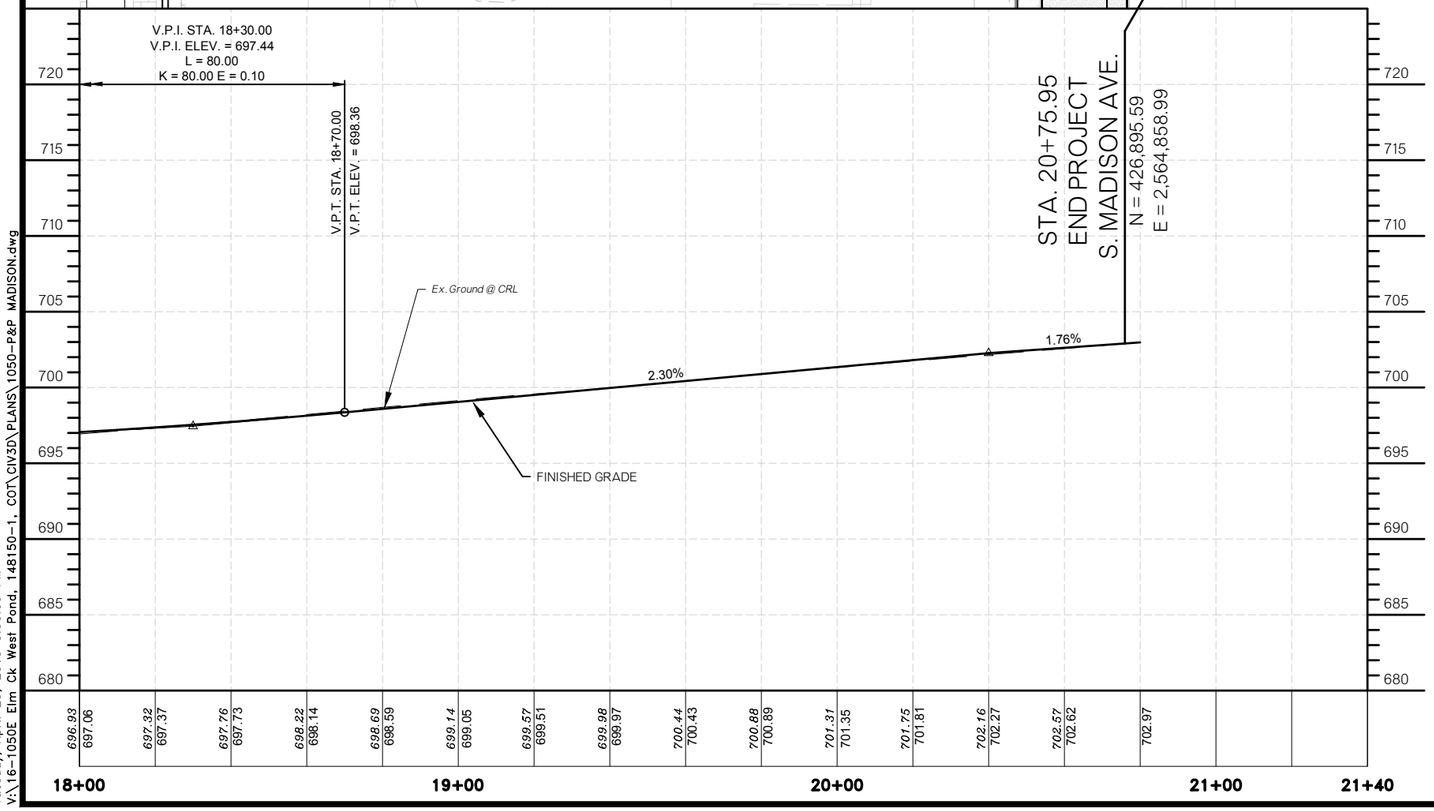
PLAN & PROFILE
S. MADISON AVE.
SHEET NO. 2 OF 3

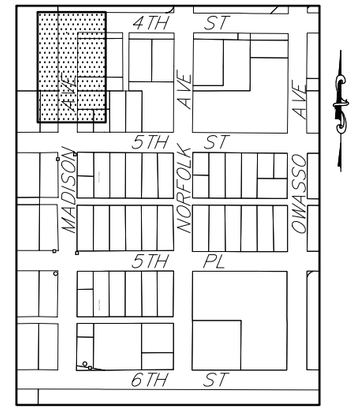
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

MATCHLINE - STA. 18+00.00







KEY MAP

NOT TO SCALE

GRAPHIC SCALE
(HORIZ.)
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20' 0 20' 40'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

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BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

PLAN & PROFILE
S. MADISON AVE.
SHEET NO. 3 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: 1"=20'	LEAD ENGR.			
VERTICAL 1"=5'	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C19
ATLAS PAGE NO: 01 & 08				SHEET NO. 86 OF 123

Tuesday, April 23, 2019 3:50:05 PM
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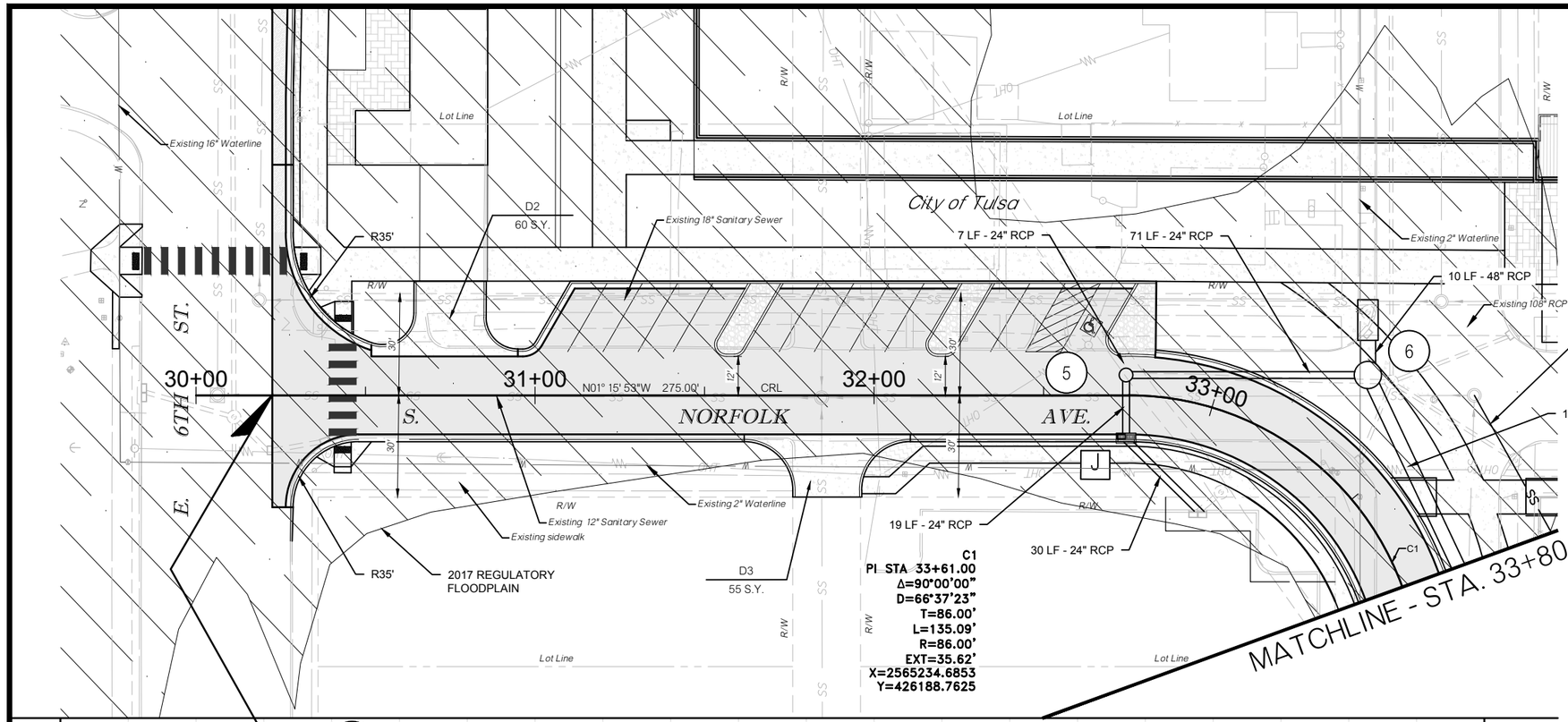

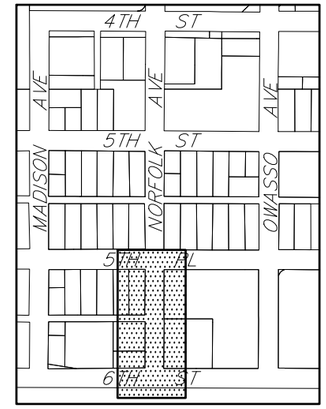

KEY MAP

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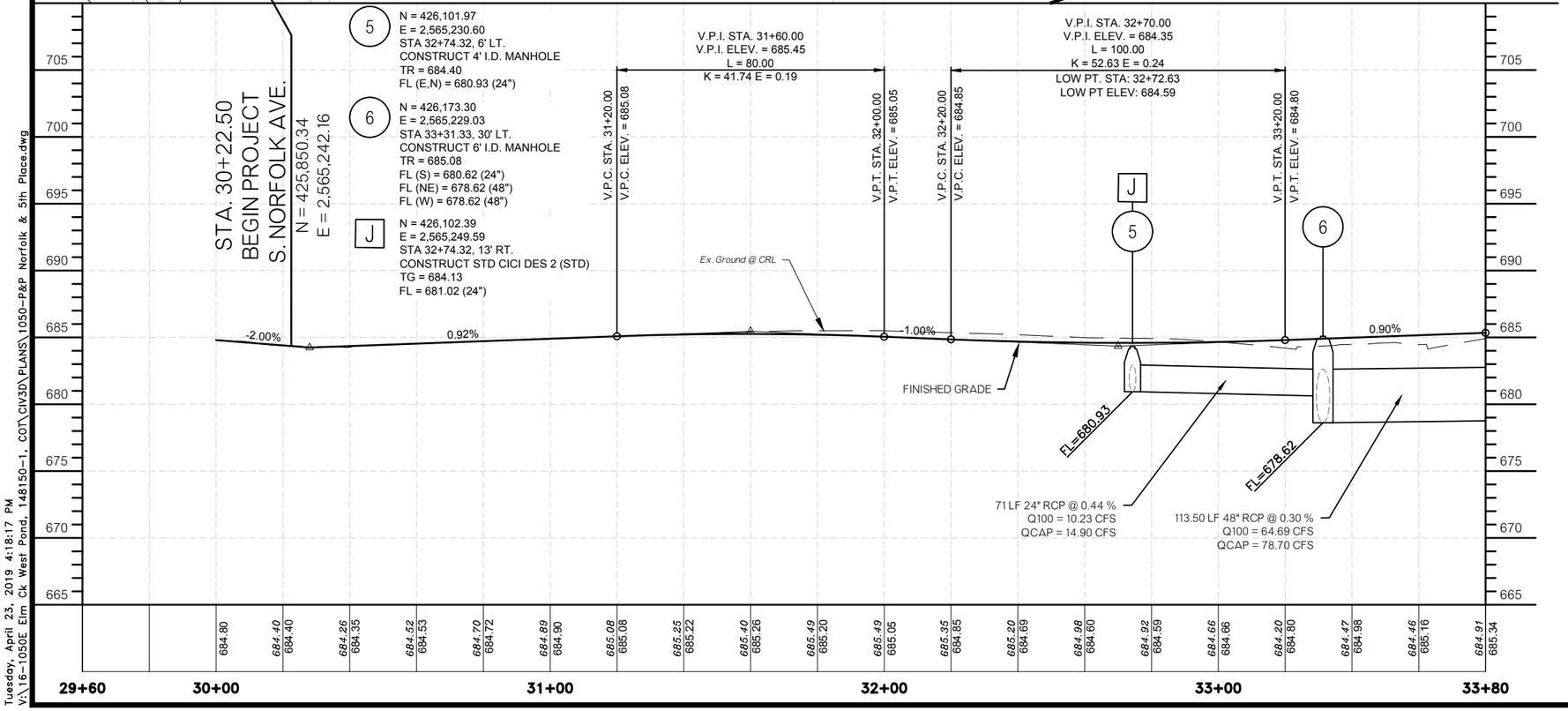

REVISION	BY	DATE

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	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL: 1"=20'	LEAD ENGR.		
	FIELD MGR.		
VERTICAL 1"=5'	RECOMMENDED:		
	DESIGN MANAGER		

APPROVED:

CITY ENGINEER

DATE:

FILE: DRAWING:

PAGE NO. C20

ATLAS PAGE NO: 01 & 08

SHEET NO. 87 OF 123

ELM CREEK WEST POND

PROJECT No. 148150

PLAN & PROFILE
S. NORFOLK AVE. & E. 5TH PLACE
SHEET NO. 1 OF 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

Tuesday, April 23, 2019 4:18:17 PM
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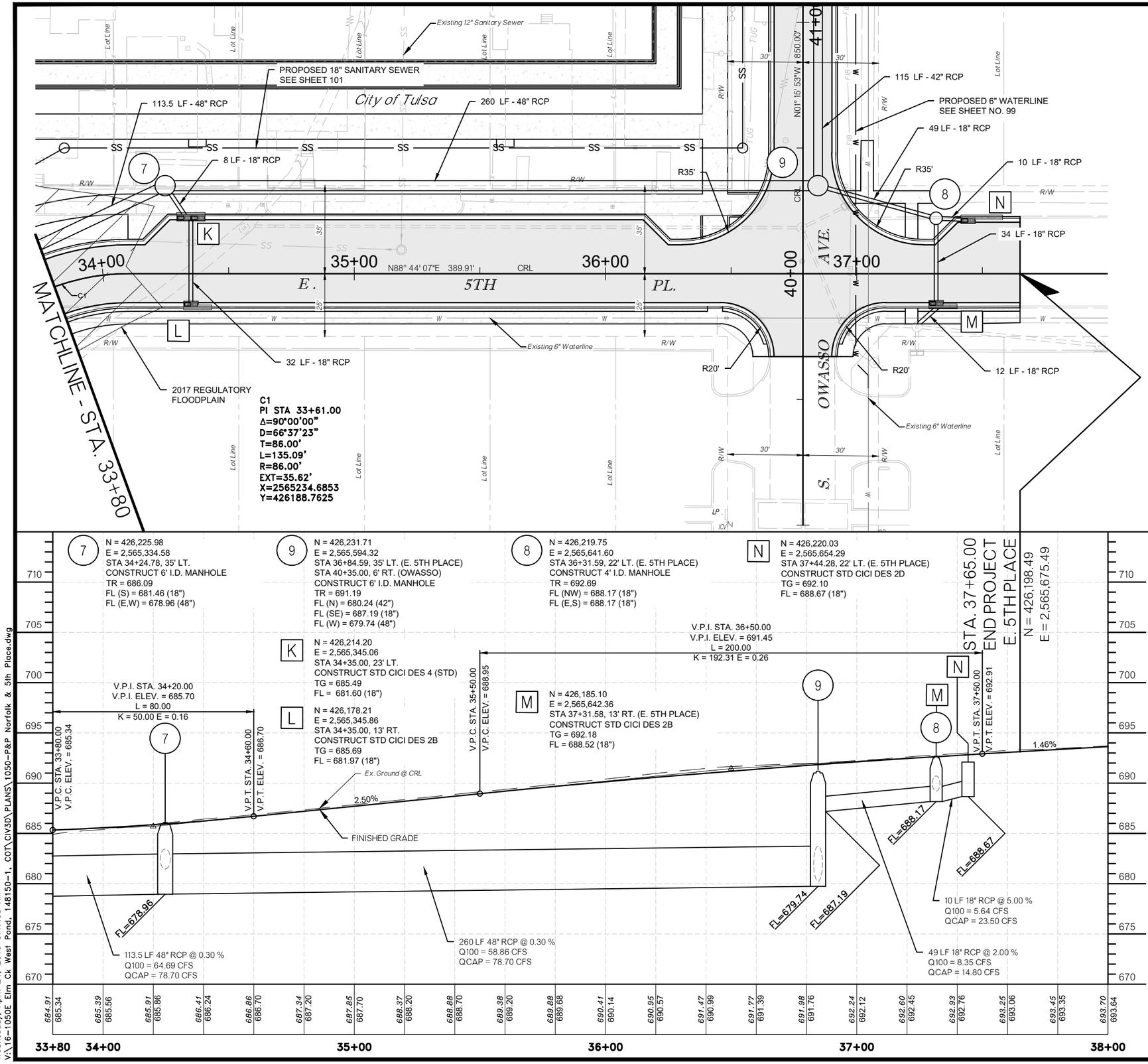

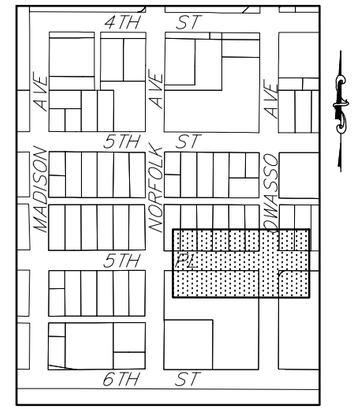

KEY MAP

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(VERT)
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BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

PLAN & PROFILE
S. NORFOLK AVE. & E. 5TH PLACE
SHEET NO. 2 OF 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE	PROJ. MGR.			
HORIZONTAL: 1"=20'	LEAD ENGR.			
VERTICAL 1"=5'	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C21
ATLAS PAGE NO: 01 & 08				SHEET NO. 88 OF 123

Wednesday, April 24, 2019 9:47:08 AM
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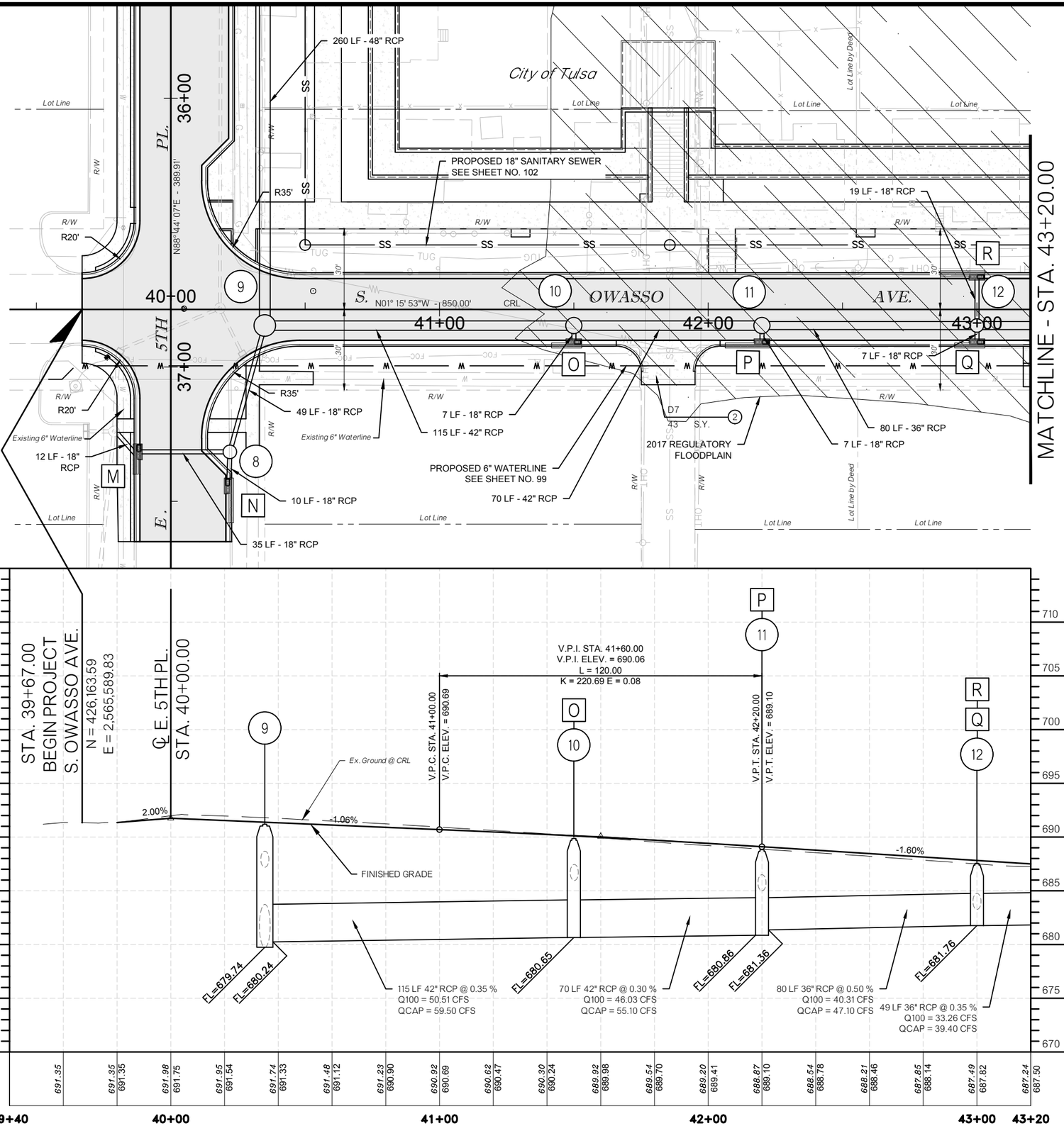


(9) N = 426,231.71
E = 2,565,594.32
STA 40+35.00, 6' RT. (OWASSO)
STA 36+84.59, 35' LT. (E. 5TH PLACE)
CONSTRUCT 6' I.D. MANHOLE
TR = 691.19
FL (N) = 680.24 (42")
FL (SE) = 687.19 (18")
FL (W) = 679.74 (48")

(10) N = 426,346.68
E = 2,565,591.79
STA 41+50.00, 6' RT.
CONSTRUCT 5' I.D. MANHOLE
TR = 689.92
FL (N,S) = 680.65 (42")
FL (E) = 685.60 (18")

(11) N = 426,416.67
E = 2,565,590.24
STA 42+20.00, 6' RT.
CONSTRUCT 5' I.D. MANHOLE
TR = 688.91
FL (N) = 680.86 (36")
FL (S) = 680.86 (42")
FL (E) = 684.59 (18")

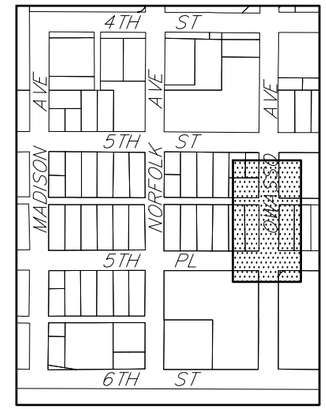
(12) N = 426,496.65
E = 2,565,588.48
STA 43+00.00, 6' RT.
CONSTRUCT 5' I.D. MANHOLE
TR = 687.63
FL (N,S) = 681.76 (36")
FL (E,W) = 683.26 (18")

(O) N = 426,346.84
E = 2,565,598.79
STA 41+50.00, 13' RT.
CONSTRUCT STD CICI DES 2B
TG = 689.66
FL = 685.95 (18")

(P) N = 426,416.82
E = 2,565,597.24
STA 42+20.00, 13' RT.
CONSTRUCT STD CICI DES 2D
TG = 688.65
FL = 684.94 (18")

(Q) N = 426,496.80
E = 2,565,595.47
STA 43+00.00, 13' RT.
CONSTRUCT STD CICI DES 2B
TG = 687.37
FL = 683.61 (18")

(R) N = 426496.23
E = 2,565,569.48
STA 43+00.00, 13' LT.
CONSTRUCT STD CICI DES 2B
TG = 687.37
FL = 683.64 (18")



KEY MAP

NOT TO SCALE

GRAPHIC SCALE
(HORIZ.)
1 inch = 20' ft.
20' 0 20' 40'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

PLAN & PROFILE
S. OWASSO AVE.
SHEET NO. 1 OF 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918,437,0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE: HORIZONTAL: 1"=20' VERTICAL 1"=5'	PROJ. MGR.			
	LEAD ENGR.			
	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:

