OAK PARK DEVELOPMENT

JNB OAK PARK, LP

MUSCATINE, IOWA

PROJECT ENGINEER
RICKY TEED, P.E.
MARTIN & WHITACRE SURVEYORS & ENGINEERS, INC
563-263-7691

CITY OF MUSCATINE CONTACTS

JIM EDGMOND, CITY ENGINEER		
PUBLIC WORKS		563-263-8933

MUSCATINE POWER & WATER:

WATER:	BRYAN BUTLER	563-262-3360
ELECTRIC	STEVE SHOPPA	563-262-3324
COMMUNICATIONS	TOM LEWIS	563-262-3206

ALLIANT ENERGY

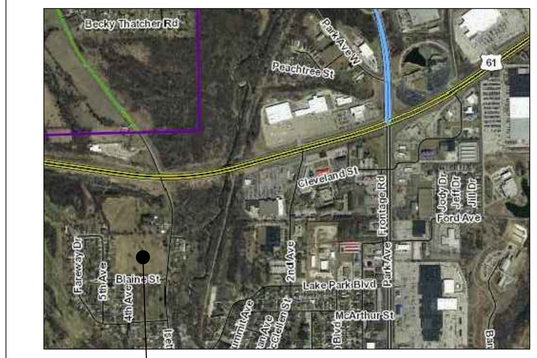
GAS	JOHN CARNEY	563-288-3322

CENTURY LINK

COMMUNICATIONS	563-355-1893

PROJECT DESCRIPTION: CONSTRUCTION OF NEW LOW-INCOME RETIREMENT COMMUNITY

LOCATION: NW CORNER OF BLAINE STREET & ISETT AVENUE



PROJECT LOCATION

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B.01	TYPICAL CROSS SECTIONS
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C.03	EROSION CONTROL PLAN
D.01-D.02	PLAN & PROFILE - OAK PARK AVENUE
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F.01	REMOVALS
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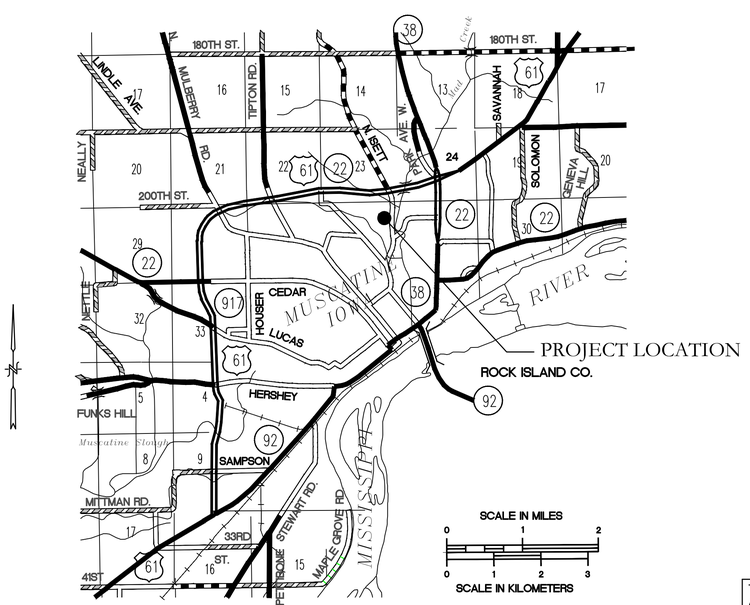
M.10	UTILITY PLAN
T.01	GRADING PLAN
T.02-T.04	GRADING CROSS SECTION
W.01-W.04	CROSS SECTION - MAINLINE
W.05	CROSS SECTION - CLUB HOUSE



VICINITY MAP

NO SCALE

SUDAS

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT IOWA STATEWIDE URBAN DESIGN STANDARDS AND SPECIFICATIONS, CITY BIDDING DOCUMENTS AND PROJECT SPECIAL CONDITIONS

THIS PROJECT SHALL OPERATE UNDER NPDES GENERAL PERMIT NO. 2 FOR "STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" THE DEVELOPER HAS FILED A PERMIT, ALL CONTRACTORS SHALL SIGN AND ADHERE TO PROJECT SWPPP

CONTRACTORS SHALL CALL IOWA ONE CALL 1-800-292-8989 PRIOR TO START OF WORK. EXISTING UTILITIES SHOWN ARE DERIVED FROM SURVEY & MAPPING DATA. FIELD LOCATE AND VERIFY ALL UTILITIES SHOWN. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES AND REPAIR DAMAGES.

CONTRACTORS SHALL PROVIDE TEMPORARY FENCING TO PREVENT ENTRANCE BY PEDESTRIANS AND VEHICLES. ALL WORK SHALL MEET CITY AND HNI SAFETY PROTOCOLS

LICENSED PROFESSIONAL ENGINEER
RICHARD H. TEED
23299
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

6/29/2018

RICHARD H. TEED, P.E. | IA. REG. NO 23299 | DATE

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2019

Pages or sheets covered by this seal: A.01 THROUGH W.05

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA
8180.17

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413
MUSCATINE, IOWA
VOICE (563) 263-7691
EMAIL info@martin-whitacre.com

REVISIONS:
1
2
3
4

DATE:	6/29/2018
JOB NO:	8180.17
SHEETS:	42
SHEET:	A.01

EXISTING TOPOGRAPHIC/UTILITIES

- EXISTING PROPERTY LINE
- EXISTING EASEMENT LINE
- EXISTING SETBACK LINE
- EXISTING FENCE LINE
- EXISTING TELEPHONE LINE
- EXISTING FIBER OPTIC LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND GAS LINE
- EXISTING WATER MAIN OR SERVICE
- EXISTING STORM SEWER/CULVERT
- EXISTING SANITARY SEWER
- EXISTING TELEPHONE RISER
- EXISTING CABLE TV RISER
- EXISTING ELECTRIC METER
- EXISTING ELECTRIC TRANSFORMER
- EXISTING ELECTRICAL MANHOLE
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING GAS METER
- EXISTING WATER VALVE
- EXISTING CURB BOX
- EXISTING FIRE HYDRANT
- EXISTING STORM SEWER INTAKE
- EXISTING STORM SEWER MANHOLE
- EXISTING SANITARY MANHOLE
- SIGN

CONTOUR LINES

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- PROPOSED MAJOR CONTOUR LINE
- PROPOSED MINOR CONTOUR LINE

COMMON ABBREVIATIONS

PCC	PORTLAND CONCRETE CEMENT
HMA	HOT MIX ASPHALT
DIP	DUCTILE IRON PIPE
RCP	REINFORCED CONCRETE PIPE
PVC	POLY VINYL CHLORIDE PIPE
CMP	CORRUGATED METAL PIPE
PE	POLYETHYLENE PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
IDOT	IOWA DEPARTMENT OF TRANSPORTATION
SUDAS	STATEWIDE URBAN DESIGN AND SPECIFICATIONS
LUST	LEAKING UNDERGROUND STORAGE TANK
MPW	MUSCATINE POWER & WATER

PROPOSED TOPOGRAPHIC/UTILITIES

- PROPOSED FENCE LINE
- PROPOSED TELEPHONE LINE
- PROPOSED FIBER OPTIC LINE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED OVERHEAD ELECTRIC
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED WATER MAIN OR SERVICE
- PROPOSED STORM SEWER/CULVERT
- PROPOSED SANITARY SEWER
- PROPOSED TELEPHONE RISER
- PROPOSED CABLE TV RISER
- PROPOSED ELECTRIC METER
- PROPOSED ELECTRIC TRANSFORMER
- PROPOSED ELECTRICAL MANHOLE
- PROPOSED POWER POLE
- PROPOSED LIGHT POLE
- PROPOSED GAS METER
- PROPOSED WATER VALVE
- PROPOSED CURB BOX
- PROPOSED FIRE HYDRANT
- PROPOSED STORM SEWER INTAKE
- PROPOSED STORM SEWER MANHOLE
- PROPOSED SANITARY MANHOLE
- SIGN

HATCHES

- PROPOSED PCC PAVEMENT HATCH
- PROPOSED HMA PAVEMENT HATCH
- PROPOSED CURB & GUTTER HATCH
- PROPOSED SIDEWALK HATCH
- PROPOSED RAILROAD BALLAST
- STORM SEWER REMOVAL

LANDSCAPING

- PROPOSED DECIDUOUS TREE
- PROPOSED SHRUB

GENERAL NOTES AND PROJECT SPECIFICATIONS

- THE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PROVIDE CONSTRUCTION DOCUMENT. FOR A GENERAL CONTRACTOR UNDER CONTRACT WITH JNB OAK PARK LP.
- ALL WORK SHALL FOLLOW CURRENT POSTED IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) FOR MATERIALS AND EXECUTION.
- CONSTRUCTION STAKING WILL BE PROVIDED BY A LICENSED LAND SURVEYOR AT THE OWNER'S EXPENSE.

SPECIAL PROVISIONS

DIVISION 2 EARTHWORK

SECTION 2010 EARTHWORK, SUBGRADE AND SUBBASE

2.04 SUBBASE MATERIAL SHALL BE MODIFIED SUBBASE.

3.05 UNSUITABLE SOILS MAY BE USED IN FILL AREAS WHERE NO STRUCTURE OR ROADWAY IS LOCATED OR SHALL BE REMOVED OFF SITE AND BECOME PROPERTY OF THE CONTRACTOR.

DIVISION 3 TRENCH AND TRENCHLESS CONSTRUCTION

SECTION 3010 TRENCH EXCAVATION AND BACKFILL

1.03 SUBMITTALS NOT REQUIRED.

1.08.D REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL SHALL BE MANUFACTURED SAND AND SHALL BE USED FOR ALL BACKFILL DURING STANDARD TRENCH EXCAVATION WITHIN 10' OF BACK OF CURB.

3.06 TRENCH COMPACTION TESTING SHALL BE STRICTLY FOLLOWED IN FILL AREAS.

DIVISION 4 SEWERS AND DRAINS

SECTION 4060 CLEANING, INSPECTION, AND TESTING OF SEWERS

- CONTRACTOR SHALL COMPLETE A SUCCESSFUL MANDREL TEST AND PROVIDE VIDEO INSPECTION REPORT AND VIDEO OF SEWERS TO ENGINEER ON ALL SEWER PIPES PRIOR TO SUBGRADE PREPARATIONS.
- SUBGRADE PREPARATIONS SHALL NOT START UNTIL FINAL APPROVAL OF SEWER CONSTRUCTION FROM OWNER'S REPRESENTATIVE

DIVISION 5 WATER MAINS AND APPURTENANCES

- CONSTRUCTION SHALL FOLLOW MUSCATINE POWER & WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS.
- CONTRACTOR TO COMPLETE ALL SERVICE TAPS FROM NEW WATER MAIN.
- NO NITRILE GASKETS ARE REQUIRED FOR THIS PROJECT.
- THRUST BLOCKS SHALL BE POURED CONCRETE BLOCK. NO DRY BLOCKING WILL BE ALLOWED.
- CONTRACTOR SHALL NOT BURY ANY WATER MAIN OR APPURTENANCES WITHOUT PRIOR INSPECTION BY THE OWNER'S REPRESENTATIVE.

SECTION 5020 VALVES, FIRE HYDRANTS, AND APPURTENANCES

1.08.B TAPPING VALVE ASSEMBLY

- CONTRACTOR SHALL PREPARE EXISTING WATER MAIN FOR TAPS INCLUDING PRESSURE TESTING TAPPING SLEEVE.
- CONTRACTOR TO PROVIDE ALL MATERIAL FOR TAPS ONTO MPW WATER MAIN.
- MPW TO COMPLETE TAPS ONTO EXISTING WATER MAINS AT CONTRACTORS EXPENSE.

1.08.C FIRE HYDRANT ASSEMBLY INCLUDES THE COST OF THE GATE VALVE

SECTION 5030 TESTING AND DISINFECTION

- CONTRACTOR SHALL COMPLETE ALL PRESSURE TESTING AND DISINFECTION
- COORDINATE WITH MPW TO COMPLETE DISINFECTION TESTING

2.01 LIQUID CHLORINE SHALL BE USED FOR DISINFECTION

DIVISION 6 STRUCTURES FOR SANITARY AND STORM

- SHALL STRICTLY FOLLOW SUDAS DETAILS.

DIVISION 7 STREETS AND RELATED WORK

SECTION 7010 PORTLAND CEMENT CONCRETE PAVEMENT

- TWO YEAR WARRANTY SHALL BE REQUIRED ON ALL PAVING WORK

3.07.A CYLINDER TESTING TO BE PROVIDED BY THE CONTRACTOR, AIR ENTRAINMENT AND SLUMP TESTING AT THE SITE TO BE PROVIDED BY THE CONTRACTOR. OWNER'S REPRESENTATIVE SHALL BE PRESENT DURING TESTING.

3.07.C PARKING LOT AND STREET PAVEMENT SMOOTHNESS TO BE TESTED USING STRAIT-EDGE METHOD.

DIVISION 9 SITEWORK AND LANDSCAPING

SECTION 9010 SEEDING

2.02 ALL SEEDING SHALL BE SUDAS TYPE 1 HYDRAULIC SEEDING AND MULCHING.

SECTION 9030 EROSION AND SEDIMENT CONTROL

- ENGINEER TO COMPLETE NPDES GENERAL PERMIT NO. 2 APPLICATION
- CONTRACTOR RESPONSIBLE FOR MAINTAINING ALL WORK UNDER THIS SECTION.

STORMWATER DESIGN INFORMATION

STORMWATER MANAGEMENT
STORM ANALYSIS: SCS TR-55
MODEL: AUTOCAD 2016 - STORM AND SANITARY ANALYSIS

CURRENT CITY CODE
TITLE 10-ZONING, SECTION 10-27-11 STORMWATER MANAGEMENT

- STORMWATER MANAGEMENT PRACTICES SHALL BE DESIGNED AND BUILT TO ACCOMMODATE THE RUNOFF FOR THE ENTIRE PARKING LOT AT AN EVENT RAINFALL DEPTH OF 1.25"

DESCRIPTION	PRE-DEVELOPMENT	POST-DEVELOPMENT
LOT SIZE	10 ACRES	10 ACRES
IMPERVIOUS AREA	0 ACRES	2.6 ACRES (PVMT AND ROOF TOPS)
LAND TYPE	PASTURE, GRASSLAND	1/2 ACRE LOTS, 25% IMPERVIOUS
SOIL GROUP	C	C
CURVE NUMBER	79	80
TIME OF CONC.	51.50 MINUTES	16.08 MINUTES
1.25" DETENTION	0 CF	11,800 CF

STORMWATER DETENTION ANALYSIS
PROJECT: OAK PARK DEVELOPMENT
BASIN DESCRIPTION: NE BASIN

CONTOUR ELEVATION	CONTOUR AREA (SQ. FT)	DEPTH (FT)	INCREMENTAL VOLUME AVG. END (CU. FT)	CUMULATIVE VOLUME AVG. END (CU. FT)
588.00	178.81	N/A	N/A	0.00
589.00	3,559.82	1.00	1869.32	1869.32
590.00	4,104.19	1.00	3832.00	5701.32
591.00	4,679.64	1.00	4391.92	10093.24
592.00	5,286.04	1.00	4982.84	15076.08
593.00	5,923.17	1.00	5604.61	20680.68
594.00	6,590.92	1.00	6257.05	26937.73
595.00	7,289.67	1.00	6940.30	33878.03
596.00	8,019.52	1.00	7654.60	41532.63
597.00	8,741.18	1.00	8380.35	49912.98

STORM ANALYSIS

RAIN EVENT DESCRIPTION: 100-YEAR CUMULATIVE STORM FOR MUSCATINE COUNTY, IOWA WITH A TOTAL RAINFALL AMOUNT OF 7.13 INCHES USING A SCS TYPE II 24-HR STORM DISTRIBUTION

PROPOSED DETENTION BASIN WAS MODELED WITH A MAXIMUM WATER ELEVATION AT 695.55 FEET, THE EQUIVALENT OF 37,700 CF OF WATER DETENTION.

SOIL MANAGEMENT PLAN

1. ALL TOP SOIL SHALL REMAIN ON SITE AND BE USED FOR FINISHED GRADE TOP SOIL, BIORETENTION BASIN, AND BIOSWALE APPLICATIONS.
2. COMPACTION SHALL FOLLOW SOILS REPORT.
   - 2.1. SOILS REPORT TO BE COORDINATED BY GENERAL CONTRACTOR.
   - 2.2. COMPACTION FOR BUILDING FOUNDATION SHALL ADDRESS DIFFERENTIAL SETTLING FOR BUILDINGS THAT ARE CONSTRUCTION ON FILL DEEPER THAN THE FROST FOOTING.

PLOTTED: 6/29/2018

E:\CIVIL3D PROJECTS\8180 OAK PARK SUBDIVISION\3 PLAN SHEETS\A SHEETS.DWG

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

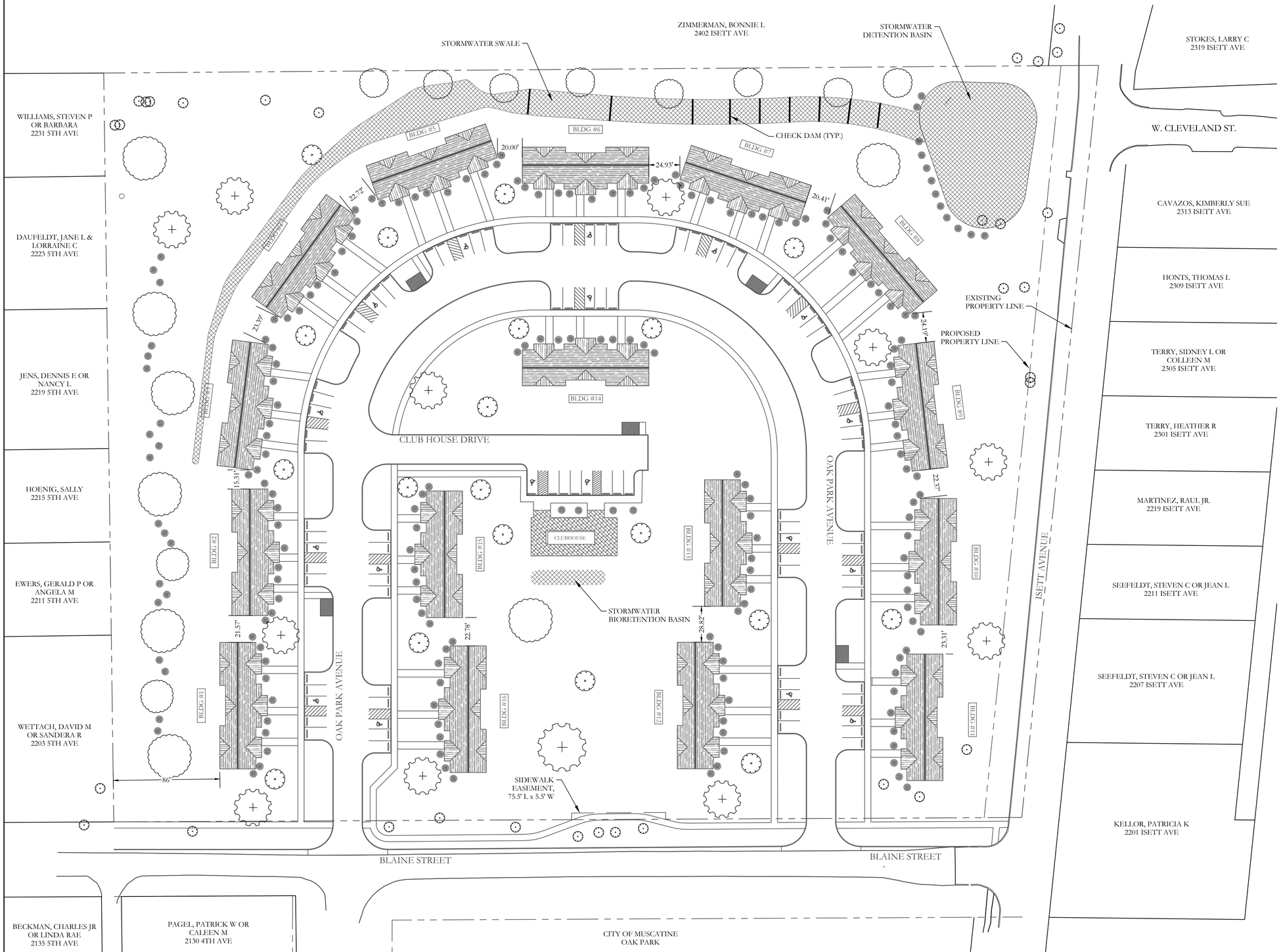
Martin & Whitacre
Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

LEGEND & SPECIFICATIONS

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: A.02
SHEET NO: 2 OF 42



SITE PLAN INFORMATION:

DEVELOPER INFORMATION:	JNB OAK PARK, LP
PARCEL:	0826226005
LOT INFORMATION:	PARK PLACE ADDITION 10 ACRES
ZONING:	R-L (LARGE SCALE RESIDENTIAL DEVELOPMENT)
SETBACK REQUIREMENTS:	FRONT YARD: NONE SIDE YARD: NONE REAR YARD: NONE
FLOOD ELEVATION:	(SITE NOT IN FLOOD PLAIN)

EXPECTED DEVELOPMENT:

SENIOR LIVING TWO BEDROOM APARTMENTS
16 TRIPLEX UNITS AND A COMMUNITY BULIDING

UTILITIES:

ELECTRIC:	MPW
WATER:	MPW
SEWER:	CITY OF MUSCATINE
STORM:	CITY OF MUSCATINE
GAS:	ALLIANT
COMMUNICATIONS:	MPW AND CENTURY LINK
FIRE SERVICE:	PRIVATE FIRE HYDRANTS AT 400' SPACING
LIGHTING:	STREET LIGHT POLE FIXTURES, 20' TALL

GENERAL NOTES:

CONTRACTORS SHALL FIELD LOCATE UTILITIES VIA THE IOWA ONE CALL SYSTEM PRIOR TO CONSTRUCTION ACTIVITIES

LANDSCAPING NOTES:

- FINAL LANDSCAPING PLAN TO BE COMPLETED BY "THE GREEN THUMBERS" IN DAVENPORT, IA.
- FINAL PLAN SHALL BE APPROVED BY CITY PLANNER
- COORDINATE WITH KAREN BACHMAN, (563)322-0721, AT THE GREEN THUMBERS.

LANDSCAPING LEGEND

SHRUBS

ORNAMENTAL TREE

EVERGREEN

LARGE DECIDUOUS TREE

PLOTTED: 6/29/2018

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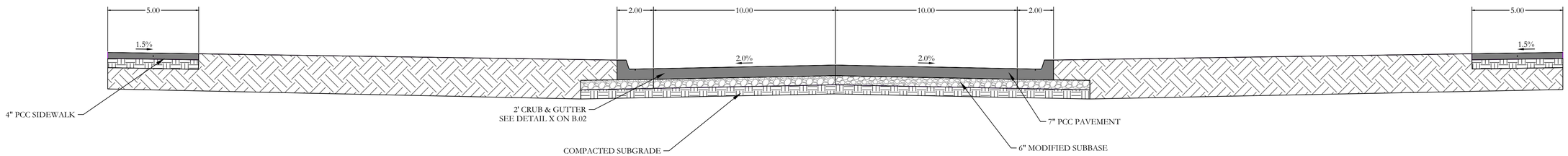
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

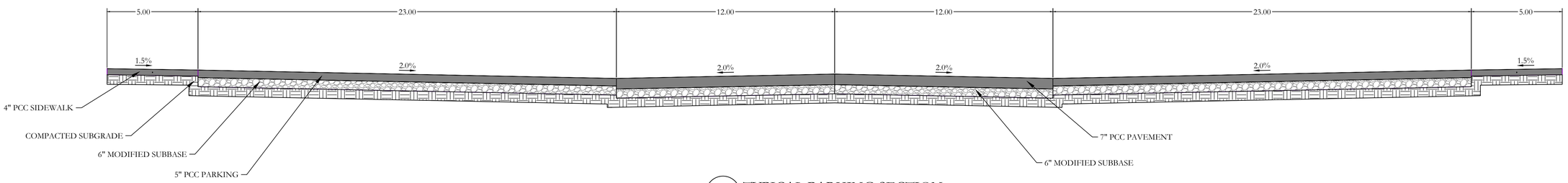
OVERALL SITE PLAN

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: A.03
SHEET NO: 3 OF 42



1 / B.02 TYPICAL ROAD SECTION
NOT TO SCALE



2 / B.02 TYPICAL PARKING SECTION
NOT TO SCALE

PLOTTED: 6/29/2018

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#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

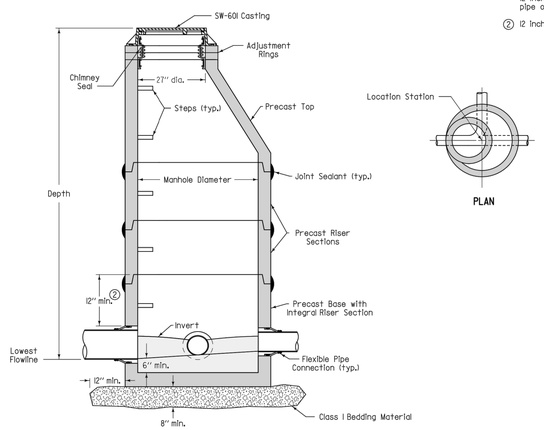
TYPICAL CROSS SECTIONS

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: B.01
SHEET NO: 4 OF 42

① For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.

② 12 inch minimum riser height above all pipe openings.



TYPICAL SECTION

Manhole Diameter (Inches)	Maximum Pipe Diameter ① (Inches) for 2 Pipes	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

SUDAS | Iowa Department of Transportation | REVISION NEW 04-21-09

FIGURE 6010.301 | STANDARD ROAD PLAN | SW-301 | SHEET 1 of 1

REVISIONS: New. Replaces SUDAS Type "A" Manhole. Will replace SW-5.

Rick D. Wiegert, Iowa DOT Roadway Standards Engineer | Dianna Mayfield, Iowa DOT Design Methods Engineer

CIRCULAR SANITARY SEWER MANHOLE

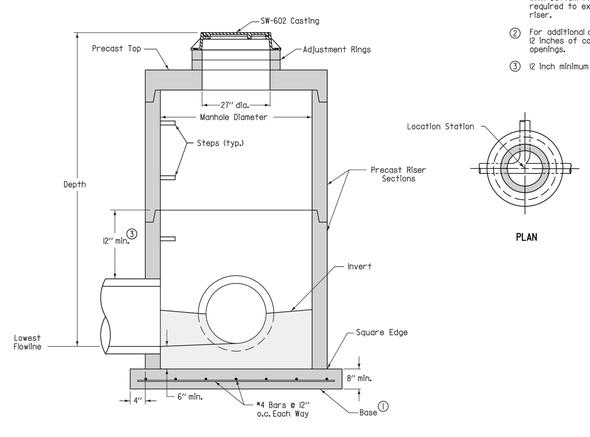
FIGURE 6010.301 SHEET 1 OF 1

1 / B.02 SANITARY MANHOLE
NOT TO SCALE

① Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.

② For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.

③ 12 inch minimum riser height above all pipe openings.



TYPICAL SECTION

Manhole Diameter (Inches)	Maximum Pipe Diameter ② (Inches) for 2 Pipes	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

SUDAS | Iowa Department of Transportation | REVISION NEW 04-21-09

FIGURE 6010.401 | STANDARD ROAD PLAN | SW-401 | SHEET 1 of 1

REVISIONS: New. Replaces SUDAS Type "H-A" Manhole. Will replace SW-5A.

Rick D. Wiegert, Iowa DOT Roadway Standards Engineer | Dianna Mayfield, Iowa DOT Design Methods Engineer

CIRCULAR STORM SEWER MANHOLE

FIGURE 6010.401 SHEET 1 OF 1

2 / B.02 STORM MANHOLE
NOT TO SCALE

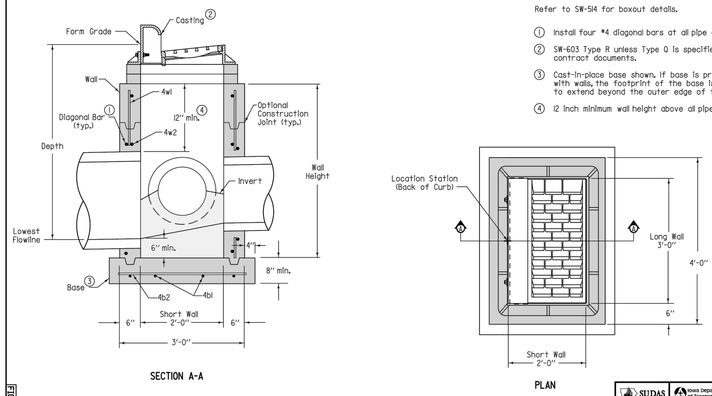
Refer to SW-514 for boxout details.

① Install four #4 diagonal bars at all pipe openings.

② SW-603 Type R unless Type Q is specified in the contract documents.

③ Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

④ 12 inch minimum wall height above all pipes.



REINFORCING BAR LIST							
Mark	Size	Location	Shape	Length		Count	Spacing
4w1	4	Walls	———	Wall Height minus 4"		14	12"
4w2	4	Long Walls	———	3'-8"		Varies	12"
4w3	4	Short Walls	———	2'-8"		Varies	12"
4b1	4	Base	———	4'-2"		4	10"
4b2	4	Base	———	3'-2"		5	10"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

SUDAS | Iowa Department of Transportation | REVISION 1 10-16-12

FIGURE 6010.501 | STANDARD ROAD PLAN | SW-501 | SHEET 1 of 1

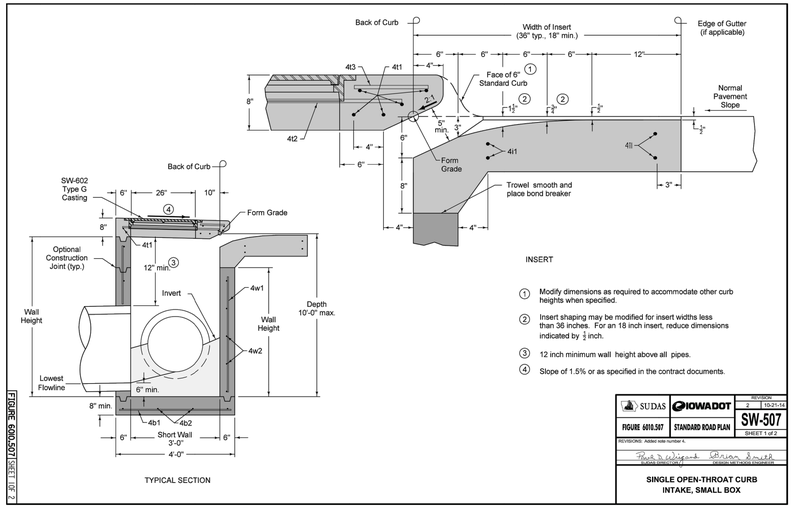
REVISIONS: Added reference to SW-514.

Rick D. Wiegert, Iowa DOT Roadway Standards Engineer | Dianna Mayfield, Iowa DOT Design Methods Engineer

SINGLE GRATE INTAKE

FIGURE 6010.501 SHEET 1 OF 1

3 / B.02 GRATE INTAKE
NOT TO SCALE



① Modify dimensions as required to accommodate other curb heights when specified.

② Insert shaping may be modified for insert widths less than 36 inches. For an 18 inch insert, reduce dimensions indicated by $\frac{1}{2}$ inch.

③ 12 inch minimum wall height above all pipes.

④ Slope of 1.5% or as specified in the contract documents.

SUDAS | IOWADOT | REVISION 2 10-21-14

FIGURE 6010.507 | STANDARD ROAD PLAN | SW-507 | SHEET 1 of 2

REVISIONS: Added note number 4.

Rick D. Wiegert, Iowa DOT Roadway Standards Engineer | Brian Smith, Iowa DOT Design Methods Engineer

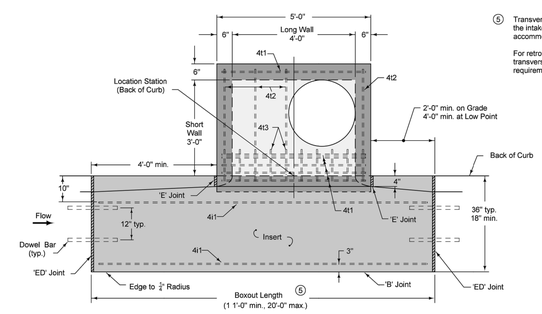
SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX

FIGURE 6010.507 SHEET 1 OF 2

4 / B.02 OPEN THROAT CURB INTAKE 1
NOT TO SCALE

⑤ Transverse joint spacing on new concrete pavement is controlled by the intake boxout. Adjust adjacent joint spacing as required to accommodate boxouts.

For retrofit intakes, match existing pavement joints. Stop any transverse pavement joints that do not conform to the minimum spacing requirements at the edge of the insert area.



MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	24"	30"
Long Wall	30"	36"

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	———	6	4'-8"	See Insert
4t2	4	Top	———	4	3'-6"	12"
4t3	4	Top	———	10	10"	6"
4b1	4	Base	———	6	3'-6"	1 1"
4b2	4	Base	———	5	4'-6"	10"
4i1	4	Insert	———	4	Boxout Length minus 8"	See Plan
4w1	4	Walls	———	14	Wall Height minus 4"	14"
4w2	4	Long Walls	———	Varies	4'-8"	12"
4w3	4	Short Walls	———	Varies	3'-8"	12"

SUDAS | IOWADOT | REVISION 2 10-21-14

FIGURE 6010.507 | STANDARD ROAD PLAN | SW-507 | SHEET 2 of 2

REVISIONS: Added note number 5.

Rick D. Wiegert, Iowa DOT Roadway Standards Engineer | Brian Smith, Iowa DOT Design Methods Engineer

SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX

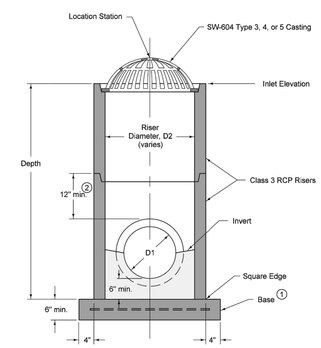
FIGURE 6010.507 SHEET 2 OF 2

5 / B.02 OPEN THROAT CURB INTAKE 2
NOT TO SCALE

① Precast (shown) or cast-in-place base:

- Precast: 6 inch thick concrete with #6 welded wire mesh on 4 inch centers (WWF 4" x 4"). Center mesh vertically within base.
- Cast-in-place: 8 inch thick non-reinforced concrete.

② 12 inch minimum riser height above all pipes.



INTAKE SIZE - CASE 1	
Outlet Pipe Diameter, D1	Minimum Riser Diameter, D2
12"	18"
15"	24"
18"	24"
21"	30"
24"	30"
27"	36"

SUDAS | IOWADOT | REVISION 2 10-21-14

FIGURE 6010.312 | STANDARD ROAD PLAN | SW-512 | SHEET 1 of 2

REVISIONS: Created the flow arrow on sheet 2.