FILE: DRAWING: PAGE NO. C22

ATLAS PAGE NO: 01 & 08 SHEET NO. 89 OF 123

Tuesday, April 23, 2019 4:44:30 PM
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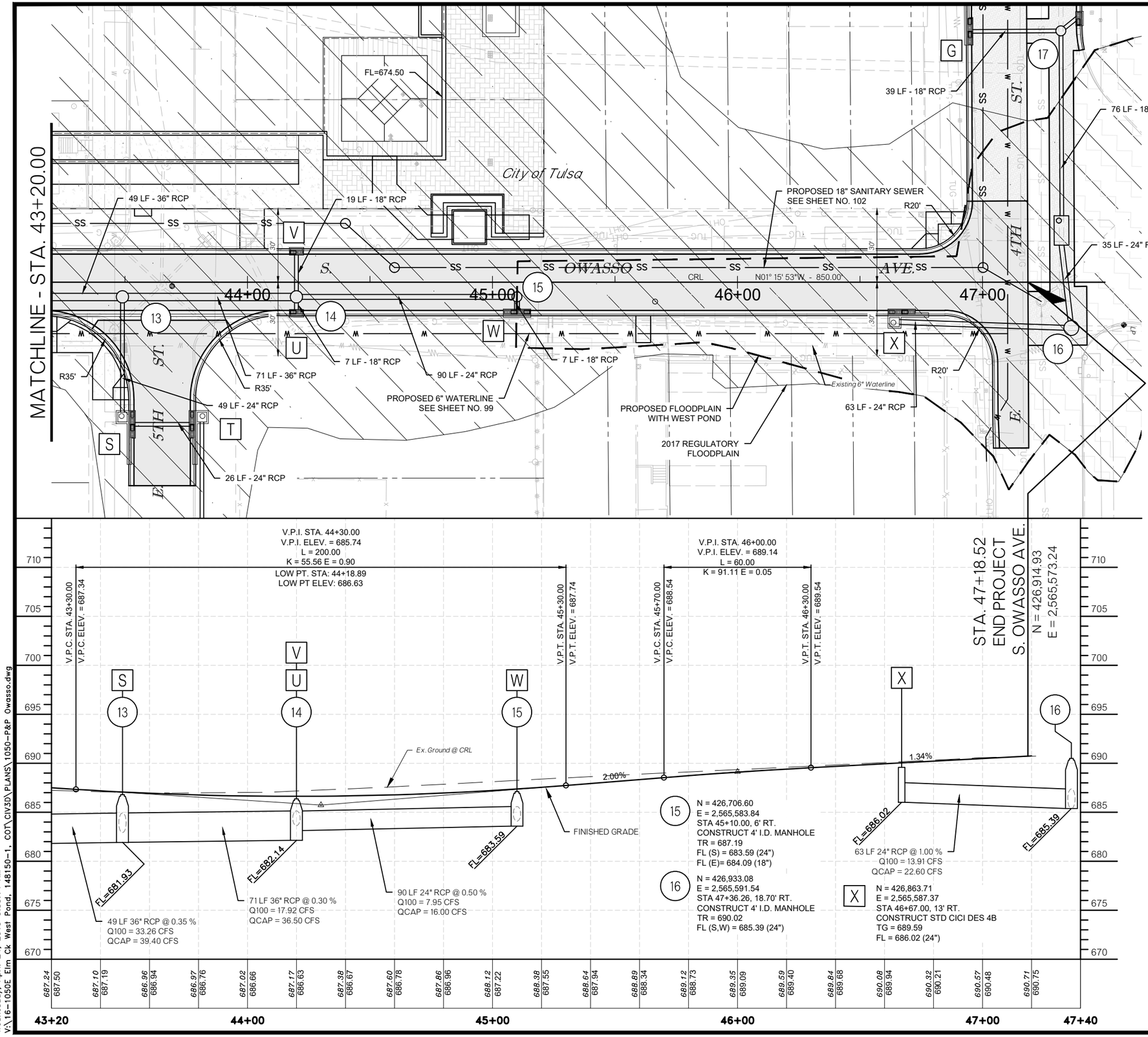


13 N = 426,545.63
E = 2,565,587.39
STA 43+49.00, 6' RT.
CONSTRUCT 4' I.D. MANHOLE
TR = 686.88
FL (N,S) = 681.93 (36")
FL (E) = 682.93 (24")

14 N = 426,616.62
E = 2,565,585.83
STA 44+20.00, 6' RT.
CONSTRUCT 6' I.D. MANHOLE
TR = 686.44
FL (S) = 682.14 (36")
FL (N) = 683.14 (24")
FL (E,W) = 683.64 (18")

17 N = 426,926.15
E = 2,565,470.39
STA 47+32.00, 102' LT. (OWASSO)
CONSTRUCT 6' I.D. MANHOLE
TR = 691.72
FL (N,S,E) = 683.44 (18")

G N = 426,887.50
E = 2,565,471.44
STA 46+93.34, 102' LT. (OWASSO)
CONSTRUCT STD CICI DES 4B
TG = 691.58
FL = 683.63 (18")

S N = 426,549.99
E = 2,565,639.31
STA 43+52.21, 58' RT.
CONSTRUCT STD CICI DES 4D
WITH ACCESS MANHOLE
TG = 688.11
FL = 683.42 (24")

T N = 426,575.98
E = 2,565,638.74
STA 43+78.21, 58' RT.
CONSTRUCT STD CICI DES 4D
WITH ACCESS MANHOLE
TG = 687.96
FL (S)= 683.94 (24")
FL (E)= 684.44 (18")

U N = 426,616.77
E = 2,565,592.83
STA 44+20.00, 13' RT.
CONSTRUCT STD CICI DES 2 (STD)
TG = 686.18
FL = 683.66 (18")

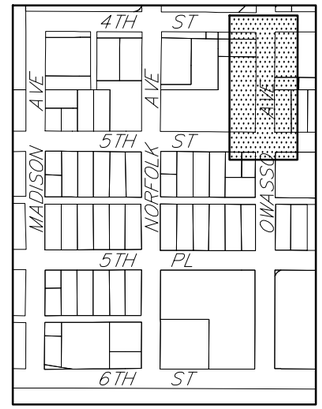
V N = 426,616.20
E = 2,565,566.83
STA 44+20.00, 13' LT.
CONSTRUCT STD CICI DES 2 (STD)
TG = 686.18
FL = 683.74 (18")

W N = 426,706.75
E = 2,565,590.84
STA 45+10.00, 13' RT.
CONSTRUCT STD CICI DES 4 (STD)
TG = 686.93
FL = 684.23 (18")

15 N = 426,706.60
E = 2,565,583.84
STA 45+10.00, 6' RT.
CONSTRUCT 4' I.D. MANHOLE
TR = 687.19
FL (S) = 683.59 (24")
FL (E)= 684.09 (18")

16 N = 426,933.08
E = 2,565,591.54
STA 47+36.26, 18.70' RT.
CONSTRUCT 4' I.D. MANHOLE
TR = 690.02
FL (S,W) = 685.39 (24")

X N = 426,863.71
E = 2,565,587.37
STA 46+67.00, 13' RT.
CONSTRUCT STD CICI DES 4B
TG = 689.59
FL = 686.02 (24")



KEY MAP

NOT TO SCALE

GRAPHIC SCALE
(HORIZ.)
1 inch = 20' ft.
20' 0 20' 40'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

PLAN & PROFILE
S. OWASSO AVE.
SHEET NO. 2 OF 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: 1"=20'	LEAD ENGR.			
VERTICAL 1"=5'	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C23
ATLAS PAGE NO: 01 & 08				SHEET NO. 90 OF 123

Wednesday, April 24, 2019 9:53:14 AM
V:\16-1050E Elm Ck West Pond, 148150-1, COT\CIV3D\PLANS\1050-P&P Owasso.dwg

STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: SOUTH OF 4TH STREET, NORTH OF 6TH STREET, EAST OF S.MADISON AVE. AND WEST OF S. OWASSO AVE.

PROJECT DESCRIPTION: THE PURPOSE IS TO HELP WITH FLOOD CONTROL TO ALLOW FOR REDEVELOPMENT AND TO REVITALIZE THE PEARL DISTRICT BY CONSTRUCTING THE WEST POND.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL INSTALL ALL PERIMETER TEMPORARY SEDIMENT CONTROLS SPECIFIED. STRIP, STOCKPILE AND STABILIZE TOPSOIL. CLEAR AND GRUB ONLY IN NECESSARY AREAS, PRESERVING AS MUCH NATIVE VEGETATION AS POSSIBLE. INSTALL, MAINTAIN AND/OR MOVE TEMPORARY SEDIMENT ITEMS WITH CONSTRUCTION OPERATIONS AS PRACTICAL. IF DIRECTED BY THE ENGINEER, PLANT TEMPORARY SEEDING. REPLACE SALVAGED TOPSOIL AND DEVICES WHEN AN ACCEPTABLE VEGETATIVE COVER (AT LEAST 70%) HAS BEEN ATTAINED. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF MAJOR SOIL DISTURBANCE ACTIVITIES, AND ALSO THE DATES OF INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: URBAN LAND–DENNIS COMPLEX

TOTAL AREA OF THE CONSTRUCTION SITE: 14.58 ACRES (635,300 SF)

ESTIMATED AREA TO BE DISTURBED: 14.58 ACRES (635,300 SF)

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE–CONSTRUCTION: 12.45 ACRES (542,304 SF)

TOTAL IMPERVIOUS AREA POST–CONSTRUCTION: 5.53 ACRES (240,887 SF)

POST–CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.59

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36.1542° N, 95.9786° E

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: ARKANSAS RIVER

SENSITIVE WATERS OR WATERSHEDS:	YES [ ]	NO [X]
303(D) IMPAIRED WATERS:	YES [ ]	NO [X]
IF YES, LIST IMPAIRMENT:		
LOCATED IN A TMDL:	YES [ ]	NO [X]
LAKE THUNDERBIRD TMDL:	YES [ ]	NO [X]
MS4 ENTITY	YES [X]	NO [ ]

IF YES, LOCATION: CITY OF TULSA

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

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

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

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 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
- [X] 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
- [ ] 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 INCH AS RECORDED BY A NON–FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

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

HAZARDOUS MATERIALS:

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

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN 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
221 POLLUTION PREVENTION AND CONTROL 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, 2017.

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

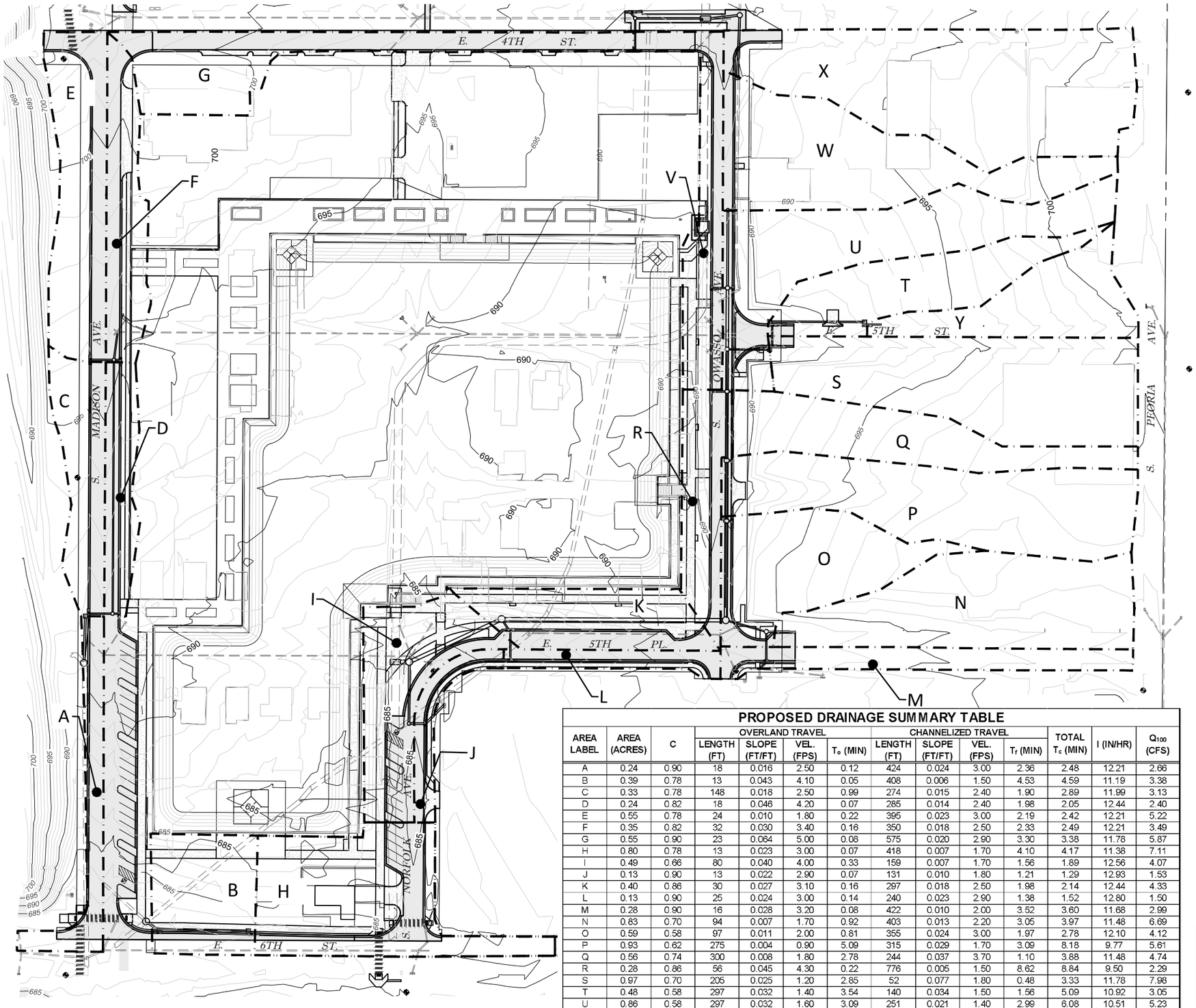
STORMWATER MANAGEMENT PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE:	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. ST11
ATLAS PAGE NO: 01 & 08				SHEET NO. 91 OF 123



GRAPHIC SCALE
(HORIZ.)
1 inch = 60 ft.

60' 0' 60' 120'
5' 0' 5' 10'

PROPOSED DRAINAGE SUMMARY TABLE

AREA LABEL	AREA (ACRES)	C	OVERLAND TRAVEL				CHANNELIZED TRAVEL				TOTAL T_c (MIN)	I (IN/HR)	Q_{100} (CFS)
			LENGTH (FT)	SLOPE (FT/FT)	VEL. (FPS)	T_o (MIN)	LENGTH (FT)	SLOPE (FT/FT)	VEL. (FPS)	T_f (MIN)			
A	0.24	0.90	18	0.016	2.50	0.12	424	0.024	3.00	2.36	2.48	12.21	2.66
B	0.39	0.78	13	0.043	4.10	0.05	408	0.006	1.50	4.53	4.59	11.19	3.38
C	0.33	0.78	148	0.018	2.50	0.99	274	0.015	2.40	1.90	2.89	11.99	3.13
D	0.24	0.82	18	0.046	4.20	0.07	285	0.014	2.40	1.98	2.05	12.44	2.40
E	0.55	0.78	24	0.010	1.80	0.22	395	0.023	3.00	2.19	2.42	12.21	5.22
F	0.35	0.82	32	0.030	3.40	0.16	350	0.018	2.50	2.33	2.49	12.21	3.49
G	0.55	0.90	23	0.064	5.00	0.08	575	0.020	2.90	3.30	3.38	11.78	5.87
H	0.80	0.78	13	0.023	3.00	0.07	418	0.007	1.70	4.10	4.17	11.38	7.11
I	0.49	0.66	80	0.040	4.00	0.33	159	0.007	1.70	1.56	1.89	12.56	4.07
J	0.13	0.90	13	0.022	2.90	0.07	131	0.010	1.80	1.21	1.29	12.93	1.53
K	0.40	0.86	30	0.027	3.10	0.16	297	0.018	2.50	1.98	2.14	12.44	4.33
L	0.13	0.90	25	0.024	3.00	0.14	240	0.023	2.90	1.38	1.52	12.80	1.50
M	0.28	0.90	16	0.028	3.20	0.08	422	0.010	2.00	3.52	3.60	11.68	2.99
N	0.83	0.70	94	0.007	1.70	0.92	403	0.013	2.20	3.05	3.97	11.48	6.69
O	0.59	0.58	97	0.011	2.00	0.81	355	0.024	3.00	1.97	2.78	12.10	4.12
P	0.93	0.62	275	0.004	0.90	5.09	315	0.029	1.70	3.09	8.18	9.77	5.61
Q	0.56	0.74	300	0.008	1.80	2.78	244	0.037	3.70	1.10	3.88	11.48	4.74
R	0.28	0.86	56	0.045	4.30	0.22	776	0.005	1.50	8.62	8.84	9.50	2.29
S	0.97	0.70	205	0.025	1.20	2.85	52	0.077	1.80	0.48	3.33	11.78	7.98
T	0.48	0.58	297	0.032	1.40	3.54	140	0.034	1.50	1.56	5.09	10.92	3.05
U	0.86	0.58	297	0.032	1.60	3.09	251	0.021	1.40	2.99	6.08	10.51	5.23
V	0.38	0.86	24	0.008	1.80	0.22	357	0.014	2.40	2.48	2.70	12.10	3.91
W	0.84	0.78	238	0.022	2.90	1.37	149	0.012	1.90	1.31	2.67	12.10	7.95
X	1.29	0.90	16	0.019	2.80	0.10	492	0.022	3.00	2.73	2.83	11.99	13.91
Y	0.73	0.86	18.00	0.02	2.50	0.12	314.00	0.03	3.20	1.64	1.76	12.68	7.96

BEFORE YOU DIG 811 1800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

DRAINAGE SHEETS
DRAINAGE AREA MAP

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=60'	DRAWN	DGD	4/17/19
	DESIGNED	MZV	4/17/19
	SURVEY	DMM	09/18
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A	PROJ. MGR.		
	LEAD ENGR.		
	FIELD MGR.		
	RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER
DATE:

FILE: DRAWING: ST12
ATLAS PAGE NO: 01 & 08
PAGE NO.
SHEET NO. 92 OF 123

Tuesday, April 23, 2019 9:13:16 AM
V:\16-1050E Elm Ck West Pond, 148150-1, CON\CIV3D\PLANS\1050-Drainage Area Map.dwg

SUMMARY OF PROPOSED INLET DESIGN

STR NO.	DESIGN	NUMBER OF GRATES	NUMBER OF ADD'L THROATS	TOP OF CURB	TOP OF GRATE	FLOWLINE	INNER STR HEIGHT	LONGITUDINAL SLOPE AT INLET	CROSS SLOPE AT INLET	CLOGGING FACTOR	Q_{100}	$Q_{CARRYOVER}$	SUM Q AT INLET	SPREAD AT INLET	DEPTH AT INLET	$Q_{INTERCEPT}$	BYPASS	BYPASS TO STR NO.	INLET EFFICIENCY
				ELEV	ELEV	ELEV	VF	%	%		CFS	CFS	CFS	FT	FT	CFS	%		%
B	INLET CI DES. 4(STD)	4	0	682.98	682.44	678.72	3.72	0.57%	3.13%	1.0	3.38	0.63	4.01	10.0	0.31	4.01	0%	H	100.0%
C	INLET CI DES. 4(STD)	4	0	691.79	691.25	683.73	7.52	1.48%	3.13%	1.0	3.13	-	3.13	7.6	0.24	3.13	0%	A	100.0%
D	INLET CI DES. 2(STD)	2	0	691.79	691.25	688.64	2.61	1.40%	3.13%	1.0	2.40	0.69	3.10	7.7	0.24	2.47	20%	B	79.8%
E	INLET CI DES. 4(STD)	4	0	695.61	695.07	687.28	7.79	2.35%	3.13%	1.0	5.22	-	5.22	8.5	0.26	5.22	0%	C	100.0%
F	INLET CI DES. 2(STD)	2	0	695.61	695.07	692.40	2.67	1.83%	3.13%	1.0	3.49	-	3.49	7.6	0.24	2.79	20%	D	80.1%
G	INLET CI DES. 4B	4	2	692.12	691.58	683.63	7.95	2.04%	3.13%	1.0	5.87	-	5.87	8.3	0.26	5.87	0%	V	100.0%
H	INLET CI DES. 4B	4	2	683.83	683.29	680.31	2.98	0.65%	3.13%	1.0	7.11	-	7.11	10.8	0.34	7.11	0%	A	100.0%
I	NOT USED																		
J	INLET CI DES. 2(STD)	2	0	684.67	684.13	681.02	3.11	SUMP	3.13%	0.7	1.53	-	1.53	0.7	0.02	1.53	0%	-	100.0%
K	INLET CI DES. 4(STD)	4	0	686.03	685.49	681.60	3.89	1.76%	3.13%	1.0	4.33	-	4.33	8.3	0.26	4.33	0%	I	100.0%
L	INLET CI DES. 2B	2	2	686.23	685.69	681.97	3.72	2.27%	3.13%	1.0	1.50	-	1.50	4.6	0.14	1.50	0%	J	100.0%
M	INLET CI DES. 2B	2	2	692.72	692.18	688.52	3.66	0.99%	3.13%	1.0	2.99	-	2.99	7.0	0.22	2.71	9%	O	90.9%
N	INLET CI DES. 2D	2	4	692.64	692.10	688.67	3.43	1.29%	3.13%	1.0	6.69	-	6.69	8.5	0.27	5.64	16%	O	84.3%
O	INLET CI DES. 2B	2	2	690.20	689.66	685.95	3.71	2.36%	3.13%	1.0	4.12	1.32	5.44	7.9	0.25	4.48	18%	P	82.3%
P	INLET CI DES. 2D	2	4	689.19	688.65	684.94	3.71	2.93%	3.13%	1.0	5.61	0.96	6.57	7.6	0.24	5.72	13%	Q	87.0%
Q	INLET CI DES. 2B	2	2	687.91	687.37	683.61	3.76	3.71%	3.13%	1.0	4.74	0.85	5.59	7.4	0.23	4.76	15%	U	85.2%
R	INLET CI DES. 2D	2	4	687.91	687.37	683.64	3.73	0.54%	3.13%	1.0	2.29	-	2.29	4.9	0.15	2.29	0%	V	100.0%
S	INLET CI DES. 4D	4	4	688.65	688.11	683.42	4.69	7.67%	3.13%	1.0	7.98	-	7.98	7.2	0.22	7.98	0%	U	100.0%
T	INLET CI DES. 4D	4	4	688.50	687.96	683.94	4.02	3.39%	3.13%	1.0	3.05	-	3.05	5.2	0.16	3.05	0%	U	100.0%
U	INLET CI DES. 2(STD)	2	0	686.72	686.18	683.66	2.52	SUMP	3.13%	0.7	5.23	0.83	6.06	11.5	0.36	6.06	0%	-	100.0%
V	INLET CI DES. 4(STD)	4	0	686.72	686.18	683.74	2.45	SUMP	3.13%	0.7	3.91	-	3.91	1.2	0.04	3.91	0%	-	99.9%
W	INLET CI DES. 4(STD)	4	0	687.47	686.93	684.23	2.70	1.16%	3.13%	1.0	7.95	-	7.95	11.3	0.35	7.95	0%	U	100.0%
X	INLET CI DES. 4B	4	2	690.13	689.59	686.02	3.57	2.23%	3.13%	1.0	13.91	-	13.91	11.7	0.36	13.91	0%	W	100.0%
Y	INLET CI DES. 4D	4	4	691.72	691.18	685.04	6.14	2.94%	3.13%	1.0	7.96	-	7.96	8.3	0.26	7.96	0%	T	100.0%