Rick D. Wiegert, Iowa DOT Roadway Standards Engineer | Brian Smith, Iowa DOT Design Methods Engineer

CIRCULAR AREA INTAKE

FIGURE 6010.312 SHEET 1 OF 2

6 / B.02 AREA INTAKE
NOT TO SCALE

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

DETAILS

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: B.02
SHEET NO: 5 OF 42

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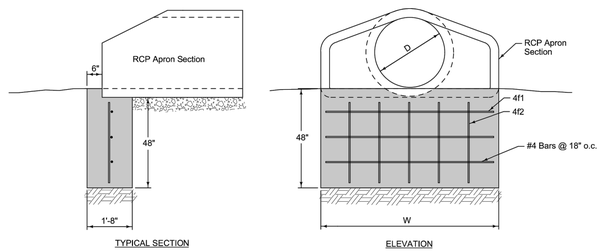
PLOTTED: 6/29/2018



REINFORCING BAR LIST

D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3
		4f2	4	3'-8"	2
15"	2'-10 ½"	4f1	4	2'-6 ½"	3
		4f2	4	3'-8"	2
18"	3'-5"	4f1	4	3'-1"	3
		4f2	4	3'-8"	3
24"	4'-6"	4f1	4	4'-2"	3
		4f2	4	3'-8"	3
30"	5'-7"	4f1	4	5'-3"	3
		4f2	4	3'-8"	4
36"	6'-8"	4f1	4	6'-4"	3
		4f2	4	3'-8"	5
42"	7'-3"	4f1	4	6'-11"	3
		4f2	4	3'-8"	5

D	W	Mark	Size	Length	Count
48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	6
54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	6
60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	7
78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	7
84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	8

FIGURE 4030.221 | SHEET 1 OF 1

SUDAS | REVISION 4 | 10-21-14 | 4030.221 | SHEET 1 of 1

SUDAS Standard Specifications

RCP APRON SECTION FOOTING

1 B.03 PIPE APRON FOOTING
NOT TO SCALE

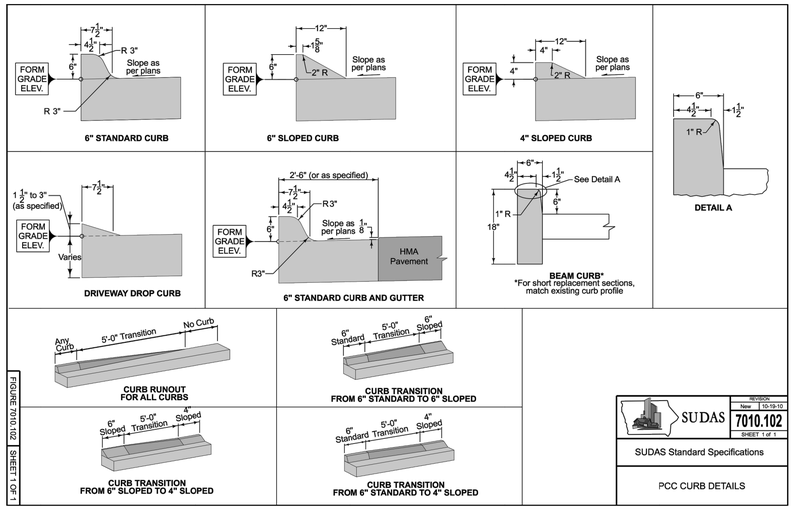


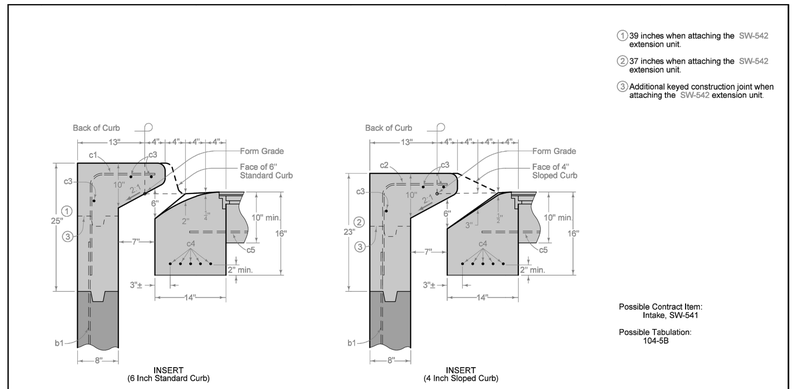
FIGURE 7010.102 | SHEET 1 OF 1

SUDAS | REVISION New | 10-19-12 | 7010.102 | SHEET 1 of 1

SUDAS Standard Specifications

PCC CURB DETAILS

2 B.03 CURB DETAIL
NOT TO SCALE



Possible Contract Item:
Intake, SW-541

Possible Tabulation:
104-5B

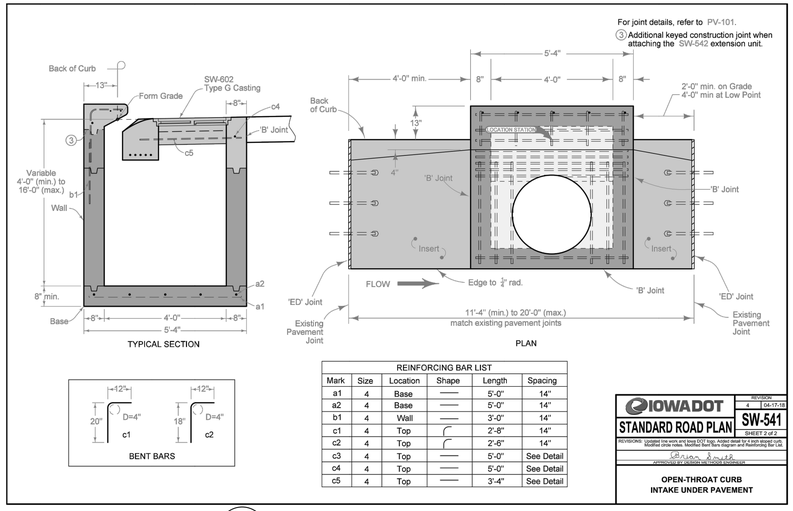
IOWA DOT | REVISION 4 | 04-17-18 | STANDARD ROAD PLAN | SW-541 | SHEET 1 of 2

REVISIONS: Upsized line work and bring DOT logo. Added detail of Rubber-sealed Lids. Modified circle notes. Identified Bend Bars diagram and Reinforcing Bar List.

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

OPEN-THROAT CURB
INTAKE UNDER PAVEMENT

3 B.03 UNDER PAVEMENT INTAKE 1
NOT TO SCALE



REINFORCING BAR LIST

Mark	Size	Location	Shape	Length	Spacing
a1	4	Base	——	5'-0"	14"
a2	4	Base	——	5'-0"	14"
b1	4	Wall	——	3'-0"	14"
c1	4	Top	⌒	2'-8"	14"
c2	4	Top	⌒	2'-6"	14"
c3	4	Top	——	5'-0"	See Detail
c4	4	Top	——	5'-0"	See Detail
c5	4	Top	——	3'-4"	See Detail

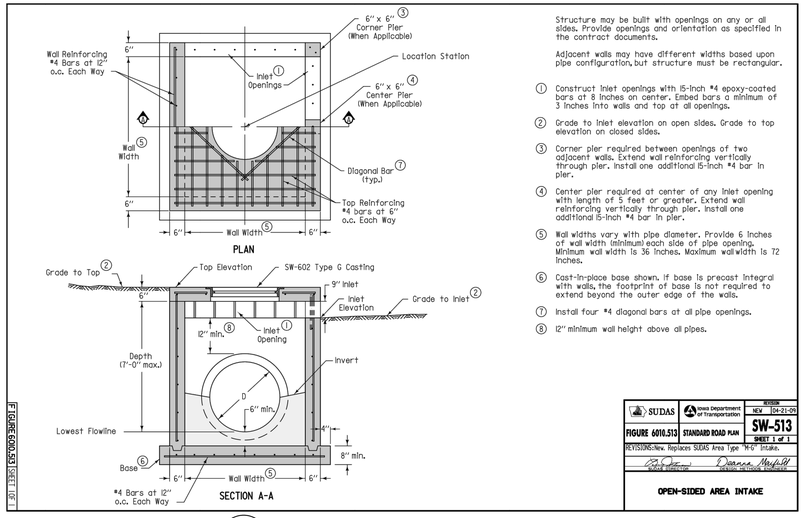
IOWA DOT | REVISION 4 | 04-17-18 | STANDARD ROAD PLAN | SW-541 | SHEET 2 of 2

REVISIONS: Upsized line work and bring DOT logo. Added detail of Rubber-sealed Lids. Modified circle notes. Identified Bend Bars diagram and Reinforcing Bar List.

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

OPEN-THROAT CURB
INTAKE UNDER PAVEMENT

4 B.03 UNDER PAVEMENT INTAKE 2
NOT TO SCALE



Structure may be built with openings on any or all sides. Provide openings and orientation as specified in the contract documents.

Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.

1. Construct inlet openings with 15-inch #4 epoxy-coated bars at 8 inches on center. Embed bars a minimum of 3 inches into walls and top at all openings.
2. Grade to inlet elevation on open sides. Grade to top elevation on closed sides.
3. Corner pier required between openings of two adjacent walls. Extend wall reinforcing vertically through pier. Install one additional 15-inch #4 bar in pier.
4. Center pier required at center of any inlet opening with length of 5 feet or greater. Extend wall reinforcing vertically through pier. Install one additional 15-inch #4 bar in pier.
5. Wall widths vary with pipe diameter. Provide 6 inches of wall width (minimum) each side of pipe opening. Minimum wall width is 36 inches. Maximum wall width is 72 inches.
6. Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.
7. Install four #4 diagonal bars at all pipe openings.
8. 12" minimum wall height above all pipes.

FIGURE 6010.513 | SHEET 1 OF 1

SUDAS | Iowa Department of Transportation | REVISION NEW | 04-21-09 | FIGURE 6010.513 | STANDARD ROAD PLAN | SW-513 | SHEET 1 of 1

REVISIONS: New. Replaces SUDAS Area Type "H-6" Intake.

Donna Mayfield
DESIGN SUPERVISOR

OPEN-SIDED AREA INTAKE

5 B.03 OPEN SIDED AREA INTAKE
NOT TO SCALE

PLOTTED: 6/29/2018

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#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

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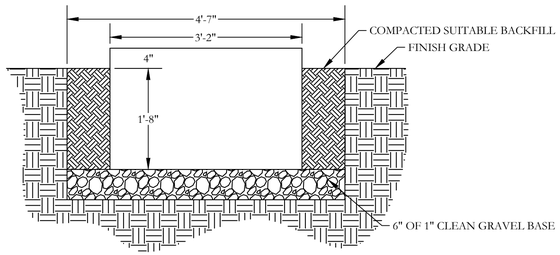
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

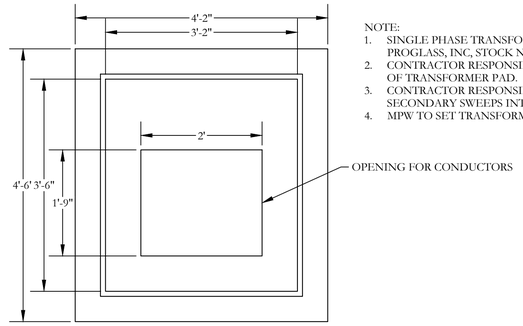
DETAILS

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: B.03
SHEET NO: 6 OF 42



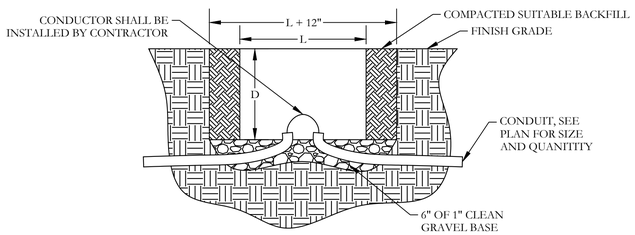
SECTION VIEW



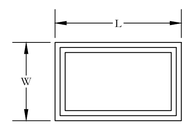
PLAN VIEW

NOTE:
1. SINGLE PHASE TRANSFORMER PADS SHALL BE PROGLASS, INC, STOCK NO. TX 423824-T1
2. CONTRACTOR RESPONSIBLE FOR CONSTRUCTION OF TRANSFORMER PAD.
3. CONTRACTOR RESPONSIBLE FOR PRIMARY AND SECONDARY SWEEPS INTO TRANSFORMER PAD.
4. MPW TO SET TRANSFORMER.

1 / B.04 SINGLE PHASE FIBERGLASS TRANSFORMER PAD
NOT TO SCALE



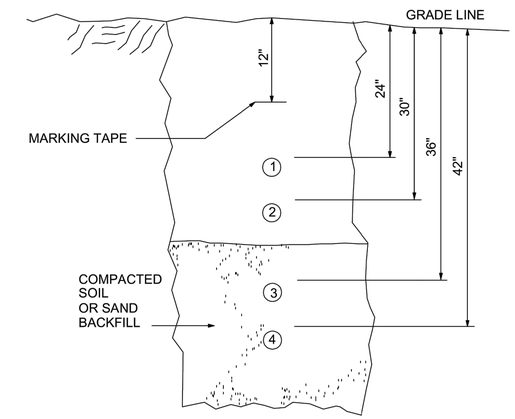
SECTION VIEW



PLAN VIEW

JUNCTION BOX SCHEDULE						
NO.	TYPE	W	L	D	PART NO. COVER	PART NO. BOX
1.	13" x 24"	15-1/2"	25"	18"	PG1324HA0017	PG1324BA18
2.	17" x 30"	19-1/4"	19-1/4"	24"	PG1730HA0021	PG1730BA24
3.	30" x 48"	32-1/8"	49-5/8"	36"	PG3048HA0021	PG3024BA24

2 / B.04 JUNCTION BOX
NOT TO SCALE



ELEVATION

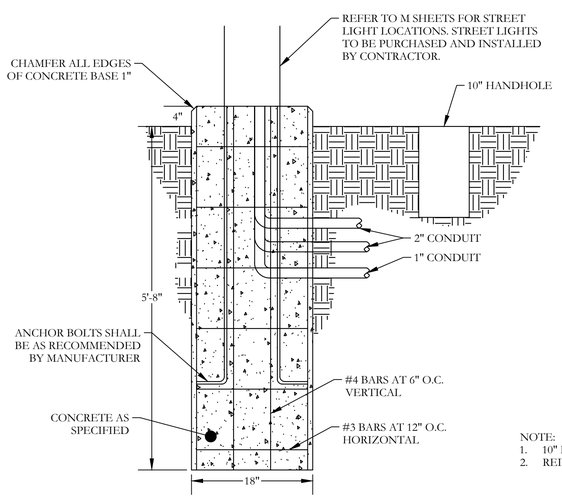
SCALE: NONE

LEGEND
1. COMMUNICATIONS AND CATV (COORDINATE WITH OTHERS)
2. MPW CATV
3. MPW SECONDARY CONDUIT
4. MPW PRIMARY CONDUIT

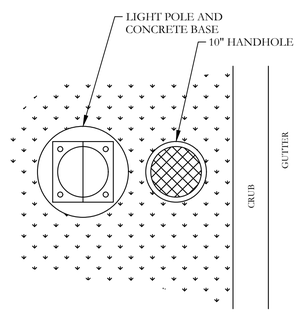
NOTES:
1. FOR NEW CITY STREET UTILITY LOCATIONS SEE DRAWING AUG0092B.

DRAWN BY: GLENNEY	DATE: 10-7-98	TYPICAL TRENCH EXCAVATION AND UTILITY SPACING DETAIL	
APPROVED BY: TR	DATE: 9-21-07		
REVISED BY: AJH	DATE: 5/3/05	MUSCATINE POWER & WATER	FILE No. 147
SCALE: NONE			DRAWING No. 2GUIDE20

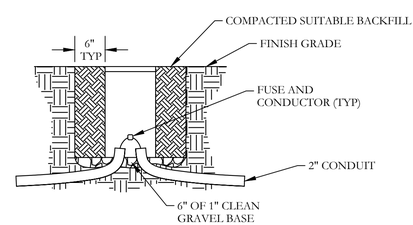
4 / B.04 MPW TRENCH DETAIL
NOT TO SCALE



SECTION VIEW



PLAN VIEW



10" HANDHOLE

NOTE:
1. 10" DIA. HANDHOLE SHALL BE PENCELL HIGH DENSITY POLYETHYLENE BOX, PART NO. PE10HDX, OR APPROVED EQUAL.
2. REINFORCING HOOP DIAMETER SHALL BE 1" LARGER THAN ANCHOR BOLT CIRCLE DIAMETER.

3 / B.04 LIGHT FOUNDATION - CONCRETE
NOT TO SCALE

GENERAL CONSTRUCTION NOTES
CONDUIT DELIVERY STORAGE, AND HANDLING COMPLY WITH SUDAS DIVISION 1 - GENERAL PROVISIONS AND COVENANTS

CONDUIT MATERIAL SPECIFICATIONS:
1. FURNISH WATER PROOF FITTINGS OF IDENTICAL OR COMPATIBLE MATERIAL TO THE CONDUIT. USE STANDARD FACTORY ELBOWS, COUPLINGS, AND OTHER FITTINGS.
2. USE A MANUFACTURED CONDUIT SEALING COMPOUND THAT IS READILY WORKABLE MATERIAL AT TEMPERATURES AS LOW AS 30° F AND WILL NOT MELT OR RUN AT TEMPERATURES AS HIGH AS 300° F
3. PLASTIC CONDUIT AND FITTINGS
   - 3.1. PVC
     - 3.1.1. PVC SCHEDULE 40 PLASTIC CONDUIT AND FITTINGS COMPLYING WITH NEMA TC-2 (PIPE), MENA TC-3 (FITTINGS), AND UL651 FOR SCHEDULE 40 HEAVY WALL TYPE
     - 3.1.2. SOLVENT WELDED, SOCKET TYPE FITTINGS, EXCEPT WHERE OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
     - 3.1.3. PROVIDE BELL END FITTINGS OR BUSHINGS.
   - 3.2. HDPE
     - 3.2.1. COMPLY WITH ASTM F 2160 (CONDUIT) AND STM D 3350 (HDPE MATERIAL.
     - 3.2.2. USE BLACK COLORED CONDUIT WITH STRIPE FOR ALL ELECTRICAL CONDUIT OR CONDUIT FOR INTERSECTIONS AND ORANGE COLORED CONDUIT FOR COMMUNICATION.
     - 3.2.3. CONTINUOUS REAL OR STRAIGHT PIECES TO MINIMIZE SPLICING.
     - 3.2.4. FOR DISSIMILAR CONDUIT CONNECTIONS, PROVIDE AN ADHESIVE COMPATIBLE WITH BOTH MATERIALS.

CONDUIT INSTALLATION SPECIFICATIONS:
1. PLACE CONDUIT TO A MINIMUM DEPTH INDICATED ON THE MPW TRENCH DETAIL.
2. CHANGE DIRECTION AT HANDHOLES OR BY BENDING, SUCH THAT THE CONDUIT WILL NOT BE DAMAGED OR ITS INTERNAL DIAMETER CHANGES. ENSURE BENDS ARE UNIFORM IN CURVATURE AND THE INSIDE RADIUS OF CURVATURE OF ANY BEND IS NO LESS THAN SIX TIMES THE INTERNAL DIAMETER OF THE CONDUIT.
3. ON THE EXPOSED ENDS OF CONDUIT - PLACE BELL-END FITTINGS ON PVC OR HDPE CONDUIT AND BUSHINGS ON STEEL CONDUIT PRIOR TO INSTALLING CABLE. EXTEND ALL CONDUITS A MINIMUM OF 2-INCHES AND A MAXIMUM OF 14-INCHES ABOVE THE FINISHED SURFACE OF ANY FOUNDATION, FOOTING, OR STRUCTURAL BASE.
4. PACK CONDUIT ENDS WITH A CONDUIT SEALING COMPOUND.
5. WHEN PLACING CONDUIT UNDER PAVEMENTS. USE THE TRENCHLESS INSTALLATION METHODS DESCRIBED IN SECTION 3020.
6. ALL OTHER CONDUIT SHALL BE INSTALLED ON THE BOTTOM OF THE TRENCH, STACKING CONDUIT SHALL NOT BE PERMITTED.

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

DETAILS

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: B.04
SHEET NO: 7 OF 42

PLOTTED: 6/29/2018
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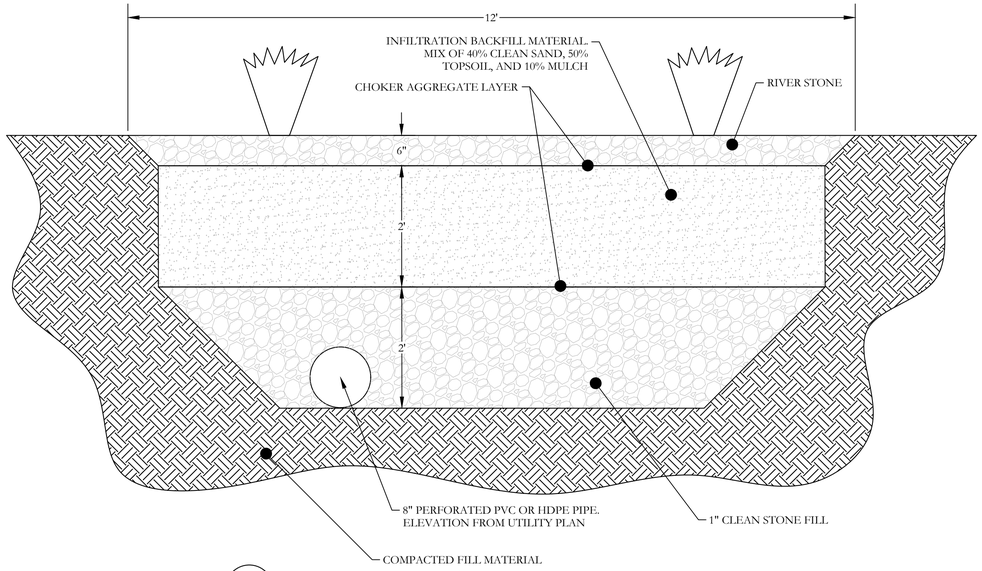
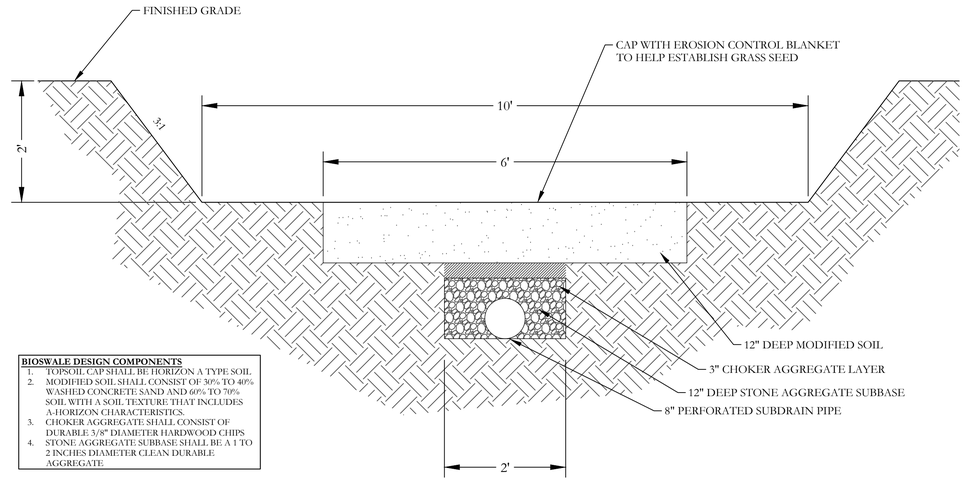


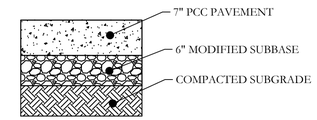
1 / B.05 BIORETENTION BASIN
NOT TO SCALE



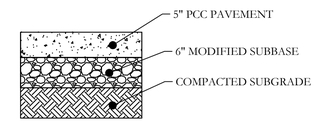
BIOSWALE DESIGN COMPONENTS

1. TOPSOIL CAP SHALL BE HORIZON A TYPE SOIL
2. MODIFIED SOIL SHALL CONSIST OF 30% TO 40% WASHED CONCRETE SAND AND 60% TO 70% SOIL WITH A SOIL TEXTURE THAT INCLUDES A-HORIZON CHARACTERISTICS.
3. CHOKER AGGREGATE SHALL CONSIST OF DURABLE 3/8" DIAMETER HARDWOOD CHIPS
4. STONE AGGREGATE SUBBASE SHALL BE A 1 TO 2 INCHES DIAMETER CLEAN DURABLE AGGREGATE

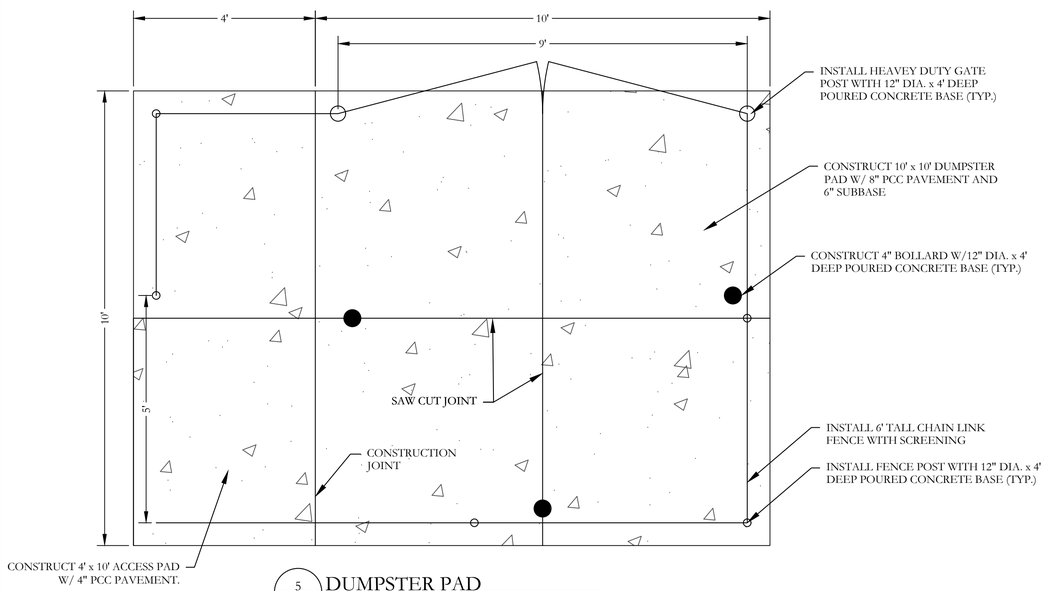
2 / B.05 BIOSWALE CROSS SECTION
NOT TO SCALE



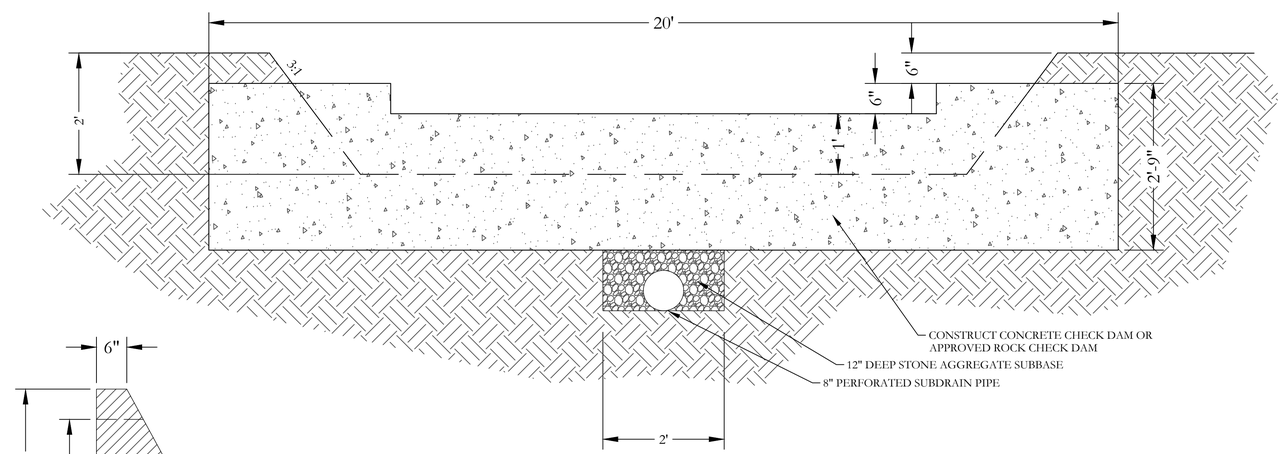
3 / B.05 PCC PAVEMENT - 7 INCH
NOT TO SCALE



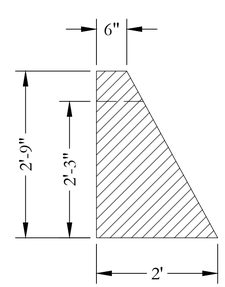
4 / B.05 PCC PAVEMENT - 5 INCH
NOT TO SCALE



5 / B.05 DUMPSTER PAD
NOT TO SCALE



6 / B.05 CHECK DAM DETAIL
NOT TO SCALE



CHECK DAM CROSS SECTION
NOT TO SCALE

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

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DETAILS

PROJ NO: 8180.17
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SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: B.05
SHEET NO: 8 OF 42

F:\CIVIL3D PROJECTS\8180 OAK PARK SUBDIVISION\3 PLAN SHEETS\B SHEETS.DWG PLOTTED: 6/29/2018

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QNTY
1	1070-206-A-0	TRAFFIC CONTROL	LS	1	
2	2010-108-C-0	CLEARING AND GRUBBING	LS	1	
3	2010-108-D-1	TOPSOIL, ON-SITE	CY	9,399	
4	2010-108-E-0	EXCAVATION, CLASS 10	CY	60,710	
5	2010-108-G-0	SUBGRADE PREPARATION	SY	5,774	
6	2010-108-G-X	SUBGRADE STABALIZATION, 12-INCH	CY	200	
7	2010-108-H-0	SUBGRADE TREATMENT, GEOTEXTILE	SY	500	
8	2010-108-I-2	SUBBASE, MODIFIED SUBBASE, 6-INCH	SY	5,774	
9	3010-108-F-0	TRENCH COMPACTION TESTING	LS	1	
10	4010-108-A-1	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 8 INCH	LF	1,975	
11	4010-108-E-0	SANITARY SEWER STUB, PVC, 4 INCH	EA	49	
12	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 12 INCH	LF	131	
13	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 15 INCH	LF	193	
14	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 18 INCH	LF	269	
15	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 24 INCH	LF	505	
16	4030-108-B-0	PIPE APRON, RCP, 12 INCH	EA	1	
17	4030-108-B-0	PIPE APRON, RCP, 15 INCH	EA	1	
18	4030-108-B-0	PIPE APRON, RCP, 24 INCH	EA	1	
19	4030-108-C-0	FOOTING FOR CONCRETE PIPE APRON, 15 INCH	EA	1	
20	4030-108-D-0	PIPE APRON GUARD, 15 INCH	EA	3	
21	5010-108-A-1	WATER MAIN, TRENCHED, PVC, C900, 6 INCH	LF	1187	
22	5010-108-C-1	FITTINGS, TEE, 6x6, MJ	EA	2	
23	5010-108-C-1	FITTINGS, 11-1/4 BEND, 6 INCH, MJ, VERTICAL	EA	2	
24	5010-108-D-0	WATER SERVICE STUB, 1 INCH	EA	49	
25	5020-108-A-0	VALVE, GATE VALVE, MECHANICAL JOINT, 6 INCH	EA	3	
26	5020-108-B-0	TAPPING VALVE ASSEMBLY, 8"x6"	EA	2	
27	5020-108-H-0	HYDRANT, ASSEMBLY	EA	3	
28	6010-108-A-0	MANHOLE TYPE SW-301, 48 INCH	EA	9	
29	6010-108-A-0	MANHOLE TYPE SW-401, 48 INCH	EA	2	
30	6010-108-A-0	MANHOLE TYPE SW 401, 60 INCH	EA	1	
31	6010-108-B-0	INTAKE TYPE SW-501	EA	6	
32	6010-108-B-0	INTAKE TYPE SW-507	EA	5	
33	6010-108-B-0	INTAKE TYPE SW-512, 24 INCH	EA	1	
34	6010-108-B-0	INTAKE TYPE SW-512, 18 INCH	EA	1	
35	6010-108-B-0	INTAKE TYPE SW-513	EA	1	
36	6010-108-B-0	INTAKE TYPE SW-541	EA	1	
37	6010-108-G-0	CONNECT TO EXISTING MANHOLE	EA	2	
38	7010-108-A-0	PAVEMENT, PCC, 5 INCH	SY	272	
39	7010-108-A-0	PAVEMENT, PCC 7 INCH	SY	3517	
40	7010-108-E-0	CURB AND GUTTER, 24 INCHES, 7 INCH THICK	LF	2818	
41	7010-108-E-0	CURB AND GUTTER, 48 INCHES, 7 INCH THICK	LF	565	
42	7030-108-E-0	CONCRETE WALK, PCC, 4 INCH	SY	2654	
43	7030-108-G-0	DETECTABLE WARNING	SF	160	
44	7040-108-A-0	FULL DEPTH PATCH, PCC, 8 INCH	SY	104	
45	7040-108-A-0	FULL DEPTH PATCH, PCC, 5 INCH	SY	22	
46	7040-108-A-0	FULL DEPTH PATCH, HMA, 6 INCH	SY	117	
47	8020-108-G-X	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBASED	LS	1	
48	9010-108-B-0	SEEDING, FERTILIZING & HYDROMULCHING	AC	8.8	
49	9040-108-A-2	SWPPP MANAGEMENT	LS	1	
50	9040-108-J-0	RIP RAP, CLASS 'D' REVETMENT STONE	TON	87	
51	9040-108-N-1	SILT FENCE OR SILT FENCE DITCH CHECK	LF	1900	
52	9040-108-O-1	STABILIZED CONSTRUCTION ENTRANCE	SY	130	
53	9040-108-T-1	INLET PROTECTION DEVICE, SURFACE-APPLIED INTAKE PROTECTION	EA	15	
54	11010-108-A-0	CONSTRUCTION SURVEY	LS	1	
55	11020-108-A-0	MOBILIZATION	LS	1	
56	11050-108-A-0	CONCRETE WASHOUT	LS	1	
57	12,000-XXX-X-1	ELECTRICAL CONDUIT, OPEN CUT, HDPE/PVC, 2-INCH PRIMARY	LF	1550	
58	12,000-XXX-X-2	ELECTRICAL CONDUIT, OPEN CUT, HDPE/PVC, STREET LIGHT	LF	1400	
59	12,000-XXX-X-3	ELECTRICAL SERVICES	EA	49	
60	12,000-XXX-X-4	3'x3' TRANSFORMER PAD	EA	7	
61	12,000-XXX-X-5	HAND HOLE, ELECTRICAL, 13"x24"	EA	1	
62	12,000-XXX-X-6	STREET LIGHT, CONCRETE FOUNDATION	EA	11	
63	12,000-XXX-X-7	COMMUNICATION CONDUIT, OPEN CUT, HDPE., 2-INCH	LF	1660	
64	12,000-XXX-X-8	COMMUNICATION CONDUIT, OPEN CUT, HDPE, 1-INCH	EA	17	
65	12,000-XXX-X-9	HAND HOLE, COMMUNICATIONS, 17"x30"	EA	7	
66	12,000-XXX-X-10	HAND HOLE, COMMUNICATIONS, 30"x48"	EA	2	
67	12,000-XXX-X-11	BIOSWALE	LF	450	
68	12,000-XXX-X-12	CHECK DAM	EA	9	
69	12,000-XXX-X-13	BIORETENTION BASIN	LS	1	
70	12,000-XXX-X-14	DUMPSTER PAD	EA	5	
71	12,000-XXX-X-15	CONCRETE WALK, PCC, 4 INCH, CITY	SY	83	

Item No.	Item Code	Description
1	1070-206-A-0	TRAFFIC CONTROL A. REFER TO SHEET J.01 FOR DETAILS. THIS ITEM INCLUDES ALL LABOR, EQUIPMENT, AND MATERIAL TO SAFETLY CONTROL TRAFFIC DURING CONSTRUCTION IN ISETT AVENUE.
2	2010-108-C-0	CLEARING AND GRUBBING A. THIS ITEM INCLUDES THE REMOVAL OF FENCES, TREES, STUMPS, BUSHES AND ROOTS WITHIN THE EASEMENTS AND CONTRUCTION LIMITS FOR PROPER INSTALLATION OF PROPOSED ITEMS. OWNER HAS ALREADY FELL ALL TREES TO BE REMOVED. REMOVAL SHALL BE TO A DEPTH OF 12" BELOW FINISHED GRADE. ADDITIONAL TREES OR STUMPS THAT NEED TO BE REMOVED WILL REQUIRE PERMISSION FROM THE PROJECT MANAGER PRIOR TO COMPLETION OF THE WORK. PROTECT ALL TREES NOT MARKED FOR REMOVAL. THIS IS AN APPROXIMATE 10 ACRE SITE.
3	2010-108-D-1	TOPSOIL, ON-SITE A. CONTRACTOR SHALL BE RESPONSIBLE TO STRIP, SALVAGE, AND SPREAD TOP SOIL TO ALLOW FOR A MINIMUM OF FINISHED DEPTH OF 8" OF TOPSOIL. QUANTITY IS BASED ON 8" OF TOPSOIL LOCATED IN AREAS WITHIN PROJECT LIMITS OUTSIDE OF BUILDING A PAVEMENT.
4	2010-108-E-0	EXCAVATION, CLASS 10 A. THIS ITEM SHALL INCLUDES THE REMOVAL OF EXISTING SOIL AND AGGREGATE BASE, HAULING AND PLACEMENT OF THE MATERIAL WITHIN THE GRADING LIMITS, HAULING AND PLACEMENT OF EXCESS SOIL (WASTE), AND HAULING AND PLACEMENT OF BORROW MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS AND THESE PLANS. THE CONTRACTOR SHALL DISPOSE OF EXCESS MATERIAL AND MATERIAL THAT IS NOT SUITABLE FOR EMBANKMENT CONSTRUCTION TO LOCATIONS AS DESIGNATED BY THE ENGINEER. ITEM DOES NOT INCLUDE ANY UTILTY TRENCH EXCAVATION. B. THE FINISHED GRADE SHALL BE OF UNIFORM CROSS-SECTION AND APPROVED BY THE PROJECT MANAGER PRIOR TO PLACEMENT OF THE MODIFIED SUBBASE. CONTRACTOR SHALL NOTIFY CITY OF ANY DISPUTE WITH EXCAVATION PLAN PRIOR TO CONSTRUCTION, OTHERWISE PLAN QUANTITY WILL BE USED FOR PAYMENT. SUBGRADE: CUT= 63,710 CY, FILL + 30% = 40,246 CY
5	2010-108-G-0	SUBGRADE PREPARATION A. INCLUDES SUBGRADE PREPARATION FOR ALL ROADWAY AND PARKING PAVEMENT TO A DEPTH OF 12 INCHES. QUANTITY IS BASED ON THE AREA OF 12 INCH SUBGRADE PREPARATION, COMPLETED IN 2 - 6" LIFTS, EXTENDING 2 FOOT BEYOND THE PAVEMENT EDGE. BOTH LIFTS SHALL BE COMPACTED AND PROOFROLLED TO SATISFACTION OF ENGINEER. THE TOP LIFT SHALL BE LEVELED AND SMOOTHED WITH A STEEL DRUM ROLLER AND PROOF ROLLED PRIOR TO STARTING SUBGRADE PREPARATION. B. IN INSTANCES OF CONFLICT WITH UTILITIES, THE DEPTH MAY BE REDUCED AS DIRECTED BY THE ENGINEER. PREPARATION UNDER ENTRANCES, DRIVES AND SIDEWALKS SHALL BE INCIDENTAL TO THOSE ITEMS.
6	2010-108-G-X	SUBGRADE STABALIZATION, 12-INCH A. THIS ITEM SHALL BE USED AT THE DISCRETION OF THE ENGINEER/OWNER. CONTRACTORS SHALL OBTAIN APPROVAL OF ENGINEER/OWNER PRIOR TO UTILIZING THIS ITEM. THIS ITEM INVOLVES THE OVEREXCAVATION OF UNSUITABLE SOIL WITHIN THE ROADWAY OR PARKING AREA. THE CONTRACTOR SHALL OVEREXCAVATE ONE FOOT MATERIAL, COMPACT BOTTOM OF OVEREXCAVATION, PLACE GEOTEXTILE FABRIC ON BOTTOM OF OVEREXCAVATION (NOT PART OF THIS BID ITEM) AND REPLACE UNSUITABLE MATERIAL WITH MODIFIED SUBBASE. B. THIS ITEM SHALL INCLUDE EXCAVATION OF UNSUITABLE MATERIAL, HAULING OF UNSUITABLE MATERIAL TO AN APPROVED SITE, COMPACTION OF OVEREXCAVATED AREA, PLACEMENT OF ONE FOOT OF MODIFIED SUBBASE AND COMPACTION OF MODIFIED SUBBASE.
7	2010-108-H-0	SUBGRADE TREATMENT, GEOTEXTILE A. THIS PAY ITEM SHALL BE THE GEOTEXTILE FABRIC USED IN THE SUBGRADE STABILIZATION. THIS ITEM SHALL BE NON-WOVEN PERMEABLE FABRIC MEETING THE REQUIREMENT OF ASTM D-4439. FABRIC SHALL MEET THE REQUIREMENTS OF IOWA DOT 4196 SUBGRADE STABILIZATION MATERIAL..
8	2010-108-I-2	SUBBASE, MODIFIED SUBBASE, 6-INCH A. MODIFIED SUBBASE TO BE INSTALLED WHERE NOTED IN THE TYPICAL SECTIONS, INCLUDING THE AREAS UNDER PCC ROADWAY AND PARKING PAVEMENT AND EXTEND 2' BEYOND THE BACK OF CURB.
9	3010-108-F-0	TRENCH COMPACTION TESTING A. TRENCH COMPACTION TESTING IS REQUIRED FOR ALL TRENCHES WHERE PIPE OR CONDUIT IS WITHIN ROADWAY PAVEMENT.
10	4010-108-A-1	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 8 INCH A. REFER TO M.01 THRU M.04 SHEETS FOR LOCATION. CONTRACTOR SHALL MANDREL TEST AND TELEVISE ALL SANITARY SEWERS AND TURN OVER DATA TO DEVELOPER UPON COMPLETION OF THE TESTING AND INSPECTION BEFORE SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY ENGINEER. ANY VISIBLE LEAKS SHALL BE REPAIRED REGARDLESS OF SEVERITY. CONTRACTOR SHALL RE-VIDEO ANY REQUIRED REPAIRS AND PROVIDE VIDEO TO THE DEVELOPER AT NO ADDITIONAL COST. B. PIPE EMBEDMENT DETAIL, TYPE F-3, MODIFIED TO REQUIRE ONLY 6" ABOVE THE TOP OF THE PIPE. FURNISHING AND PLACING BEDDING MATERIALS AS REQUIRED SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. C. CONTRACTOR SHALL PLUG SEWER AT THE END OF EACH WORKING DAY. DAMAGES RESULTING FROM THE CONTRACTOR'S INABILITY TO KEEP GROUND AND STORM WATER OUT OF THE SANITARY SYSTEM SHALL BE CHARGED TO THE CONTRACTOR.
11	4010-108-E-0	SANITARY SEWER STUB, PVC, 4 INCH A. SANITARY SERVICE PIPE SHALL BE EXTENDED TO THE BUILDING FOUNDATION AND BROUGHT INTO THE BUILDING AS SHOWN ON THE ARCHITECTURAL PLANS. PIPE MATERIAL SHALL BE SDR 23.5 POLYVINYL CHLORIDE PIPE (PVC). FURNISHING AND PLACEMENT OF ELBOWS AND TEES, BEDDING, AND GRANULAR BACKFILL MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. ALL SERVICES SHALL BE WATER TIGHT AND CONNECTED TO THE SEWER MAIN WITH A PREFORMED WYE, USE OF SADDLE WYES WILL NOT BE ALLOWED. ALL VISIBLE LEAKS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL PROVIDE AS-CONSTRUCTED LOCATIONS OF ALL SERVICES.
12	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 12 INCH A. REFER TO M.04 AND M.07 FOR LOCATION. CONTRACTOR SHALL MANDREL TEST AND TELEVISE ALL STORM SEWERS AND TURN OVER DATA TO DEVELOPER UPON COMPLETION OF THE TESTING AND INSPECTION AND PRIOR TO SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY EINGEER. B. BEDDING CLASS SHALL BE R-2 FOR ALL PIPES. TYPE OF PIPE ALLOWED SHALL BE RCP, CLASS III. ANY LOCATION WHERE THE STORM SEWER IS LOCATED WITHIN 18 INCHES VERTICALLY OR OVER A WATERMAIN THE STORM SEWER SHALL BE GASKETED WITH THE JOINTS LOCATED AS FAR FROM THE WATER MAIN AS POSSIBLE. COAT GASKET AND JOINT WITH SOAP-BASED LUBRICANT IMMEDIATELY PRIOR TO CLOSING THE JOINT.
13	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 15 INCH A. REFER TO M.05 THRU M.06 FOR LOCATION. CONTRACTOR SHALL MANDREL TEST AND TELEVISE ALL STORM SEWERS AND TURN OVER DATA TO DEVELOPER UPON COMPLETION OF THE TESTING AND INSPECTION AND PRIOR TO SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY EINGEER. B. BEDDING CLASS SHALL BE R-2 FOR ALL PIPES. TYPE OF PIPE ALLOWED SHALL BE RCP, CLASS III. ANY LOCATION WHERE THE STORM SEWER IS LOCATED WITHIN 18 INCHES VERTICALLY OR OVER A WATERMAIN THE STORM SEWER SHALL BE GASKETED WITH THE JOINTS LOCATED AS FAR FROM THE WATER MAIN AS POSSIBLE. COAT GASKET AND JOINT WITH SOAP-BASED LUBRICANT IMMEDIATELY PRIOR TO CLOSING THE JOINT.
14	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 18 INCH A. REFER TO M.06 FOR LOCATION. CONTRACTOR SHALL MANDREL TEST AND TELEVISE ALL STORM SEWERS AND TURN OVER DATA TO DEVELOPER UPON COMPLETION OF THE TESTING AND INSPECTION AND PRIOR TO SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY EINGEER. B. BEDDING CLASS SHALL BE R-2 FOR ALL PIPES. TYPE OF PIPE ALLOWED SHALL BE RCP, CLASS III. ANY LOCATION WHERE THE STORM SEWER IS LOCATED WITHIN 18 INCHES VERTICALLY OR OVER A WATERMAIN THE STORM SEWER SHALL BE GASKETED WITH THE JOINTS LOCATED AS FAR FROM THE WATER MAIN AS POSSIBLE. COAT GASKET AND JOINT WITH SOAP-BASED LUBRICANT IMMEDIATELY PRIOR TO CLOSING THE JOINT.
15	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 24 INCH A. REFER TO M.05 AND M.07 FOR LOCATION. CONTRACTOR SHALL MANDREL TEST AND TELEVISE ALL STORM SEWERS AND TURN OVER DATA TO DEVELOPER UPON COMPLETION OF THE TESTING AND INSPECTION AND PRIOR TO SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY EINGEER. B. BEDDING CLASS SHALL BE R-2 FOR ALL PIPES. TYPE OF PIPE ALLOWED SHALL BE RCP, CLASS III. ANY LOCATION WHERE THE STORM SEWER IS LOCATED WITHIN 18 INCHES VERTICALLY OR OVER A WATERMAIN THE STORM SEWER SHALL BE GASKETED WITH THE JOINTS LOCATED AS FAR FROM THE WATER MAIN AS POSSIBLE. COAT GASKET AND JOINT WITH SOAP-BASED LUBRICANT IMMEDIATELY PRIOR TO CLOSING THE JOINT.
16	4030-108-B-0	PIPE APRON, RCP, 12 INCH A. REFER TO M.07 SHEET FOR LOCATION. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR INSTALLATION.
17	4030-108-B-0	PIPE APRON, RCP, 15 INCH A. REFER TO M.05 SHEET FOR LOCATION. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR INSTALLATION.
18	4030-108-B-0	PIPE APRON, RCP, 24 INCH A. REFER TO M.07 SHEET FOR LOCATION. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR INSTALLATION.
19	4030-108-C-0	FOOTING FOR CONCRETE PIPE APRON, 15 INCH A. REFER TO M.05 SHEET FOR LOCATION. REFER TO SHEET B.03 FOR DETAILS. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR CONSTRUCTION OF REINFORCED CONCRETE FOOTING.
20	4030-108-D-0	PIPE APRON GUARD, 15 INCH A. REFER TO M.05 SHEET FOR LOCATION. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR INSTALLATION.
21	5010-108-A-1	WATER MAIN, TRENCHED, PVC, C900, 6 INCH A. REFER TO M.08 THRU M.09 SHEETS FOR LAYOUT. THIS ITEM INCLUDES EXCAVATION, INSTALLATION OF PIPE AND APPURTENANCES, AND COMPACTION OF BACKFILL. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. B. ANY SERVICE LINES 2-INCHES OR LARGER SHALL BE DISINFECTED, BACTERIA TESTED, AND PRESSURE TESTED BY CONTRACTOR. AFTER SATISFACTORY COMPLETION OF SERVICE LINE CONSTRUCTION MPW SHALL SET METER.
22	5010-108-C-1	FITTINGS, TEE, 6x6, MJ A. REFER TO M.08 THRU M.09 SHEETS FOR LAYOUT. THIS ITEM SHALL INCLUDE A FITTING AND APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF THE WATER MAIN, RESTRAINED JOINTS AND THRUST BLOCKS. MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANVE WITH SUDAS STANDARD SPECIFICATIONS DIVISION 5 SECTION 5010 SUBSECTION 1.08 C.1, MEASUREMENT BY EACH. B. ALL THRUST BLOCKS SHALL BE POURED CONCRETE THRUST BLOCKS EXCEPT WHERE PIPE IS RESTRAINED AN APPROVED DISTANCE BY THE ENGINEER.

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

QUANTITIES AND ESTIMATE REFERENCE NOTES

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: C.01
SHEET NO: 9 OF 42

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23	5010-108-C-1	FITTINGS, 11-1/4 BEND, 6 INCH, MJ, VERTICAL A. REFER TO M.08 THRU M.09 SHEETS FOR LAYOUT. THIS ITEM SHALL INCLUDE A FITTING AND APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF THE WATER MAIN, RESTRAINED JOINTS AND THRUST BLOCKS. MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANVE WITH SUDAS STANDARD SPECIFICATIONS DIVISION 5 SECTION 5010 SUBSECTION 1.08 C.1, MEASUREMENT BY EACH. B. ALL THRUST BLOCKS SHALL BE POURED CONCRETE THRUST BLOCKS EXCEPT WHERE PIPE IS RESTRAINED AN APPROVED DISTANCE BY THE ENGINEER.
24	5010-108-D-0	WATER SERVICE STUB, 1 INCH A. THIS ITEM INCLUDES THE INSTALLATION OF HDPE PIPE TO THE BUILDING, CURB STOP, STOP BOX, AND APPURTENANCES IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS.
25	5020-108-A-0	VALVE, GATE VALVE, MECHANICAL JOINT, 6 INCH A. REFER TO M.07 THRU M.08 SHEETS FOR LAYOUT. THIS ITEM INCLUDES THE INSTALLATION OF THE VALVE WITH RESTRAINING GLANDS IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. THIS ITEM DOES NOT INCLUDE VALVES REQUIRED BY TAPPING SLEEVES OR HYDRANT ASSEMBLY.
26	5020-108-B-0	TAPPING VALVE ASSEMBLY, 8"x6" A. REFER TO M.07 THRU M.08 SHEETS FOR LAYOUT. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. MEASUREMENT AND PAYMENT SHALL INCLUDE TAPPING SLEEVE, TAPPING VALVE, INSTALLATION, EXCAVATION, GRANULAR BACKFILL, COMPACTION, PRESSURE TESTING, AND ANY COST FOR MPW'S TAPPING SERVICES. B. MPW SHALL MAKE ALL TAPS ONTO EXISTING PUBLIC WATER MAINS. CONTRACTOR SHALL COORDINATE WITH MPW 48 HOURS PRIOR TO TAPPING WATER MAIN.
27	5020-108-H-0	HYDRANT, ASSEMBLY A. REFER TO M.07 THRU M.08 SHEETS FOR LAYOUT. THIS ITEM SHALL BE INSTALLED AND COMPLY WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANCE WITH THE FIRE HYDRANT ASSEMBLY IN SUDAS SECTION 5020. INSTALLATION OF 6" HYDRANT VALVE SHALL BE INCIDENTAL TO THIS ITEM.
28	6010-108-A-0	MANHOLE TYPE SW-301, 48 INCH A. REFER TO SHEET M.01 THRU M.04 FOR LOCATION. B. ANY VISIBLE LEAKS SHALL BE REPAIRED. MANHOLE CASTINGS SHALL READ "SANITARY SEWER" AND BE AN EAST JORDAN 1045 WITH CONCEALED PICK HOLES OR APPROVED EQUAL. SANITARY MANHOLE SHALL HAVE INTERNAL CHIMNEY SEAL.
29	6010-108-A-0	MANHOLE TYPE SW-401, 48 INCH A. REFER TO SHEET M.05 FOR LOCATIONS. B. ANY VISIBLE LEAKS SHALL BE REPAIRED. MANHOLE CASTINGS SHALL READ "STORM SEWER" AND BE AN EAST JORDAN 1045 WITH CONCEALED PICK HOLES OR APPROVED EQUAL.
30	6010-108-A-0	MANHOLE TYPE SW 401, 60 INCH A. REFER TO SHEET M.07 FOR LOCATIONS. B. ANY VISIBLE LEAKS SHALL BE REPAIRED. MANHOLE CASTINGS SHALL READ "STORM SEWER" AND BE AN EAST JORDAN 1045 WITH CONCEALED PICK HOLES OR APPROVED EQUAL.
31	6010-108-B-0	INTAKE TYPE SW-501 A. REFER TO SHEET M.04 THRU M.06 FOR LOCATIONS. CASTING SHALL READ, "NO DUMP, DRAINS TO WATERWAY," OR APPROVED EQUAL.
32	6010-108-B-0	INTAKE TYPE SW-507 A. REFER TO SHEETS M.06 AND M.07 FOR LOCATIONS. CASTING SHALL READ, "NO DUMP, DRAINS TO WATERWAY," OR APPROVED EQUAL.
33	6010-108-B-0	INTAKE TYPE SW-512, 24 INCH A. REFER TO SHEET M.04 FOR LOCATIONS. CASTING SHALL READ, "NO DUMP, DRAINS TO WATERWAY," OR APPROVED EQUAL.
34	6010-108-B-0	INTAKE TYPE SW-512, 18 INCH A. REFER TO SHEET M.06 FOR LOCATIONS. CASTING SHALL READ, "NO DUMP, DRAINS TO WATERWAY," OR APPROVED EQUAL.
35	6010-108-B-0	INTAKE TYPE SW-513 A. REFER TO SHEET M.07 FOR LOCATIONS. CASTING SHALL READ, "NO DUMP, DRAINS TO WATERWAY," OR APPROVED EQUAL.
36	6010-108-B-0	INTAKE TYPE SW-541 A. REFER TO SHEET M.04 FOR LOCATIONS. CASTING SHALL READ, "NO DUMP, DRAINS TO WATERWAY," OR APPROVED EQUAL.
37	6010-108-G-0	CONNECT TO EXISTING MANHOLE A. REFER TO SHEET M.04 AND M.06 FOR LOCATIONS. THIS ITEM SHALL INCLUDE ALL LABOR AND MATERIAL NECESSARY TO CONNECT PROPOSED STORM OR SANITARY SEWER PIPE TO AN EXISITNG STRUCTURE, INCLUDING BUT NOT LIMITED TO CORING OR CUTTING INTO THE EXISTING STRUCTURE, PIPE CONNECTIONS, GROUT AND WATERSTOP (WHEN REQUIRED)
38	7010-108-A-0	PAVEMENT, PCC, 5 INCH A. REFER TO SHEETS L.01 THRU L.05 FOR LAYOUT. REFER TO B.01 AND B.05 FOR TYPICAL PAVEMENT SECTIONS. REFER TO L.01 THRU L.05 SHEETS FOR JOINT SPACING. ALL JOINTS SHALL BE CUT TO A DEPTH OF T/3. JOINT SEALANT NO REQUIRED WITH EARLY ENTRY 1/8-INCH SAW CUT WIDTHS. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. GGBFS (SLAB) IS NOT PERMITIED FOR ANY WORK ON THIS PROJECT. CERTIFIED PLANT INSPECTION SHALL BE REQUIRED BY CONTRACTOR. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. A MIN. OF 6% AIR. STRAIT-EDGE METHOD TO BE USED FOR PARKING LOT AND STREET PAVMENET SMOOTHNESS EVALUATION. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, THE CRACK CAN BE ROUTED AND SEALED. C. THIS ITEM SHALL INCLUDE QUANTITIES FOR CURB GUTTER SECTIONS CONNECTED TO THE PAVEMENT.
39	7010-108-A-0	PAVEMENT, PCC 7 INCH A. REFER TO SHEET L.01 THRU L.05 FOR LAYOUT. REFER TO B.01 AND B.05 FOR TYPICAL PAVEMENT SECTIONS. REFER TO L.01 THRU L.05 SHEETS FOR JOINT SPACING. ALL JOINTS SHALL BE CUT TO A DEPTH OF T/3. JOINT SEALANT NO REQUIRED WITH EARLY ENTRY 1/8-INCH SAW CUT WIDTHS. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. GGBFS (SLAB) IS NOT PERMITIED FOR ANY WORK ON THIS PROJECT. CERTIFIED PLANT INSPECTION SHALL BE REQUIRED BY CONTRACTOR. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. A MIN. OF 6% AIR. STRAIT-EDGE METHOD TO BE USED FOR PARKING LOT AND STREET PAVMENET SMOOTHNESS EVALUATION. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, THE CRACK CAN BE ROUTED AND SEALED. C. THIS ITEM SHALL INCLUDE QUANTITIES FOR CURB GUTTER SECTIONS CONNECTED TO THE PAVEMENT.
40	7010-108-E-0	CURB AND GUTTER, 24 INCHES, 7 INCH THICK A. REFER TO SHEETS L.01 THRU L.06 FOR LAYOUT AND JOINT SPACING. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. GGBFS (SLAB) IS NOT PERMITIED FOR ANY WORK ON THIS PROJECT. CERTIFIED PLANT INSPECTION SHALL BE REQUIRED BY CONTRACTOR. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. A MIN. OF 6% AIR. STRAIT-EDGE METHOD TO BE USED FOR PARKING LOT AND STREET PAVMENET SMOOTHNESS EVALUATION. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, THE CRACK CAN BE ROUTED AND SEALED.
41	7010-108-E-0	CURB AND GUTTER, 48 INCHES, 7 INCH THICK A. REFER TO SHEET L.06 FOR LAYOUT. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. GGBFS (SLAB) IS NOT PERMITIED FOR ANY WORK ON THIS PROJECT. CERTIFIED PLANT INSPECTION SHALL BE REQUIRED BY CONTRACTOR. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. A MIN. OF 6% AIR. STRAIT-EDGE METHOD TO BE USED FOR PARKING LOT AND STREET PAVMENET SMOOTHNESS EVALUATION. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, THE CRACK CAN BE ROUTED AND SEALED.
42	7030-108-E-0	CONCRETE WALK, PCC, 4 INCH A. REFER TO SHEETS L.01 THRU L.05 FOR LAYOUT. JOINT SPACING SHALL BE SPACED IN ACCORDANCE TO SUDAS SECTION 7030. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, THE CRACK CAN BE ROUTED AND SEALED.
43	7030-108-G-0	DETECTABLE WARNING A. DETECTABLE WARNING SYSTEMS SHALL BE NEENAH DETECTABLE WARNING PLATES, MODEL 4984-36B OR APPROVED EQUAL. CONTRACTOR SHALL VERIFY TYPE WITH ENGINEER PRIOR TO ORDERING MATERIALS.
44	7040-108-A-0	FULL DEPTH PATCH, PCC, 8 INCH A. REFER TO SHEETS F.01 AND L.06 FOR LOCATIONS. REFER TO SHEET J.01 FOR TRAFFIC CONTROL DETAILS. THIS ITEM SHALL INCLUDE LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE PAVEMENT AND CONSTRUCT A FULL DEPTH PATCH AFTER COMPACTION OF THE UTILITY TRENCH. FULL DEPTH PATCH SHALL COMPLY WITH CITY OF MUSCATINE'S CITY GUIDELINES FOR REPAIRS IN STREETS AND DETAIL FOR STREET PATCHES AND TRENCH REPAIR.
45	7040-108-A-0	FULL DEPTH PATCH, PCC, 5 INCH A. REFER TO SHEET L.06 FOR LOCATION. COORDINATE WITH LANDOWNER PRIOR TO REMOVING DRIVEWAY PAVEMENT. THIS ITEM SHALL INCLUDE LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE PAVEMENT AND CONSTRUCT A FULL DEPTH PATCH AFTER COMPACTION OF THE UTILITY TRENCH.
46	7040-108-A-0	FULL DEPTH PATCH, HMA, 6 INCH A. REFER TO SHEET F.01 FOR LOCATIONS. REFER TO SHEET J.01 FOR TRAFFIC CONTROL DETAILS. THIS ITEM SHALL INCLUDE LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE PAVEMENT AND CONSTRUCT A FULL DEPTH PATCH AFTER COMPACTION OF THE UTILITY TRENCH. FULL DEPTH PATCH SHALL COMPLY WITH CITY OF MUSCATINE'S CITY GUIDELINES FOR REPAIRS IN STREETS AND DETAIL FOR STREET PATCHES AND TRENCH REPAIR.
47	8020-108-G-X	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBASED A. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PART 3. PAVEMENT SHALL BECLEAN AND FREE OF ALL DEBRIS AND CURE PRIOR TO PAINTING. METHOD OF CLEANING SHALL BE BY HIGH PRESSURE WATER BLASTING. ITEM INCLUDES ALL PAVEMENT MARKINGS, STRIPES AND SYMBOLS, IN THE PARKING AREAS.
48	9010-108-B-0	SEEDING, FERTILIZING & HYDROMULCHING A. SEED, FERTILIZE, AND MULCH ALL AREAS AS WHERE INDICATED ON PLANS. SEEDING SHALL BE TYPE 1. B. THIS ITEM INCLUDES REMOVAL OF ROCK AND OTHER DEBRIS, REPAIRING RILLS AND WASHES, SEEDBED PREPARATION, FURNISHING AND PLACEMENT OF SEED, FURNISHING, PLACEMENT, AND INCORPORATING FERTILIZER AND MULCH, FURNISHING WATER AND OTHER CARE, AND ANY RESEEDING NECESSARY UNTIL FINAL ACCEPTANCE. THE CONTRACTOR IS RESPONSIBLE FOR MOWING AND MAINTAINING SEEDED AREAS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. SEEDING OF AREAS DISTURBED OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
49	9040-108-A-2	SWPPP MANAGEMENT A. INSPECTIONS WILL MEET THE REQUIREMENTS AS SET FORTH IN THE NPDES GENERAL PERMIT NO. 2 AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE COPIES OF THE SWPPP PLAN AND ALL INSPECTION REPORTS TO THE ENGINEER AND SHALL BE RESPONSIBLE FOR ALL INSPECTIONS UNTIL THE NOTICE OF DISCONTINUATION. WEEKLY INSPECTIONS SHALL BE REQUIRED AND ALL REPORTS COPIED TO THE ENGINEER. B. NPDES GENERAL PERMIT NO. 2 WILL BE COMPLETED BY OWNER.
50	9040-108-J-0	RIP RAP, CLASS 'D' REVETMENT STONE A. REFER TO SHEETS M.05 AND M.07 FOR LAYOUT. THIS ITEM INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO PLACE THE RIP RAP IN THE DETENTION BASIN.
51	9040-108-N-1	SILT FENCE OR SILT FENCE DITCH CHECK A. REFER TO SHEET F.01 FOR LAYOUT. ITEM INCLUDES INSTALLATION, MAINTENANCE AND REMOVAL OF SILT FENCE.
52	9040-108-O-1	STABILIZED CONSTRUCTION ENTRANCE A. REFER TO SHEET F.01 FOR LOCATION. ITEM INCLUDED THE INSTALLTION OF THE ROCK AND SUBGRADE STABILIZATION FABRIC.
53	9040-108-T-1	INLET PROTECTION DEVICE, SURFACE-APPLIED INTAKE PROTECTION A. ALL DEVICES SHALL BE DROP IN STYLE AS PER SUDAS 9040-2.18. ADDITIONAL QUANTITY, IF REQUIRED, SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. REMOVAL OF INLET PROTECTION DEVICE SHALL BE CONSIDERED INCIDENTAL. SILT TRAPPED IN THE DEVICE SHALL BE REMOVED AND DISPOSED OF AT NO ADDITIONAL COST.
54	11010-108-A-0	CONSTRUCTION SURVEY A. THIS ITEM FOR ALL SURVEY WORK NECESSARY FOR CONSTRUCTION OF THIS PROJECT AS DETAILED ON THE CONSTRUCTION DOCUMENTS AND APPROVED REVISIONS. ELECTRONIC DRAWINGS ARE AVAILABLE FOR THE CONTRACTORS USE.
55	11020-108-A-0	MOBILIZATION A. THIS ITEM IS FOR ALL PREPATORY WORK AND COSTS INCURRED BEFORE BEGINNING THE WORK ON THE PROJECT AND DURING THE PROJECT. THIS ITEM SHALL ALSO INCLUDE THE COSTS FOR ANY STAGED CONSTRUCTION AND EQUIPMENT SET UP TO COMPLETE THE WORK. NO CHANGE IN CONTRACT PRICE WILL BE MADE FOR ANY COMBINATION OF ADD/ALTERNATES ADDED TO THE CONTRACT. THIS ITEM TO BE PAID PER SUDAS 11,020, 1.08A.
56	11050-108-A-0	CONCRETE WASHOUT A. THIS PAY ITEM INCLUDES FURNISHING AND THE PERIODIC CLEAN OUT AND MAINTENANCE OF THE WASHOUT AREA AS DIRECTED BY THE ENGINEER.
57	12,000-XXX-X-1	ELECTRICAL CONDUIT, OPEN CUT, HDPE/PVC, 2-INCH PRIMARY A. REFER TO SHEETS M.10 FOR LAYOUT. THIS ITEM INCLUDES MATERIAL AND INSTALLATION OF ALL ELECTRICAL CONDUIT MATERIALS INCLUDING SWEEPS INTO ELECTRICAL INFRASTRUCTURE. THIS ITEM INCLUDES TRENCHING, BACKFILL, COMPACTION, INSTALLATION OF CONDUIT WITH PULL STRING. THE MATERIAL SHALL BE 2-INCH HDPE, SDR 13.5 BLACK WITH A RED STRIPE OR SCHEDULE 40 PVC. METHOD OF MEASUREMENT IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
58	12,000-XXX-X-2	ELECTRICAL CONDUIT, OPEN CUT, HDPE/PVC, STREET LIGHT A. REFER TO SHEETS M.10 FOR LAYOUT. THIS ITEM INCLUDES MATERIAL AND INSTALLATION OF ALL ELECTRICAL CONDUIT MATERIALS INCLUDING SWEEPS INTO ELECTRICAL INFRASTRUCTURE AND STREET LIGHT CONDUCTOR. THIS ITEM INCLUDES TRENCHING, BACKFILL, COMPACTION, INSTALLATION OF CONDUIT WITH PULL STRING, PULLING IN CONDUCTOR AND CONNECTING STREET LIGHTS TO ELECTRICAL CIRCUIT. THE MATERIAL SHALL BE 2-INCH HDPE, SDR 13.5 BLACK WITH A RED STRIPE OR SCHEDULE 40 PVC. METHOD OF MEASUREMENT IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. B. CERTIFIED ELECTRICIAN SHALL SIZE THE CONDUCTOR FOR STREET LIGHTS BASED ON TYPICAL LED STREET LIGHT FIXTURE LOADING.
59	12,000-XXX-X-3	ELECTRICAL SERVICES A. THIS ITEM INCLUDES MATERIAL AND INSTALLATION OF ELECTRICAL CONDUIT MATERIALS INCLUDING SWEEPS INTO ELECTRICAL INSFRASTRUCTURE AND FURNISHING AND INSTALLING SECONDARY CONDUCTOR FOR ELECTRICAL SERVICE FROM TRANSFORMER TO THE LOCATION OF THE ELECTRIC METER. COORDINATE WITH ARCHITECTURAL PLANS FOR LOCATION OF ELECTRIC METER.
60	12,000-XXX-X-4	3'x3' TRANSFORMER PAD A. REFER TO SHEET M.10 FOR LOCATIONS. THIS ITEM INCLUDES EXCAVATION, GRANULAR BASE, COMPACTION, FURNISH AND INSTALL FIBERGLASS PAD, AND BACKFILL.
61	12,000-XXX-X-5	HAND HOLE, ELECTRICAL, 13"x24" A. REFER TO SHEET M.10 FOR LAYOUT. THIS ITEM INCLUDES EXCAVATION, GRANULAR BASE, COMPACTION, FURNISH AND INSTALL HAND HOLE BOX AND LID, AND BACKFILL.
62	12,000-XXX-X-6	STREET LIGHT, CONCRETE FOUNDATION A. REFER TO SHEET M.10 FOR LOCATIONS. THIS ITEM INCLUDE THE CONSTRUCTION OF A CONCRETE LIGHT POLE BASE, INSTALLATION OF A 10" DIAMETER HANDHOLE, LIGHT POLE, LIGHT FIXUTRE.
63	12,000-XXX-X-7	COMMUNICATION CONDUIT, OPEN CUT, HDPE., 2-INCH A. REFER TO SHEETS M.10 FOR LAYOUT. THIS ITEM INCLUDES INSTALLATION OF ALL COMMUNICATION CONDUIT MATERIALS INCLUDING SWEEPS INTO COMMUNICATION INFRASTRUCTURE. THIS ITEM INCLUDES TRENCHING, BACKFILL, COMPACTION, INSTALLATION OF CONDUIT WITH PULL STRING. THE MATERIAL SHALL BE 2-INCH HDPE, SDR 15.5, TERRA COTA AND ORANGE. BOTH ENDS OF CONDUIT SHALL BE SEALED MEASUREMENT IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. B. MPW SHALL PROVIDE ALL MATERIAL AT NO COST TO THE CONTRACTOR. CONDUIT CAN BE INSTALLED IN SAME TRENCH AS ELECTRICAL TRENCH.
64	12,000-XXX-X-8	COMMUNICATION CONDUIT, OPEN CUT, HDPE., 1-INCH A. THIS ITEM INCLUDES INSTALLATION OF ALL COMMUNICATION CONDUIT MATERIALS INCLUDING SWEEPS INTO COMMUNICATION INFRASTRUCTURE. THIS ITEM INCLUDES TRENCHING, BACKFILL, COMPACTION, INSTALLATION OF CONDUIT WITH PULL STRING. THE MATERIAL SHALL BE 1-INCH HDPE, SDR 15.5, TERRA COTA AND ORANGE. BOTH ENDS OF CONDUIT SHALL BE SEALED MEASUREMENT IS FROM CENTER OF STRUCTURE TO SERVICE CONNECTION LOCATION AT BUILDING FOUNDATION. B. MPW SHALL PROVIDE ALL MATERIAL AT NO COST TO THE CONTRACTOR. CONDUIT CAN BE INSTALLED IN SAME TRENCH AS ELECTRICAL SERVICE LINE TRENCH. ONLY ONE CONDUIT IS REQUIRED PER BUILDING.
65	12,000-XXX-X-9	HAND HOLE, COMMUNICATIONS, 17"x30" A. REFER TO SHEET M.10 FOR LAYOUT. THIS ITEM INCLUDES EXCAVATION, GRANULAR BASE, COMPACTION, INSTALL HAND HOLE BOX AND LID, AND BACKFILL. MPW SHALL PROVIDE THE BOX AND LID FOR INSTALLATION AT NO COST TO THE CONTRACTOR.
66	12,000-XXX-X-10	HAND HOLE, COMMUNICATIONS, 30"x48" A. REFER TO SHEET M.10 FOR LAYOUT. THIS ITEM INCLUDES EXCAVATION, GRANULAR BASE, COMPACTION, INSTALL HAND HOLE BOX AND LID, AND BACKFILL. MPW SHALL PROVIDE THE BOX AND LID FOR INSTALLATION AT NO COST TO THE CONTRACTOR.
67	12,000-XXX-X-11	BIOSWALE A. REFER TO SHEET M.10 FOR LAYOUT. REFER TO SHEET B.05 FOR DETAILS. THIS ITEM INCLUDES EXCAVATION, GRANULAR BACKFILL, AMENDED BACKFILL, INSTALLATION OF STORM DRAIN TO DETENTION BASIN, INSTALLATION OF EROSION CONTROL MEASURES WITH FINAL SEEDING.
68	12,000-XXX-X-12	CHECK DAM A. REFER TO SHEET M.10 FOR LAYOUT. REFER TO SHEET B.05 FOR DETAILS. THIS ITEM INCLUDES EXCAVATION, CONSTRUCTION OF CONCRETE CHECK DAM, COMPACTION, AND BACKFILL.
69	12,000-XXX-X-13	BIORETENTION BASIN A. REFER TO SHEET M.04 FOR LAYOUT. THIS ITEM INCLUDES EXCAVATION, GRANULAR BACKFILL, AMENDED BACKFILL, RIVER ROCK, AND INSTALLATION OF STORM SEWER TO INTAKE.
70	12,000-XXX-X-14	DUMPSTER PAD A. REFER TO SHEETS L.01 TO L.05 FOR LOCATIONS. REFER TO SHEET B.05 FOR DETAILS. THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT TO CONSTRUCT THE DUMPSTER PAD, BOLLARDS, FENCE POSTS, CHAIN LINK FENCH, AND SCREENING.
71	12,000-XXX-X-15	CONCRETE WALK, PCC, 4 INCH, CITY A. REFER TO SHEET L.06 FOR LAYOUT. JOINT SPACING SHALL BE SPACED IN ACCORDANCE TO SUDAS SECTION 7030. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, THE CRACK CAN BE ROUTED AND SEALED.