SUMMARY OF PROPOSED PIPE DESIGN

START NODE STR NO.	END NODE STR NO.	DIA	LENGTH	SLOPE	INV UP	INV DN	T/R UP/ T/G UP	T/R DN/ T/G DN	HGL UP	HGL DN	EGL UP	EGL DN	Q_{100}	$Q_{CAPACITY}$	VELOCITY
		INCH	LF	%	FT	FT	FT	FT	FT	FT	FT	FT	CFS	CFS	FPS
B	1	24" RCP	10.00	2.00%	678.72	678.52	682.44	683.25	681.72	681.52	683.42	683.22	11.12	31.96	10.48
C	2	24" RCP	51.00	1.00%	683.73	683.22	691.25	691.06	685.38	684.87	686.42	685.91	19.21	22.60	8.20
D	3	18" RCP	8.00	5.00%	688.64	688.24	691.25	691.54	689.47	689.07	690.59	690.19	2.47	23.48	8.50
E	4	18" RCP	28.00	1.00%	687.28	687.00	695.07	695.36	688.86	688.58	689.45	689.17	5.22	10.50	6.18
F	4	18" RCP	8.00	5.00%	692.40	692.00	695.07	695.36	693.36	692.96	694.55	694.15	2.79	23.48	8.77
G	17	18" RCP	39.00	0.50%	683.63	683.44	691.58	691.72	685.15	684.95	685.50	685.30	5.87	7.42	4.75
H	B	18" RCP	109.00	1.00%	680.31	679.22	683.29	682.44	682.23	681.14	682.92	681.83	7.11	10.50	6.66
J	5	24" RCP	19.00	0.50%	681.02	680.93	684.13	684.40	682.70	682.61	683.22	683.13	10.23	15.98	5.80
K	7	18" RCP	14.00	1.00%	681.60	681.46	685.49	686.09	683.18	683.04	683.79	683.65	5.83	10.50	6.30
L	K	18" RCP	37.00	1.00%	681.97	681.60	685.69	685.49	682.72	682.35	683.02	682.65	1.50	10.50	4.40
M	8	18" RCP	35.00	1.00%	688.52	688.17	692.18	692.69	689.53	689.18	690.00	689.65	2.71	10.50	5.53
N	8	18" RCP	10.00	5.00%	688.67	688.17	692.10	692.69	690.29	689.79	692.18	691.68	5.64	23.48	11.03
O	10	18" RCP	7.00	5.00%	685.95	685.60	689.66	689.92	687.14	686.79	688.89	688.54	4.48	23.48	10.63
P	11	18" RCP	7.00	5.00%	684.94	684.59	688.65	688.91	686.52	686.17	688.40	688.05	5.72	23.48	11.03
Q	12	18" RCP	7.00	5.00%	683.61	683.26	687.37	687.63	685.02	684.67	686.65	686.30	4.76	23.48	10.23
R	12	18" RCP	19.00	2.00%	683.64	683.26	687.37	687.63	684.51	684.13	685.11	684.73	2.29	14.85	6.22
S	13	24" RCP	49.00	1.00%	683.42	682.93	688.11	686.88	686.32	685.83	687.31	686.82	18.99	22.60	7.98
T	S	24" RCP	26.00	2.00%	683.94	683.42	687.96	688.11	685.74	685.22	687.04	686.52	11.01	31.96	9.16
U	14	18" RCP	7.00	0.30%	683.66	683.64	686.18	686.44	685.46	685.44	685.66	685.64	6.06	5.75	3.61
V	14	18" RCP	19.00	0.50%	683.74	683.64	686.18	686.44	684.67	684.57	684.87	684.77	3.91	7.42	3.61
W	15	18" RCP	7.00	2.00%	684.23	684.09	686.93	687.19	686.48	686.34	687.74	687.60	7.95	14.85	8.99
X	16	24" RCP	63.00	1.00%	686.02	685.39	689.59	690.02	688.34	687.71	689.26	688.63	13.91	22.60	7.70
Y	T	18" RCP	110.00	0.55%	685.04	684.44	691.18	687.96	686.84	686.24	687.20	686.60	7.96	7.75	4.83
3	C	18" RCP	28.00	1.50%	684.65	684.23	691.54	691.25	687.50	687.08	688.55	688.13	10.48	12.86	8.22
4	3	18" RCP	294.00	0.80%	687.00	684.65	695.36	691.54	689.25	686.90	689.82	687.47	8.01	9.39	6.06
5	6	24" RCP	71.00	0.44%	680.93	680.62	684.40	685.08	683.25	682.94	683.55	683.24	10.23	14.93	4.37
6	JCT BOX 1	48" RCP	10.00	0.50%	678.62	678.57	685.08	685.08	683.82	683.77	685.12	685.07	78.57	101.54	9.13
7	6	48" RCP	113.50	0.30%	678.96	678.62	686.09	685.08	683.36	683.02	684.15	683.81	68.34	78.65	7.14
8	9	18" RCP	49.00	2.00%	688.17	687.19	692.69	691.19	690.98	690.00	692.18	691.20	8.35	14.85	8.82
9	7	48" RCP	260.00	0.30%	679.74	678.96	691.19	686.09	683.86	683.08	684.65	683.87	62.51	78.65	7.14
10	9	42" RCP	115.00	0.35%	680.65	680.24	689.92	691.19	684.74	684.34	688.09	687.69	54.16	59.52	14.68
11	10	42" RCP	70.00	0.30%	680.86	680.65	688.91	689.92	684.67	684.46	687.54	687.33	49.68	55.10	13.59
12	11	36" RCP	80.00	0.50%	681.76	681.36	687.63	688.91	685.75	685.35	686.64	686.24	43.96	47.09	7.59
13	12	36" RCP	49.00	0.35%	681.93	681.76	686.88	687.63	685.38	685.21	686.00	685.83	36.91	39.40	6.35
14	13	36" RCP	71.00	0.30%	682.14	681.93	686.44	686.88	684.36	684.15	684.82	684.60	17.92	36.48	5.42
15	14	24" RCP	90.00	0.50%	683.59	683.14	687.19	686.44	685.29	684.84	685.73	685.28	7.95	15.98	5.34
16	JCT BOX 2	24" RCP	35.00	0.50%	685.39	685.22	690.02	690.49	687.71	687.54	688.23	688.06	13.91	15.98	5.80
17	JCT BOX 2	18" RCP	76.00	0.50%	683.44	683.06	691.72	690.49	684.96	684.58	685.31	684.93	5.87	7.42	4.75

ELM CREEK WEST POND

PROJECT No. 148150

DRAINAGE SHEETS
DRAINAGE DESIGN TABLE

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

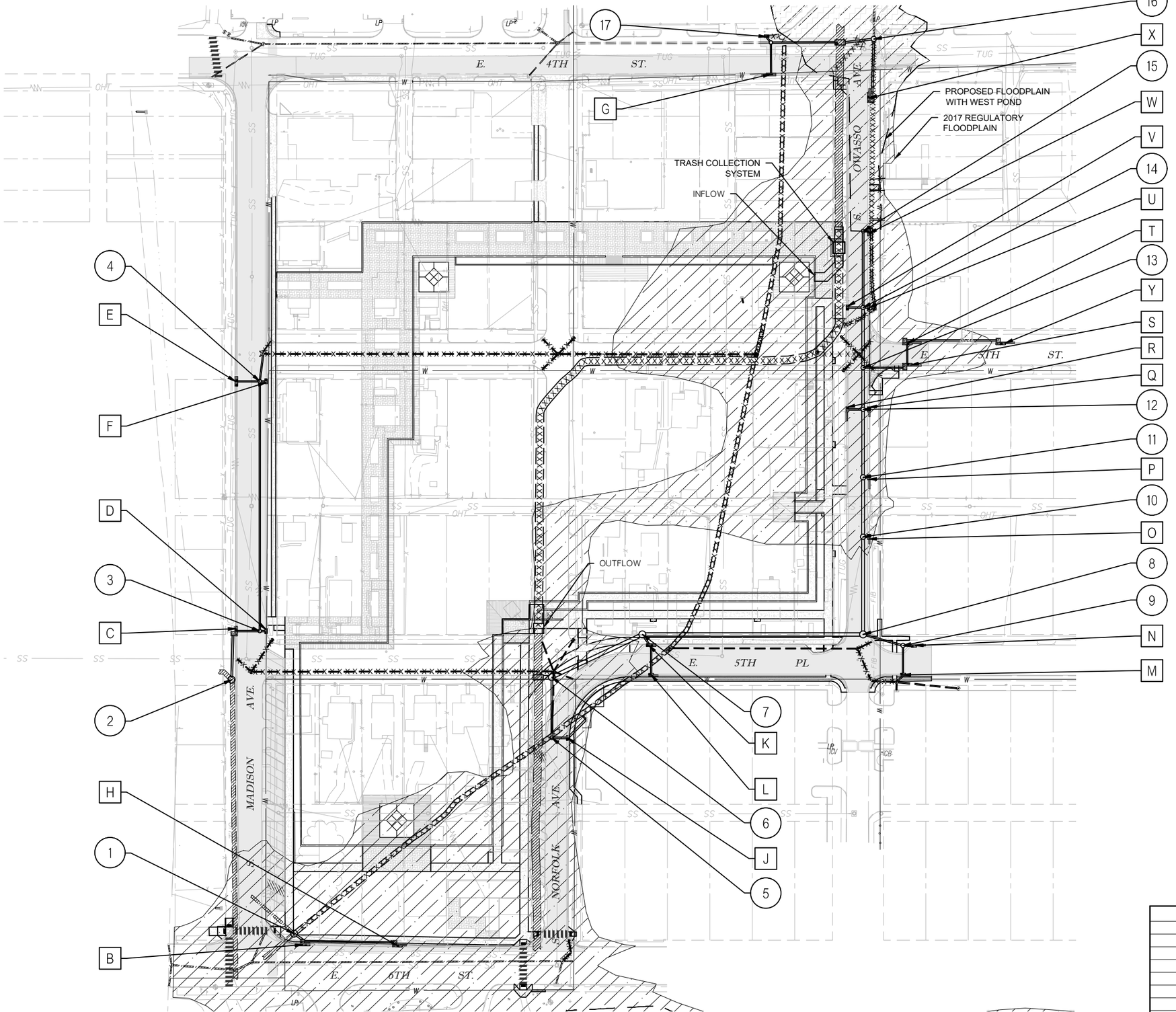
REVISION	BY	DATE

PLAN SCALE: N/A
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A

DRAWN	DGD	4/3/19	APPROVED:
DESIGNED	MZV	4/3/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
DATE:

FILE: DRAWING:
PAGE NO. ST13
ATLAS PAGE NO: 01 & 08
SHEET NO. 93 OF 123



GRAPHIC SCALE
(HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

LEGEND

- XXXXXXXX — EXISTING STORMWATER PIPE TO BE REMOVED
- EXISTING STORMWATER PIPE TO REMAIN
- EXISTING STORMWATER PIPE
- PROPOSED STORMWATER PIPE
- (16) — PROPOSED STRUCTURE LABEL
- [X] — PROPOSED INLET LABEL
- 2017 REGULATORY FLOODPLAIN
- PROPOSED FLOODPLAIN WITH WEST POND FACILITY IN PLACE

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

STORM SEWER OVER-ALL PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=60'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
VERTICAL N/A	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. ST14
ATLAS PAGE NO: 01 & 08				SHEET NO. 94 OF 123

Wednesday, April 24, 2019 9:57:03 AM
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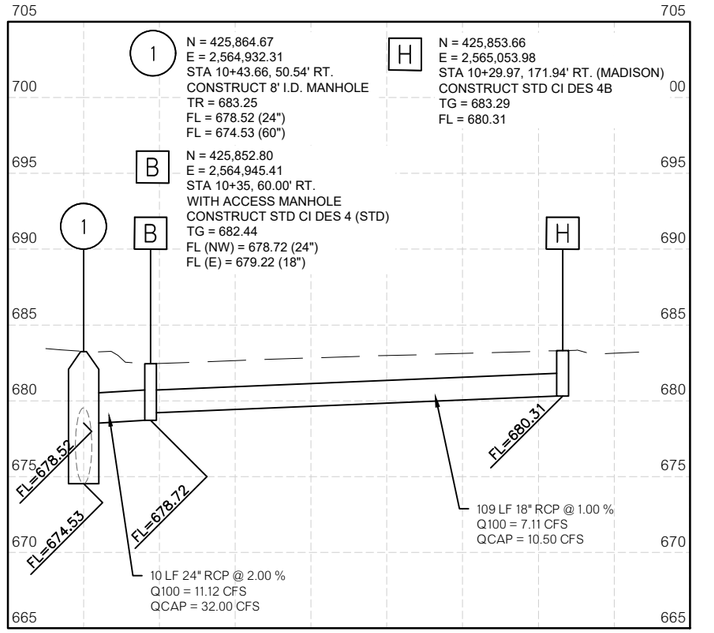

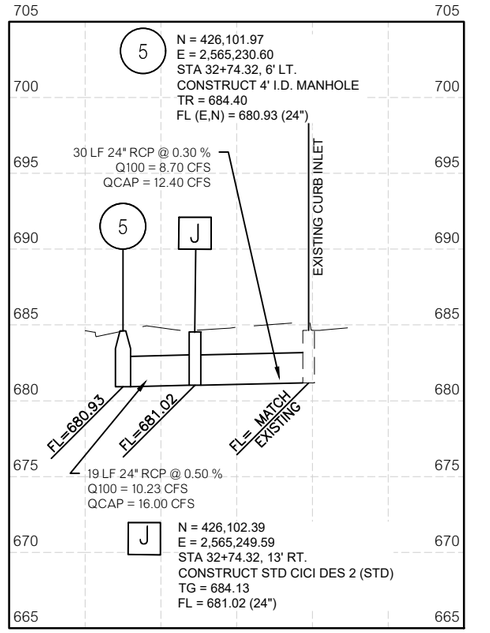

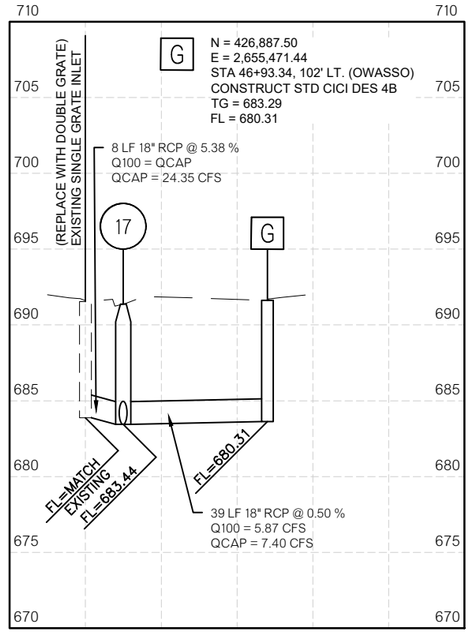

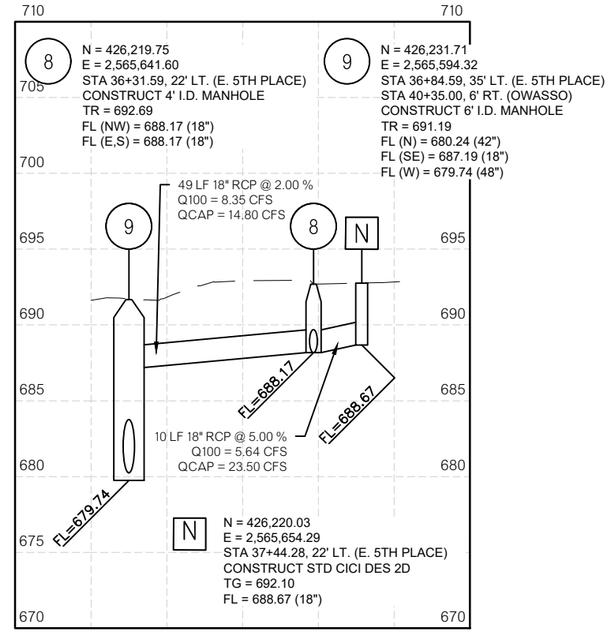

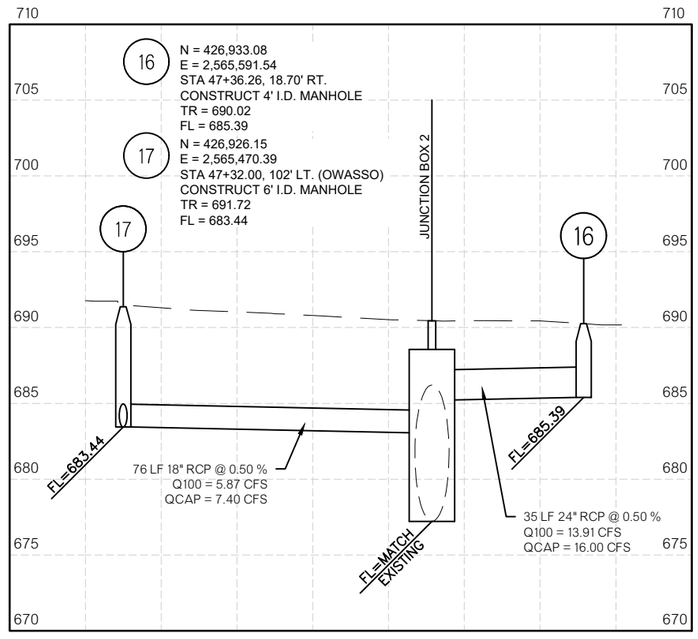

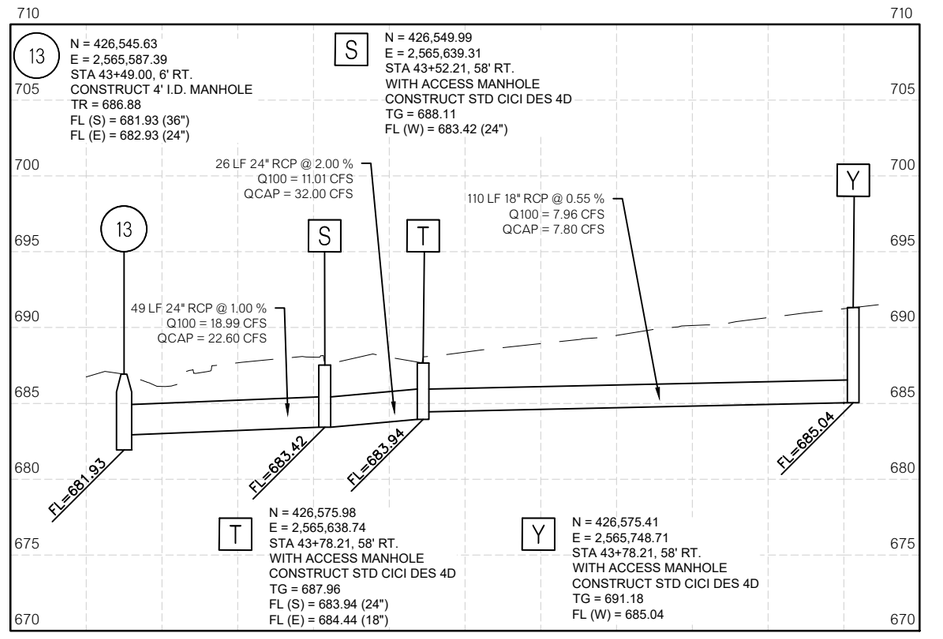

GRAPHIC SCALE
(HORIZ.)
1 inch = 20' ft.
20' 0 20' 40'
5' 0 5' 10'
(VERT)
1 inch = 5' ft.

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

MISCELLANEOUS STORM SEWER PROFILES

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'
PROFILE SCALE: HORIZONTAL: 1"=20' VERTICAL 1"=5'

DRAWN	DGD	01/19	APPROVED:
DESIGNED	MZV	01/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			
RECOMMENDED:			
DESIGN MANAGER			CITY ENGINEER
			DATE:

FILE: DRAWING:
ATLAS PAGE NO: 01 & 08
PAGE NO. ST15
SHEET NO. 95 OF 123

Wednesday, April 24, 2019 9:59:17 AM
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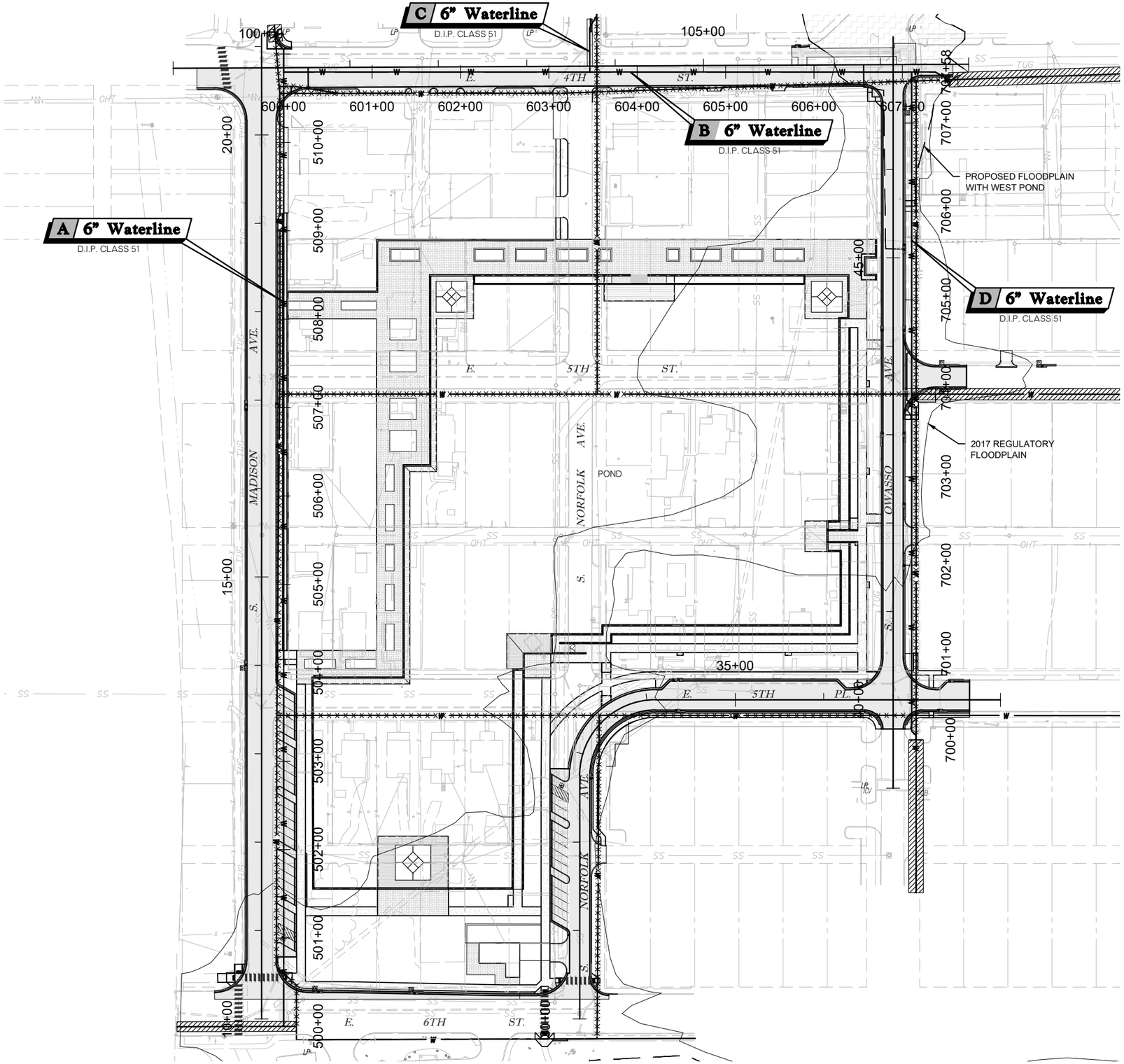

GRAPHIC SCALE
(HORIZ.)
1 inch = ft. 60'
60' 0 60' 120'

LEGEND

- XXXXXXX EXISTING WATERLINE TO BE REMOVED/ABANDONED
- EXISTING WATERLINE TO REMAIN
- EXISTING WATERLINE
- PROPOSED WATERLINE

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

WATERLINE
OVER-ALL PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=60'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. W10
ATLAS PAGE NO: 01 & 08				SHEET NO. 96 OF 123

Tuesday, April 23, 2019 5:40:38 PM
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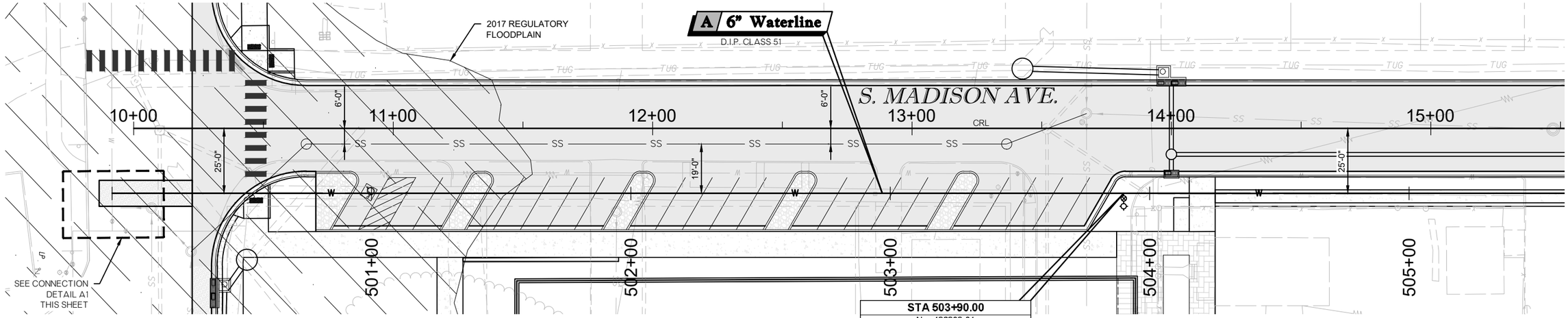
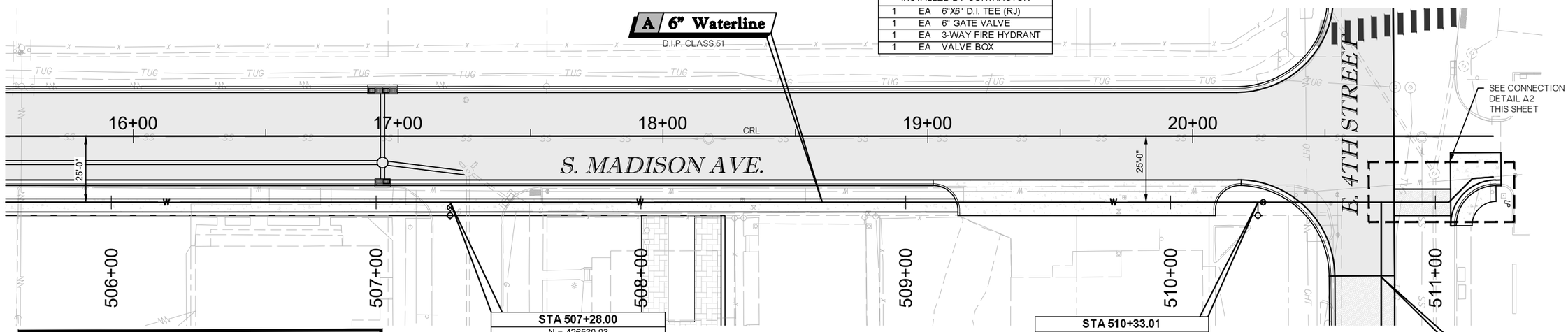