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#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

QUANTITIES AND ESTIMATE REFERENCE NOTES

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: C.02

1. SITE EVALUATION AND DESIGN DEVELOPMENT

- NOTE: INFORMATION CONTAINED HEREIN APPLIES TO ALL CONTRACTORS AND OTHER PARTIES PERFORMING WORK ON THIS PROJECT.
- SITE INFORMATION FOR THIS PROPERTY HAS BEEN COLLECTED USING SURVEYING EQUIPMENT, ONLINE AND SOIL CONSERVATION SERVICE REFERENCE MATERIAL, AND A VISUAL INSPECTION OF THE SITE.
  - O THE SITE IS CURRENTLY AGRICULTURAL LAND
  - O NO DATA IS AVAILABLE TO DETERMINE EXISTING RUNOFF WATER QUALITY.
  - O THE EXISTING SITE DRAINS VIA SURFACE RUNOFF
  - O THE SITE IS WELL DRAINED
- THIS PROJECT WILL INCLUDE:
  - O REMOVAL OF TOPSOIL, GRADING, AND PAVING
  - O UTILITY INSTALLATION
  - O NEW BUILDING CONSTRUCTION
- CONSTRUCTION ACTIVITIES WILL COMMENCE IN FALL 2018 AND FINISH IN 2019
- CONSTRUCTION PLANS HAVE BEEN DEVELOPED AND ARE AVAILABLE AT THE JOB TRAILER
- TOTAL SITE AREA IS APPROXIMATELY **11** ACRES.
- THE DISTURBED AREA WILL INCLUDE APPROXIMATELY 11 ACRES.
- EXISTING AVERAGE RUNOFF COEFFICIENT IS 0.95 IN PARKING AREAS AND 0.35 IN GRASSED AREAS
- THE POST DEVELOPMENT AVERAGE COEFFICIENT IS 0.95 IN BUILDING/PAVING AREAS & 0.35 IN GRAVEL AREAS

2. CONTROLS

- CONSTRUCTION SEQUENCE:
  - INSTALL FILTER SOCK AROUND THE PERIMETER PRIOR TO START OF WORK
  - STRIP ALL TOP SOIL
  - GRADING AND EXCAVATION FOR BUILDING FOUNDATION
  - INSTALLATION OF UTILITIES
  - CONSTRUCTION OF NEW BUILDINGS
  - PAVING OPERATIONS
  - CLEANUP
- STABILIZATION PRACTICES:
  - AREAS NOT SUBJECT TO CONSTRUCTION ACTIVITY FOR 21 DAYS OR MORE SHALL HAVE STABILIZING MEASURES WITHIN 14 DAYS AFTER CONSTRUCTION HAS CEASED
  - TEMPORARY SEEDING SHALL BE APPLIED TO AREAS REQUIRING STABILIZATION SEEDING SHALL BE IMPROVED BY USE OF ROLLED EROSION CONTROL PRODUCTS AND TURF REINFORCEMENT MATS
  - AFTER UTILITY INSTALLATION OPERATIONS, PERMANENT SEEDING SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS.
  - AS AREAS REACH THEIR COMPLETION, ADDITIONAL SILT FENCES, SILT BASINS, INTERCEPTING DITCHES, SOD FLUMES, LETDOWNS, AND EARTH DIKES SHALL BE INSTALLED AS SPECIFIED IN THE PLANS AND/OR AS REQUIRED BY THE PROJECT ENGINEER. INSTALLATION AND MAINTENANCE OF DEVICES SHALL BE IN ACCORDANCE WITH IOWA SUDAS SECTION 9.
- STRUCTURAL PRACTICES:
  - INSTALL ROCK DITCH CHECKS AND SILT FENCING WHERE SHOWN ON THE PLANS
  - MAINTAIN A CONSTRUCTION ENTRANCE THROUGHOUT THE PROJECT LIFE
  - A CONCRETE TRUCK WASHING LOCATION SHALL BE CONSTRUCTED AND MAINTAINED, CONCRETE WASHOUT LOCATIONS SHALL BE COMPLETELY REMOVED AND RESEEDED-LOCATION TO BE FIELD LOCATED BY GENERAL CONTRACTOR
  - ADDITIONAL STRUCTURAL PRACTICES SHALL BE IMPLEMENTED AS NEEDED THROUGHOUT THE PROJECT LIFE.
- STORMWATER MANAGEMENT:
  - EXISTING AND PROPOSED STORMWATER MANAGEMENT FEATURES SHALL BE PROTECTED FROM SEDIMENTATION AND CLEANED UPON COMPLETION OF PROJECT
- OTHER CONTROLS:
  - CONTRACTORS SHALL DISPOSE OF RUBBLE, REMOVED UTILITY EQUIPMENT, CONSTRUCTION MATERIALS ETC IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS
  - HAZARDOUS MATERIALS SHALL BE STORED IN ACCORDANCE WITH APPLICABLE LAWS
  - AREAS NOT INCLUDED IN THIS SWPPP SHALL NOT BE DISTURBED
  - ACCESS TO SITE SHALL BE LIMITED TO CLEARLY DESIGNATED AREAS AND STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED WHERE NECESSARY TO PREVENT SEDIMENTS FROM LEAVING THE SITE
  - WASTE DISPOSAL FROM THE CONSTRUCTION SITE SHALL INCLUDE DISPOSAL OF RUBBLE (IF ANY IS FOUND) AND PROPER DISPOSAL OF CONSTRUCTION WASTE.
  - SANITARY WASTES GENERATED ON SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE OR LOCAL REQUIREMENTS.
  - DUST CONTROL SHALL BE IMPLEMENTED ON THE SITE BY APPLICATION OF WATER. THE SITE OWNER IS TO ENSURE THAT TRUCKS ENTERING AND EXITING THE SITE ARE NOT TRACKING DEBRIS ONTO EXISTING ROADWAYS. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY DEBRIS THAT IS TRACKED ONTO ADJACENT ROADWAYS.
  - NON-STORM WATER DISCHARGES SHALL BE PROHIBITED FROM LEAVING THE SITE. THE CONTRACTOR IS TO MAKE SURE THAT EQUIPMENT LEAKS, SPILLS AND ANY OTHER POLLUTANTS ARE KEPT FROM LEAVING THE SITE AND THAT THEY ARE CONTAINED AND PREVENTED FROM CONTAMINATING THE SITE FURTHER.
  - ADDITIONAL CONTROLS MAY BE ADDED AS NECESSARY TO COMPLY WITH THE NPDES PERMIT. AMENDMENTS SHOULD BE ATTACHED TO THIS DOCUMENT.
  - CONTROLS THAT ARE IDENTIFIED SHALL EACH BE INSTALLED ACCORDING TO THE MOST CURRENT VERSION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS).
  - ALL EXISTING PAVEMENTS SHALL BE KEPT FREE OF CONSTRUCTION DEBRIS OR MUD, SWEEPING MAY BE REQUIRED ON A REGULAR BASIS
- STATE AND LOCAL REQUIREMENTS:
  - AN NPDES GENERAL PERMIT NO. 2 HAS BEEN FILED WITH THE STATE OF IOWA
  - ALL CONTRACTORS ARE REQUIRED TO SIGN AND FOLLOW THE REQUIREMENTS OF THIS PLAN.

3. MAINTENANCE

- ONGOING MAINTENANCE:
  - SEDIMENT CONTROL DEVICES SHALL BE CLEANED AND SEDIMENTS REMOVED AFTER 50% OF UTILITY HAS BEEN REACHED
  - TEARS OR BREACHES IN EROSION CONTROL MEASURES SHALL BE REPAIRED AS NEEDED
  - NON WORK AREAS AND CITY STREETS SHALL BE KEPT FREE OF MUD & DEBRIS
- END OF PROJECT MAINTENANCE:
  - AT THE END OF CONSTRUCTION ALL PERMANENT SEDIMENT AND EROSION CONTROL DEVICES SHALL BE CLEANED
  - TEMPORARY CONTROL DEVICES SUCH AS SILT FENCES OR FILTER SOCK SHALL BE REMOVED AND DISPOSED OF PROPERLY
  - ALL PAVEMENTS SHALL BE SWEPT

4. INSPECTIONS

- INSPECTIONS ARE REQUIRED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HRS OF THE END OF A RAIN STORM OF1/2 INCH OR GREAT
- INSPECTIONS SHALL INCLUDE THE FOLLOWING:
  - INSPECT DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS FOR EVIDENCE OF POLLUTANTS LEAVING THE SITE AND/OR ENTERING THE DRAINAGE SYSTEM.
  - INSPECT EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWPPP TO ENSURE THEY ARE FUNCTIONING CORRECTLY
  - INSPECT DISCHARGE LOCATIONS TO ASCERTAIN IF THE CURRENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS
  - INSPECT LOCATIONS WHERE VEHICLES ENTER/EXIT THE CONSTRUCTION SITE FOR SIGNS OF SEDIMENT TRACKING
  - PREPARE AN INSPECTION REPORT THAT LISTS THE DATE, THE NAME OF THE INSPECTOR, AND THE INSPECTOR'S QUALIFICATIONS. THE REPORT MUST SUMMARIZE THE INSPECTION AND NOTE ANY MAINTENANCE OF THE CONTROLS OR CHANGES TO THE SWPPP THAT ARE REQUIRED
  - IMPLEMENT REQUIRED MAINTENANCE OR CHANGES TO THE SWPPP IDENTIFIED DURING THE INSPECTION WITHIN SEVEN CALENDAR DAYS FOLLOWING THE INSPECTION.

5. NON-STORMWATER DISCHARGES

- VARIOUS NON-STORMWATER RELATED FLOWS ARE ALLOWED TO BE DISCHARGED INTO THE STORMWATER SYSTEM, PROVIDED THAT THEY ARE NOT CONTAMINATED BY DETERGENTS OR SPILLS/LEAKS OF TOXIC/HAZARDOUS MATERIALS. ALLOWABLE NON-STORMWATER DISCHARGES INCLUDE FLOWS FROM FIRE HYDRANT AND POTABLE WATERLINE FLUSHING, VEHICLE WASHING, EXTERNAL BUILDING WASH DOWN, PAVEMENT WASH WATER, AIR CONDITIONING CONDENSATE, SPRINGS, AND FOOTING DRAINS. WHEN THERE IS A POSSIBILITY FOR THESE TYPES OF DISCHARGES ON THE SITE, THEY MUST BE IDENTIFIED IN THE SWPPP AND INCLUDE A DESCRIPTION OF THE MEASURES THAT WILL BE IMPLEMENTED TO PREVENT THESE FLOWS FROM BECOMING CONTAMINATED BY HAZARDOUS MATERIALS OR SEDIMENT.

6. ADDITIONAL NOTES

- ANY HAZARDOUS CONDITIONS THAT OCCUR ON THE SITE SHOULD BE RECORDED. THE SITE ENGINEER SHALL BE CONTACTED IMMEDIATELY TO DETERMINE THE BEST COURSE OF MITIGATION FOR THESE ISSUES. THE POLLUTION PREVENTION PLAN WILL THEN BE UPDATED ACCORDINGLY.
- THE POLLUTION PREVENTION PLAN MUST BE LOCATED ON SITE AND AVAILABLE UPON DEMAND DURING WORKING HOURS.
- RETENTION OF THESE RECORDS, INCLUDING THIS PLAN, REPORTS REQUIRED BY THE PERMIT, AND DATA USED TO COMPLETE THE NOTICE OF INTENT SHALL BE RETAINED FOR 3 YEARS AFTER THE COMPLETION OF FINAL SITE STABILIZATION.
- THIS PLAN AND ASSOCIATED RECORDS MUST BE MADE AVAILABLE TO THE IOWA DEPARTMENT OF NATURAL RESOURCES UPON REQUEST.
- UPDATES TO THE PLAN WILL BE MADE WHENEVER CHANGES OCCUR.

7. CERTIFICATION AND NOTIFICATION

- CERTIFICATION STATEMENT:

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION. FURTHER, BY MY SIGNATURE, I UNDERSTAND THAT I AM BECOMING A CO-PERMITTEE, ALONG WITH THE OWNER(S) AND OTHER CONTRACTORS AND SUBCONTRACTORS SIGNING SUCH CERTIFICATIONS, TO THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" AT THE IDENTIFIED SITE. AS A CO-PERMITTEE, I UNDERSTAND THAT I, AND MY COMPANY, ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THIS NPDES PERMIT AND THE TERMS AND CONDITIONS OF THIS NPDES PERMIT.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

THIS CERTIFICATION MUST INCLUDE THE NAME AND TITLE OF THE PERSON PROVIDING THE SIGNATURE; THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE CONTRACTING FIRM; THE ADDRESS (OR OTHER IDENTIFYING DESCRIPTION) OF THE SITE; AND THE DATE THE CERTIFICATION IS MADE.

SEE ATTACHED SIGNATURE PAGE THIS SHEET.

8. FINAL STABILIZATION AND NOTICE OF DISCONTINUATION

- FINAL STABILIZATION IS DEFINED IN THE GENERAL PERMIT AS MEANING THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT A UNIFORM PERENNIAL VEGETATIVE COVER FOR UNPAVED AREAS NOT COVERED BY PERMANENT STRUCTURES HAS BEEN ESTABLISHED OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIP RAP, GABIONS, OR GEOTEXTILES) HAVE BEEN EMPLOYED.
- A STORM WATER DISCHARGE THAT IS COVERED UNDER THE GENERAL PERMIT IS REQUIRED TO NOTIFY THE IOWA DNR THAT THE DISCHARGE HAS BEEN DISCONTINUED AND THAT THE DISCHARGE IS NO LONGER SUBJECT TO THE NPDES PERMITTING REQUIREMENTS. FOR CONSTRUCTION ACTIVITIES, THIS MEANS THAT THE FINAL STABILIZATION HAS BEEN REACHED. THIS NOTIFICATION IS MADE BY PROVIDING THE IDNR WITH A NOTICE OF DISCONTINUATION. WITHIN 30 DAYS AFTER FINAL STABILIZATION HAS BEEN REACHED THE OWNER OR GENERAL CONTRACTOR MUST SUBMIT THE NOTICE OF DISCONTINUATION TO THE IDNR. INFORMATION TO BE INCLUDED ON THE NOTICE OF DISCONTINUATION INCLUDES THE FOLLOWING:

  THE NAME OF THE OWNER OR OPERATOR TO WHICH THE COVERAGE UNDER THE GENERAL PERMIT WAS ISSUED

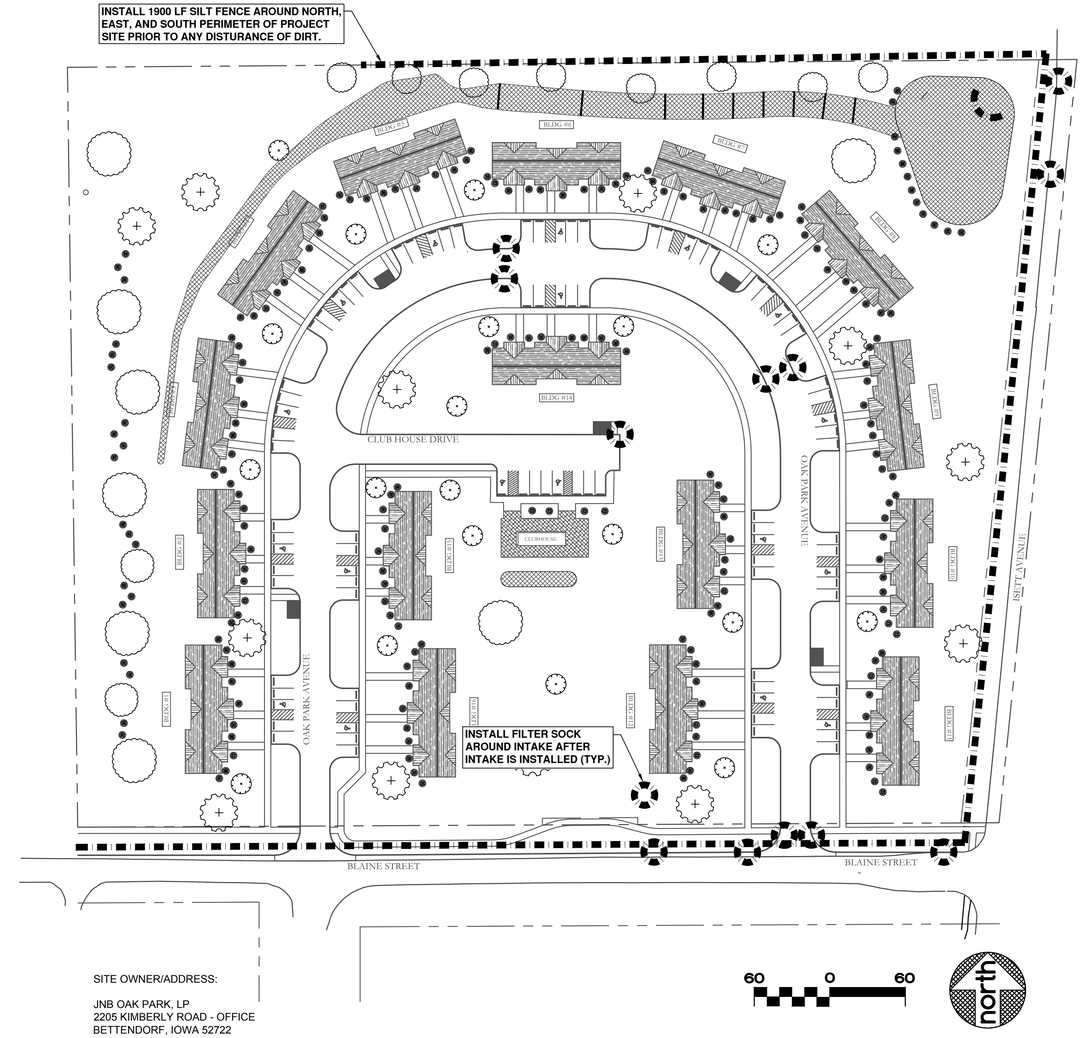
  THE GENERAL PERMIT NUMBER AND THE PERMIT AUTHORIZATION NUMBER

  THE DATE THE CONSTRUCTION SITE REACHED FINAL STABILIZATION

  A SIGNED CERTIFICATION

  NOTICE OF DISCONTINUATION SHOULD BE MAILED TO THE FOLLOWING ADDRESS:

  STORM WATER COORDINATOR
  IOWA DEPARTMENT OF NATURAL RESOURCES
  502 E. 9TH STREET
  DES MOINES, IOWA 50319-0034



SITE OWNER/ADDRESS:

JNB OAK PARK, LP
2205 KIMBERLY ROAD - OFFICE
BETTENDORF, IOWA 52722

NOTICE OF INTENT HAS BEEN SUBMITTED FOR THIS PROJECT.

PROJECT MANAGER:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

CONTRACTOR:_____DATE:_____

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

EROSION CONTROL PLAN

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: C.03
SHEET NO: 11 OF 42

PLOTTED: 6/29/2018
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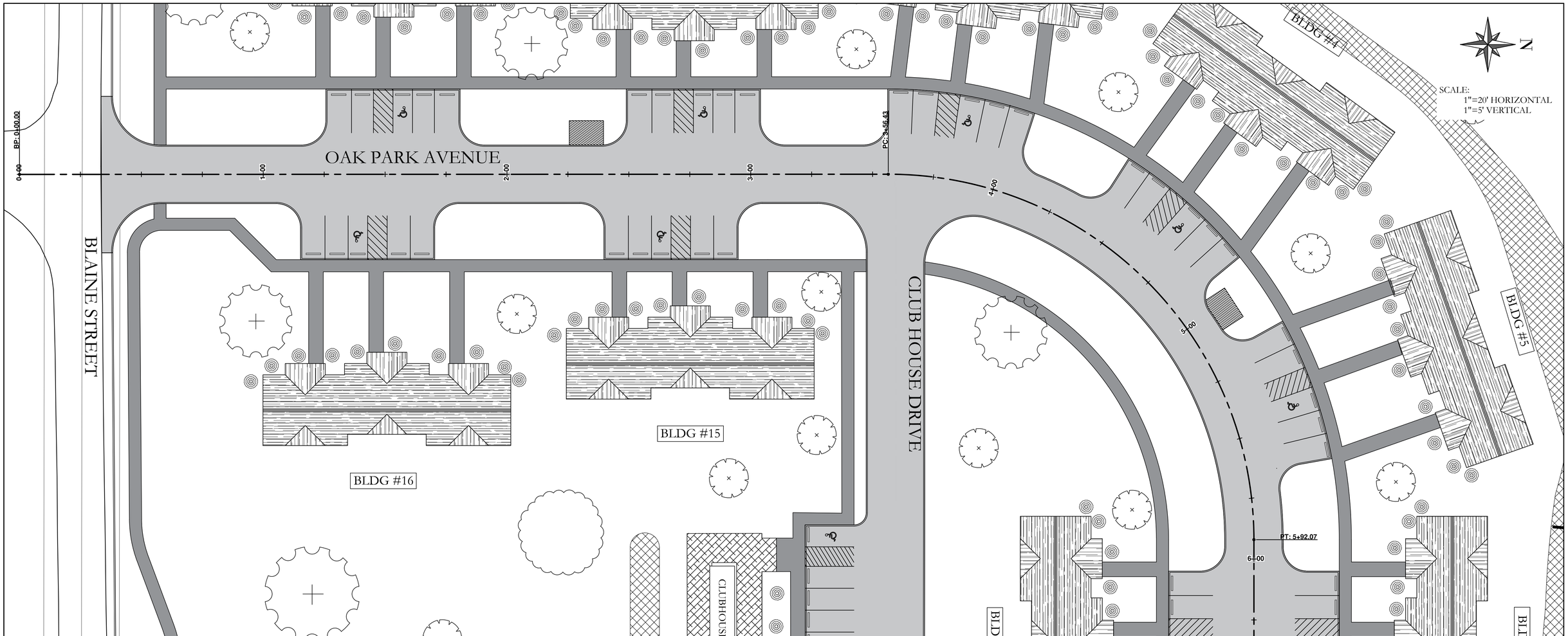

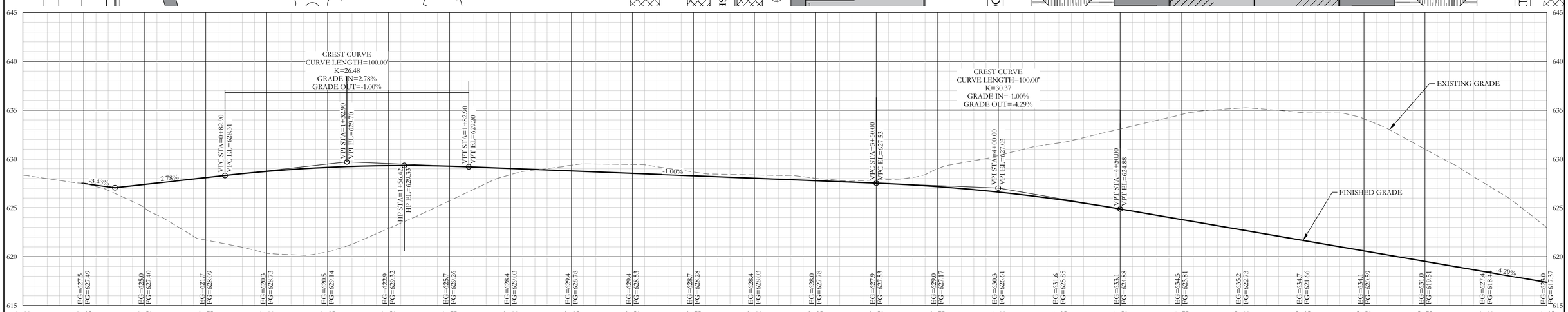

PLOTTED: 6/29/2018

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#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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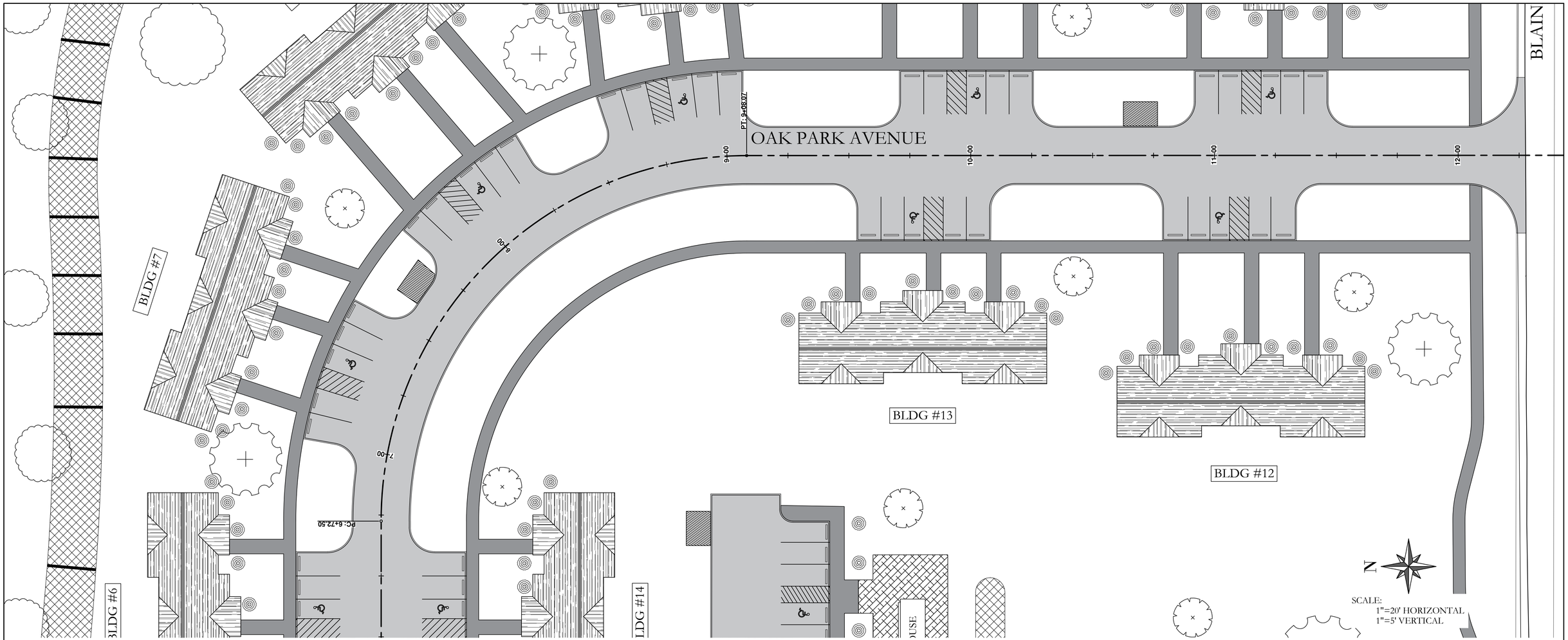
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

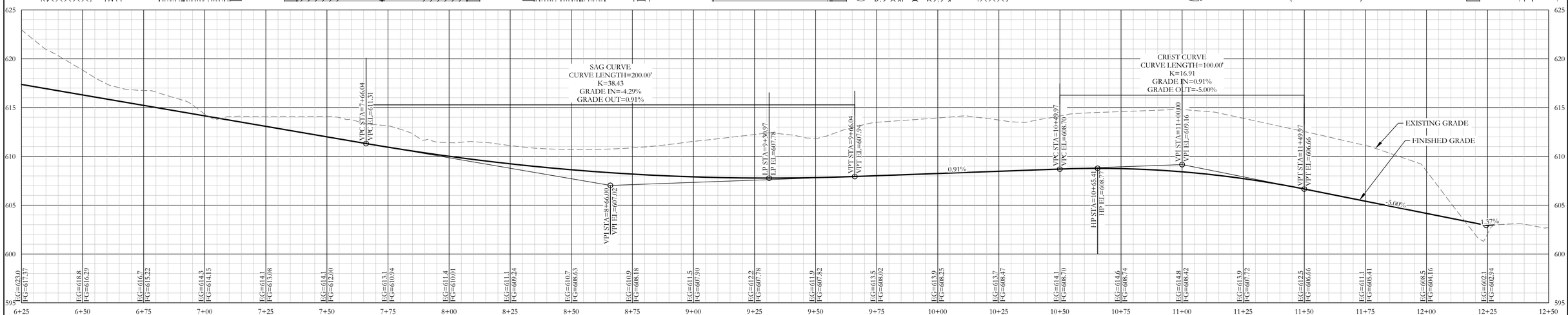
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

PLAN & PROFILE
OAK PARK AVENUE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: D.01
SHEET NO: 12 OF 42





#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

PLAN & PROFILE
OAK PARK AVENUE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: D.02
SHEET NO: 13 OF 42

PLOTTED: 6/29/2018
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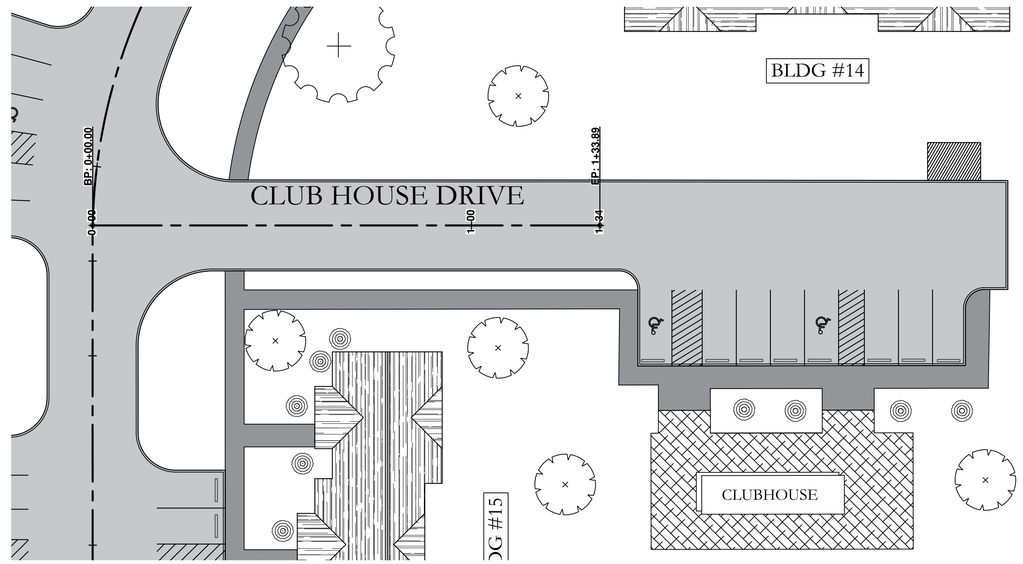
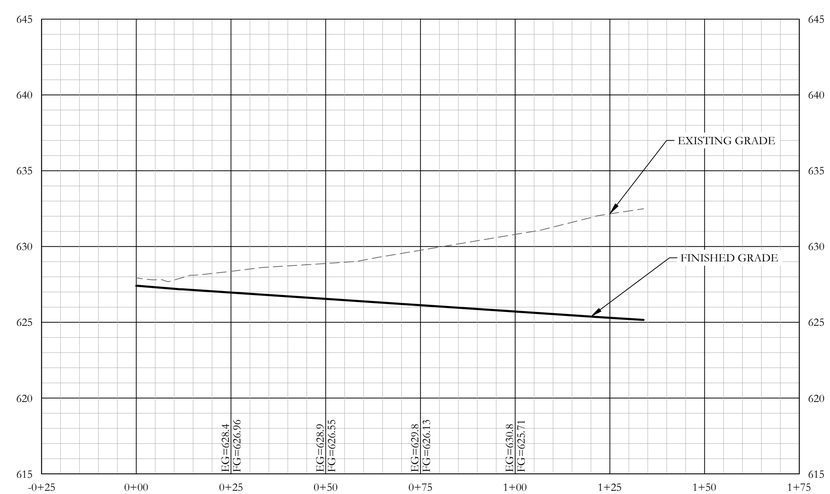
SCALE:
1"=20' HORIZONTAL
1"=5' VERTICAL





PLOTTED: 6/29/2018

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#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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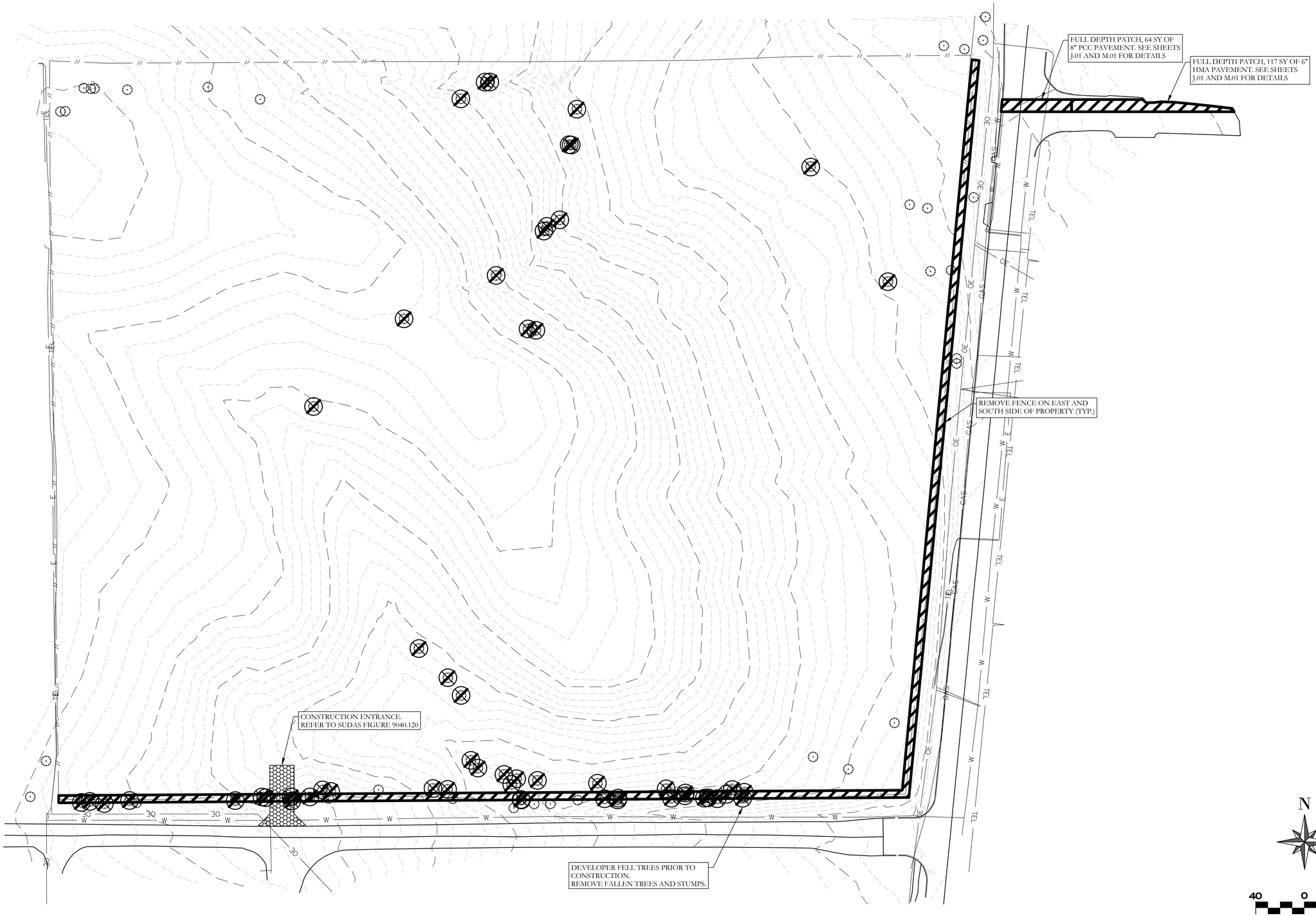
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

PLAN & PROFILE
CLUB HOUSE DRIVE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: D.03
SHEET NO: 14 OF 42



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DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

REMOVALS

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: F.01
SHEET NO: 15 OF 42

PLOTTED: 6/29/2018
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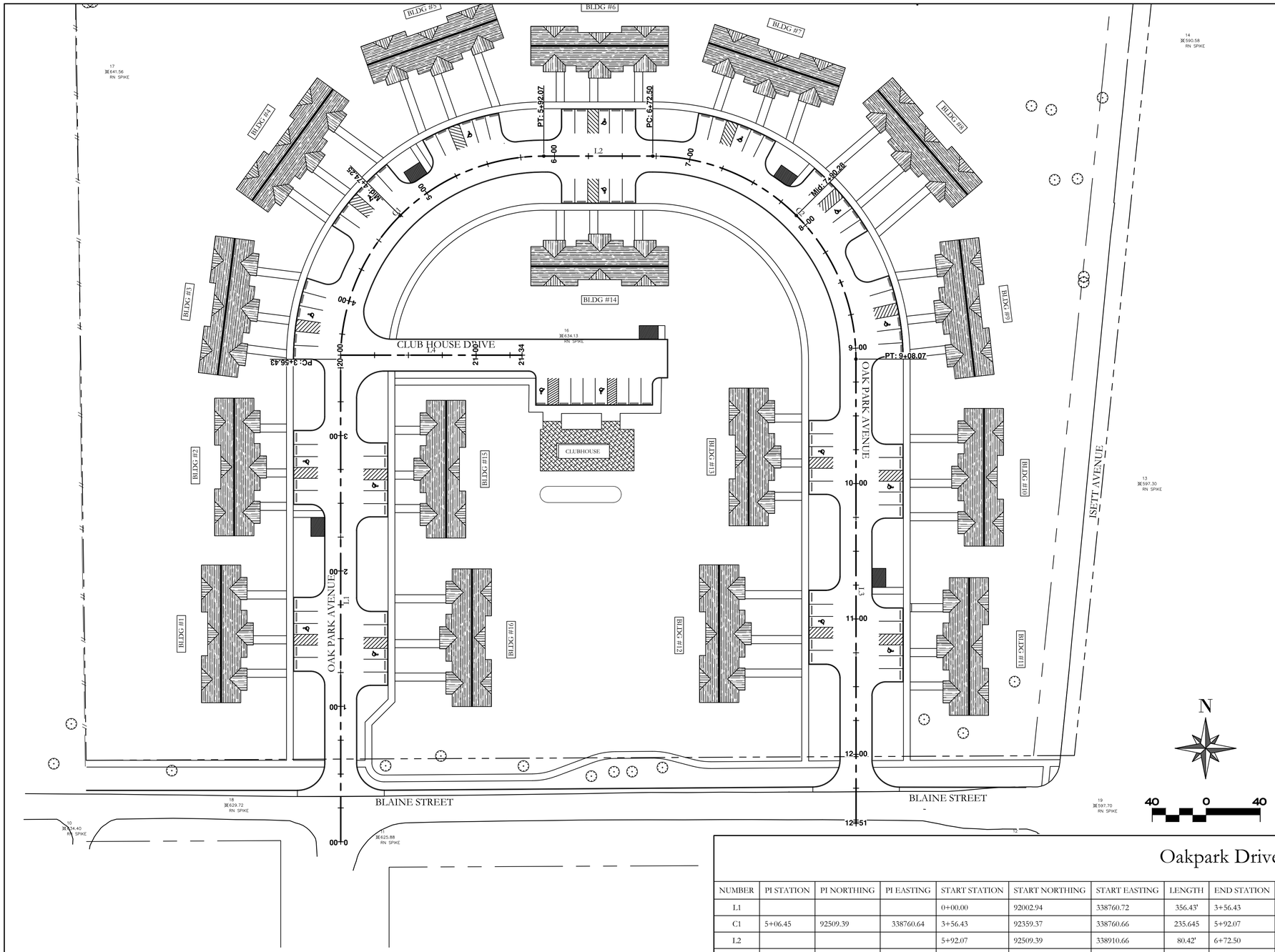

CONTROL POINTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	92012.79	338556.59	634.40	RN SPIKE
11	92006.33	338788.07	625.88	RN SPIKE
12	92006.86	339254.95	598.91	RN SPIKE
13	92267.37	339350.56	597.30	RN SPIKE
14	92594.73	339382.30	590.58	RN SPIKE
15	92776.61	339358.87	588.28	RN SPIKE
16	92376.62	338923.72	634.13	RN SPIKE
17	92571.72	338588.17	641.56	RN SPIKE
18	92029.98	338676.30	629.72	RN SPIKE
19	92029.64	339317.66	597.70	RN SPIKE

Oakpark Drive

NUMBER	PI STATION	PI NORTHING	PI EASTING	START STATION	START NORTHING	START EASTING	LENGTH	END STATION	END NORTHING	END EASTING	LINE/CHORD DIRECTION	RADIUS	Δ	T	E	D
L1				0+00.00	92002.94	338760.72	356.43'	3+56.43	92359.37	338760.66	N00° 00' 34.80"W					
C1	5+06.45	92509.39	338760.64	3+56.43	92359.37	338760.66	235.645	5+92.07	92509.39	338910.66	N44° 59' 42.60"E	150.00	090° 00' 35"	150.03	62.15	038° 56' 33"
L2				5+92.07	92509.39	338910.66	80.42'	6+72.50	92509.39	338991.08	N90° 00' 00.00"E					
C2	8+22.45	92509.39	339141.03	6+72.50	92509.39	338991.08	235.570	9+08.07	92359.44	339141.08	S45° 00' 34.19"E	150.00	089° 58' 52"	149.95	62.10	038° 56' 33"
L3				9+08.07	92359.44	339141.08	343.00'	12+51.07	92016.44	339141.20	S00° 01' 08.38"E					

Club House Road

NUMBER	PI STATION	PI NORTHING	PI EASTING	START STATION	START NORTHING	START EASTING	LENGTH	END STATION	END NORTHING	END EASTING	LINE/CHORD DIRECTION	RADIUS	Δ	T	E	D
L4				20+00.00	92362.34	338760.69	133.89'	21+33.89	92362.34	338894.58	N90° 00' 00.00"E					

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

ALIGNMENT & BENCHMARK INFORMATION

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: G.01
SHEET NO: 16 OF 42

PLOTTED: 6/29/2018

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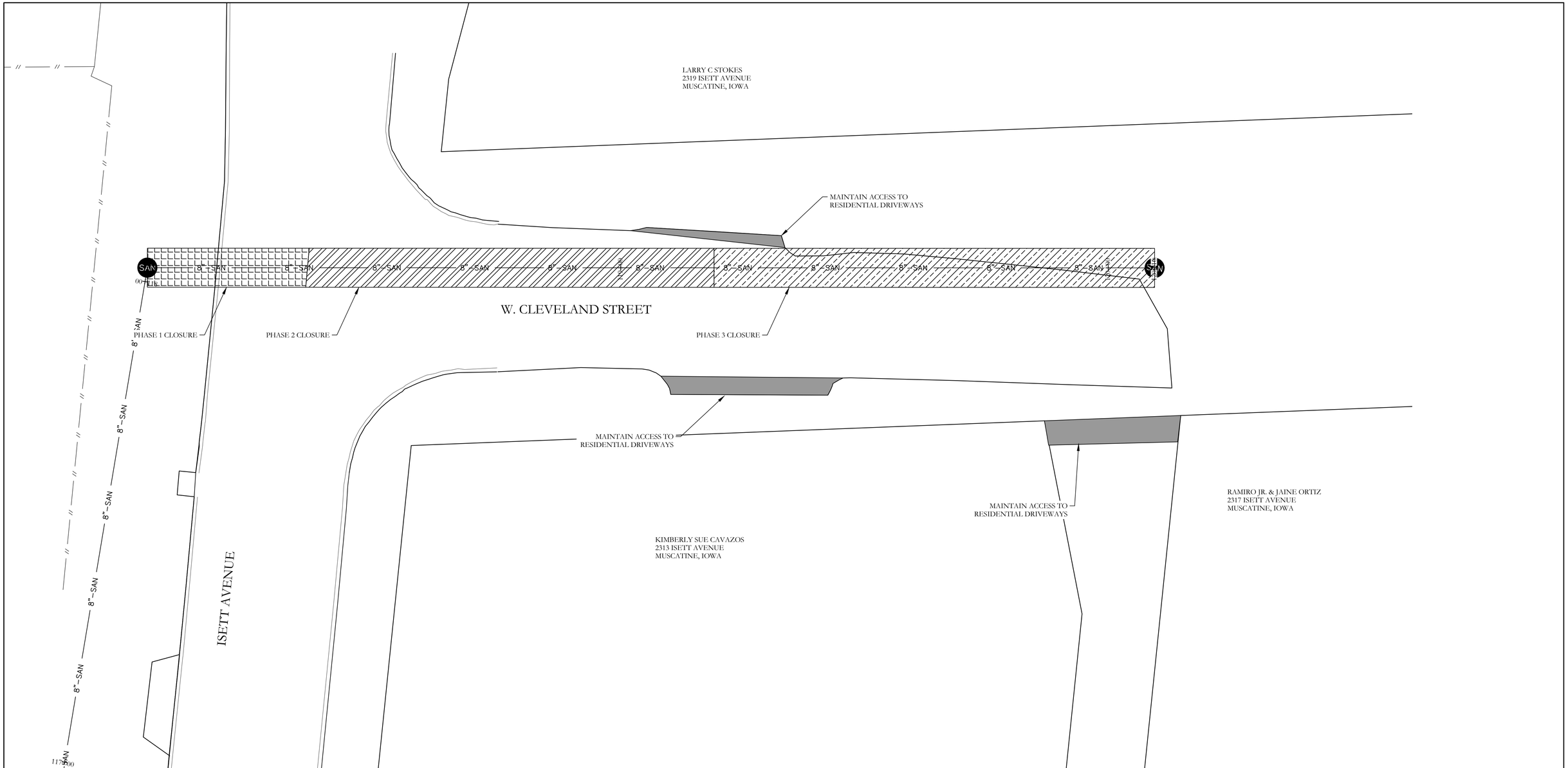

GENERAL STAGING NOTES:

1. ALL PROJECT TRAFFIC CONTROL SHALL BE INSTALLED ACCORDING TO THE CURRENT VERSION OF THE MUTCD. SUBMIT TRAFFIC CONTROL PLAN PRIOR TO COMMENCEMENT OF WORK.
2. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTORS OPERATIONS.
3. CHANGES TO THE TRAFFIC CONTROL AND STAGING PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. (48 HOUR ADVANCED NOTICE IS REQUIRED, STREET CLOSURES MUST BE APPROVED BY CITY COUNCIL IF DIFFERENT THAN SHOWN.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENCES AT ALL TIMES DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL REMOVE ALL ASPHALT FROM THE HATCH INDICATED TO THE EDGE OF THE NEAREST ROADWAY.

INCIDENTAL TO TRAFFIC CONTROL:

1. TEMPORARY ACCESS TO RESIDENCES AS NOTED IN THE STAGING PLANS.
2. SIGN MAINTENANCE AND REPAIR TO BE INCIDENTAL TO TRAFFIC CONTROL

N

10 0 10

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre
Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

TRAFFIC CONTROL

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: J.01
SHEET NO: 17 OF 42

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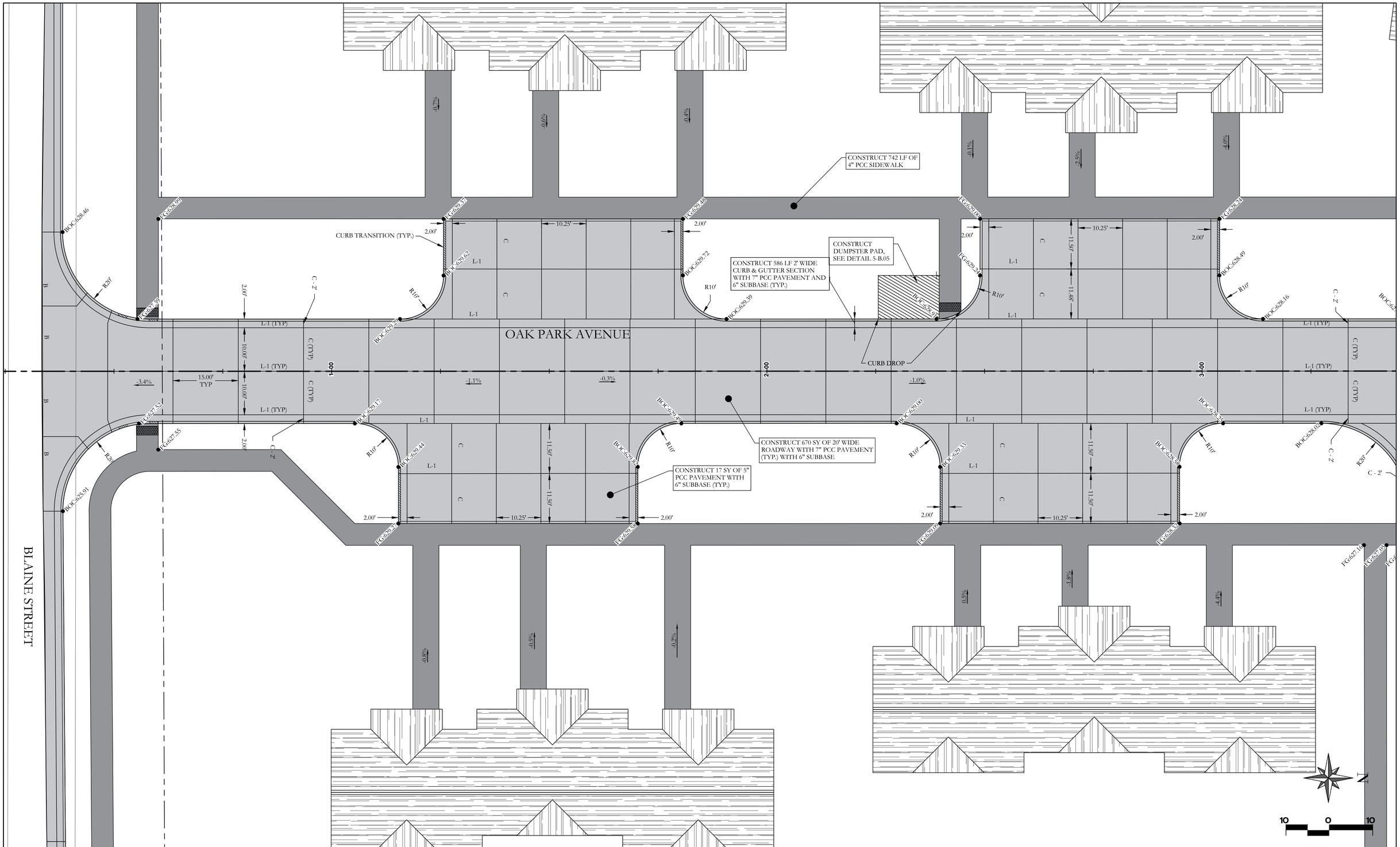

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

JOINTING

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: L.01
SHEET NO: 19 OF 42

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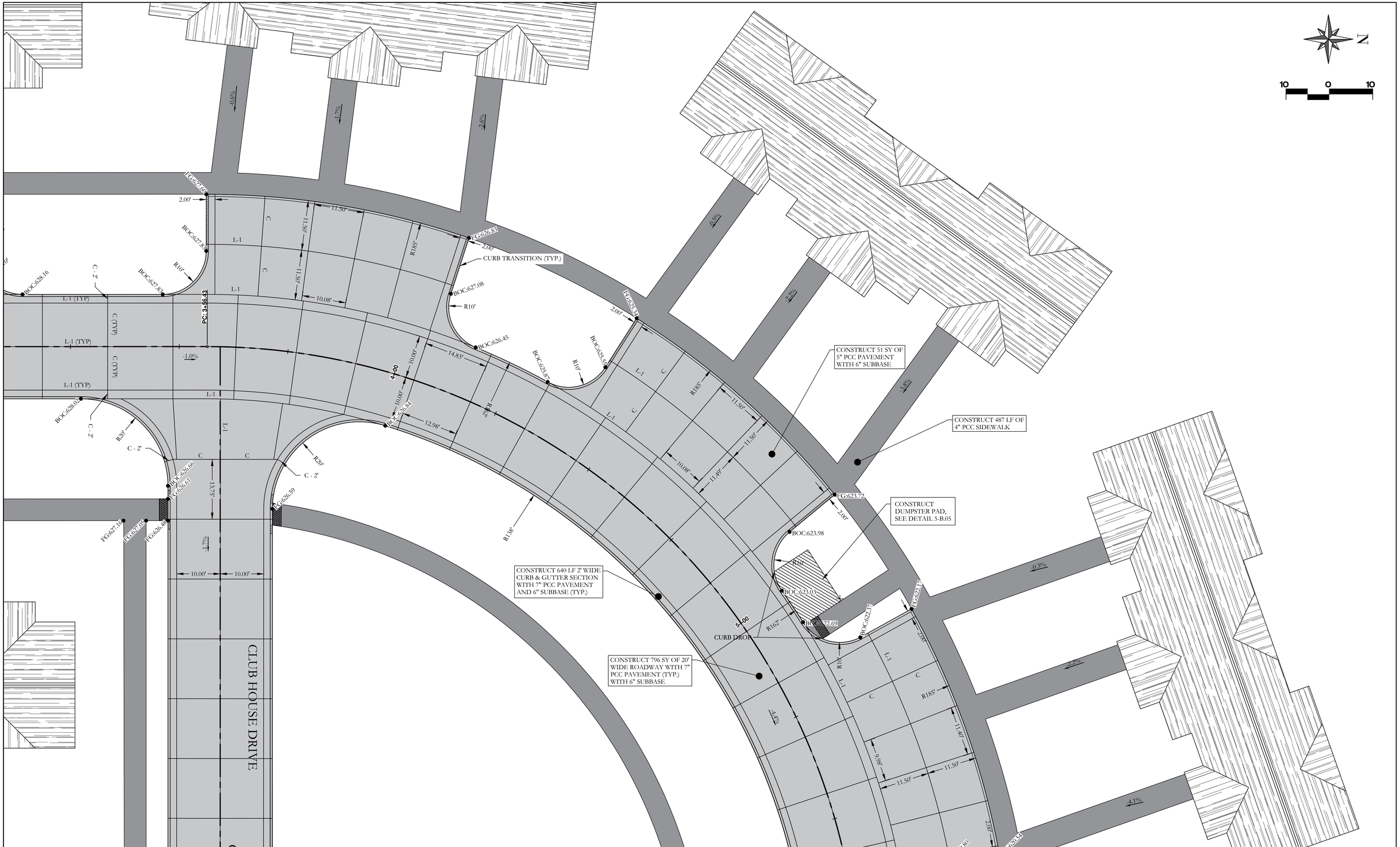

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

JOINTING

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: L.02
SHEET NO: 20 OF 42

PLOTTED: 6/29/2018
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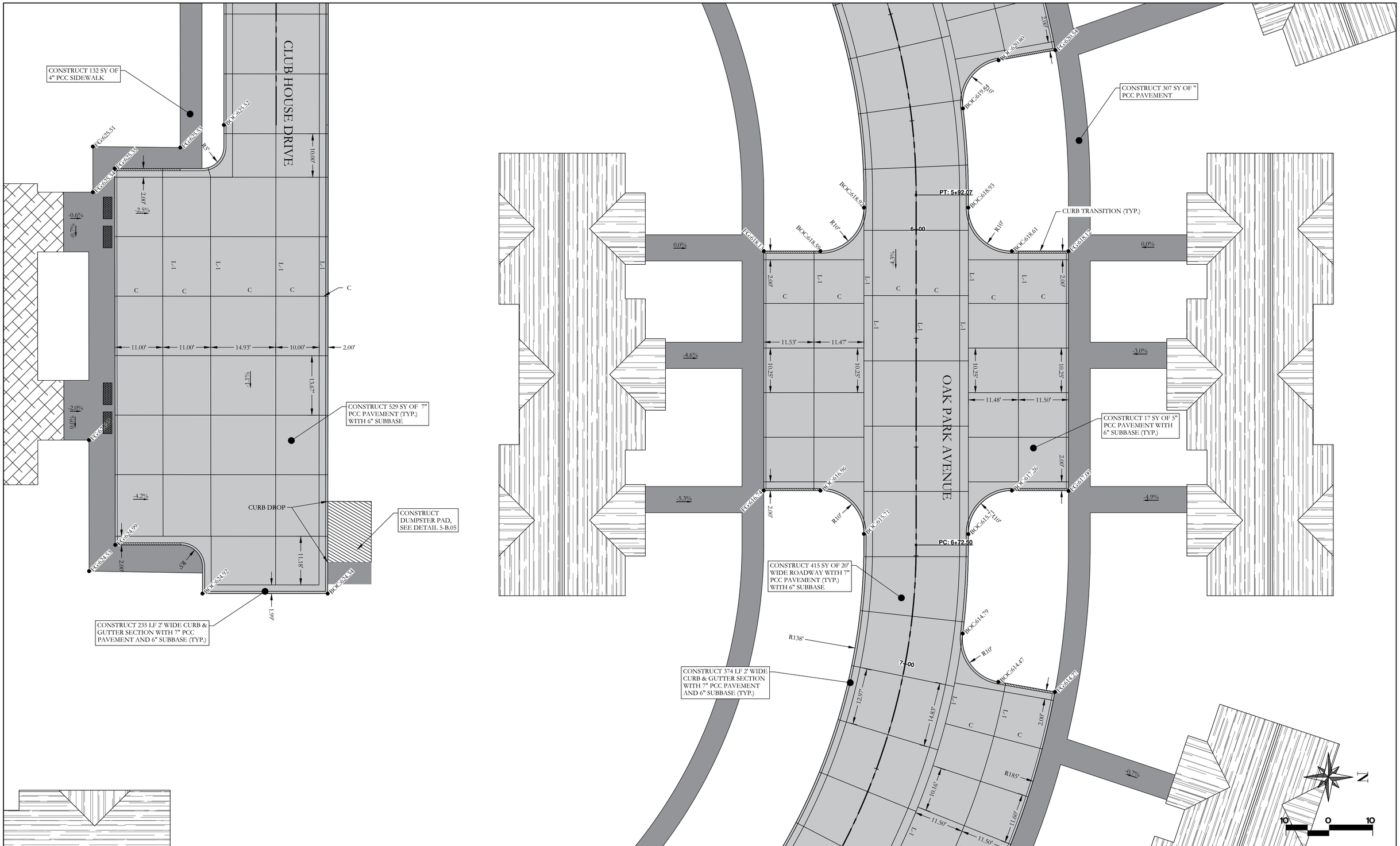

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DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

JOINTING

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: L.03
SHEET NO: 21 OF 42

PLOTTED: 6/29/2018

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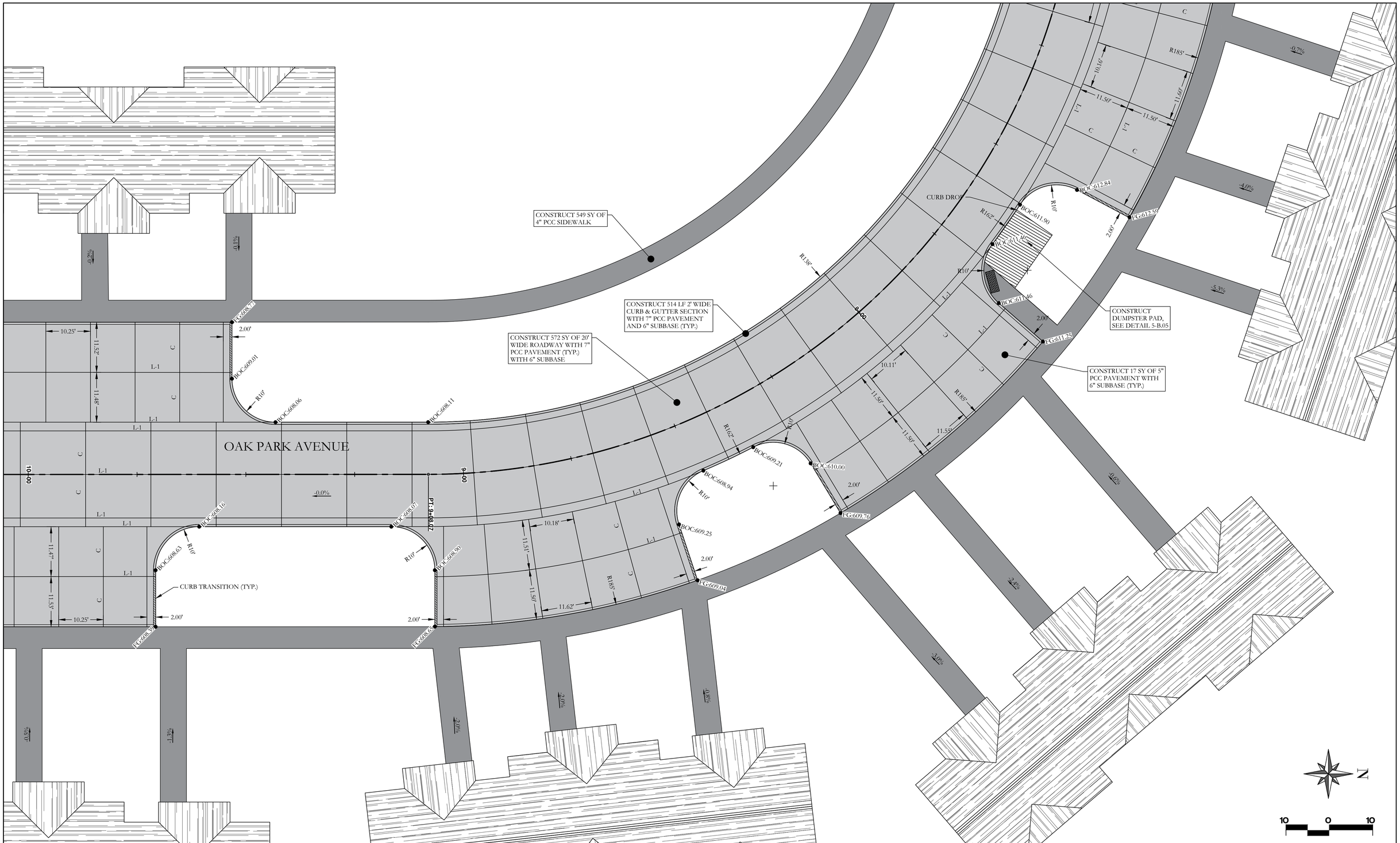

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DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

JOINTING

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: L.04
SHEET NO: 22 OF 42

PLOTTED: 6/29/2018
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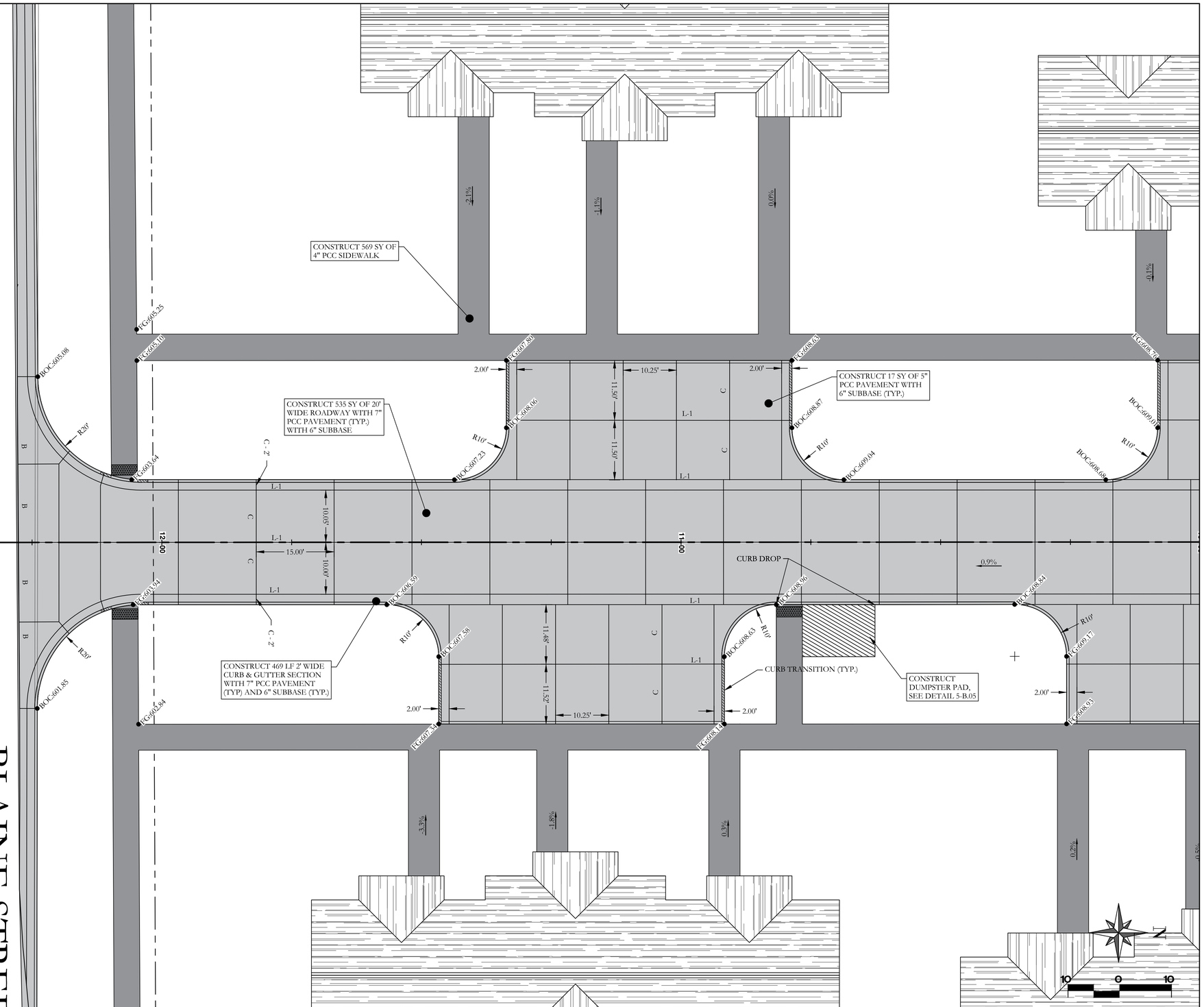

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DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

JOINTING

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: L.05
SHEET NO: 23 OF 42

PLOTTED: 6/29/2018
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CONSTRUCT 565 LF OF 4' WIDE CURB AND GUTTER SECTION WITH 7" PCC PAVEMENT AND 6" SUBBASE

CONSTRUCT 83 SY OF 4" PCC SIDEWALK. REFER TO BID ITEM NO. 67. NO CURB AND GUTTER SECTION REQUIRED ALONG THIS SECTION

FULL DEPTH PATCH, 22 SY OF 5" PCC DRIVEWAY AND 4" SUBBASE. REFER TO SHEET M.07 FOR RELATED WORK.