STA 503+90.00	
N = 426202.01	
E = 2564899.31	
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR	
1	EA 6"X6" D.I. TEE (RJ)
1	EA 6" GATE VALVE
1	EA 3-WAY FIRE HYDRANT
1	EA VALVE BOX



STA 507+28.00	
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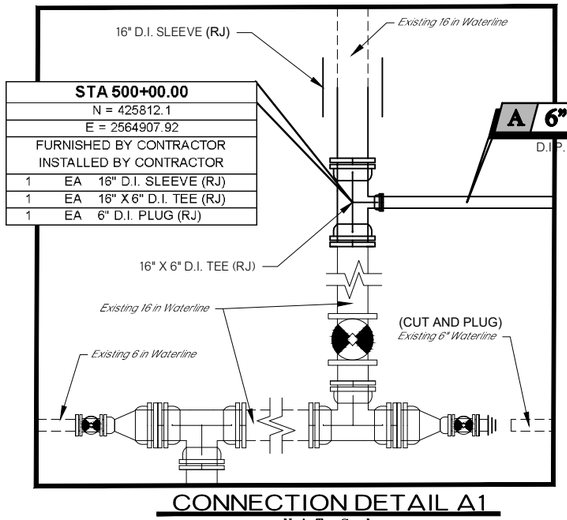
E = 2564891.85	
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR	
1	EA 6"X6" D.I. TEE (RJ)
1	EA 6" GATE VALVE
1	EA 3-WAY FIRE HYDRANT
1	EA VALVE BOX

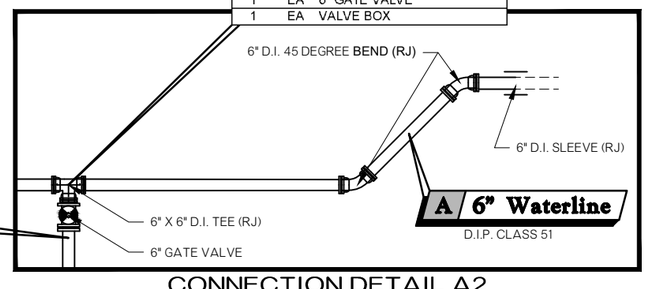
STA 510+33.01	
N = 426844.86	
E = 2567885.12	
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR	
1	EA 6"X6" D.I. TEE (RJ)
1	EA 6" GATE VALVE
1	EA 3-WAY FIRE HYDRANT
1	EA VALVE BOX

STA 500+00.00	
N = 425812.1	
E = 2564907.92	
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR	
1	EA 16" D.I. SLEEVE (RJ)
1	EA 16" X 6" D.I. TEE (RJ)
1	EA 6" D.I. PLUG (RJ)



CONNECTION DETAIL A1
Not To Scale

STA 510+84.43	
N = 426896.27	
E = 2564883.98	
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR	
1	EA 6" D.I. SLEEVE (RJ)
1	EA 6" X 6" D.I. TEE (RJ)
2	EA 6" D.I. 45 DEG. BEND (RJ)
1	EA 6" GATE VALVE
1	EA VALVE BOX



CONNECTION DETAIL A2
Not To Scale

GRAPHIC SCALE (HORIZ.)
1 inch = ft.20'
20' 0 20' 40'

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

WATERLINE
SHEET NO. 1 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19
	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A	PROJ. MGR.		
	LEAD ENGR.		
	FIELD MGR.		
	RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER
DATE:

FILE: DRAWING:
PAGE NO. W11
ATLAS PAGE NO: 01 & 08
SHEET NO. 97 OF 123

Wednesday, April 24, 2019 1:00:56 PM
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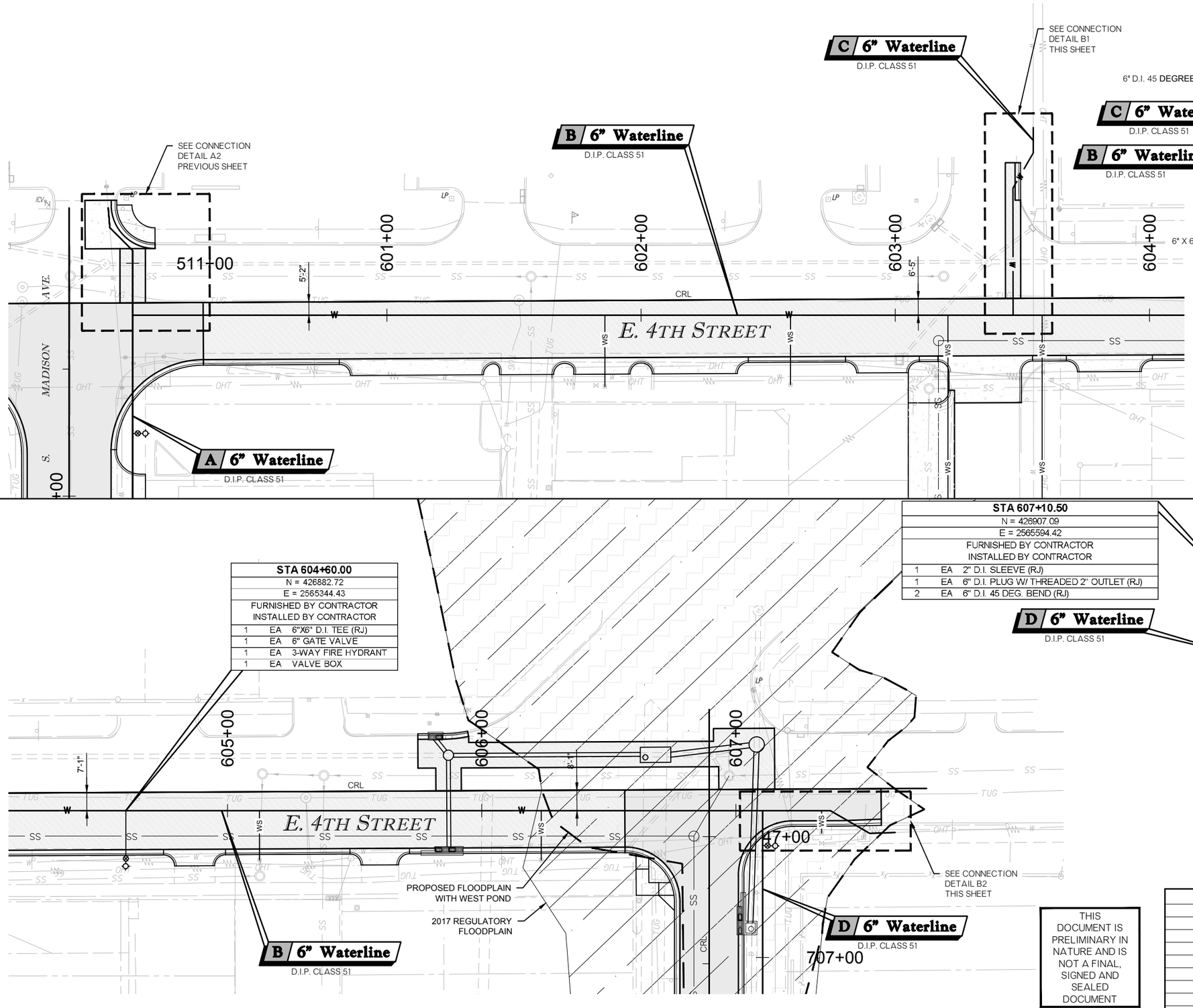
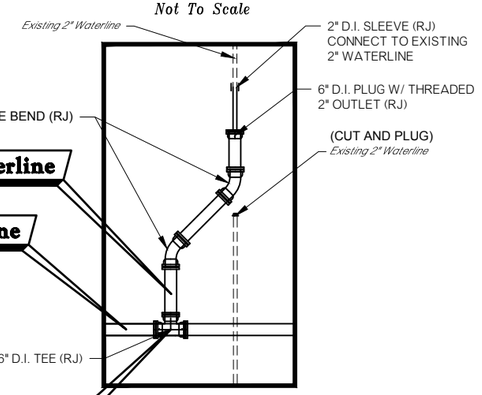


CONNECTION DETAIL B1

Not To Scale



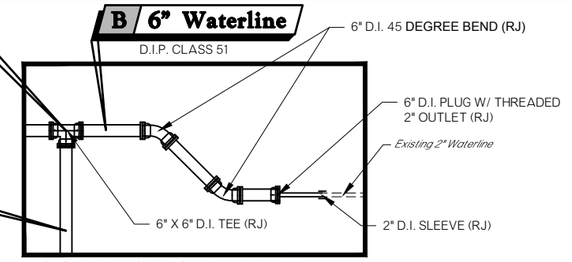
STA 603+46.35		
N = 426905.64		
E = 2565230.21		
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR		
1	EA	2" D.I. SLEEVE (RJ)
2	EA	6" D.I. 45 DEG. BEND (RJ)
2	EA	6" D.I. TEE (RJ)
1	EA	6" D.I. PLUG W/ THREADED 2" OUTLET (RJ)

GRAPHIC SCALE (HORIZ.)
1 inch = ft.20'
20' 0 20' 40'

STA 604+60.00		
N = 426882.72		
E = 2565344.43		
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR		
1	EA	6"X6" D.I. TEE (RJ)
1	EA	6" GATE VALVE
1	EA	3-WAY FIRE HYDRANT
1	EA	VALVE BOX

STA 607+10.50		
N = 426907.09		
E = 2565594.42		
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR		
1	EA	2" D.I. SLEEVE (RJ)
1	EA	6" D.I. PLUG W/ THREADED 2" OUTLET (RJ)
2	EA	6" D.I. 45 DEG. BEND (RJ)

B 6" Waterline
D.I.P. CLASS 51



CONNECTION DETAIL B2

Not To Scale

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

ELM CREEK WEST POND

PROJECT No. 148150

WATERLINE
SHEET NO. 2 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19
	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A	PROJ. MGR.		
	LEAD ENGR.		
	FIELD MGR.		
	RECOMMENDED: DESIGN MANAGER		

APPROVED: CITY ENGINEER
DATE:
FILE: DRAWING:
PAGE NO. W12
ATLAS PAGE NO: 01 & 08
SHEET NO. 98 OF 123

Wednesday, April 24, 2019 8:39:27 AM
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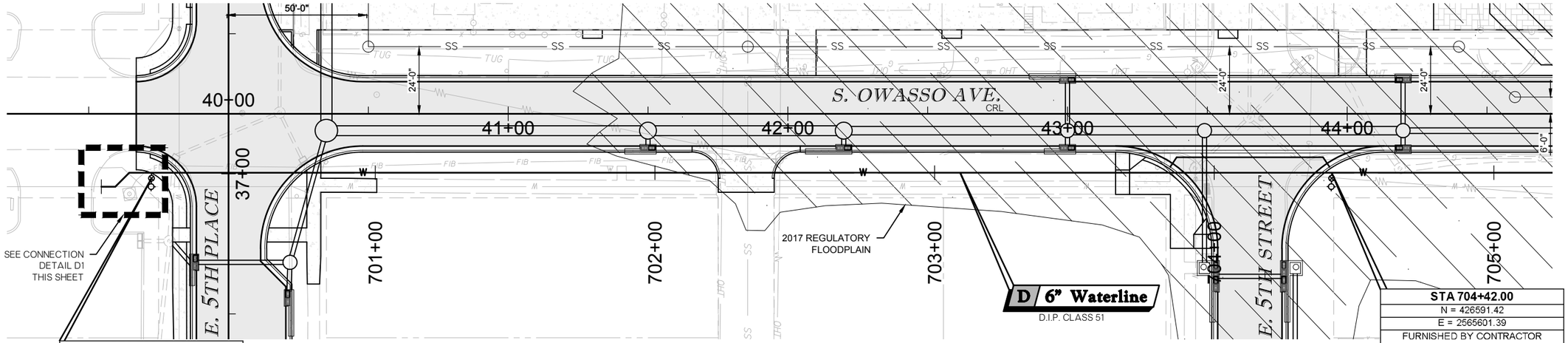

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E = 2565610.70		
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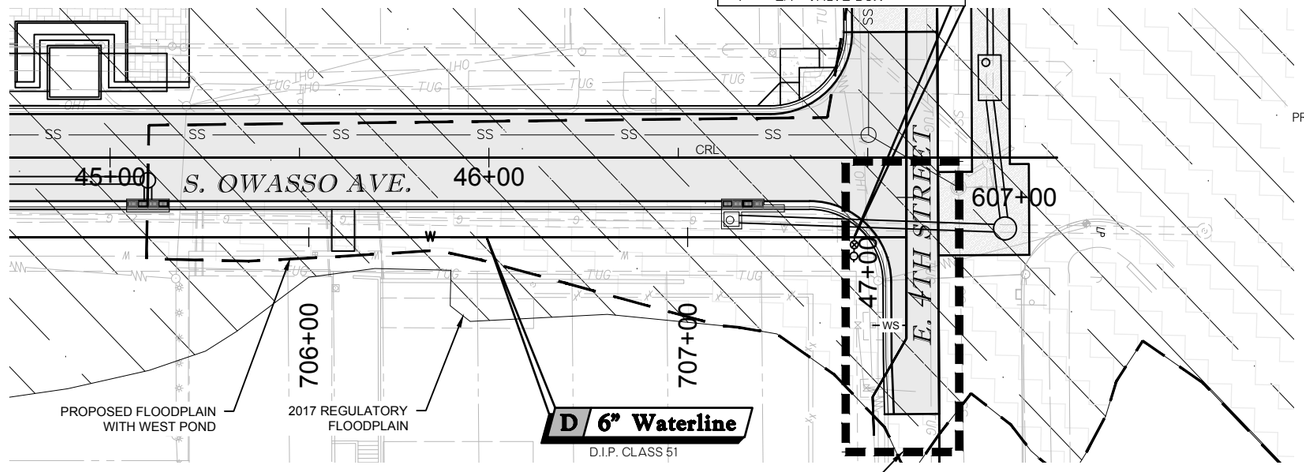
1	EA	6" GATE VALVE
1	EA	3-WAY FIRE HYDRANT
1	EA	VALVE BOX

STA 704+42.00		
N = 426591.42		
E = 2565601.39		
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR		
1	EA	6"X6" D.I. TEE (RJ)
1	EA	6" GATE VALVE
1	EA	3-WAY FIRE HYDRANT
1	EA	VALVE BOX

STA 707+44.00		
N = 426893.34		
E = 2565594.72		
FURNISHED BY CONTRACTOR INSTALLED BY CONTRACTOR		
1	EA	6"X6" D.I. TEE (RJ)
1	EA	6" GATE VALVE
1	EA	3-WAY FIRE HYDRANT
1	EA	VALVE BOX



STA 700+00.00		
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E = 2565610.69		
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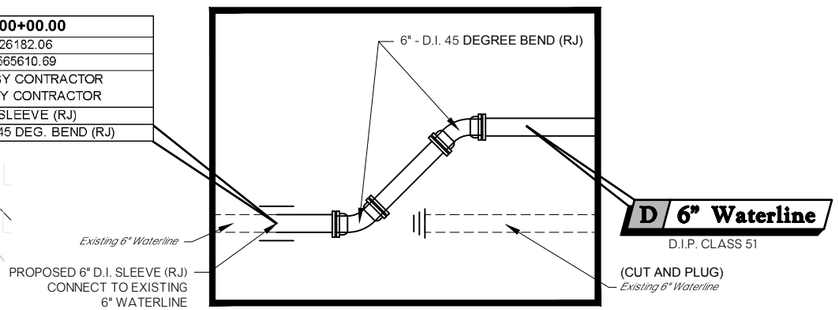
1	EA	6" D.I. SLEEVE (RJ)
2	EA	6" D.I. 45 DEG. BEND (RJ)



CONNECTION DETAIL D1

Not To Scale

GRAPHIC SCALE (HORIZ.)
1 inch = ft.20'
20' 0 20' 40'

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

WATERLINE
SHEET NO. 3 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918,437,0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE: HORIZONTAL: N/A VERTICAL N/A	PROJ. MGR.			
	LEAD ENGR.			
	FIELD MGR.			
	RECOMMENDED: DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. W13
ATLAS PAGE NO: 01 & 08				SHEET NO. 99 OF 123

Wednesday, April 24, 2019 8:48:47 AM
V:\16-1050E Elm Ck West Pond, 148150-1, COT\CIV3D\PLANS\1050-Water P&P.dwg

C 12" Sanitary Sewer
D.I.P. CLASS 50

B 18" Sanitary Sewer
D.I.P. CLASS 50

A 12" Sanitary Sewer
D.I.P. CLASS 50

PROPOSED FLOODPLAIN WITH WEST POND

2017 REGULATORY FLOODPLAIN

GRAPHIC SCALE
(HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

LEGEND

- XXXXXXX — EXISTING SANITARY SEWER PIPE TO BE REMOVED
- SS — EXISTING SANITARY SEWER PIPE TO REMAIN
- SS — PROPOSED SANITARY SEWER PIPE

STR	NORTHING	EASTING
A	425,886.52	2,564,887.27
B	426,156.46	2,564,881.31
C	426,240.09	2,565,294.07
D	426,246.04	2,565,564.00
E	426,381.71	2,565,561.01
F	426,635.95	2,565,555.39
G	426,656.34	2,565,572.95
H	426,896.49	2,565,567.65
I	426,888.40	2,565,201.24
J	426,738.44	2,565,204.55
1	*425,827.49*	*2,564,913.20*
27	*426,186.99*	*2,564,868.87*
106	*426,920.53*	*2,565,580.97*
343	*425,843.06*	*2,564,929.62*

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

SANITARY SEWER
OVER-ALL PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918,437,0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=60'	DRAWN			APPROVED:
	DESIGNED	DGD	4/3/19	
	SURVEY	MZV	4/3/19	
PROFILE SCALE:	PROJ. MGR.	DMM	09/18	
HORIZONTAL: N/A	LEAD ENGR.			
VERTICAL N/A	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. SS10
ATLAS PAGE NO: 01 & 08				SHEET NO. 100 OF 123

Wednesday, April 24, 2019 9:46:41 AM
V:\16-1050E Elm Ck West Pond, 148150-1, COT\CIV\3D PLANS\1050-SITE PLAN- SANITARY SEWER.dwg

STA 10+06.91, 30.62' RT.
EXISTING 4' I.D. MANHOLE
TR = 681.41
FL = 670.15

2017 REGULATORY FLOODPLAIN

STA 10+66.50, 6' RT. (CRL MADISON)
CONSTRUCT 4' I.D. MANHOLE
TR = 682.79
FL = 674.70

A 12" Sanitary Sewer
D.I.P. CLASS 50

STA 13+36.50, 6' RT. (CRL MADISON)
CONSTRUCT 4' I.D. MANHOLE
TR = 690.88
FL = 675.51

10+00 11+00 S. MADISON AVE. 12+00 13+00 14+00

CRL
270 LF @ 0.30%
33 LF @ 0.30%
61 LF @ 0.30%

E. 6TH STREET

STA 10+22.12, 47.30' RT.
EXISTING 4' I.D. MANHOLE
TR = 682.21
FL = 671.38

2017 REGULATORY FLOODPLAIN

STA 13+67.31, 5.76' LT. (CRL MADISON)
EXISTING 4' I.D. MANHOLE
TR = 691.71
FL = 675.61

CITY OF TULSA

STA 33+49.87, 47.46' LT. (CRL 5TH PL.)
EXISTING 4' I.D. MANHOLE
TR = 684.51
FL (NE) = 678.11
FL (S) = 675.67

2017 REGULATORY FLOODPLAIN

STA 33+94.15, 52.37' LT. (CRL 5TH PL.)
CONSTRUCT 4' I.D. MANHOLE
TR = 688.16
FL = 678.36

B 18" Sanitary Sewer
D.I.P. CLASS 50

B 18" Sanitary Sewer
D.I.P. CLASS 50

24'-0"

S. OWASSO AVE.

34+00 35+00 36+00 37+00 40+00 41+00

CRL
270 LF @ 0.35%
70 LF @ 0.35%

E. 5TH PLACE

2017 REGULATORY FLOODPLAIN

STA 33+33.67, 60.46' LT. (CRL 5TH PL.)
EXISTING 4' I.D. MANHOLE
TR = 684.84
FL = 677.90

STA 36+54.59, 50' LT. (CRL 5TH PL.)
CONSTRUCT 4' I.D. MANHOLE
TR = 691.00
FL = 679.31

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

GRAPHIC SCALE (HORIZ.)
1 inch = ft. 20'
20' 0 20' 40'

BEFORE YOU DIG 811 800-522-OKIE CALL OKIE

ELM CREEK WEST POND
PROJECT No. 148150
SANITARY SEWER PLANS
SHEET NO. 1 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19
	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL: N/A	LEAD ENGR.		
	FIELD MGR.		
VERTICAL N/A	RECOMMENDED:		
	DESIGN MANAGER		CITY ENGINEER

APPROVED:
DATE:
FILE: DRAWING:
PAGE NO. SS11
ATLAS PAGE NO: 01 & 08
SHEET NO. 101 OF 123

Wednesday, April 24, 2019 1:06:08 PM
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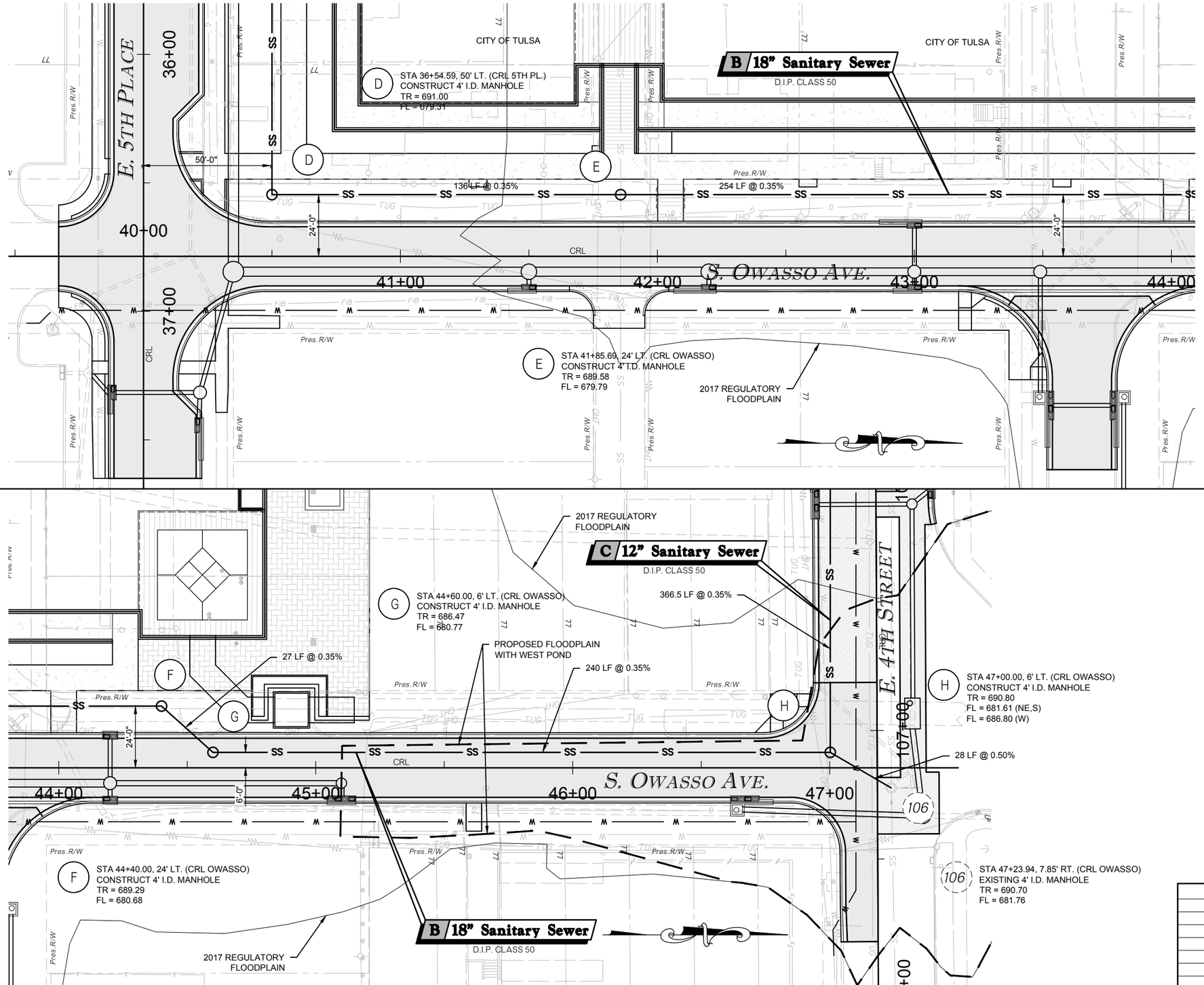

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

GRAPHIC SCALE (HORIZ.)
1 inch = ft.20'
20' 0 20' 40'

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

SANITARY SEWER PLANS
SHEET NO. 2 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918,437,0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'
PROFILE SCALE
HORIZONTAL: N/A
VERTICAL N/A

DRAWN	DGD	01/19	APPROVED:
DESIGNED	MZV	01/19	
SURVEY	DMM	09/18	
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED:
DESIGN MANAGER
CITY ENGINEER
DATE:

FILE: DRAWING:
ATLAS PAGE NO: 01 & 08
PAGE NO. SS12
SHEET NO. 102 OF 123

Wednesday, April 24, 2019 10:33:16 AM
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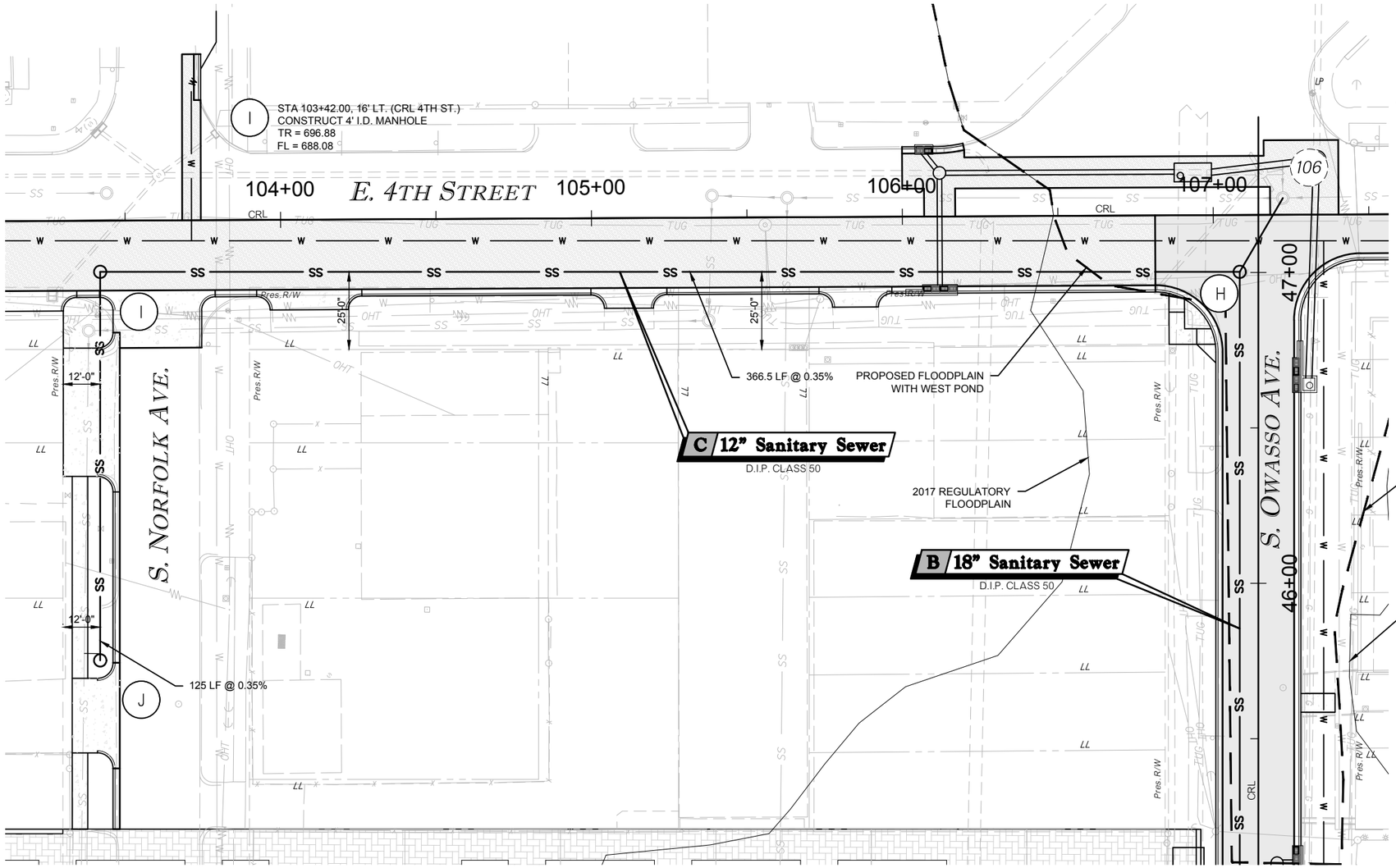

106 STA 47+23.94, 7.85' RT.
EXISTING 4' I.D. MANHOLE
TR = 690.70
FL = 681.76

☆ H STA 47+23.95, 6' LT. (CRL OWASSO)
CONSTRUCT 4' I.D. MANHOLE
TR = 690.80
FL = 681.61 (N,S)
FL = 686.80 (W)

☆ CONTRACTOR TO INSTALL WATER-TIGHT LID FOR THIS MANHOLE.

PROPOSED FLOODPLAIN
WITH WEST POND

2017 REGULATORY
FLOODPLAIN

J STA 103+42.00, 169' RT. (CRL 4TH ST.)
CONSTRUCT 4' I.D. MANHOLE
TR = 694.08
FL = 688.52

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GRAPHIC SCALE
(HORIZ.)
1 inch = ft.20'
20' 0 20' 40'

BEFORE YOU DIG
811
1-800-522-OKIE
CALL OKIE

REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
VERTICAL N/A	FIELD MGR.			
	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. SS13
ATLAS PAGE NO: 01 & 08				SHEET NO. 103 OF 123

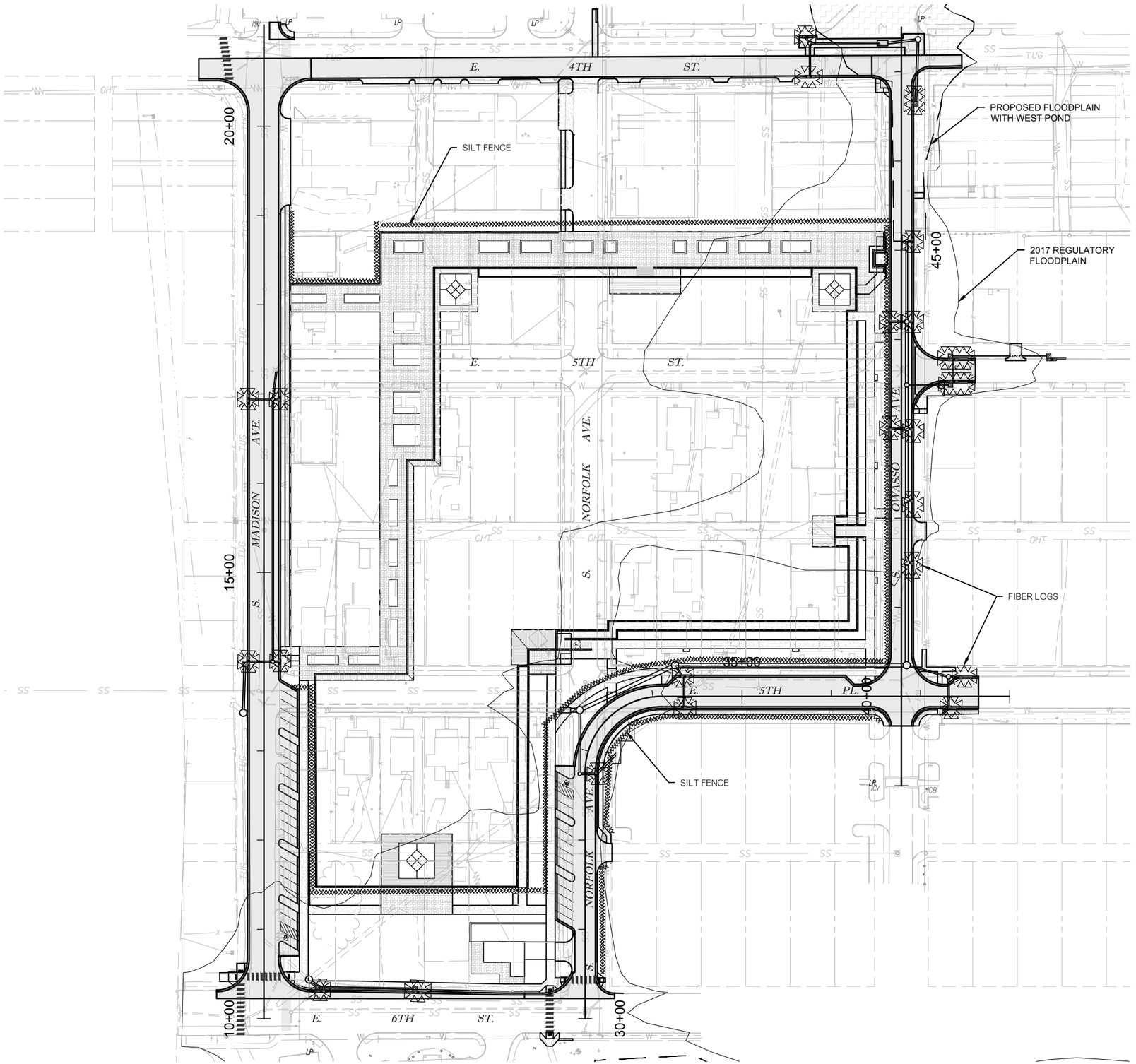
ELM CREEK WEST POND

PROJECT No. 148150

SANITARY SEWER PLANS
SHEET NO. 3 OF 3

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM



GRAPHIC SCALE
(HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

LEGEND

TEMPORARY FIBER LOG

TEMPORARY SILT FENCE

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

EROSION CONTROL SHEET

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=60'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE: DRAWING:				PAGE NO. C24
ATLAS PAGE NO: 01 & 08				SHEET NO. 104 OF 123

Wednesday, April 24, 2019 10:46:27 AM
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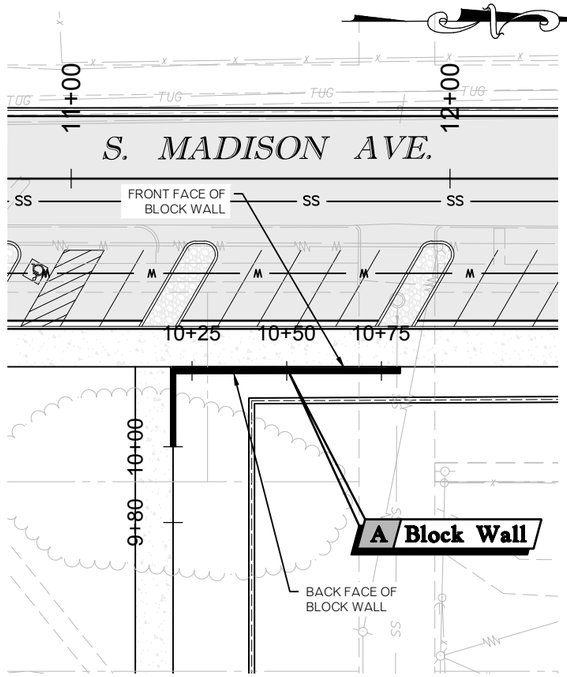
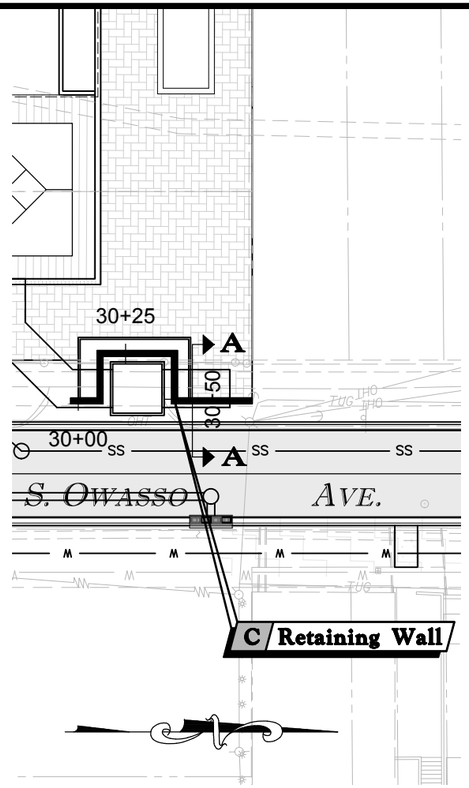
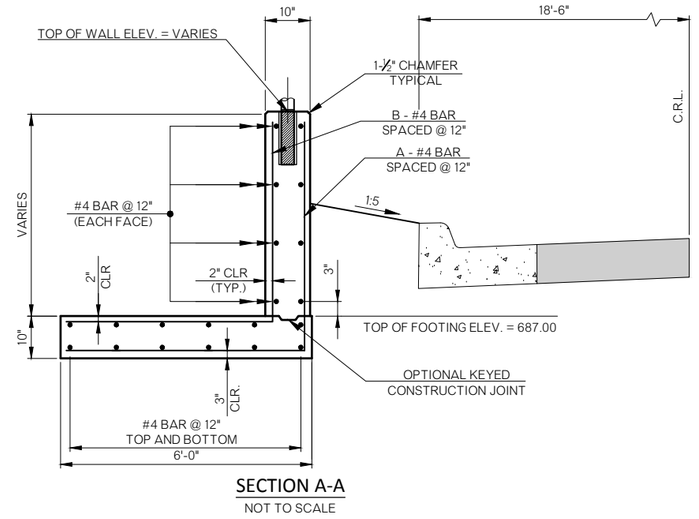


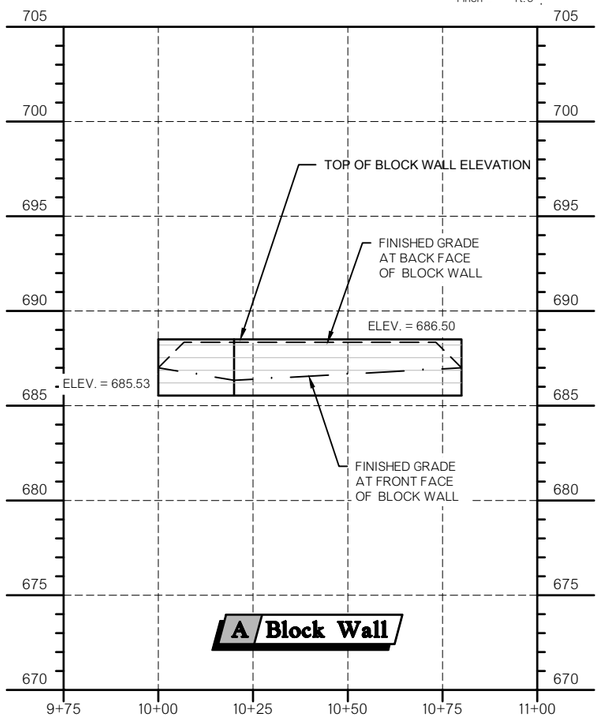


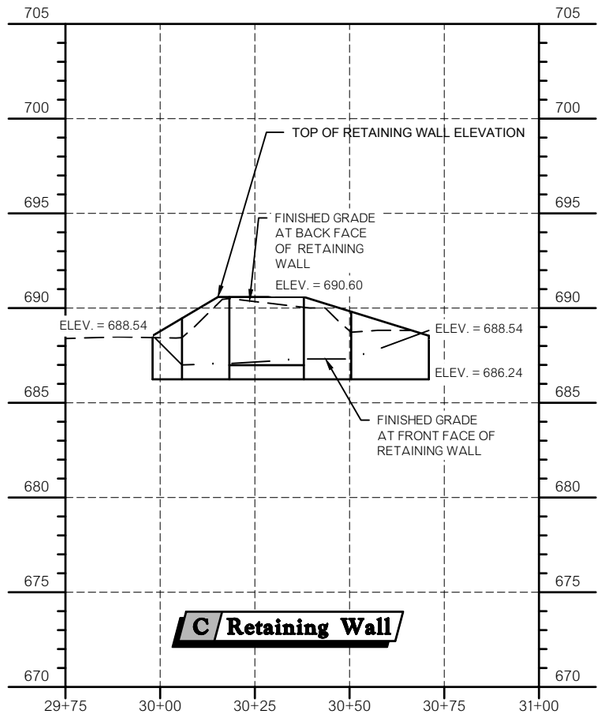


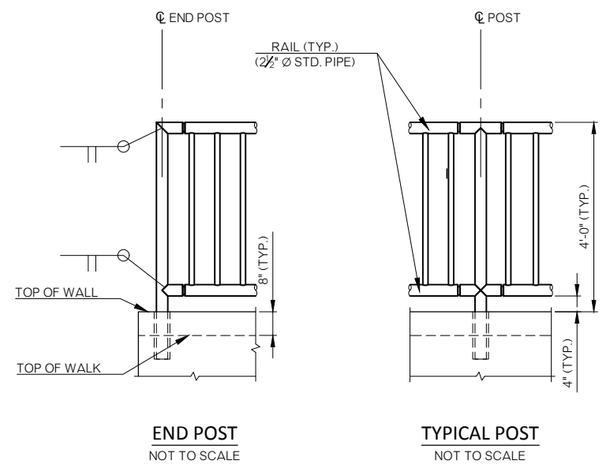
SECTION A-A
NOT TO SCALE

SEE SHEET 107 FOR BLOCK WALL DETAILS

GRAPHIC SCALE
(HORIZ.)
1 inch = ft.20'
20' 0 20' 40'
5' 0 5' 10'
(VERT)
1 inch = ft.5'

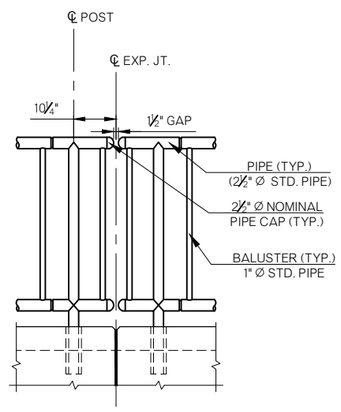




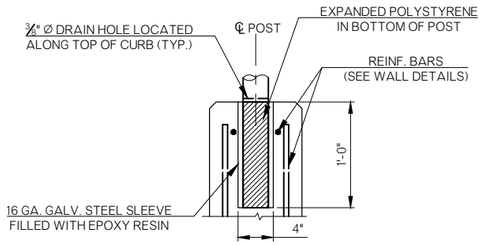


END POST
NOT TO SCALE

TYPICAL POST
NOT TO SCALE



EXPANSION JOINT
NOT TO SCALE



SECTION THRU TOP WALL AT POST
NOT TO SCALE

NOTE:
BALUSTERS NORMAL TO GRADE.
TOP & BOTTOM RAILS PARALLEL TO GRADE.

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

WALL PLAN & PROFILE
SHEET NO. 1 OF 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: 1"=20'	LEAD ENGR.			
	FIELD MGR.			
VERTICAL 1"=5'	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C25
ATLAS PAGE NO: 01 & 08				SHEET NO. 105 OF 123

Wednesday, April 24, 2019 10:59:07 AM
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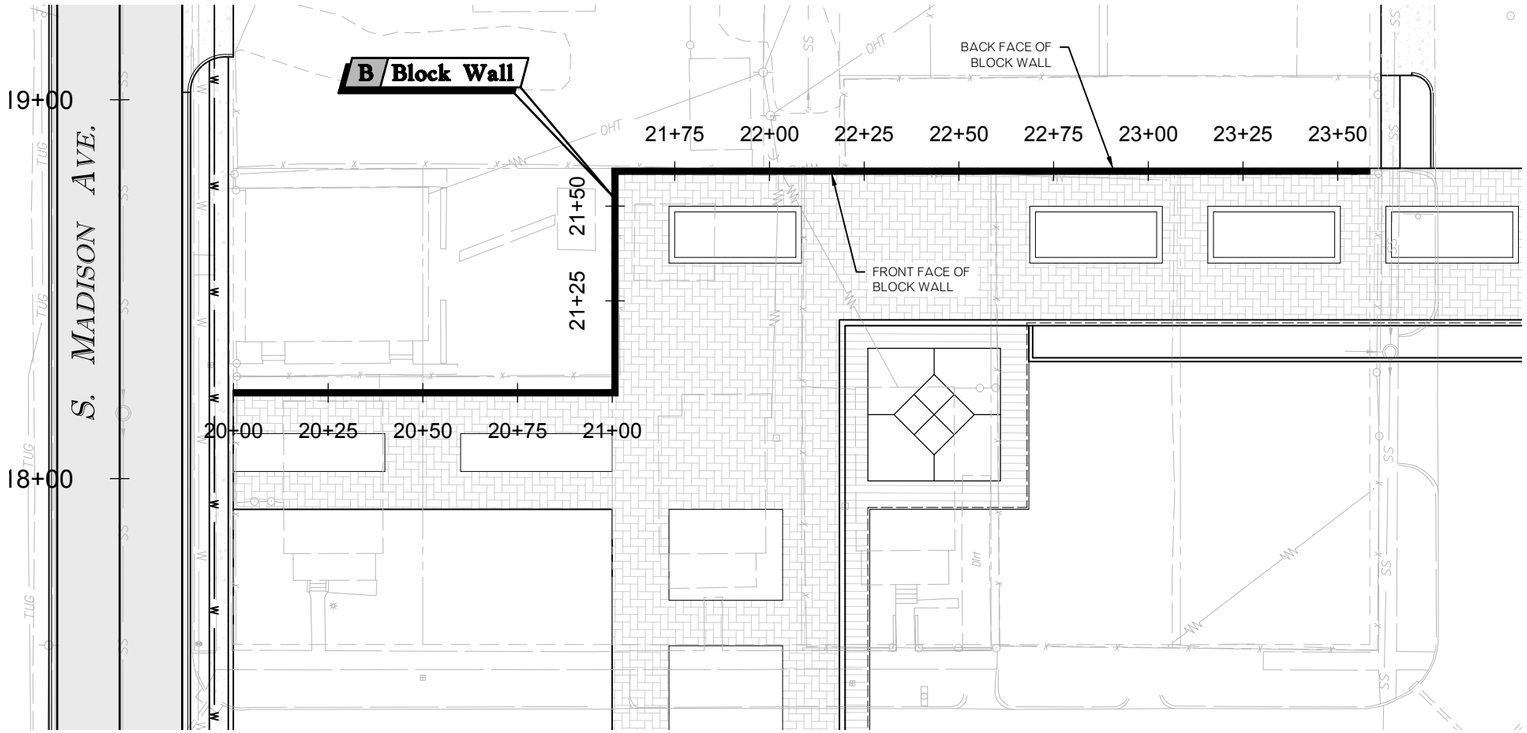
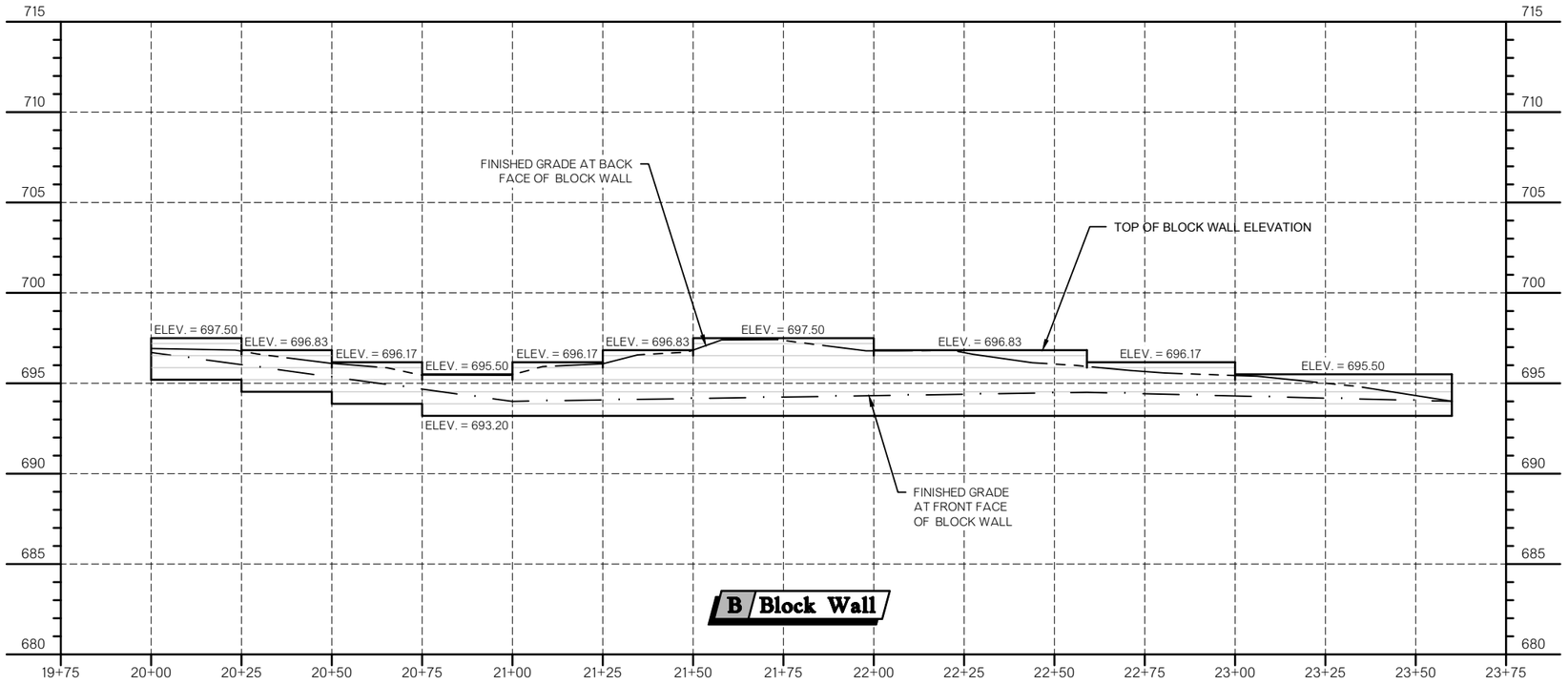