FULL DEPTH PATCH, 40 SY OF 8" PCC PAVEMENT AND 6" SUBBASE. REFER TO SHEET M.07 FOR RELATED WORK.

N

10 0 10

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

JOINTING

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: L.06

SHEET NO: 18 OF 42

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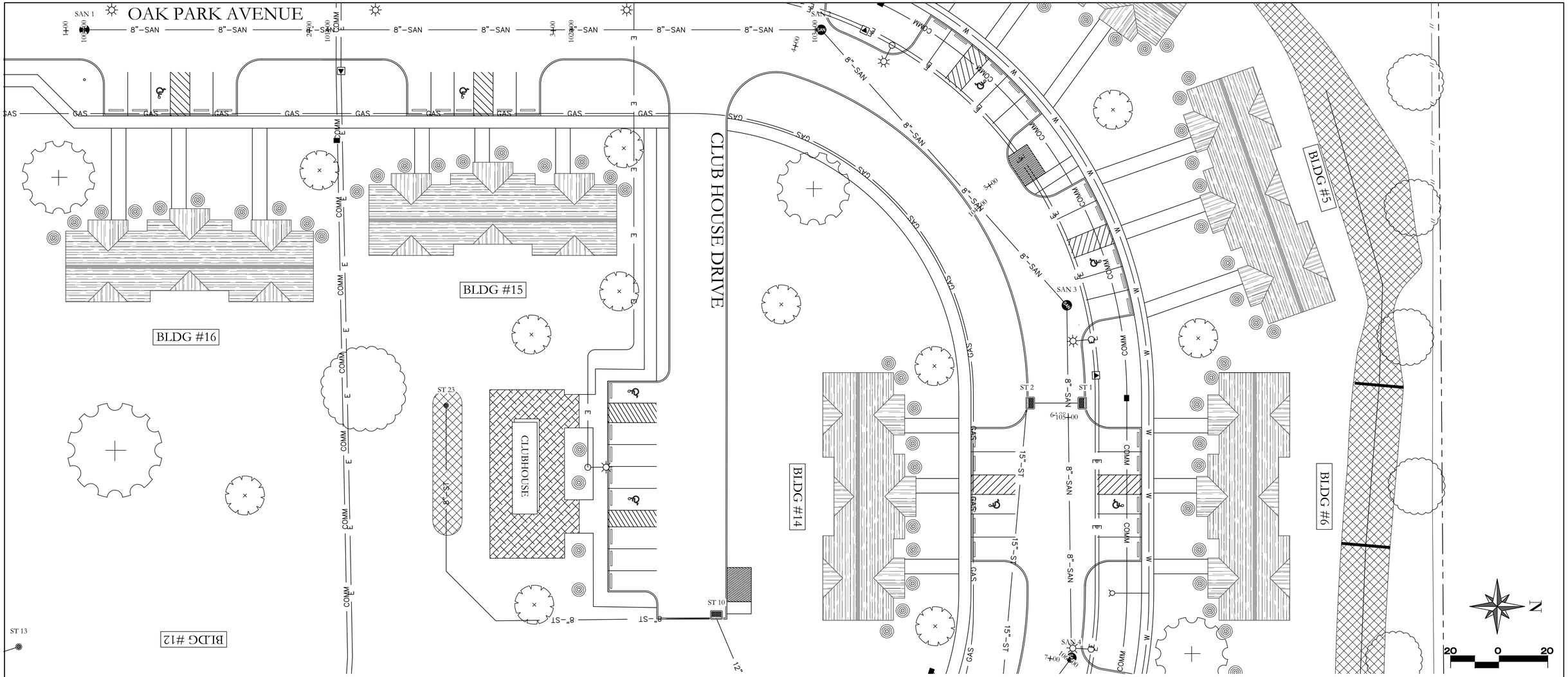

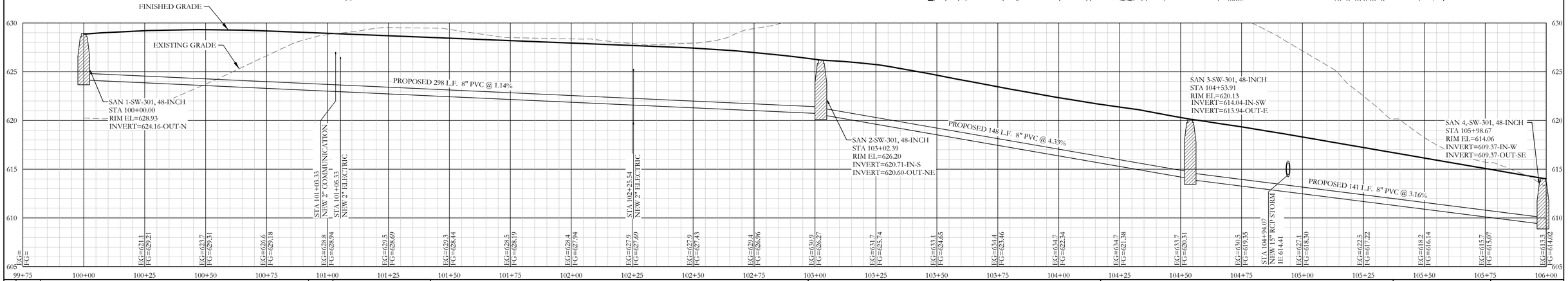

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

SANITARY SEWER
PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.01
SHEET NO: 24 OF 42

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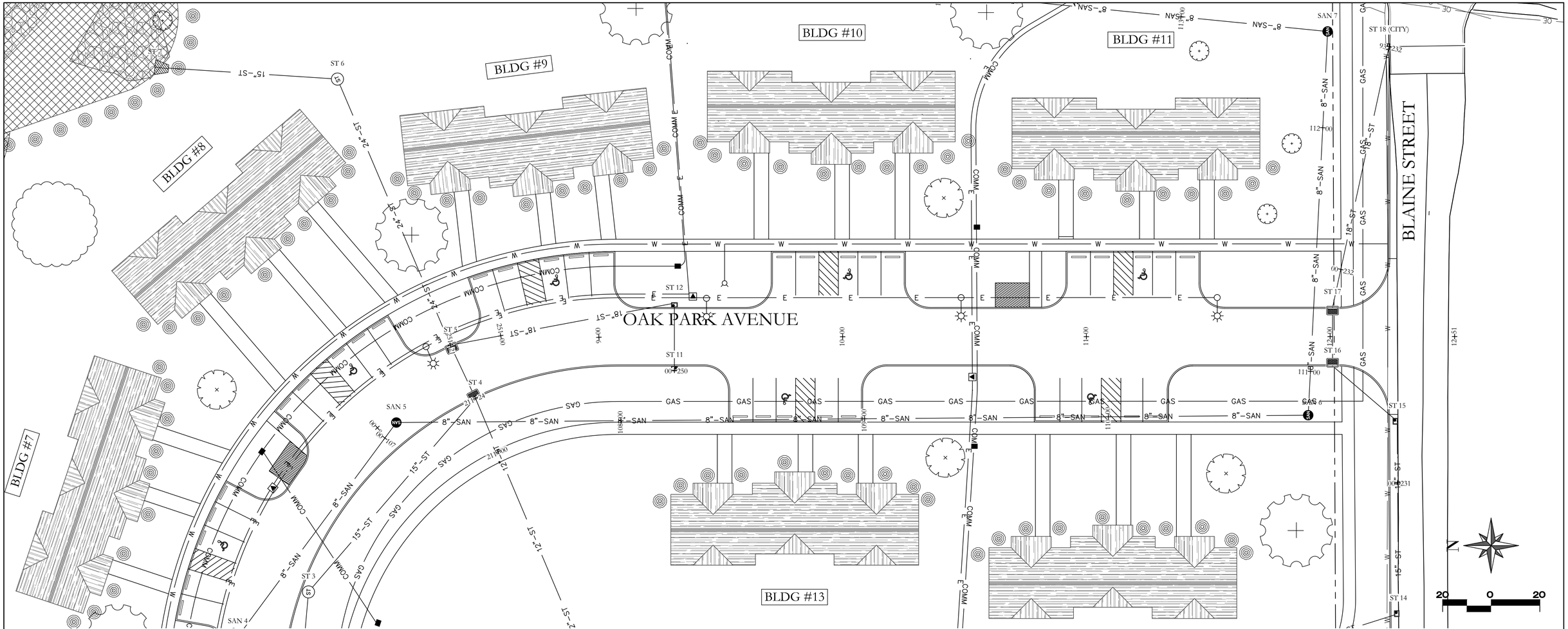
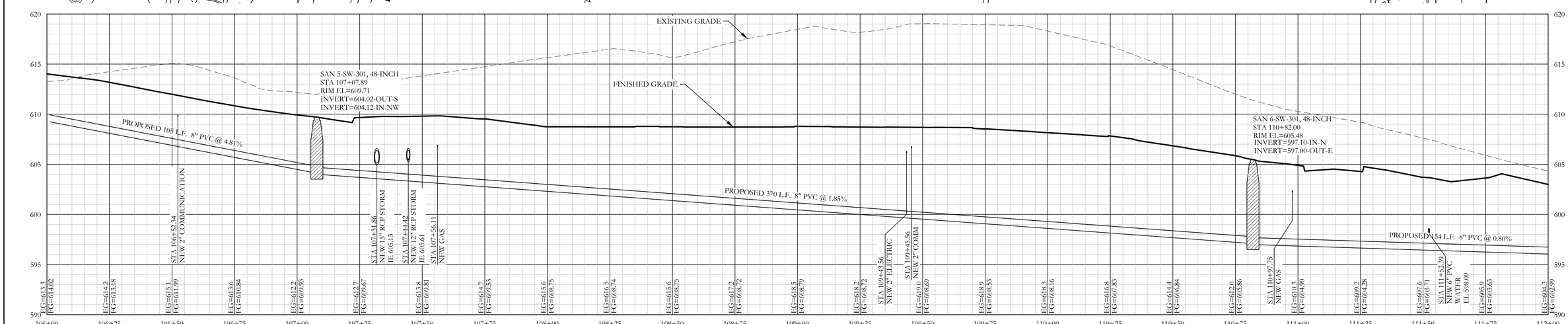
PLOTTED: 6/29/2018





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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

SANITARY SEWER
PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.02
SHEET NO: 25 OF 42

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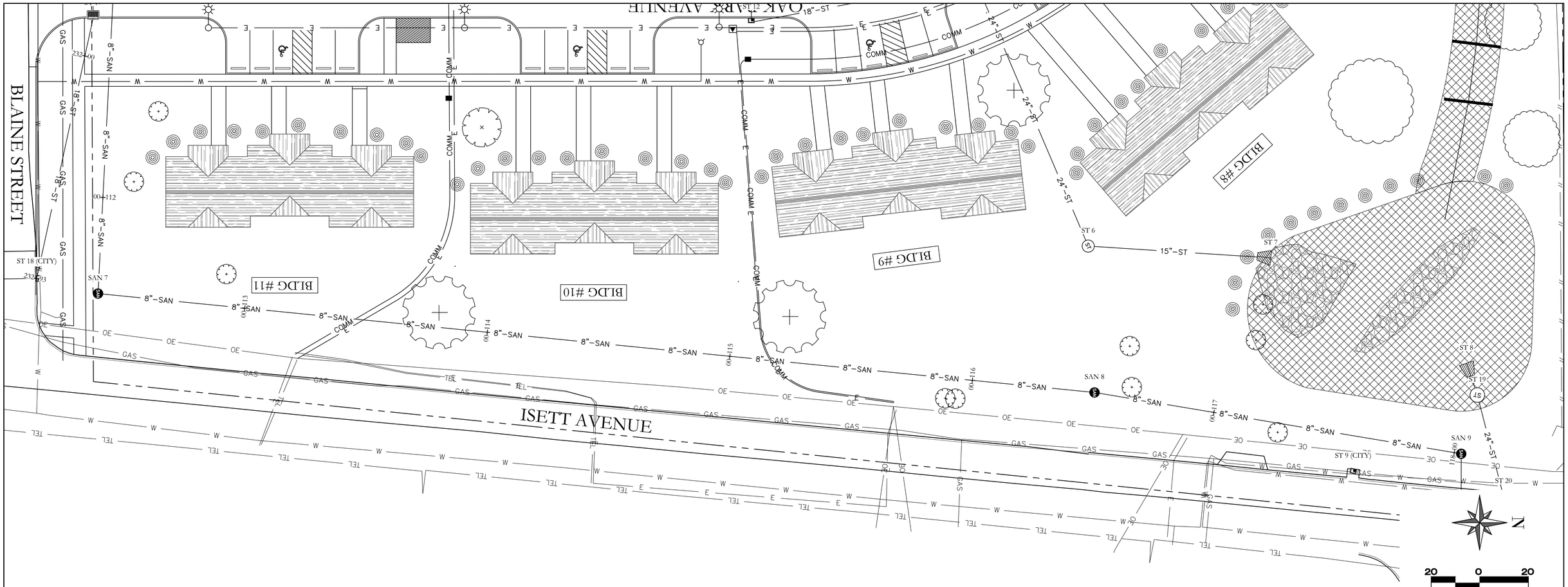

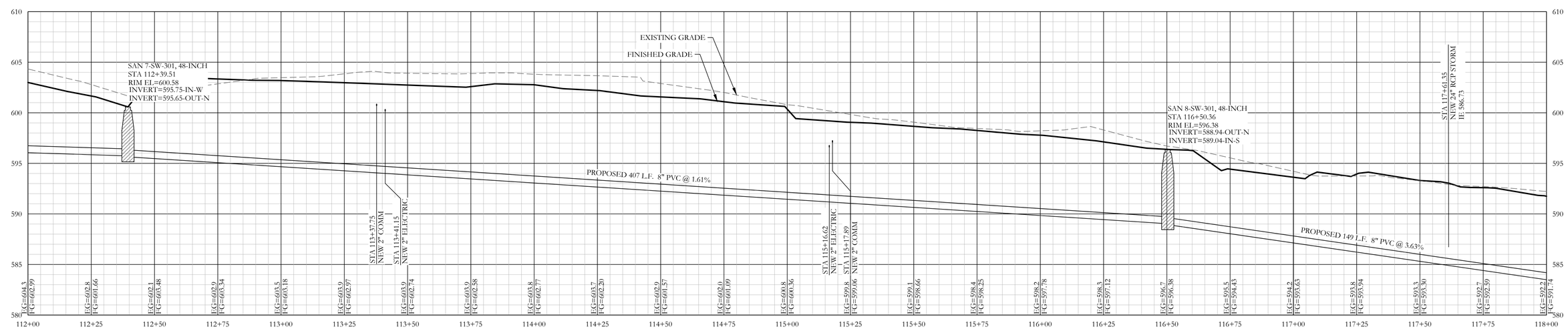

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OAK PARK DEVELOPMENT
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MUSCATINE, IOWA

SANITARY SEWER PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.03
SHEET NO: 26 OF 42

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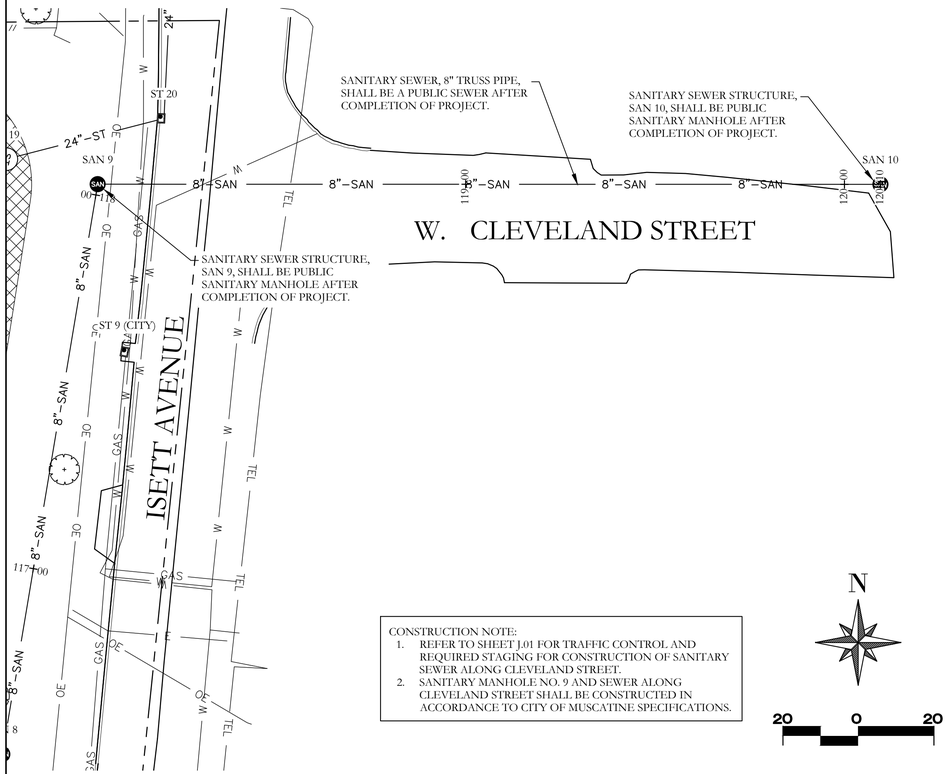
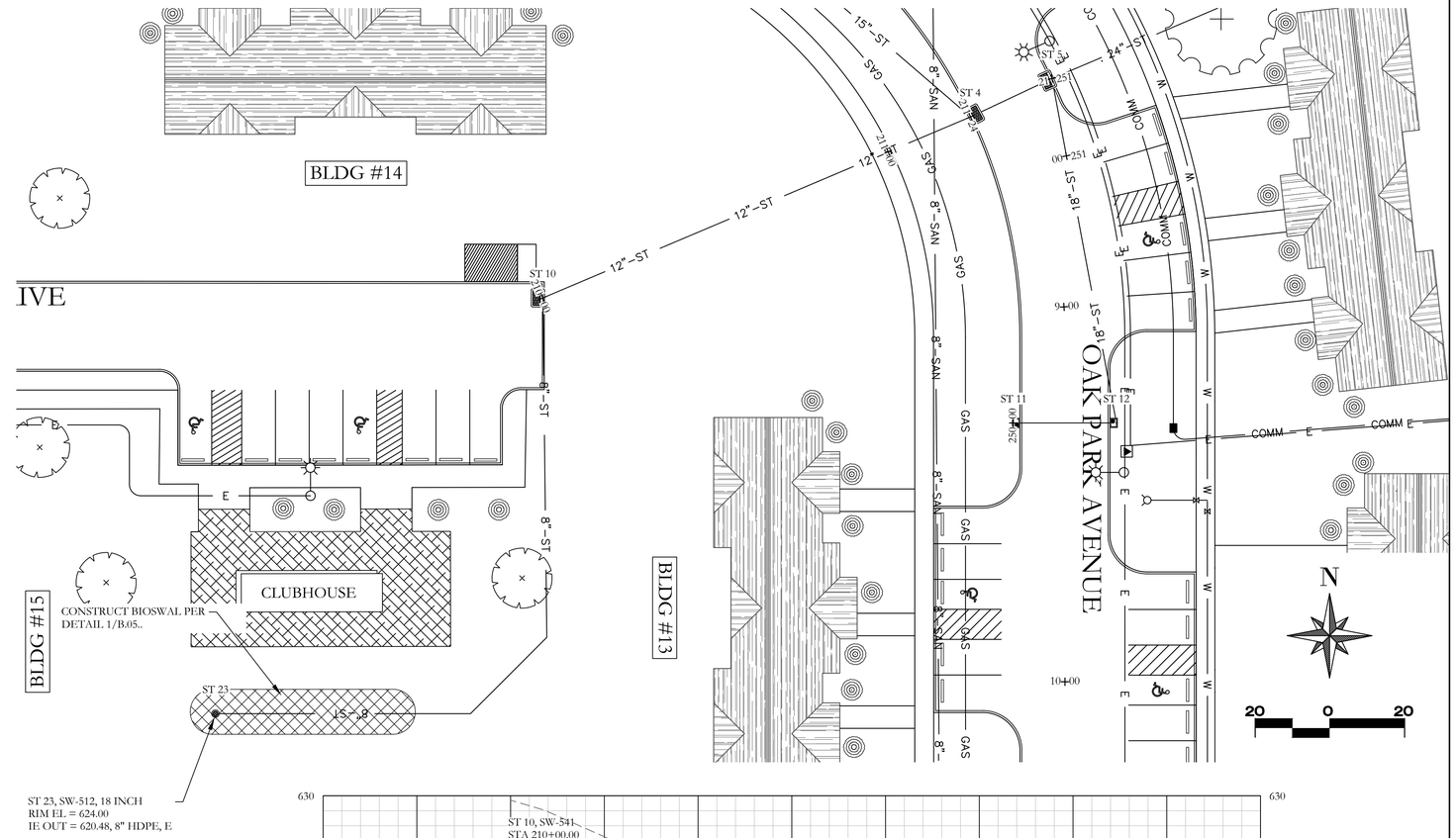
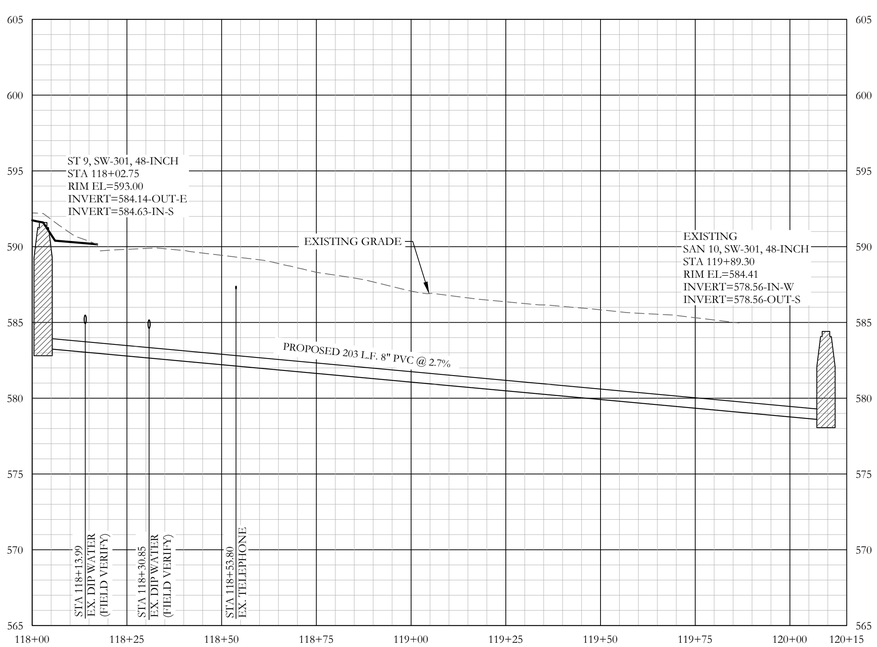
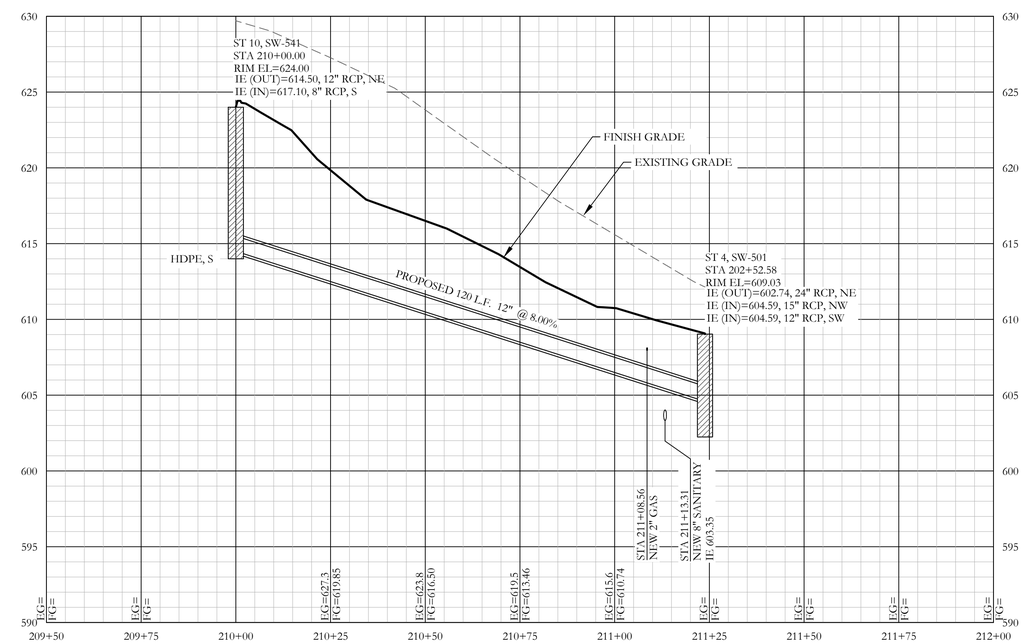


CONSTRUCTION NOTE:
1. REFER TO SHEET J.01 FOR TRAFFIC CONTROL AND REQUIRED STAGING FOR CONSTRUCTION OF SANITARY SEWER ALONG CLEVELAND STREET.
2. SANITARY MANHOLE NO. 9 AND SEWER ALONG CLEVELAND STREET SHALL BE CONSTRUCTED IN ACCORDANCE TO CITY OF MUSCATINE SPECIFICATIONS.



ST 23, SW-512, 18 INCH
RIM EL = 624.00
IE OUT = 620.48, 8" HDPE, E





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PROJECT ENGR: RHT

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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

SANITARY & STORM SEWER
PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.04
SHEET NO: 27 OF 42

PLOTTED: 6/29/2018
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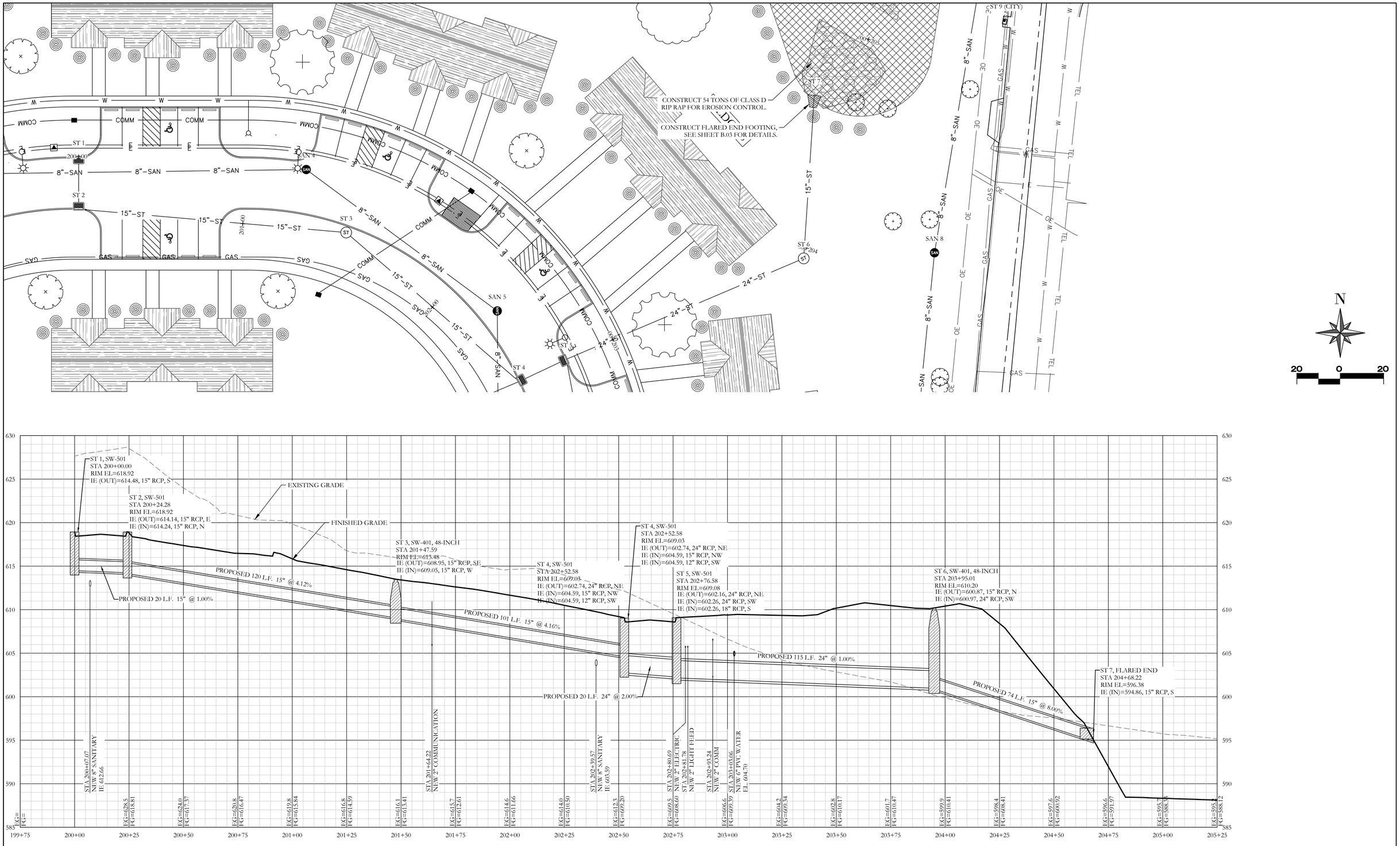

PLOTTED: 6/29/2018

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#	DATE	DESCRIPTION	BY

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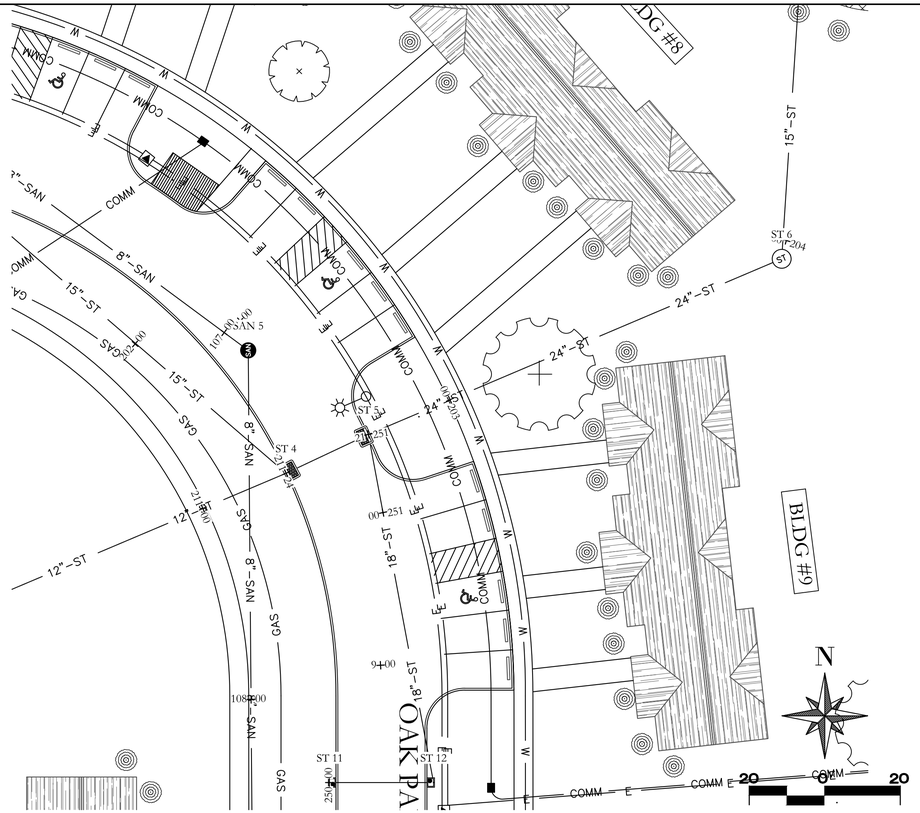
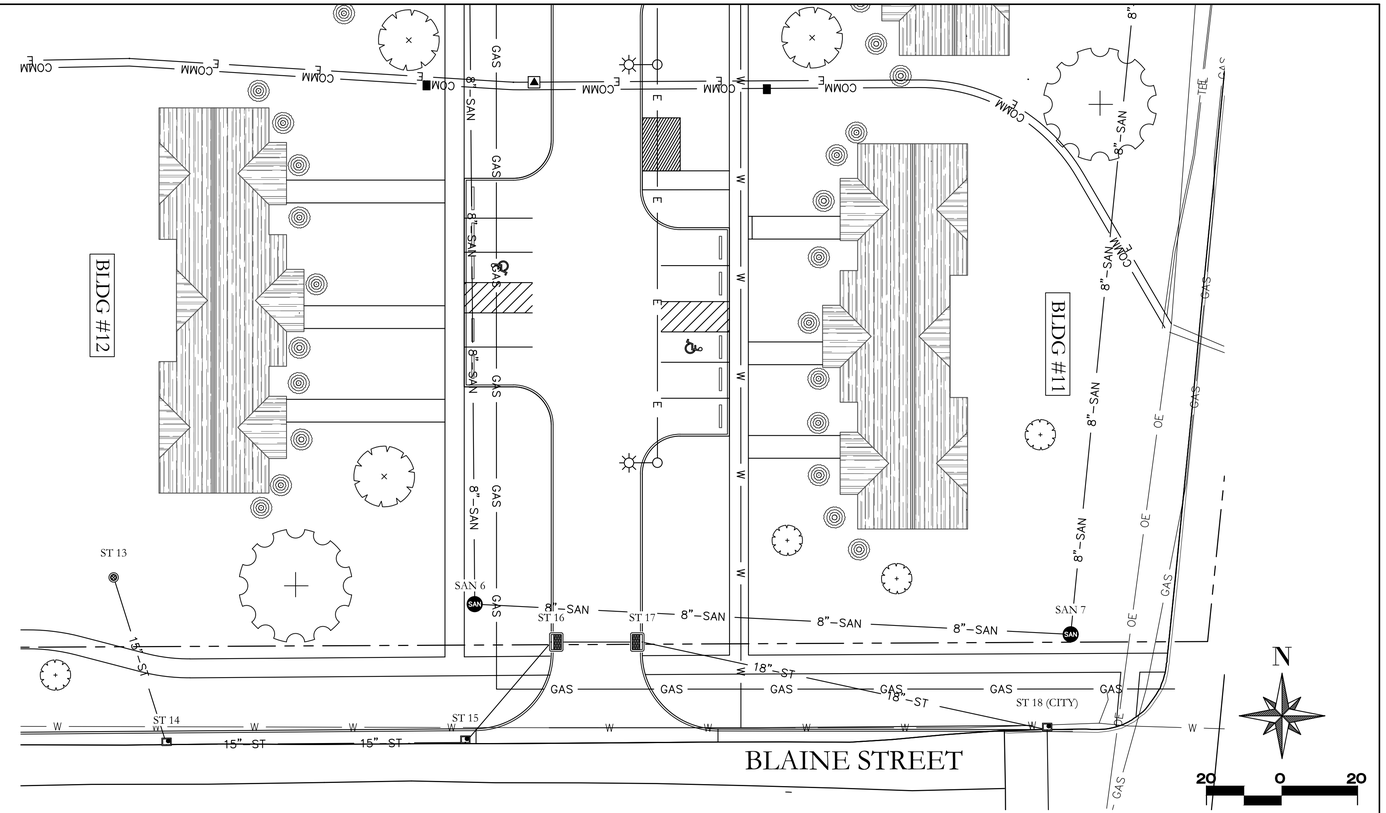
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