GRAPHIC SCALE
(HORIZ.)
1 inch = ft. 20'
20' 0 20' 40'
5' 0 5' 10'
(VERT)
1 inch = ft. 5'

SEE SHEET 107 FOR BLOCK WALL DETAILS



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BEFORE YOU DIG 811 800-522-OKIE CALL OKIE

ELM CREEK WEST POND

PROJECT No. 148150

WALL PLAN & PROFILE
SHEET NO. 2 OF 2

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=20'	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: 1"=20'	LEAD ENGR.			
	FIELD MGR.			
VERTICAL 1"=5'	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C26
ATLAS PAGE NO: 01 & 08				SHEET NO. 106 OF 123

Wednesday, April 24, 2019 11:25:03 AM
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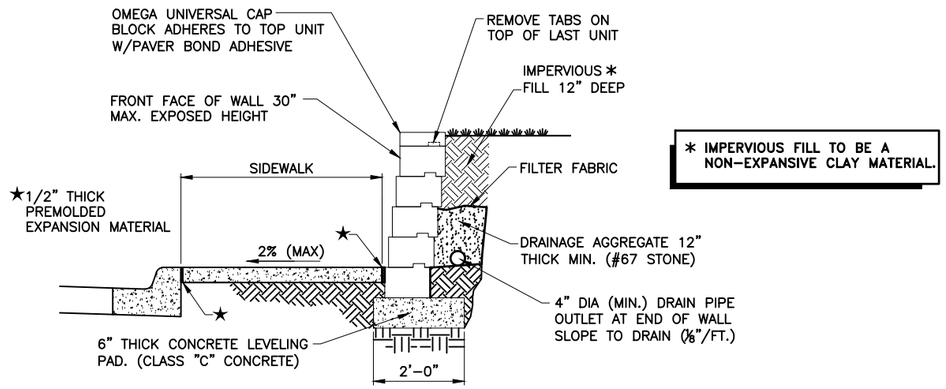
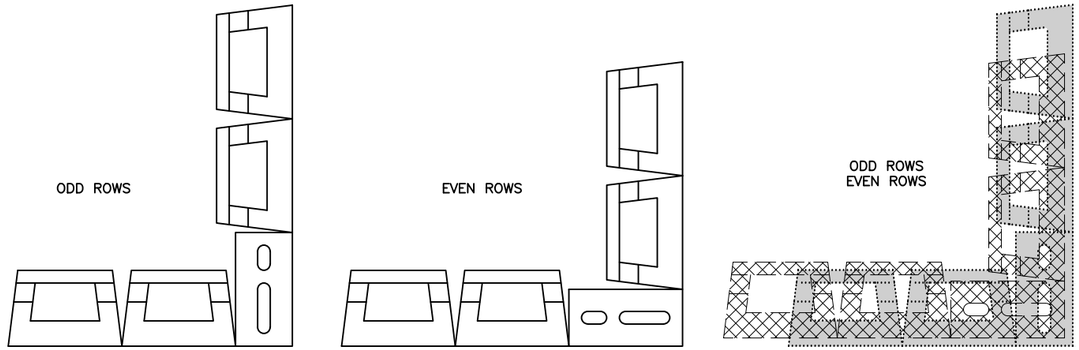
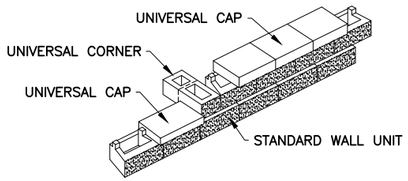


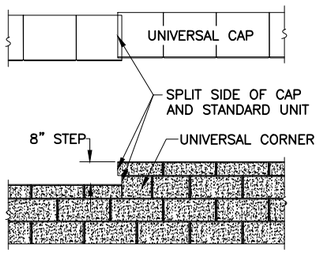
* IMPERVIOUS FILL TO BE A NON-EXPANSIVE CLAY MATERIAL.

RETAINING WALL SECTION
UNREINFORCED RETAINING WALL
NOT TO SCALE



OUTSIDE CORNER DETAIL
NOT TO SCALE

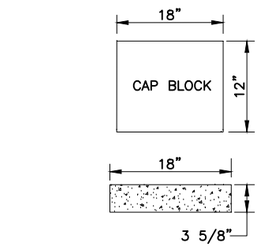




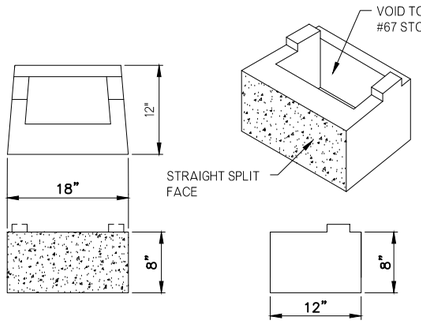
CAPPING DETAIL-PROFILE
NOT TO SCALE

CONSTRUCTION NOTES

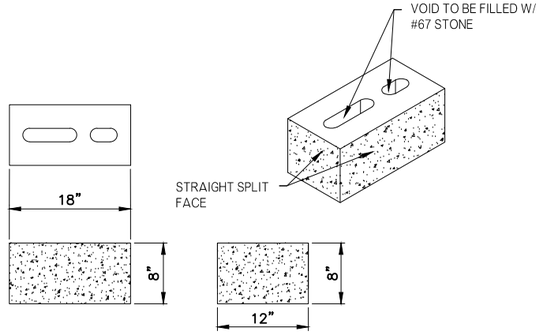
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS EXCEPT WHERE EXCEEDED BY THESE DRAWINGS OR AS PRE-APPROVED BY THE CITY.
2. CLASS "C" CONCRETE LEVELING PAD SHALL BE PLACED ON FIRM, STABLE, COMPACTED SOIL.
3. AT STEP-UP LOCATIONS THE CONTRACTOR SHALL ADJUST THE LOCATION OF THE STANDARD WALL UNITS TO ENSURE A LINEAR ALIGNMENT ALONG THE FRONT FACE OF THE WALL.
4. CONTRACTOR SHALL FIELD ADJUST PLACEMENT OF WALL UNITS TO ENSURE A MINIMUM WIDTH OF SIDEWALK AS SHOWN.
5. FILTER FABRIC, DRAINAGE AGGREGATE, BOND ADHESIVE, AND EXPANSION MATERIAL SHALL NOT BE MEASURED, AND SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE WALL.



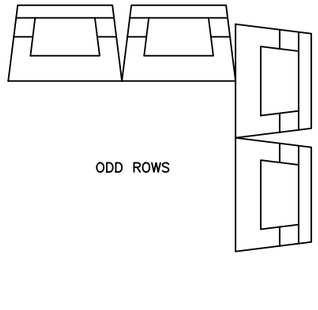
OMEGA UNIVERSAL CAP BLOCK
NOT TO SCALE

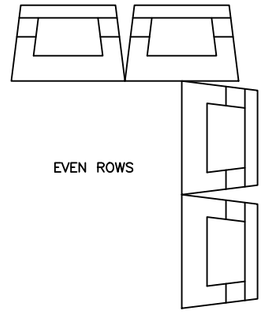


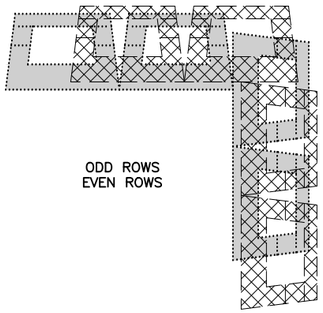
OMEGA STANDARD WALL UNIT
NOT TO SCALE



OMEGA SQUARE FOOT CORNER UNIT
NOT TO SCALE







INSIDE CORNER DETAIL
NOT TO SCALE

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REVISION	BY	DATE

ELM CREEK WEST POND

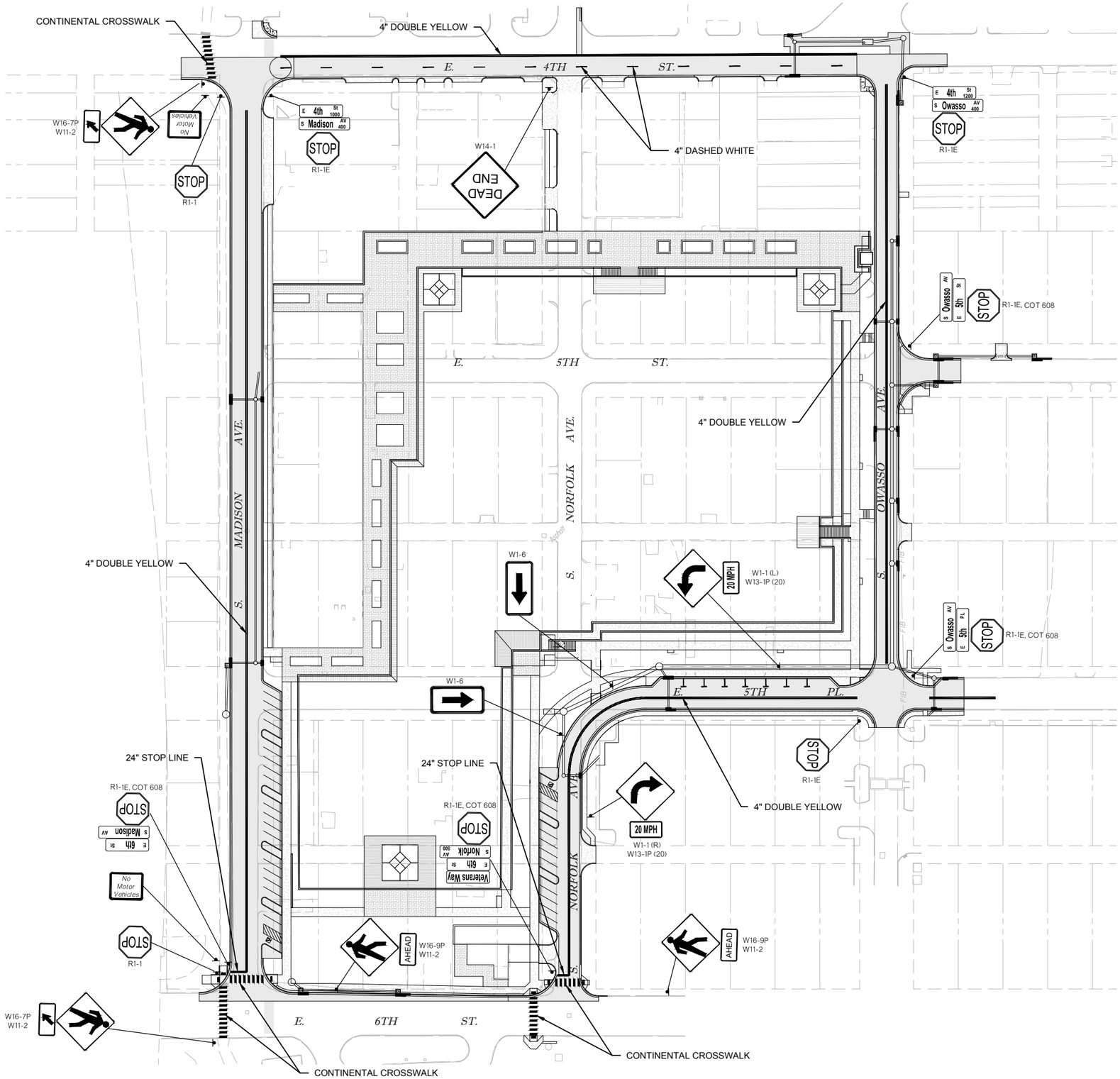
PROJECT No. 148150

BLOCK WALL DETAILS
SHEET NO. 1 OF 1

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E. 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

PLAN SCALE: N/A	DRAWN	DGD	01/19	APPROVED:
	DESIGNED	MZV	01/19	
	SURVEY	DMM	09/18	
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL: N/A	LEAD ENGR.			
	FIELD MGR.			
VERTICAL N/A	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. C27
ATLAS PAGE NO: 01 & 08				SHEET NO. 107 OF 123



GRAPHIC SCALE
(HORIZ.)
1 inch = 60' ft.
60' 0 60' 120'

BEFORE YOU DIG
811
1-800-522-OKIE
CALL OKIE

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ELM CREEK WEST POND

PROJECT No. 148150

PAVEMENT MARKING AND SIGNING PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

GUY ENGINEERING SERVICES, INC.
6910 E, 14TH ST, TULSA OK 74112 / PH: 918.437.0282 / WWW.GUYENGR.COM

REVISION	BY	DATE

PLAN SCALE: 1"=60'	DRAWN	DGD	01/19
	DESIGNED	MZV	01/19
	SURVEY	DMM	09/18
PROFILE SCALE:	PROJ. MGR.		
HORIZONTAL: N/A	LEAD ENGR.		
VERTICAL N/A	FIELD MGR.		
	RECOMMENDED:		

APPROVED:

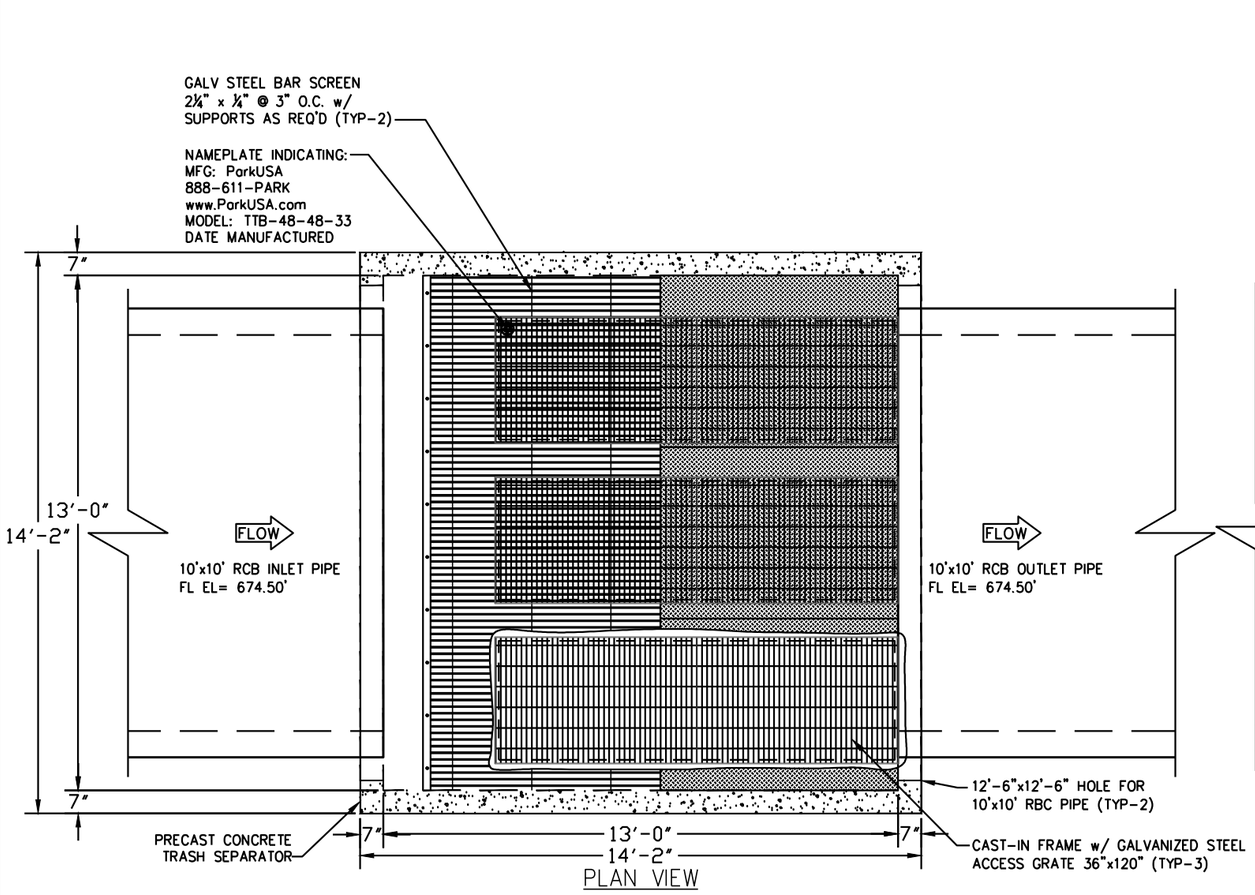
DESIGN MANAGER — CITY ENGINEER

DATE:

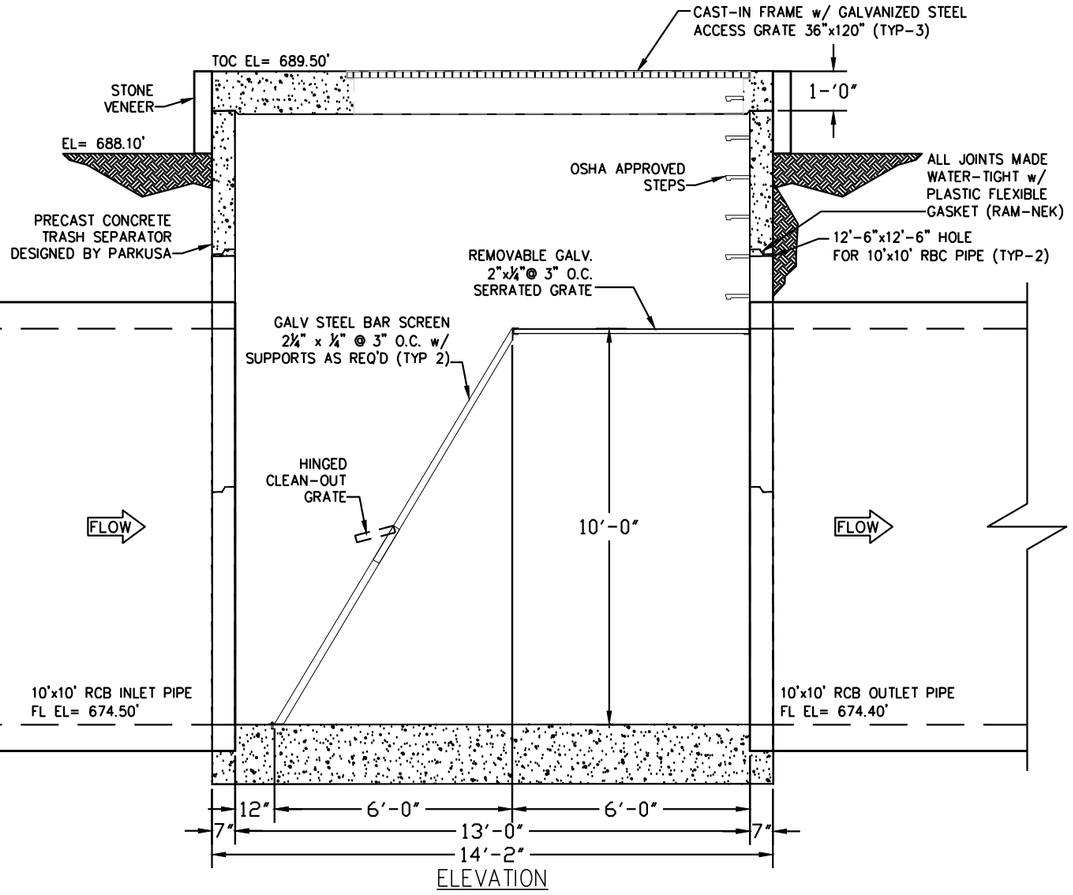
FILE: DRAWING: PAGE NO. C28

ATLAS PAGE NO: 01 & 08 SHEET NO. 108 OF 123

Wednesday, April 24, 2019 11:53:36 AM
V:\16-1050E Elm Ck West Pond, 148150-1, COT\CIV3D\PLANS\1050-PAVEMENT MARKING AND SIGNING PLAN.dwg



PLAN VIEW



ELEVATION

NOTE: FINAL STRUCTURAL DESIGN WILL BE PROVIDED BY AN OKLAHOMA PROFESSIONAL ENGINEER SUPPLYING SIGNED AND SEALED PLANS AND CALCULATIONS.

SPECIFICATIONS

CONCRETE: CLASS II CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH. COMBINED ASSEMBLY WEIGHT AS INDICATED IN SPECS.

REINFORCEMENT: GRADE 60 REINFORCED. STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL. BAR BENDING & PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS FOR PRECAST CONCRETE. LIFTING INSERTS SHALL BE INSTALLED PER MFG'S REQUIREMENTS.

STEEL: ALL STEEL SHALL BE A36 STEEL WELDED IN ACCORDANCE TO AWS D1.1. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

NAMEPLATE

Trash Trooper

888.611.PARK
PARK USA

ELM CREEK WEST POND

PROJECT No. 148150

TRASHTROOPER
FLOATABLES INTERCEPTOR MODEL TTB
TTB-10X10-33

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

FREESE & NICHOLS, INC.
7633 E 63RD PL SUITE 300 TULSA, OK 74133 / PH:539-444-8677

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REVISION	BY	DATE

PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL

DRAWN	KKH	04/01/19	APPROVED:
DESIGNED	KKH	04/01/19	
SURVEY			
PROJ. MGR.			
LEAD ENGR.			
FIELD MGR.			

RECOMMENDED:

DESIGN MANAGER — CITY ENGINEER

DATE:

FILE: DRAWING: PAGE NO. TS1

ATLAS PAGE NO: 01 & 08 SHEET NO. 109 OF 123

Friday, April 12, 2019 1:35:26 PM
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NOTES:

1. Park USA's proprietary TrashTrooper unit uses a floatable collection bar screen to capture unwanted floatable pollutants from the 10'x10' RCB before outflow into the pond. Separated effluent exits the TrashTrooper and enters the wet pond, leaving debris behind inside the TrashTrooper.

CAPACITY NOTES:

2. The TrashTrooper was sized based on the existing 108" pipe capacity of 858 cfs per September 2018 correspondence with Swift Water Resources Engineering.

3. The TrashTrooper's rim elevation is 689.50, approximately 0.50 ft above the peak 100-year WSE of 689.0 in the downstream pond. Because of the downstream WSE in the pond, stormwater will overflow the rim of the TrashTrooper during storms larger than the 100-year event and enter Owasso Avenue, which has a pavement elevation of approximately 687.3 adjacent to the TrashTrooper.

4. The grate capacity for a range of clogging percentages is shown in Table 1 and Figure 1. The grate's capacity is defined as the flow producing an HGL at ground inside the TrashTrooper. The TrashTrooper is not expected to limit the existing system capacity below 858 cfs until it becomes approximately 60% clogged. At this point, further clogging of the grate will gradually reduce flow capacity through the TrashTrooper and increase the risk of flooding in the upstream storm drain system.

MAINTENANCE NOTES:

5. A detailed TrashTrooper operations and maintenance plan is on SHT TS3. This system will be maintained by City staff. The manufacturer recommends a visual inspection 2-3 days after major storm events (over 1" of rainfall) in addition to regular monthly inspections, and recommends removal of trash and sediment after it reaches 25% of the box diameter.

6. The TrashTrooper is located adjacent to the Owasso Ave curb. Per correspondence between Guy Engineering and the City of Tulsa, this location allows for convenient access by the City's vacuum truck hose for cleaning out sediment and trash. If needed, City staff can enter the TrashTrooper through the hatchway and stand on the horizontal walkway and grate to remove larger debris.