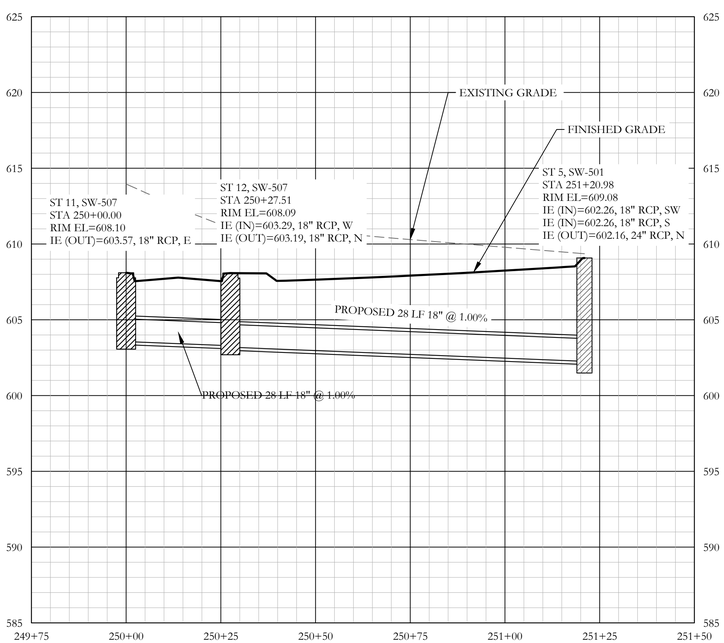
STORM SEWER
PLAN & PROFILE

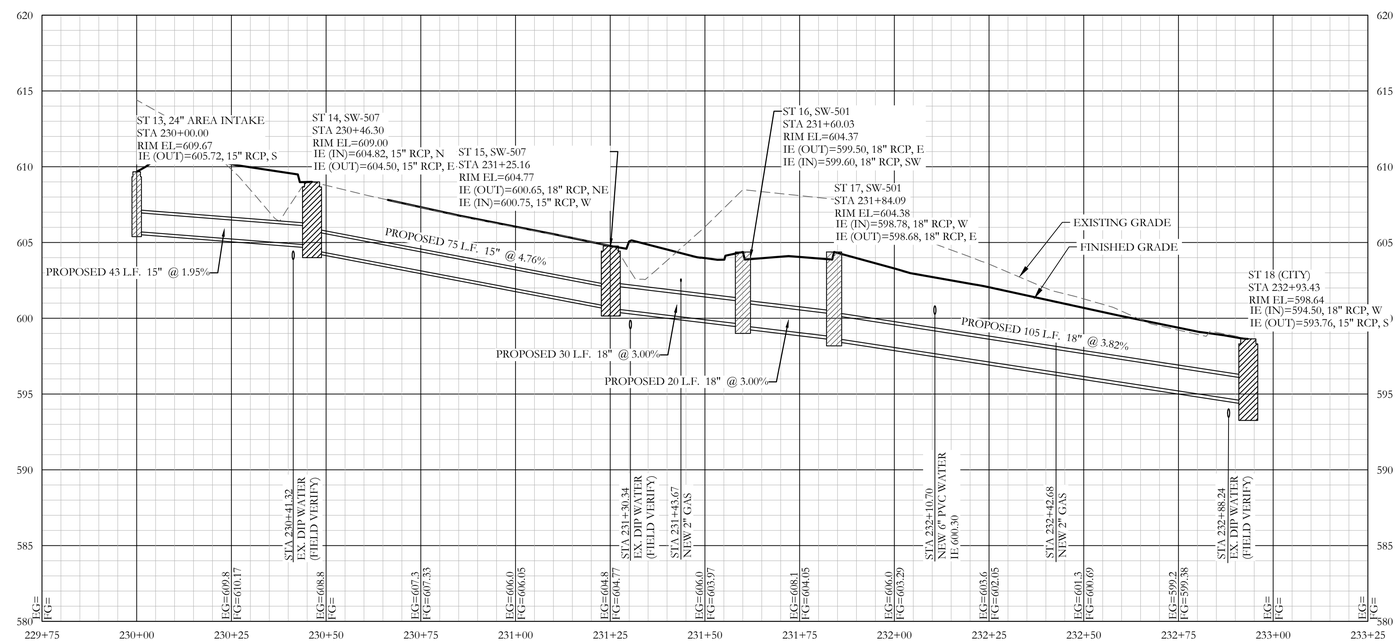
PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.05
SHEET NO: 28 OF 42









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DRAWN BY: JMS
PROJECT ENGR: RHT

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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

STORM SEWER
PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.06
SHEET NO: 29 OF 42

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CONSTRUCTION NOTE:

1. COORDINATE STORM SEWER INSTALLATION WITH LAND OWNER. CONTRACTOR SHALL MAINTAIN ACCESS FOR LAND OWNER.
2. CONTOURS NORTH OF THE PROJECT SITE ARE FROM THE STATE 2-FOOT CONTOUR DATABASE.
3. CONTRACTOR TO VERIFY GRADE IN LOCATIONS WHERE 2-FOOT CONTOURS ARE SHOWN PRIOR TO PURCHASING ANY MATERIAL FOR STORM SEWER CONSTRUCTION.
4. STORM SEWER AND STRUCTURES ARE APPROXIMATE AND CONTRACTOR SHALL COORDINATE FINAL DESIGN WITH ENGINEER.
5. IMPORT FILL TO MAINTAIN A MINIMUM 2'-0" BURY DEPTH ON STORM SEWER.

N

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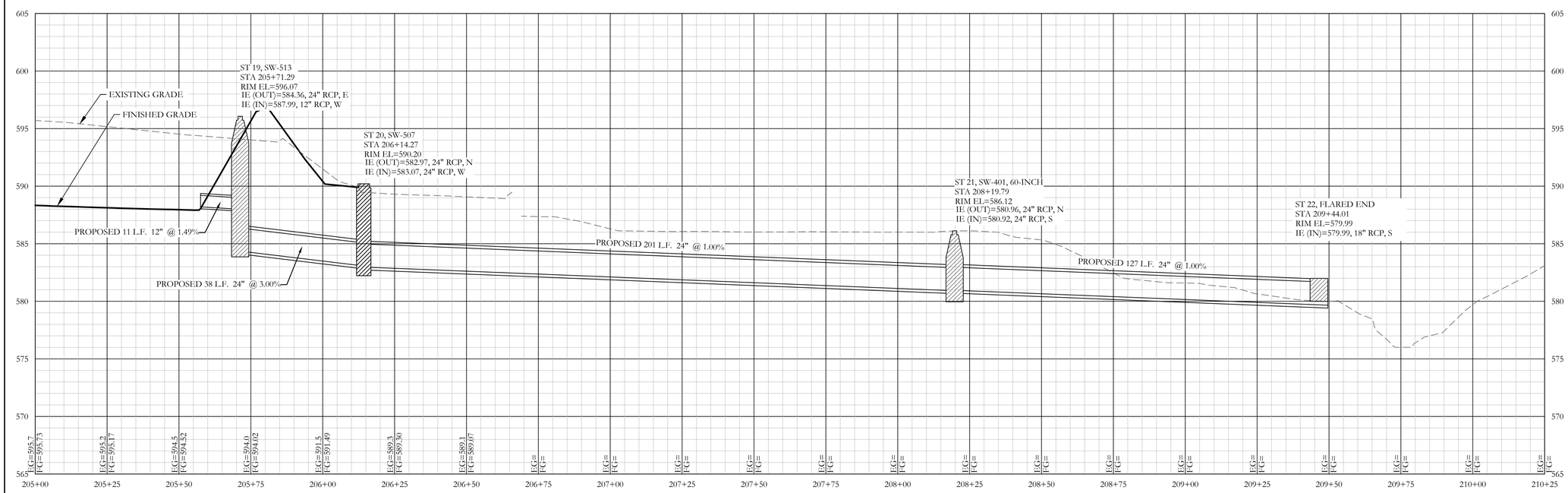

PLOTTED: 6/29/2018

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PROJECT ENGR: RHT

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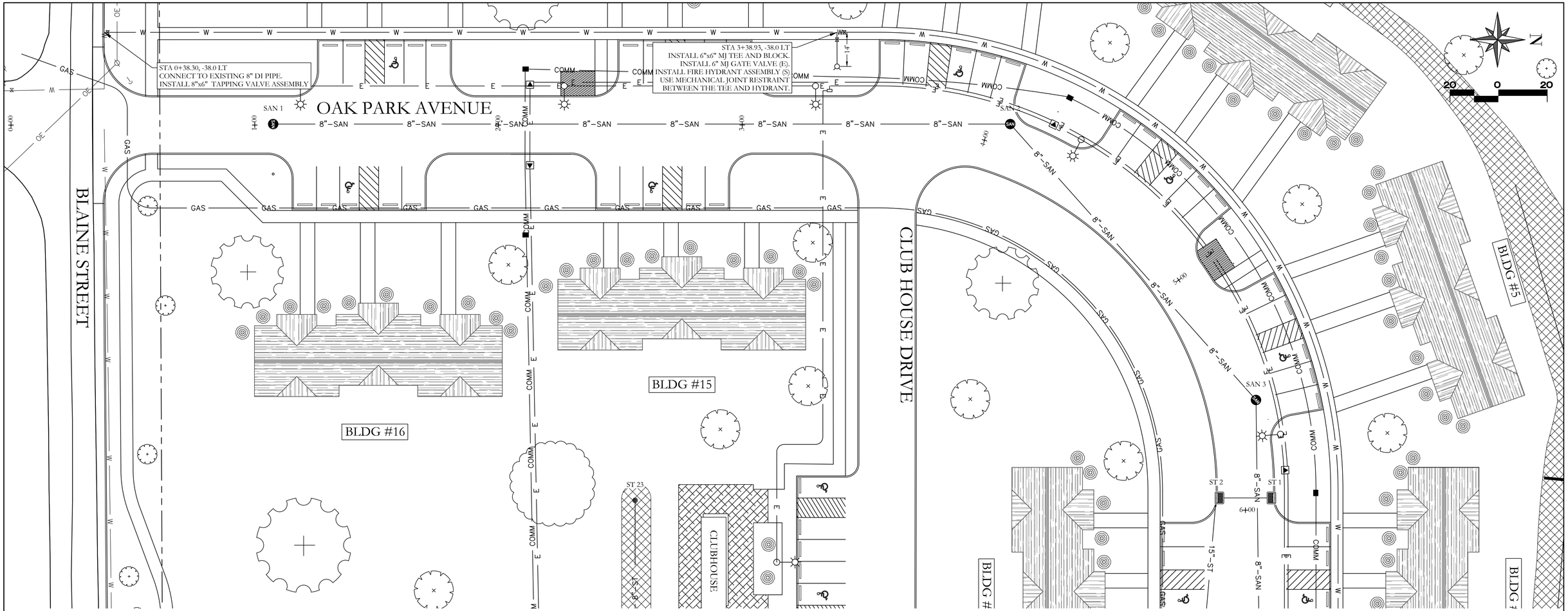
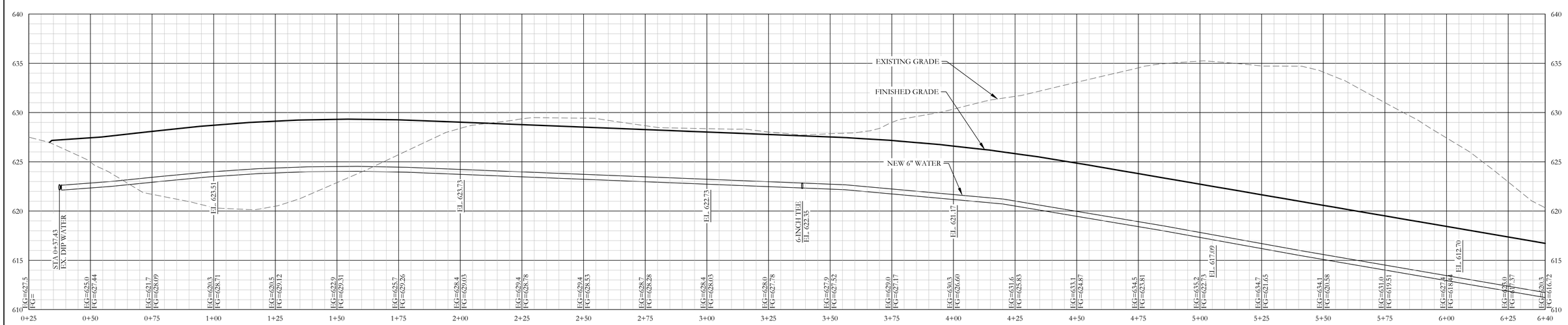
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

STORM SEWER
PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.07
SHEET NO: 30 OF 42





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DRAWN BY: JMS
PROJECT ENGR: RHT

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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

WATER PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.08
SHEET NO: 31 OF 42

PLOTTED: 6/29/2018
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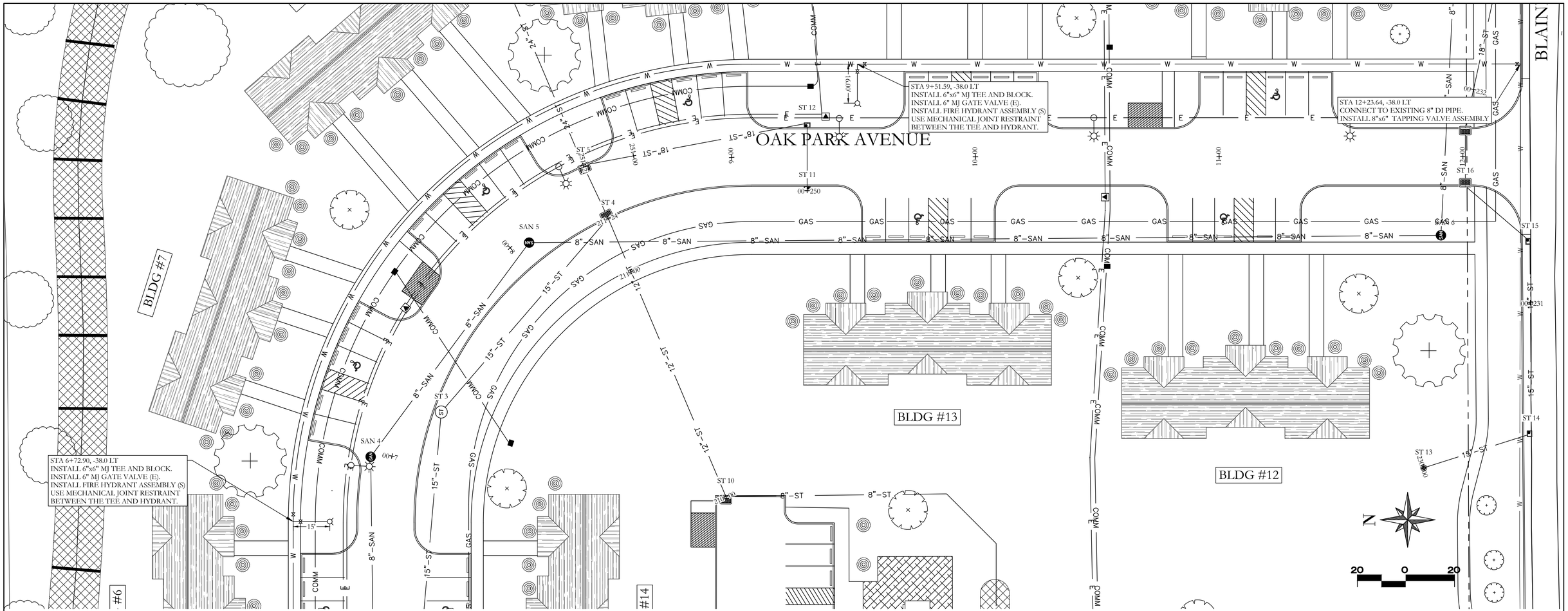

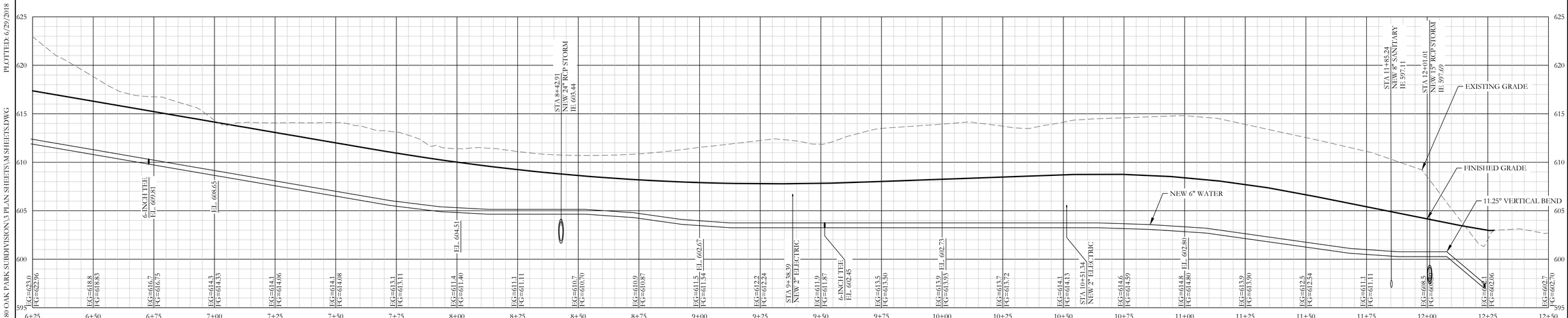

PLOTTED: 6/29/2018

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PROJECT ENGR: RHT

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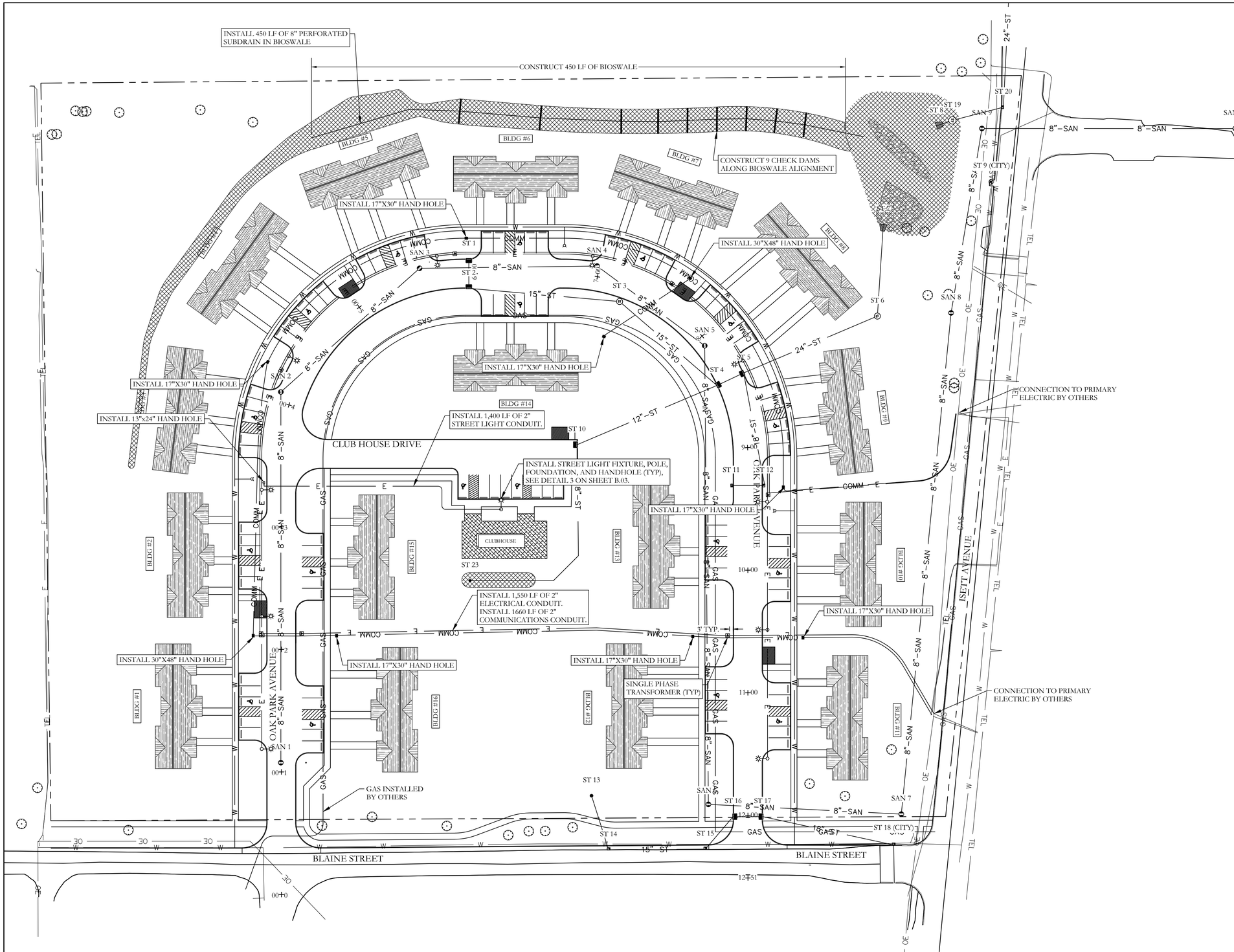
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

WATER PLAN & PROFILE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.09
SHEET NO: 32 OF 42



GENERAL UTILITY NOTES:

WATER

1. CONTRACTOR TO INSTALL ALL WATER MAIN AND APPURTENANCE. COORDINATE WITH MPW TO COMPLETE THE TAPS ONTO EXISTING WATER MAINS AFTER CONTRACTOR HAS SUCCESSFULLY PRESSURE TESTED TAPPING SLEEVES.
2. CONTRACTOR TO TAP NEW WATER MAIN FOR ALL WATER SERVICES.
3. EACH UNIT SHALL HAVE A SEPARATE 1-INCH HDPE WATER SERVICE, CORPORATION STOP, AND CURB STOP AND BOX.
4. MPW TO INSTALL WATER METER INSIDE EACH UNIT
5. CONTRACTOR RESPONSIBLE FOR ALL INTERNAL PLUMBING.

ELECTRIC

1. CONTRACTOR TO INSTALL ALL ELECTRICAL CONDUIT PER MPW SPECIFICATIONS.
2. CONTRACTOR TO INSTALL SINGLE PHASE TRANSFORMER PADS.
3. MPW TO INSTALL SINGLE PHASE TRANSFORMERS
4. MPW TO COMPLETE SERVICE LINE CONNECTIONS AT EACH POWER POLE AND PULL ELECTRICAL CONDUCTOR TO EACH TRANSFORMER.
5. CONTRACTOR TO INSTALL ALL SECONDARY CONDUIT AND CONDUCTOR FROM TRANSFORMERS TO BUILDINGS.
6. STREET LIGHT CIRCUIT SHALL BE METERED.
   6.1. CLUB HOUSE LOAD CENTER SHALL ACCOMODATE STREET LIGHT CIRCUIT.

COMMUNICATIONS - MPW

1. CONTRACTOR TO INSTALL MPW COMMUNICATION CONDUIT AND HANDHOLES. MPW TO FURNISH ALL MATERIAL FOR COMMUNICATION INFRASTRUCTURE AT NO COST TO CONTRACTOR.
2. MPW COMMUNICATIONS CONDUIT CAN BE INSTALLED IN THE SAME TRENCH AS ELECTRIC.
3. EACH UNIT SHALL HAVE A 1-INCH CONDUIT INSTALLED IN THE SAME TRENCH AS THE MPW ELECTRICAL SERVICE AND STUBBED OUT NEAR THE ELECTRIC METER LOCATION. MPW TO FURNISH CONDUIT AT NO COST TO CONTRACTOR.
4. MPW SHALL INSTALL FIBER NETWORK.

COMMUNICATIONS - CENTURYLINK

1. CENTURYLINK TO COORDINATE WITH CONTRACTOR FOR INSTALLATION OF INFRASTRUCTURE PRIOR TO SUBBASE PREPARATIONS.

GAS

1. ALL NATURAL GAS LINES TO BE INSTALLED BY GAS COMPANY.
2. GAS COMPANY SHALL INSTALL ALL GAS METER AND SHUT OFF VALVE AFTER THE GAS METER.
3. CONTRACTOR TO INSTALL ALL GAS SERVICE LINES FROM EXTERIOR SHUT OFF VALVE TO THE BUILDING.

#	DATE	DESCRIPTION	BY

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PROJECT ENGR: RHT

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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

UTILITY PLAN

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: M.10
SHEET NO: 33 OF 42

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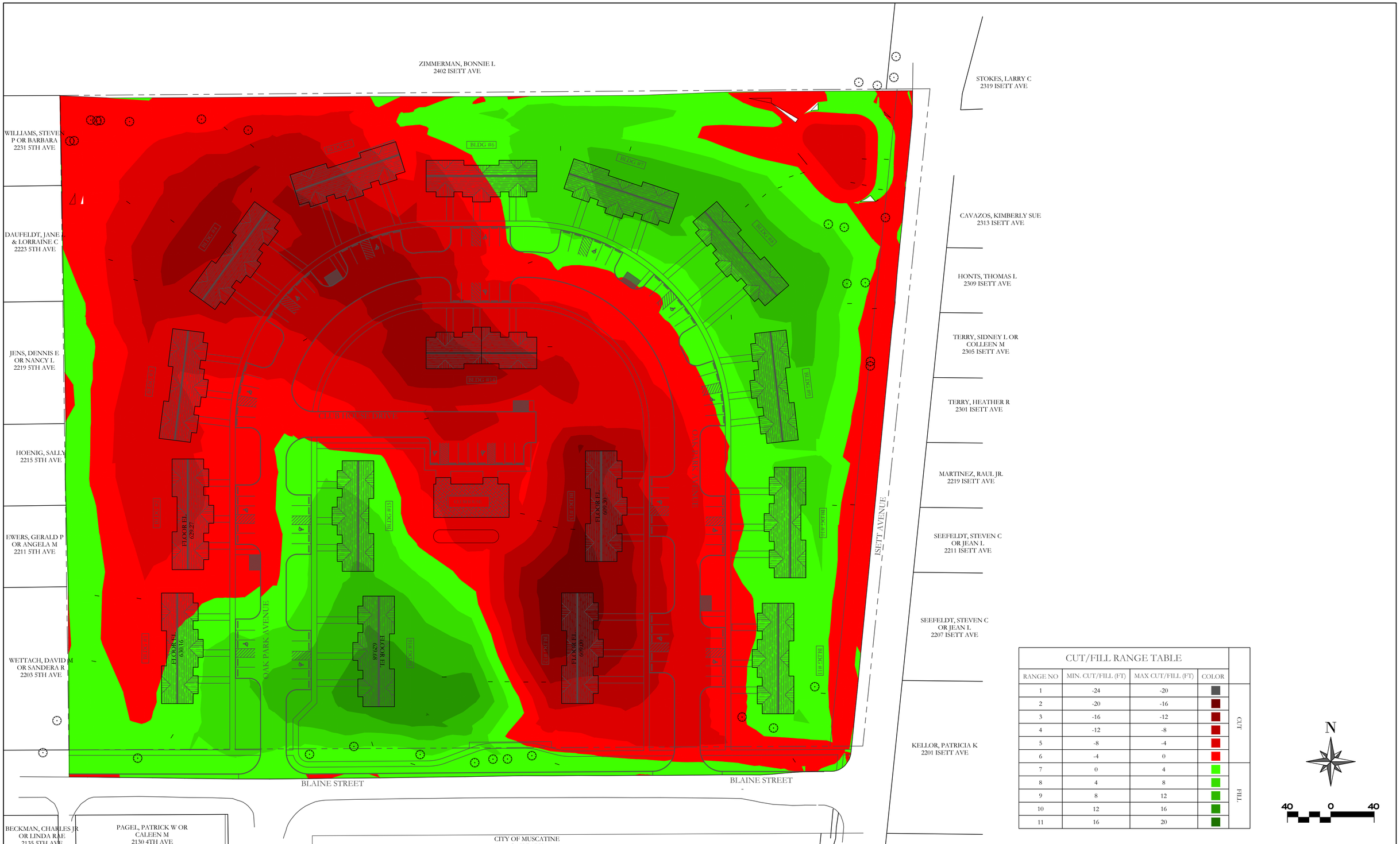

CUT/FILL RANGE TABLE				
RANGE NO	MIN. CUT/FILL (FT)	MAX CUT/FILL (FT)	COLOR	
1	-24	-20		CUT
2	-20	-16		CUT
3	-16	-12		CUT
4	-12	-8		CUT
5	-8	-4		CUT
6	-4	0		CUT
7	0	4		FILL
8	4	8		FILL
9	8	12		FILL
10	12	16		FILL
11	16	20		FILL

PLOTTED: 6/29/2018

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OAK PARK DEVELOPMENT
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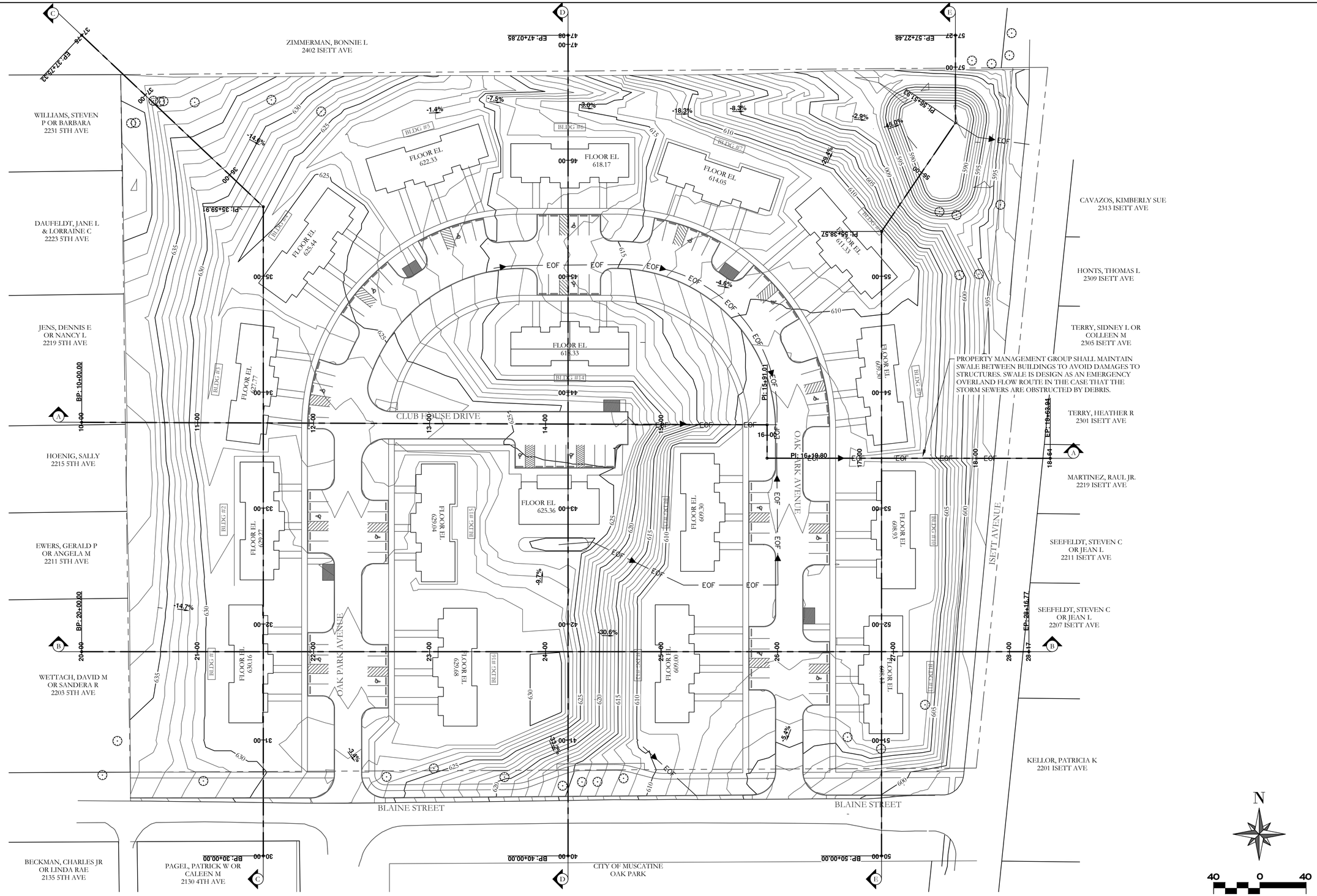
MUSCATINE, IOWA