Table 1: TrashTrooper Capacity Calculations

Grate Clogging	*Front Orifice*			*Top Orifice*			*TrashTrooper Capacity (cfs)*
	Area (sq ft)	*Centroid*	*Head (ft)*	*Area (sq ft)*	*Centroid*	*Head (ft)*	
0%	138.9	679.5	10.0	71.5	684.4	5.1	858
10%	125.1	680.0	9.5	64.4	684.4	5.1	858
20%	111.2	680.5	9.0	57.2	684.4	5.1	858
30%	97.3	681.0	8.5	50.1	684.4	5.1	858
40%	83.4	681.5	8.0	42.9	684.4	5.1	858
50%	69.5	682.0	7.5	35.8	684.4	5.1	858
60%	55.6	682.5	7.0	28.6	684.4	5.1	858
70%	41.7	683.0	6.5	21.5	684.4	5.1	745
80%	27.8	683.5	6.0	14.3	684.4	5.1	483
90%	13.9	684.0	5.5	7.2	684.4	5.1	235
100%	0.0	684.5	5.0	0.0	684.4	5.1	0

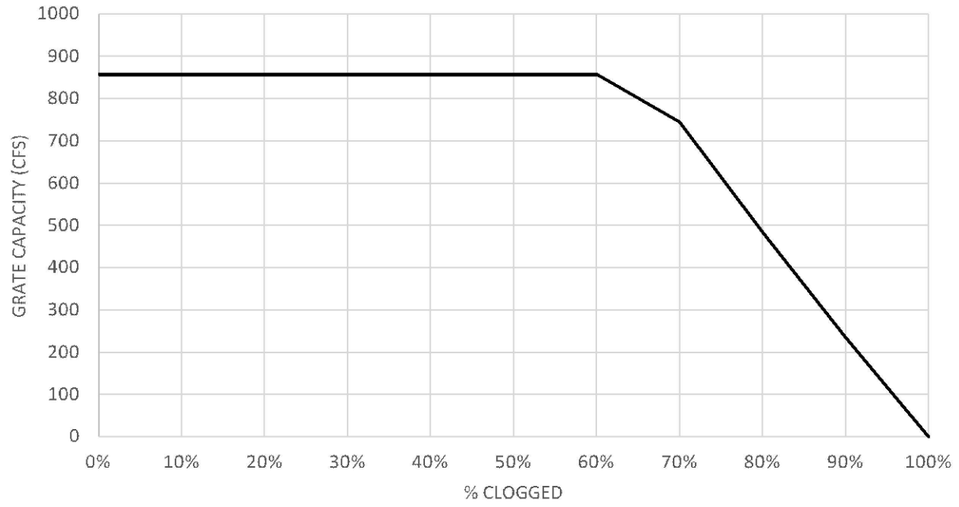

Figure 1: TrashTrooper Capacity vs. Clogging

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

TRASHTROOPER DESIGN ASSUMPTIONS, HYDRAULIC IMPACT ANALYSIS, AND MAINTENANCE

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

FREESE & NICHOLS, INC.
7633 E 63RD PL SUITE 300 TULSA, OK 74133 / PH:539-444-8677

PLAN SCALE:	DRAWN	KKH	04/01/19	APPROVED:
	DESIGNED	KHH	04/01/19	
	SURVEY			
PROFILE SCALE:	PROJ. MGR.			
HORIZONTAL:	LEAD ENGR.			
	FIELD MGR.			
VERTICAL	RECOMMENDED:			
	DESIGN MANAGER			CITY ENGINEER
				DATE:
FILE:	DRAWING:			PAGE NO. TS2
ATLAS PAGE NO: 01 & 08				SHEET NO. 110 OF 123

Friday, April 12, 2019 1:42:57 PM
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TrashTrooper®
Monitoring & Maintenance Plan

1.0 Maintenance

A preventative maintenance cleanout schedule is the most valuable tool for maintaining the proper operation of ParkUSA TrashTrooper®. Maintenance costs will be greatly reduced if a good housekeeping plan for the property is developed i.e., trash pickup, lawn maintenance, dumpster control, etc.

ParkUSA TrashTrooper has no moving parts. ParkUSA recommends inspection after any major storm event and monthly inspections. Complete a TrashTrooper Maintenance Report after each inspection and maintain for inspections and water quality permit renewals. Record and retain manifests of any vacuum truck pump cleanings.

A. Annual Maintenance

1. ParkUSA, manufacturer of TrashTrooper, recommends observation and maintenance be completed during non-flow (dry weather) conditions 5-7 days after the most recent rain.
2. Pull all manhole covers & open all hatchways. Observe for trash and debris and remove. It is particularly important to remove large solids like wood or trash bags as well as maintain cleared grating. Failure to remove trash and debris could be problematic to entire stormwater system.
3. ParkUSA TrashTrooper units are designed based on the inlet/outlet pipe type and size. ParkUSA recommends removal and cleaning of unit when measurable pollutants reach 25% of pipe diameter. For example: If 48" HDPE pipe is utilized on the inlet of the TrashTrooper cleaning should occur when measurable solids reach 12".
4. Typically, a vacuum truck may be used to remove sediment and other floatables from the unit. In most geographic areas the sediment can be disposed in a sanitary landfill once dewatered. Check with your provider regarding proper disposal. Pollutants are not allowed to be discharged back into the sanitary or storm sewer systems.
5. After cleaning via vacuum truck, replace manhole covers.
6. After cleanout is accomplished, obtain a copy of the service truck manifest. Update the TrashTrooper® Monitoring/Maintenance Report (ST Form 3) and attach a copy of the manifest to the report.

B. Quarterly Inspections

1. Monthly maintenance is advisable in heavy weather months and after any major storm event, using 1 inch in 24 hours as a minimum guideline depending on non-structural controls of the site.
2. During normal climate conditions, observation and maintenance should occur when non-flow (dry weather conditions) have existed, 2 – 3 days after the most recent rain.
3. Remove the control manhole basin cover or hatchway and observe for excessive trash and debris. Clean out if required. Replace or bolt down access covers. This is the most important maintenance requirement. Failure to remove trash and debris from the grating could cause a blockage or be problematic to the entire system.
4. At least quarterly or more frequently if there is a large amount of floatable debris washing onto the system, check the grating for blockage.
5. ParkUSA TrashTroooper units are designed based on the inlet/outlet pipe type and size. ParkUSA recommends removal and cleaning of unit when measurable pollutants reach 25% of pipe diameter. For example: If 48" HDPE pipe is utilized on the inlet of the Floatable Collection Screen cleaning should occur when measurable solids reach 12".
6. Close access grate and secure.

C. Safety and Environmental Considerations

1. All normal safety precautions should be taken with this equipment to prevent accidents and fires.
2. Care should be taken to keep the area around the interceptor clean to prevent accidents.
3. The atmosphere inside the Park Environmental Equipment TrashTrooper® may be a confined space and may be hazardous. Verify and follow OSHA confined space entry requirements. Entry is not recommended without proper equipment.
4. SAFETY AND ENVIRONMENTAL PROTECTION ARE THE RESPONSIBILITY OF THE USER. PARK ENVIRONMENTAL LTD. ASSUMES NO LIABILITY FOR MISUSE OF THIS SEPARATOR OR FOR USE OUTSIDE THE PARAMETERS FOR WHICH IT IS DESIGNED.

(ST Form 3)

TrashTrooper® Interceptor Monitoring / Maintenance Report

Year :	
Company Name :	
Address :	
City/State/Zip:	
Contact Phone :	
TrashTrooper® Model :	

Quarterly Record Keeping

Maintenance Activity	March	June	September	December
Non Structural Controls				
Interceptor Debris Cleaned				
Hose off Inside Walls				
Debris Screens Cleaned				
Mowing of Trashtrooper				
Structural Controls				
Solids Depth **				
Pumped Out				
Inspections				
Quarterly				
Annually				

"X" identifies the months in which the activity will be performed

I certify that I supervised or performed TrashTrooper® monitoring per requirements and manufacturer's recommended monitoring and maintenance procedures on the dates listed above.

Signed: _____
Owner or Owner Representative

Print Name: _____

Date Submitted: _____

Note: Keep records along with clean out manifests for proof of performance of maintenance. Use records to show permitting officials that your TrashTrooper is operational and meets the intent of the original property BMP for stormwater design.

(ST Form 5)

STORM WATER QUALITY MANAGEMENT PLAN (SWQMP)

For: Annual Review of Monthly TrashTrooper® Monitoring, Maintenance and Operation

Design Engineer Certification Form

I, _____, certify that I have reviewed the StormTrooper® Storm Water Interceptor Quarterly Monitoring and Maintenance Reports for the facility listed below.

{PE Stamp Here}

_____
Design Engineer's Name

_____
Signature

_____
Date

Engineer's Information

Company:	
Address:	
City, State, Zip:	

Facility Information

City:	
Facility No:	
Company:	
Owner Name:	
Address:	
City/State/Zip:	
Phone:	
Email:	

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REVISION	BY	DATE

ELM CREEK WEST POND

PROJECT No. 148150

TRASHTROOPER OPERATION AND MAINTENANCE PLAN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

FREESE & NICHOLS, INC.
7633 E 63RD PL SUITE 300 TULSA, OK 74133 / PH:539-444-8677

PLAN SCALE: HORIZONTAL: VERTICAL: PROFILE SCALE:

DRAWN	KKH	04/01/19
DESIGNED	KHH	04/01/19
SURVEY		
PROJ. MGR.		
LEAD ENGR.		
FIELD MGR.		

APPROVED:

RECOMMENDED:
DESIGN MANAGER

CITY ENGINEER

DATE:

FILE: DRAWING:

PAGE NO. TS3

ATLAS PAGE NO: 01 & 08

SHEET NO. 111 OF 123

Monday, April 1, 2019 2:41:19 PM
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SOUTH MADISON AVENUE

12+00.00

FG=687.39

Pres. R/W

Ex. TUG

Ex. WL

PROP 6" WL

12" SANITARY SEWER

Pres. R/W

11+50.00

FG=685.75

Pres. R/W

Ex. TUG

Ex. WL

PROP 6" WL

12" SANITARY SEWER

Pres. R/W

11+00.00

FG=684.05

Pres. R/W

Ex. TUG

Ex. WL

PROP 6" WL

12" SANITARY SEWER

Pres. R/W

10+50.00

FG=682.35

Pres. R/W

Ex. TUG

Ex. WL

PROP 6" WL

12" SANITARY SEWER

HORIZONTAL SCALE IN FEET
5 0 5 10
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - S. MADISON AVE.
STA. 10+50 TO STA. 12+00

PAGE NO. X01
SHEET NO. 112 OF 123

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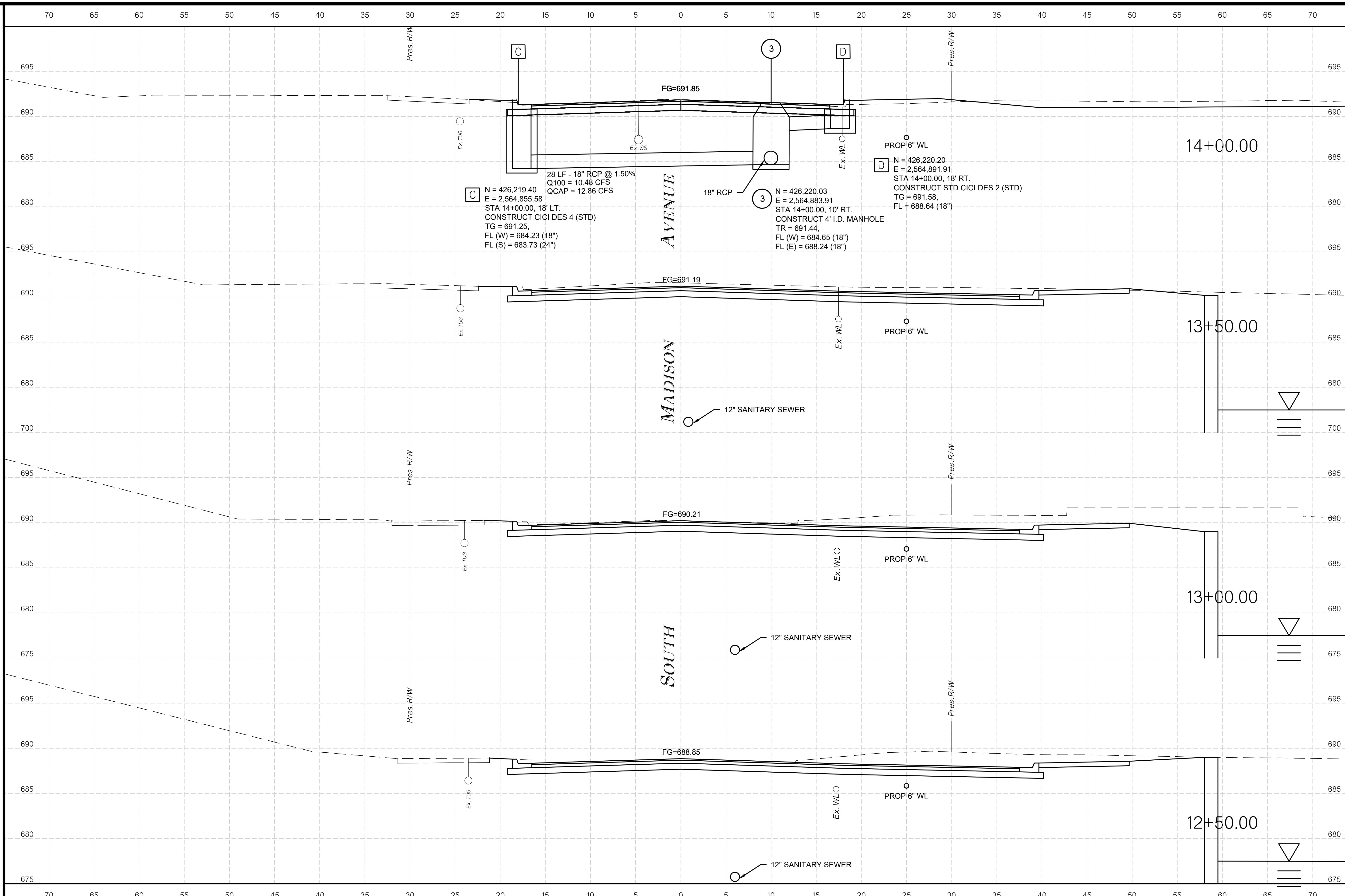

14+00.00
13+50.00
13+00.00
12+50.00
SOUTH MADISON AVENUE
FG=691.85
FG=691.19
FG=690.21
FG=688.85
Pres.R/W
Ex.TUG
Ex.SS
Ex. WL
PROP 6" WL
12" SANITARY SEWER
18" RCP
28 LF - 18" RCP @ 1.50%
Q100 = 10.48 CFS
QCAP = 12.86 CFS
C N = 426,219.40
E = 2,564,855.58
STA 14+00.00, 18' LT.
CONSTRUCT CICI DES 4 (STD)
TG = 691.25,
FL (W) = 684.23 (18")
FL (S) = 683.73 (24")
3 N = 426,220.03
E = 2,564,883.91
STA 14+00.00, 10' RT.
CONSTRUCT 4' I.D. MANHOLE
TR = 691.44,
FL (W) = 684.65 (18")
FL (E) = 688.24 (18")
D N = 426,220.20
E = 2,564,891.91
STA 14+00.00, 18' RT.
CONSTRUCT STD CICI DES 2 (STD)
TG = 691.58,
FL = 688.64 (18")

Wednesday, April 24, 2019 11:06:02 AM
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HORIZONTAL SCALE IN FEET
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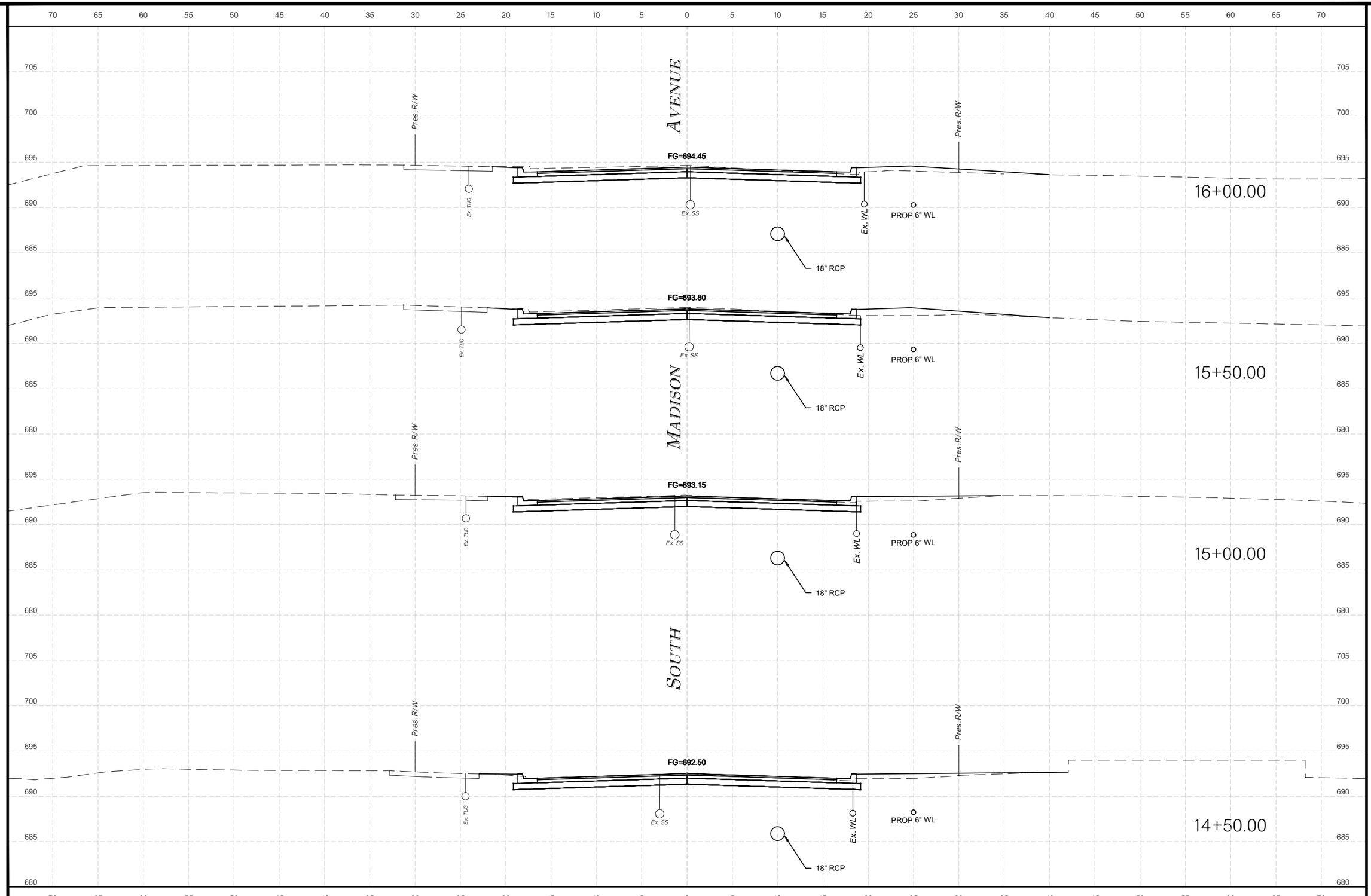
CROSS SECTIONS - S. MADISON AVE.
STA. 12+50 TO STA. 14+00

PAGE NO. X02
SHEET NO. 113 OF 123



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VERTICAL SCALE IN FEET

CROSS SECTIONS - S. MADISON AVE.
STA. 14+50 TO STA. 16+00

PAGE NO. X03
SHEET NO. 114 OF 123

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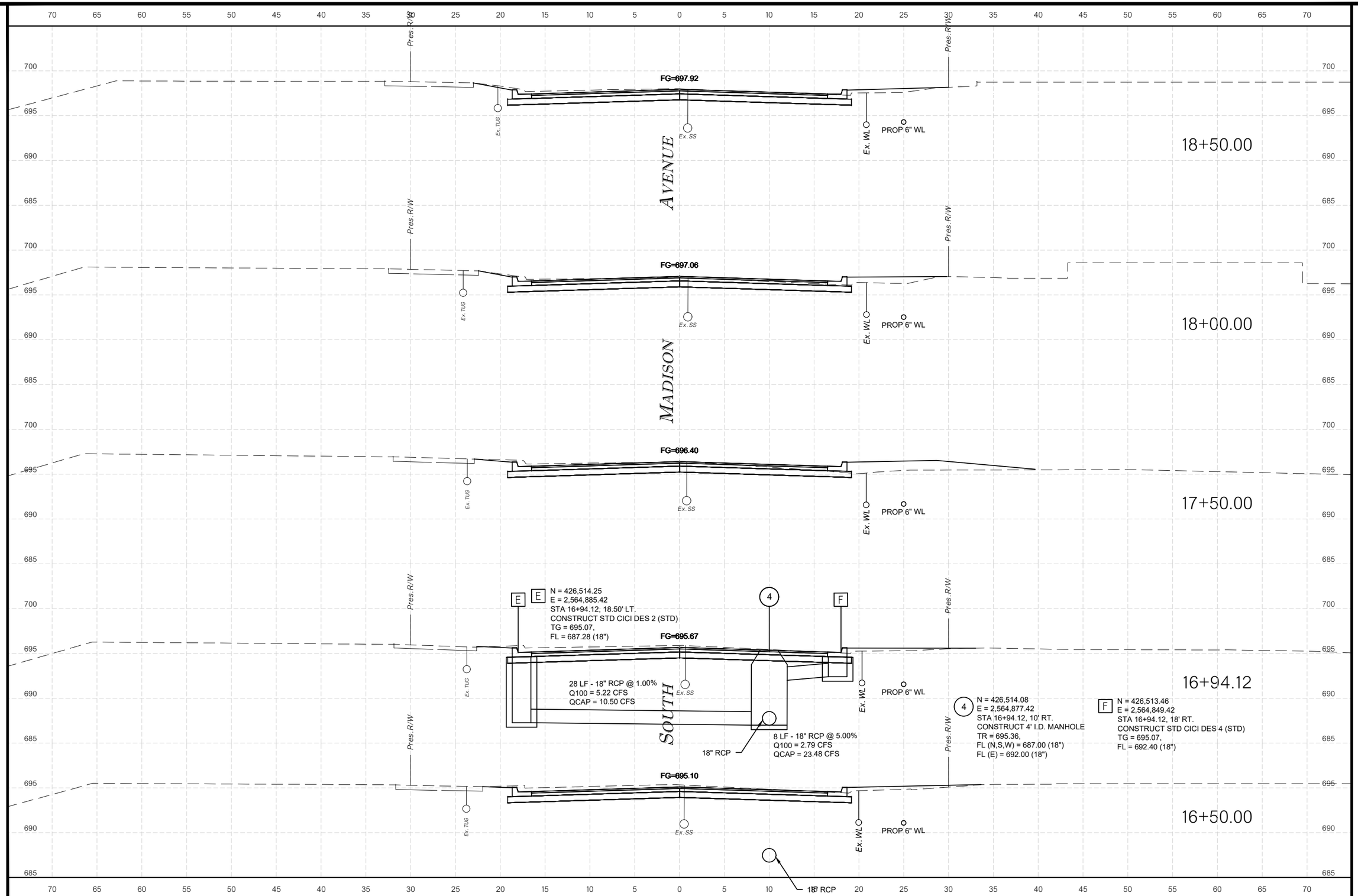

HORIZONTAL SCALE IN FEET
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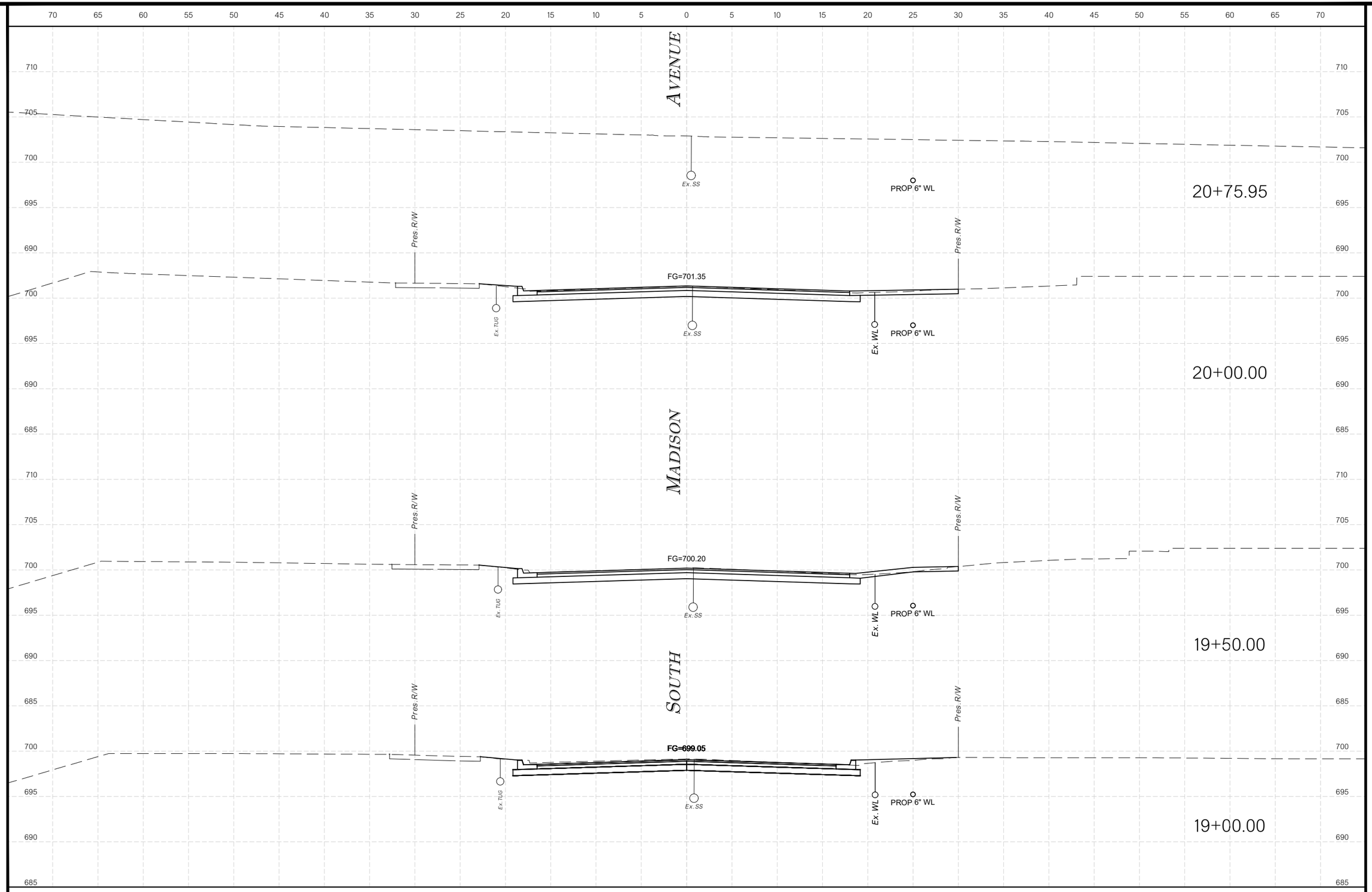
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - S. MADISON AVE.
STA. 16+50 TO STA. 18+50

PAGE NO. X04
SHEET NO. 115 OF 123



HORIZONTAL SCALE IN FEET
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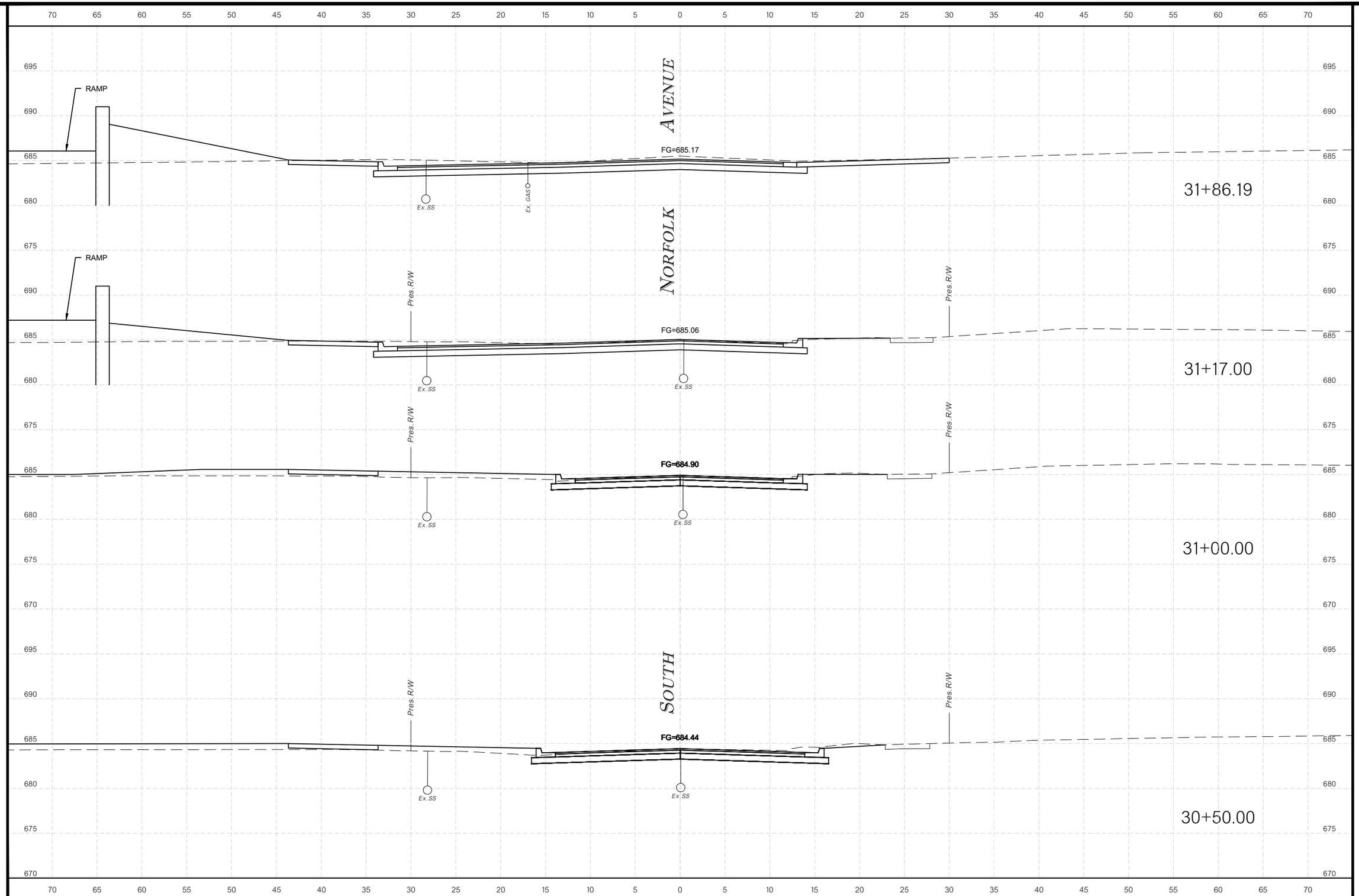
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - S. MADISON AVE.

STA. 19+00 TO STA. 20+58.71

PAGE NO. X05

SHEET NO. 116 OF 123



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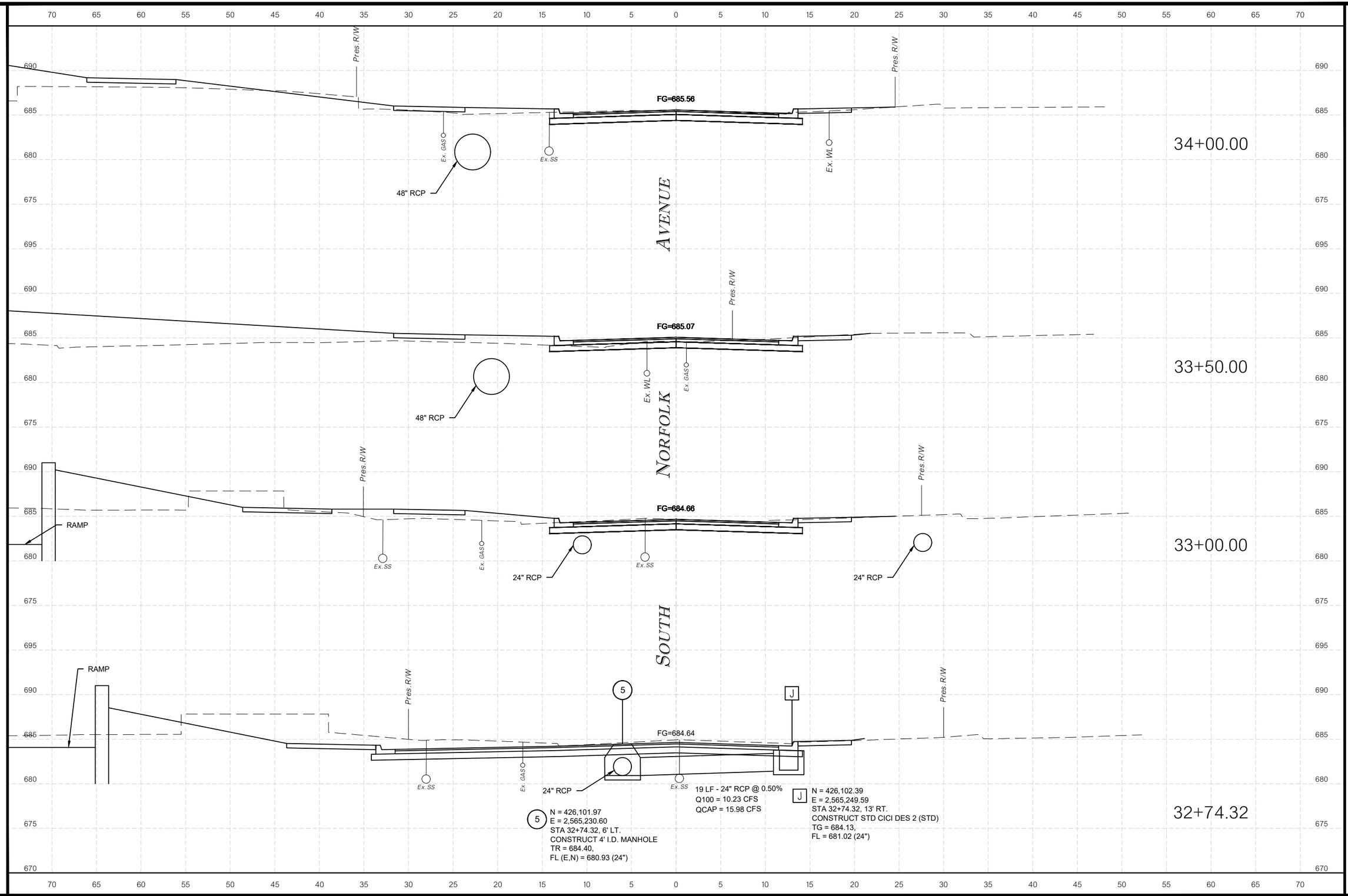
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - NORFOLK & 5TH PLACE
STA. 30+50 TO STA. 31+86.19

PAGE NO. X06
SHEET NO. 117 OF 123



HORIZONTAL SCALE IN FEET
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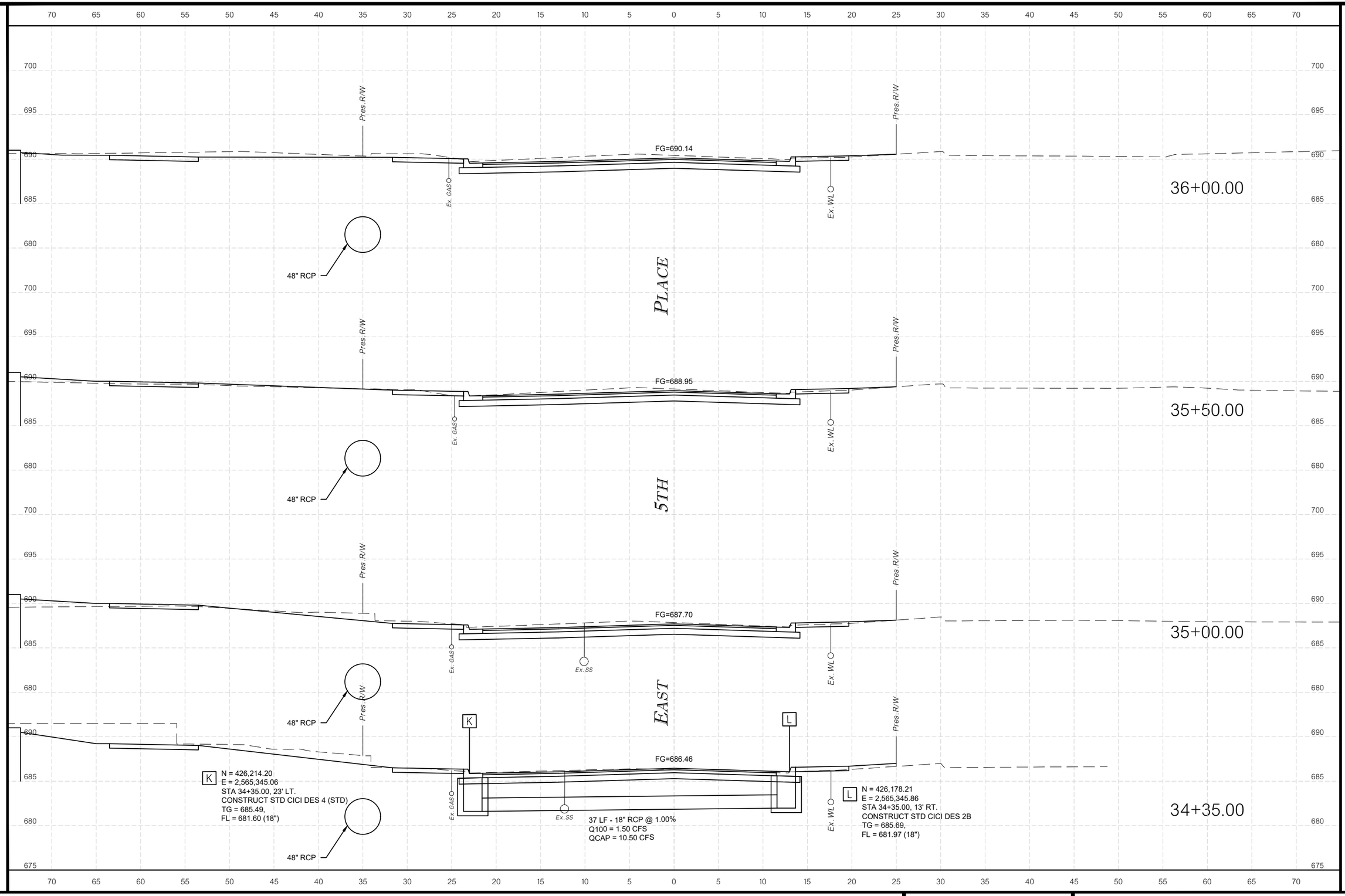
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - NORFOLK & 5TH PLACE
STA. 32+50 TO STA. 34+00

PAGE NO. X07
SHEET NO. 118 OF 123



HORIZONTAL SCALE IN FEET
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5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - NORFOLK & 5TH PLACE
STA. 34+50 TO STA. 36+00

PAGE NO. X08
SHEET NO. 119 OF 123

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

700 695 690 685 680

Pres. R/W

Ex. WL

38+00.00

PLACE

37+65.00

5TH

FG=692.63

8

N = 426,219.75
E = 2,565,641.60
STA 36+31.59, 22' LT. (E. 5TH STREET)
STA 40+33.00, 53' RT. (S. OWASSO AVE.)
CONSTRUCT 4' I.D. MANHOLE
TR = 692.69,
FL (NW) = 688.17 (18")
FL (E,S) = 688.17 (18")

35 LF - 18" RCP @ 1.00%
Q100 = 2.71 CFS
QCAP = 10.50 CFS

M

N = 426,185.10
E = 2,565,642.36
STA 37+31.58, 12.66' RT. (E. 5TH STREET)
STA 39+87.34, 53' RT. (S. OWASSO AVE.)
CONSTRUCT STD CICI DES 2B
TG = 692.18,
FL = 688.52 (18")

37+31.58

EAST

FG=691.19

Ex. GAS

36+50.00

48" RCP

HORIZONTAL SCALE IN FEET
5 0 5 10
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - NORFOLK & 5TH PLACE

STA. 36+50 TO STA. 38+00

PAGE NO. X09
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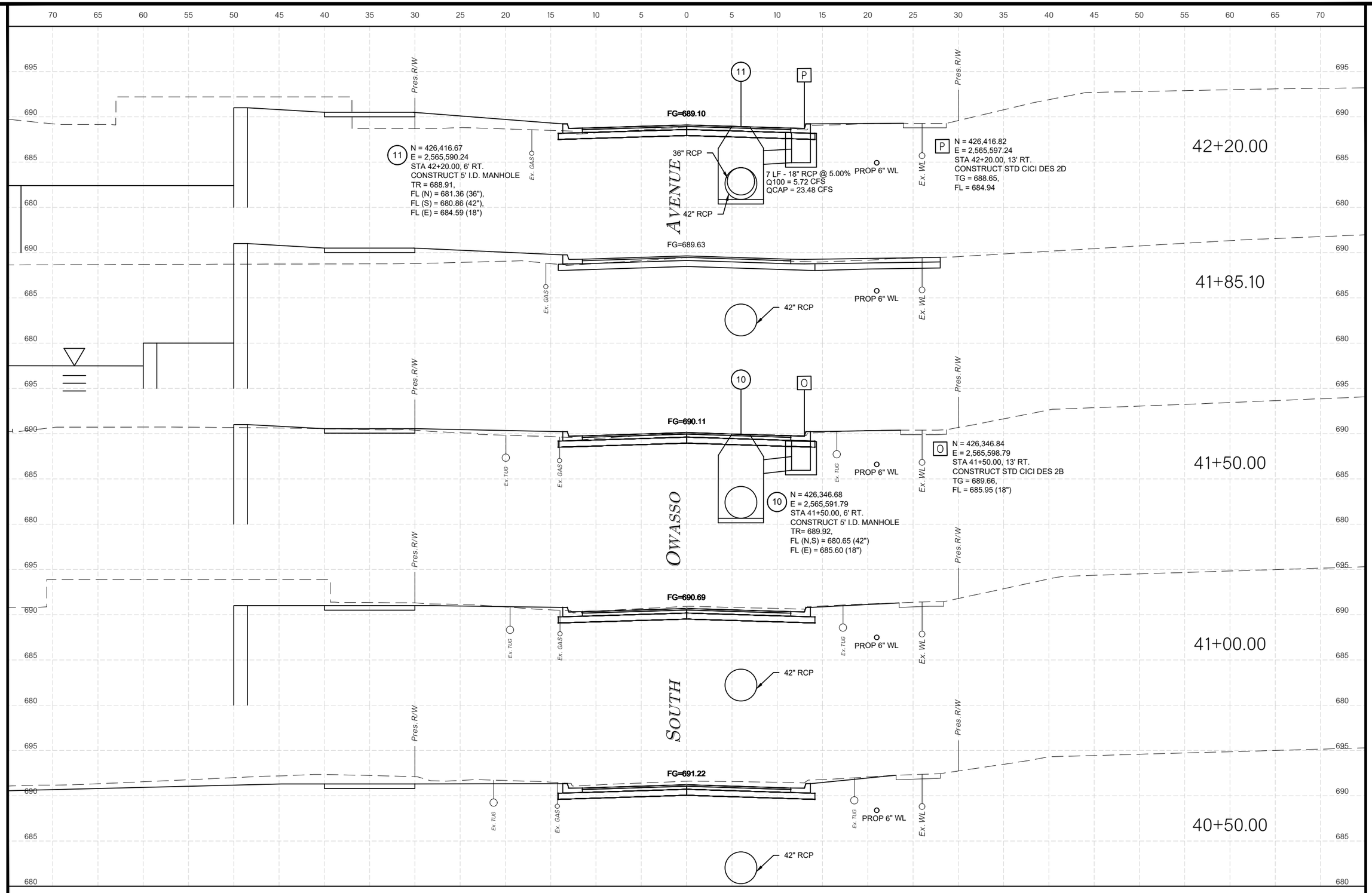
V:\FL16-1050\E Elm Ck West Pond, 148150-1, COT\FL\CIV\3D\FL PLANS\FL 1050-Cross Section.dwg



HORIZONTAL SCALE IN FEET
5 0 5 10
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - S. OWASSO AVE.
STA. 40+50 TO STA. 42+50

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70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

690 685 680 675

Pres. R/W

Ex. GAS

Ex. WL

PROP 6" WL

45+10.00

15

W

FG=687.38

15 N = 426,706.60
E = 2,565,583.84
STA 45+10.00, 6' RT.
CONSTRUCT 4' I.D. MANHOLE
TR = 687.19,
FL (S) = 683.59 (24")
FL (E) = 684.09 (18")

24" RCP

7 LF - 18" RCP @ 2.00%
Q100 = 7.95 CFS
QCAP = 14.85 CFS

W N = 426,706.75
E = 2,565,590.84
STA 45+10.00, 13' RT.
CONSTRUCT STD CICI DES 4 (STD)
TG = 686.93,
FL = 684.23 (18")

44+50.00

FG=686.72

V N = 426,616.20
E = 2,565,566.83
STA 44+20.00, 13' LT.
CONSTRUCT STD CICI DES 4 (STD)
TG = 686.18,
FL = 683.74 (18")

OWASSO AVENUE

14

V

U

FG=686.63

19 LF - 18" RCP @ 0.50%
Q100 = 3.91 CFS
QCAP = 7.42 CFS

24" RCP
36" RCP

7 LF - 18" RCP @ 0.30%
Q100 = 6.06 CFS
QCAP = 5.75 CFS

U N = 426,616.77
E = 2,565,592.83
STA 44+20.00, 13' RT.
CONSTRUCT STD CICI DES 2 (2B)
TG = 686.18,
FL = 683.66 (18")

14 N = 426,616.62
E = 2,565,585.83
STA 44+20.00, 6' RT.
CONSTRUCT 6' I.D. MANHOLE
TR = 686.44,
FL (N) = 682.14 (36")
FL (S) = 683.14 (24")
FL (E,W) = 683.64 (18")

44+20.00

FG=686.89

36" RCP

43+65.21

SOUTH

R

12

Q

FG=687.82

R N = 426,496.23
E = 2,565,569.48
STA 43+00.00, 13' LT.
CONSTRUCT STD CICI DES 2B
TG = 687.37,
FL = 683.64 (18")

19 LF - 18" RCP @ 2.00%
Q100 = 2.29 CFS
QCAP = 14.85 CFS

36" RCP

7 LF - 18" RCP @ 5.00%
Q100 = 4.76 CFS
QCAP = 23.48 CFS

Q N = 426,496.80
E = 2,565,595.47
STA 43+00.00, 13' RT.
CONSTRUCT STD CICI DES 2B
TG = 687.37,
FL = 683.61 (18")

12 N = 426,496.65
E = 2,565,588.48
STA 43+50.00, 6' RT.
CONSTRUCT 5' I.D. MANHOLE
TR = 687.63,
FL (N,S) = 681.76 (36")
FL (W) = 683.26 (18")
FL (E) = 683.26 (18")

43+00.00

HORIZONTAL SCALE IN FEET
5 0 5 10
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - S. OWASSO AVE.

STA. 43+00 TO STA. 45+00

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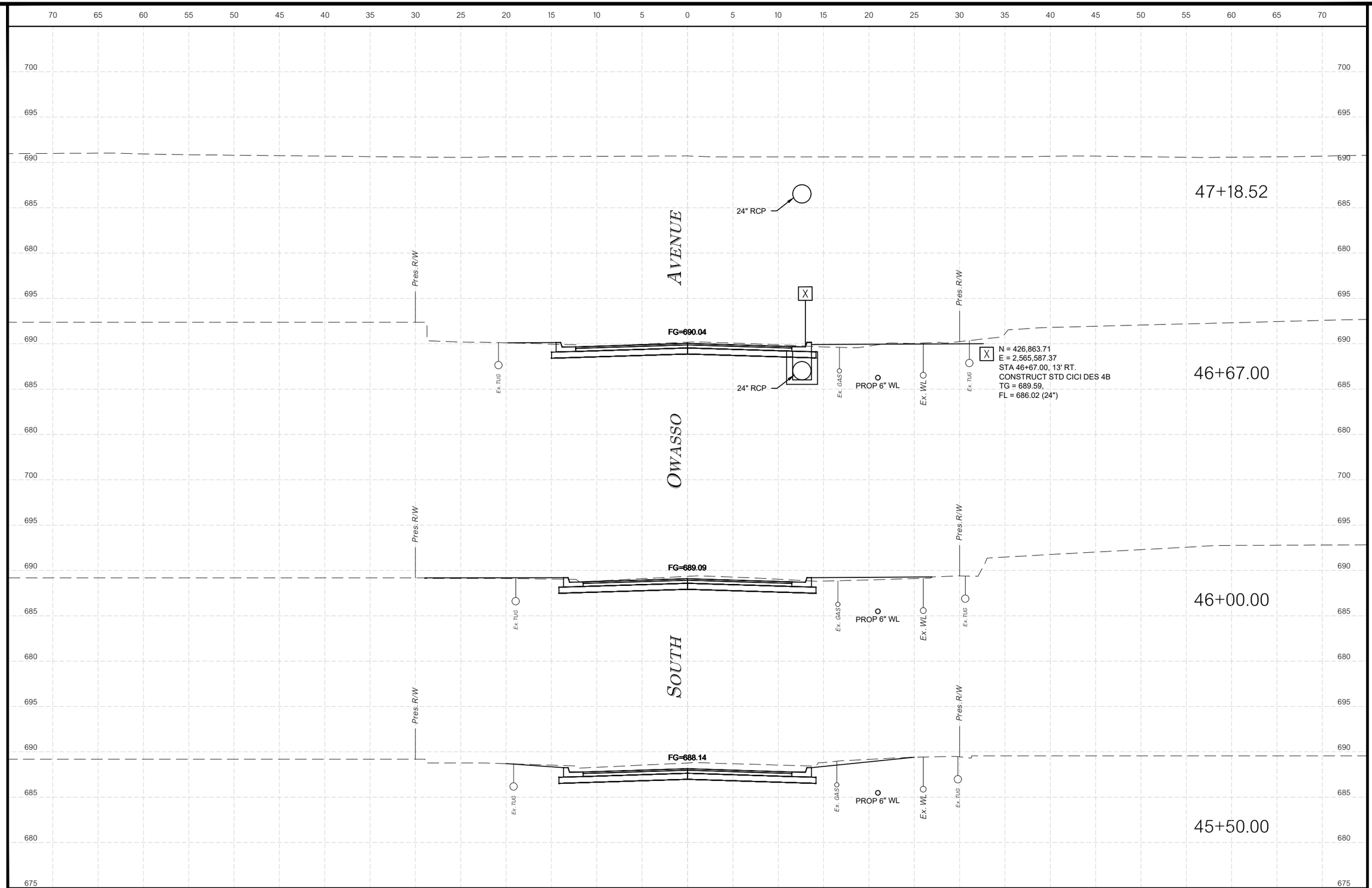

HORIZONTAL SCALE IN FEET
5 0 5 10
5 0 5 10
VERTICAL SCALE IN FEET

CROSS SECTIONS - S. OWASSO AVE.
STA. 45+50 TO STA. 47+10.15

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