GRADING PLAN

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: T.01
SHEET NO: 34 OF 42



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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

GRADING CROSS SECTIONS

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: T.02
SHEET NO: 35 OF 42

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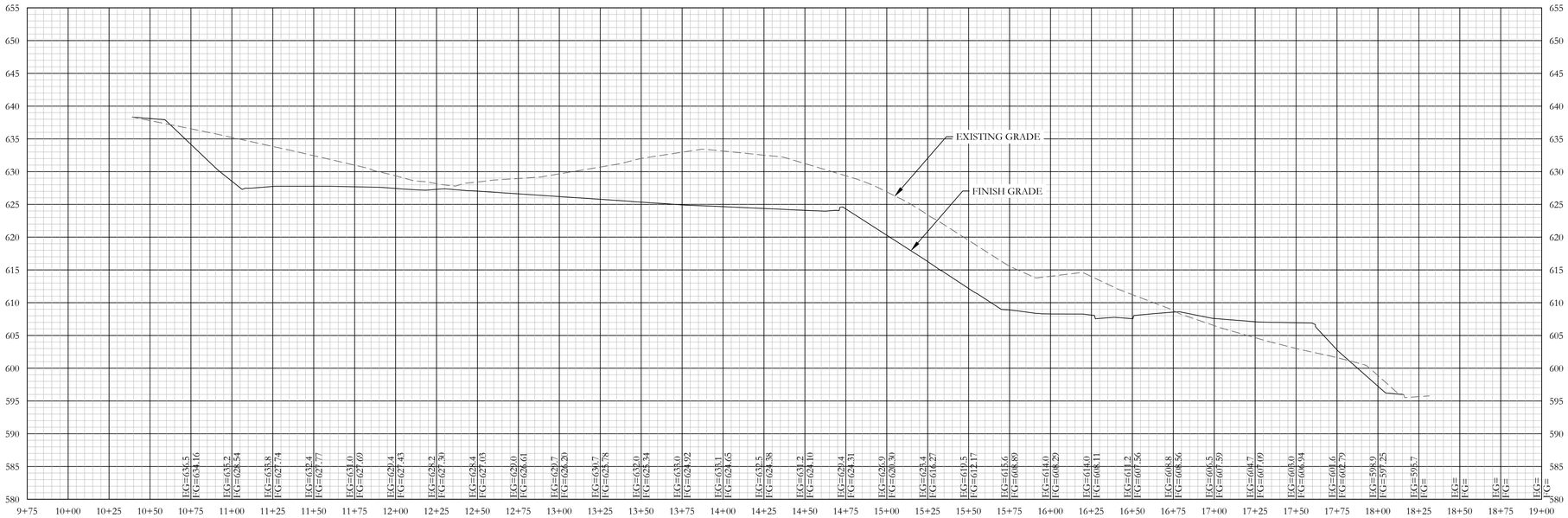
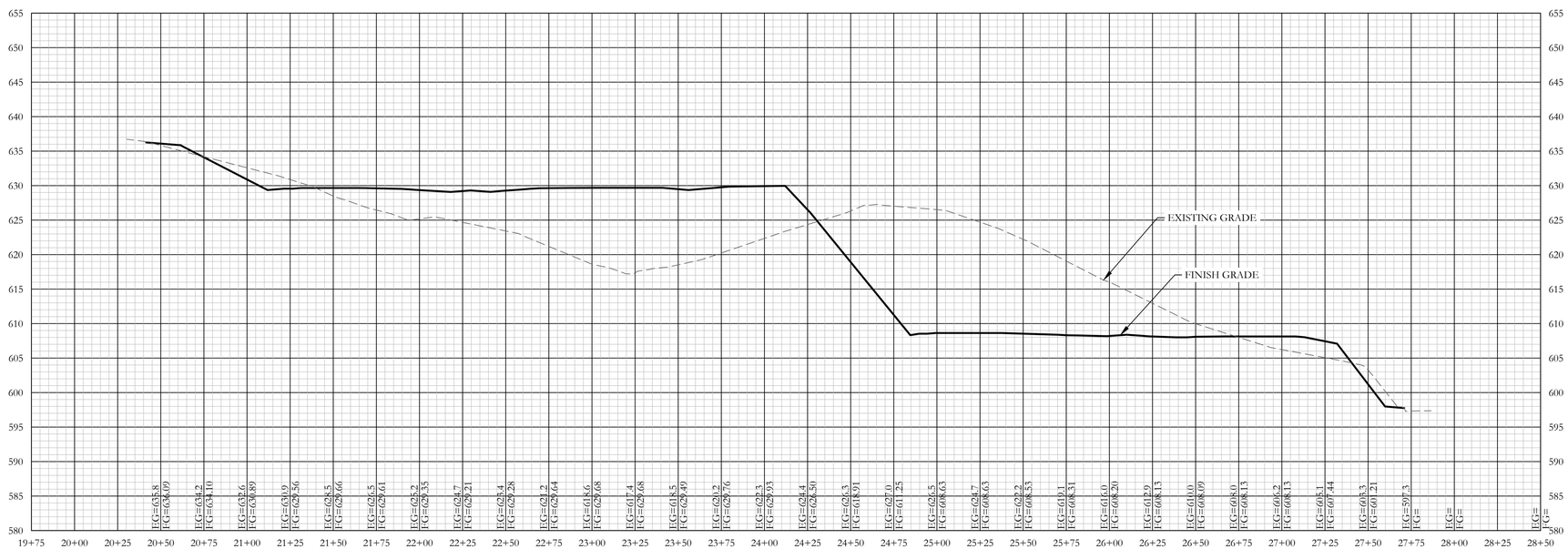


1 T.03 CROSS SECTION A



2 T.03 CROSS SECTION B

40 0 40

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PROJECT ENGR: RHT

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MUSCATINE, IOWA

GRADING CROSS SECTION

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SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: T.03
SHEET NO: 36 OF 42

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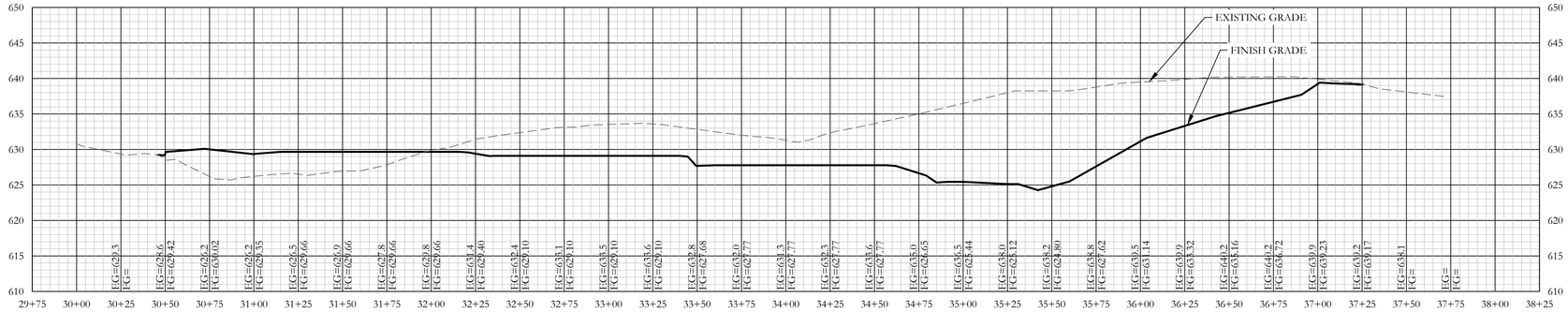
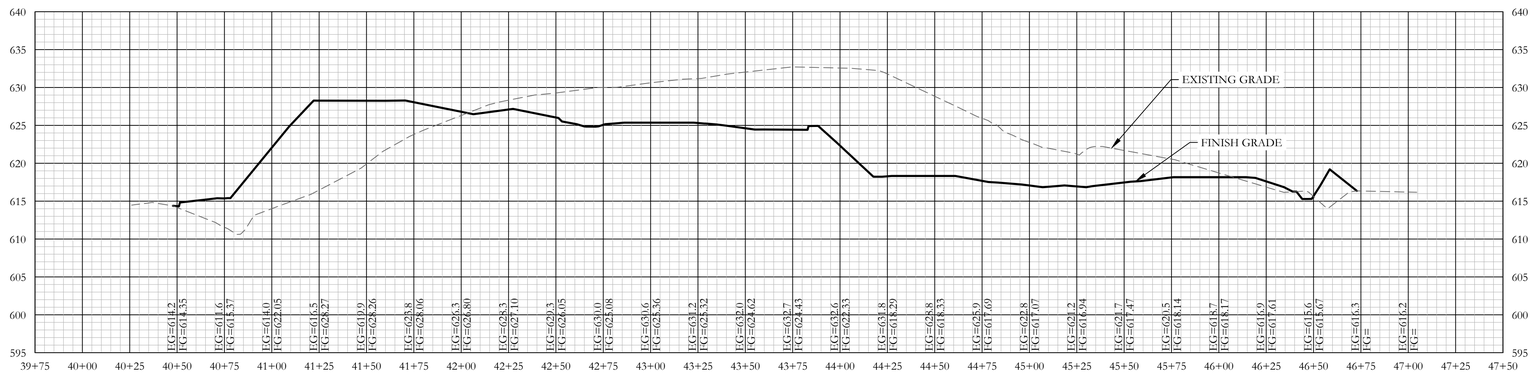


1 T.04 CROSS SECTION C
NOT TO SCALE



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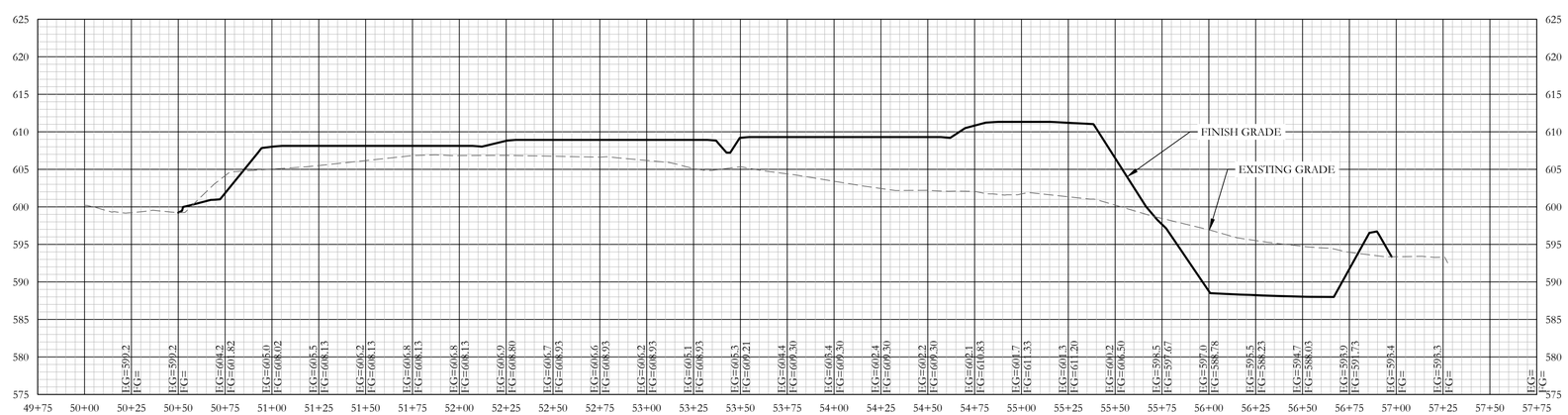
NOT TO SCALE



3 T.04 CROSS SECTION E
NOT TO SCALE

40 0 40

PLOTTED: 6/29/2018

F:\CIVIL3D PROJECTS\8180 OAK PARK SUBDIVISION\3 PLAN SHEETS\T SHEETS.DWG

#	DATE	DESCRIPTION	BY

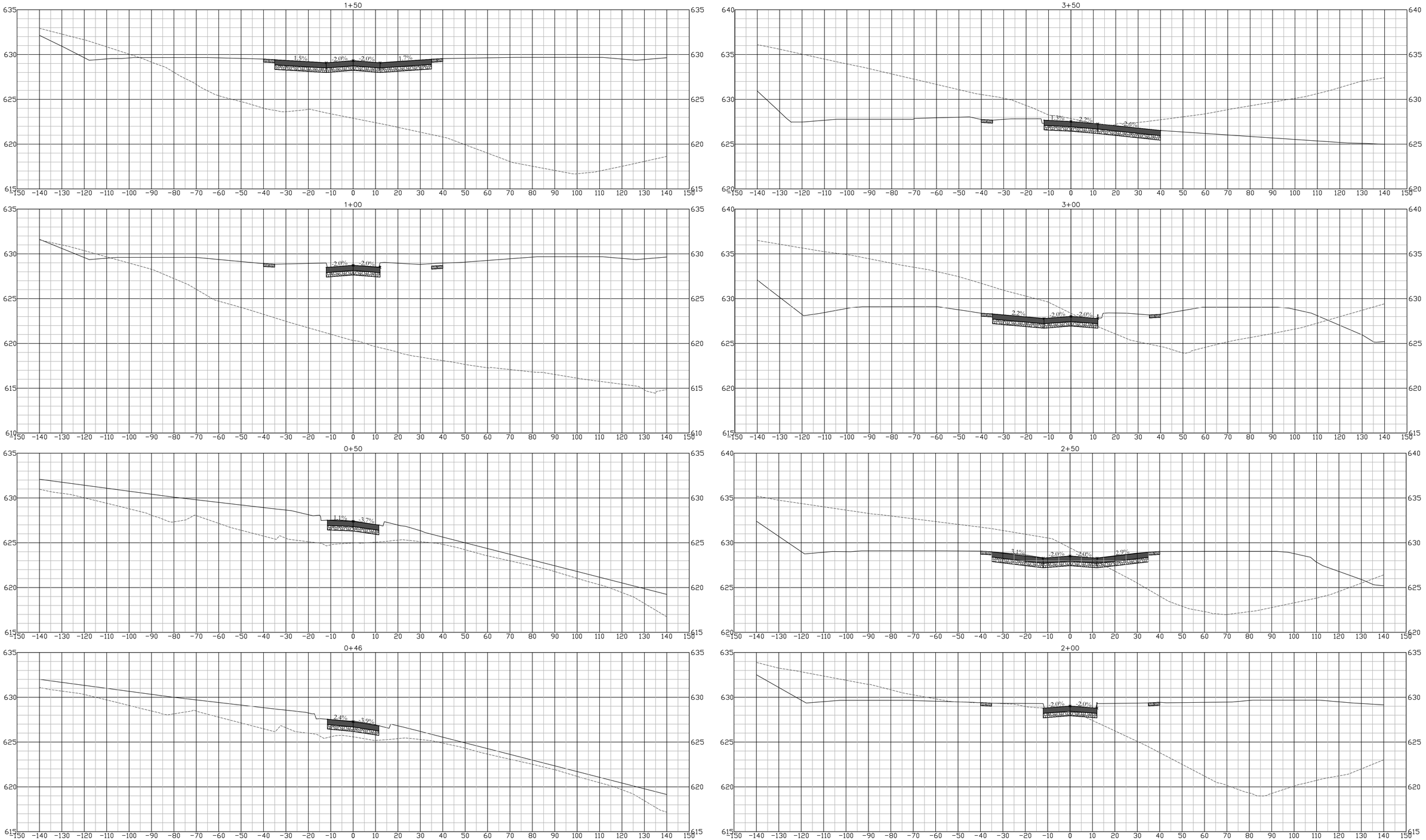
DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
P.O. BOX 413 MUSCATINE, IOWA
VOICE (563) 263-7691 EMAIL info@martin-whitacre.com

OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

GRADING CROSS SECTION

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018
DRAWING NO: T.04
SHEET NO: 37 OF 42



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DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

CROSS SECTION - MAINLINE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: W.01
SHEET NO: 38 OF 42

PLOTTED: 6/29/2018

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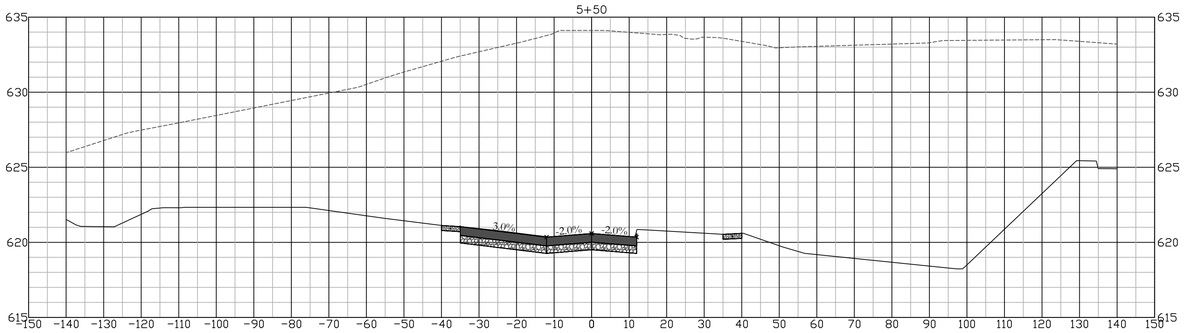

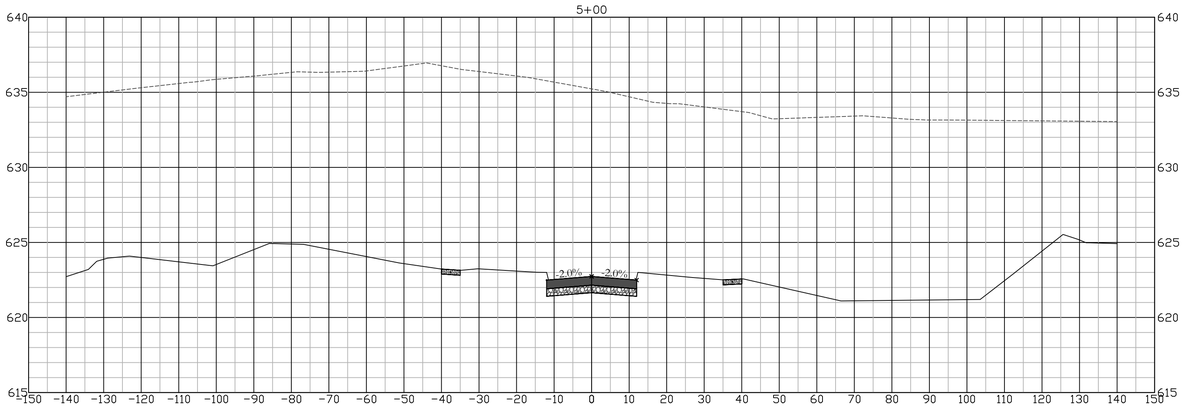

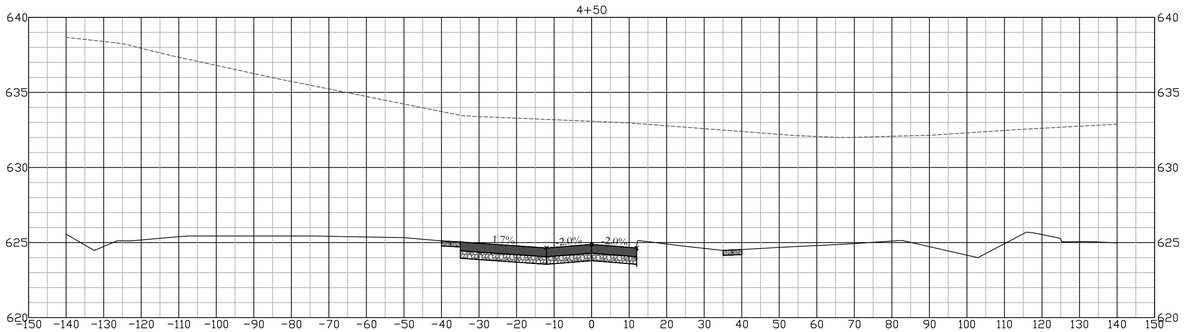

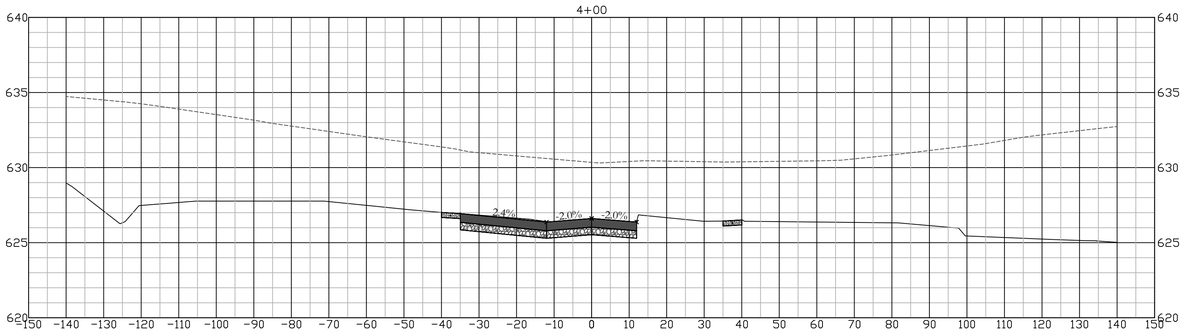

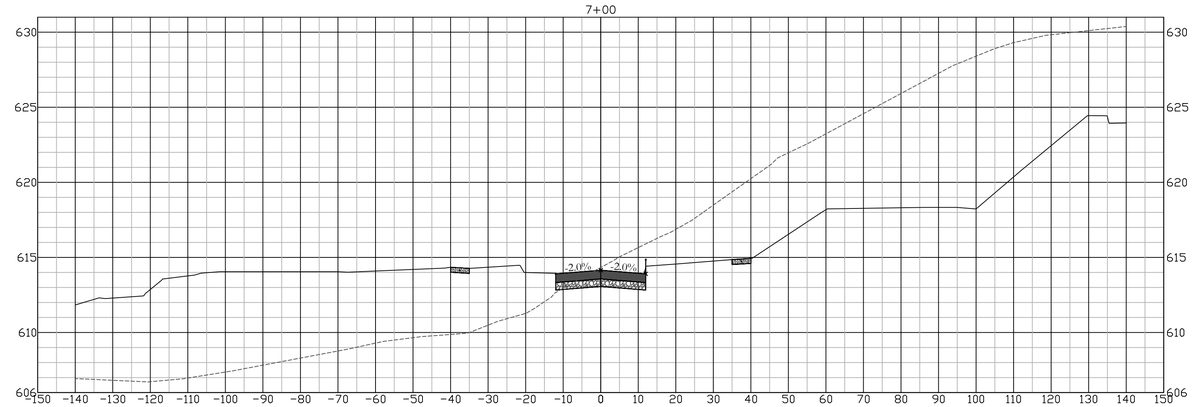

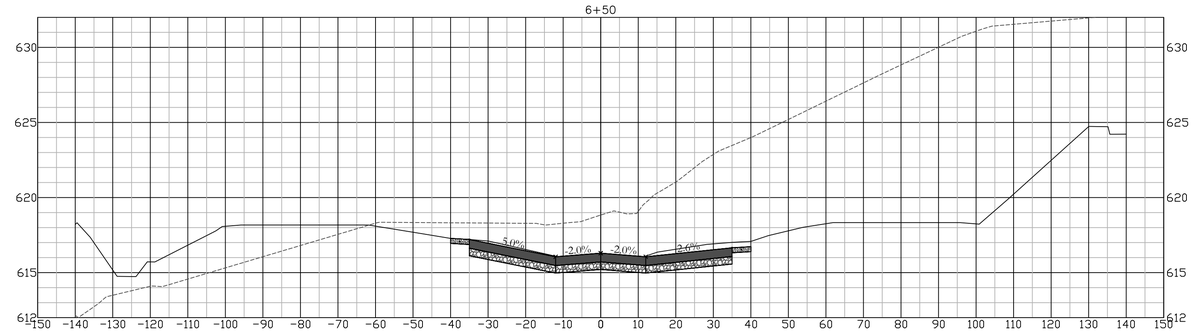

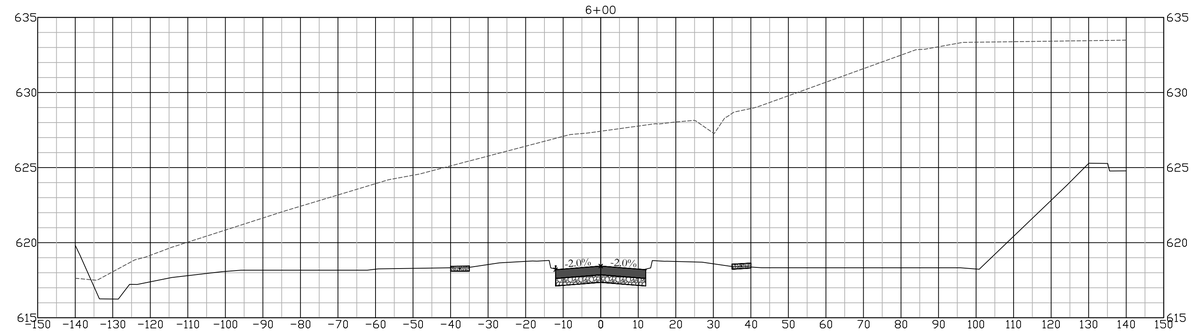

PLOTTED: 6/29/2018

E:\CIVIL3D PROJECTS\8180 OAK PARK SUBDIVISION\2 DESIGN DRAWINGS\8180 CORRIDOR.DWG

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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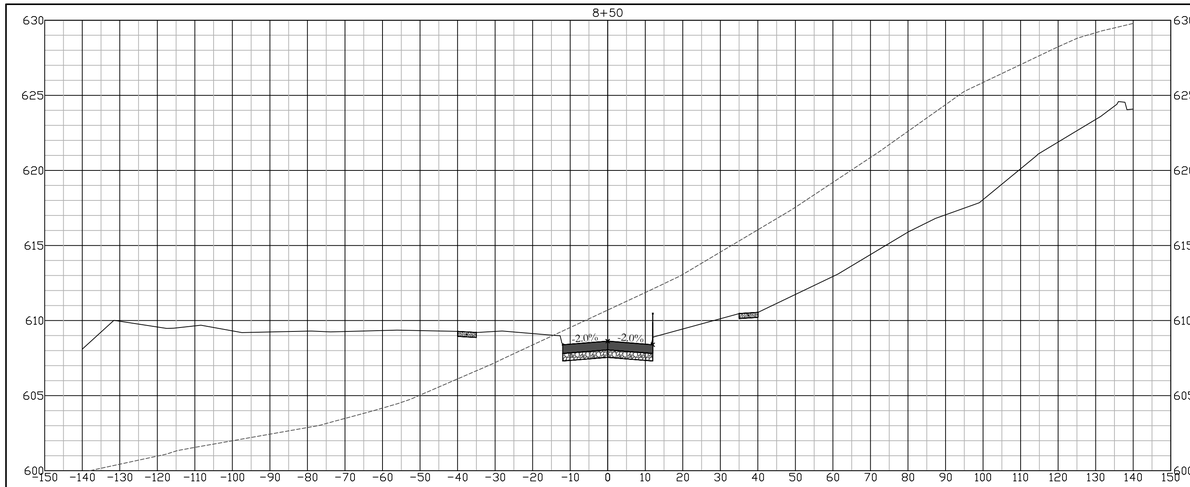
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

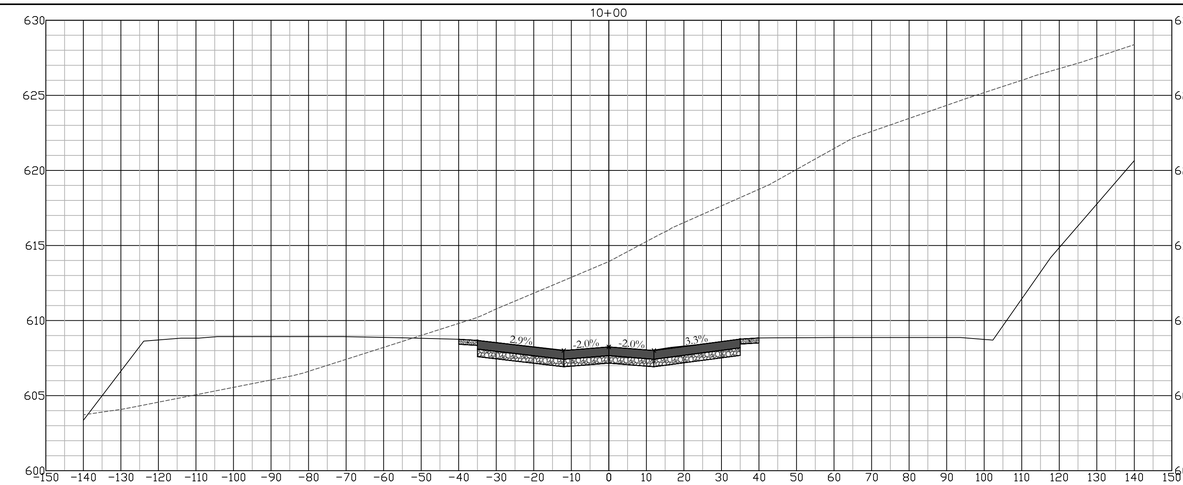
CROSS SECTION - MAINLINE

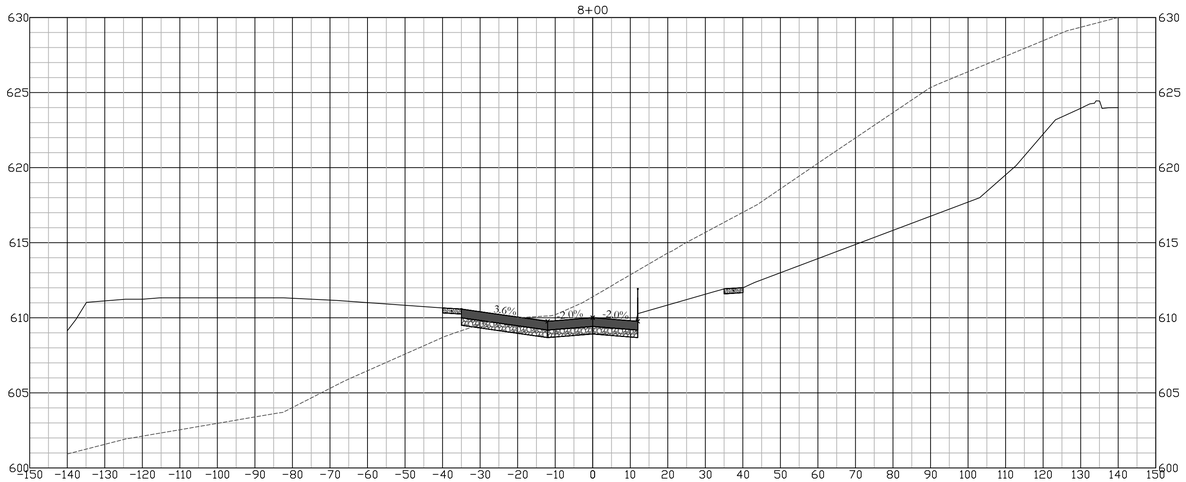
PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

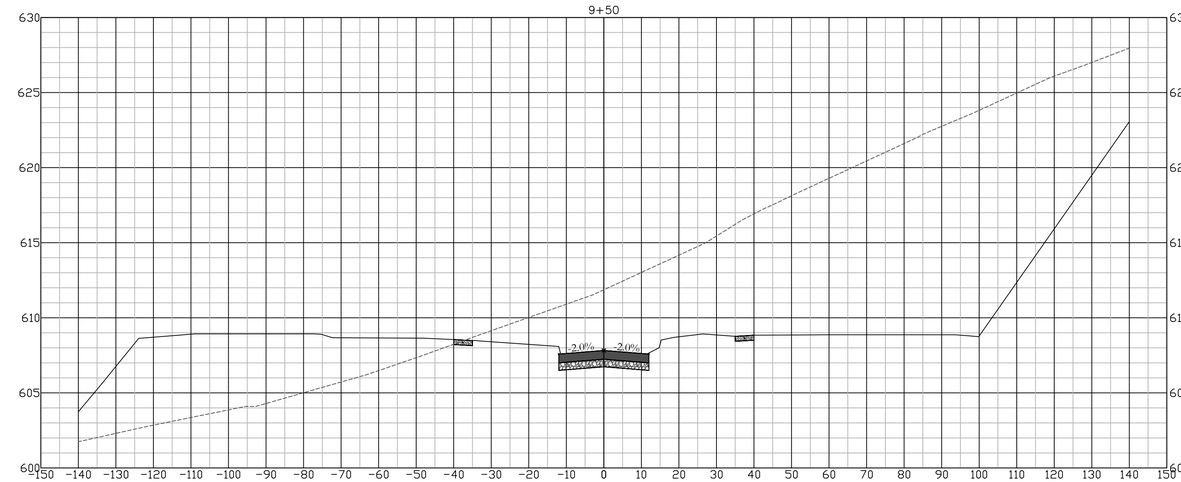
DRAWING NO: W.02

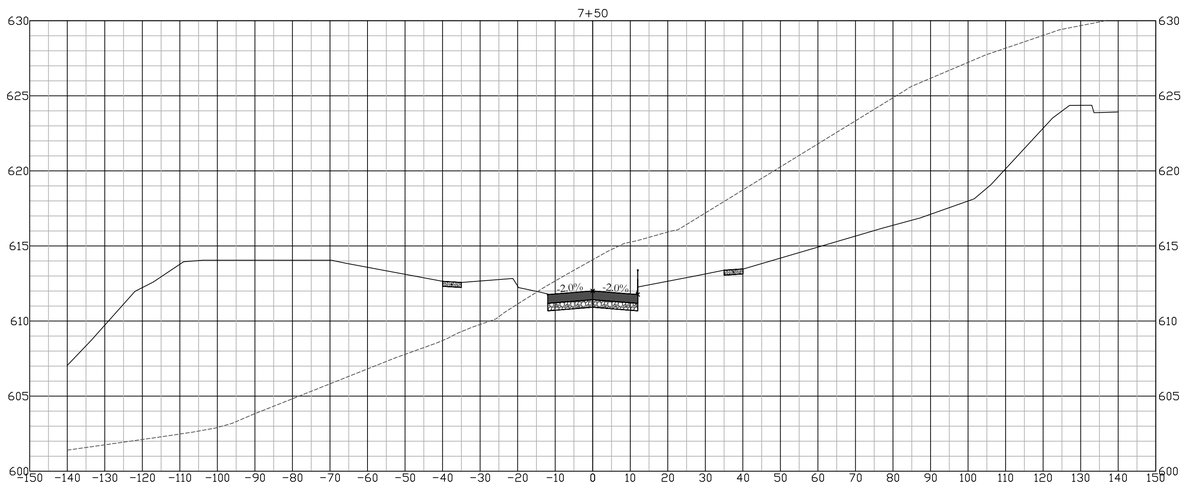
SHEET NO: 39 OF 42

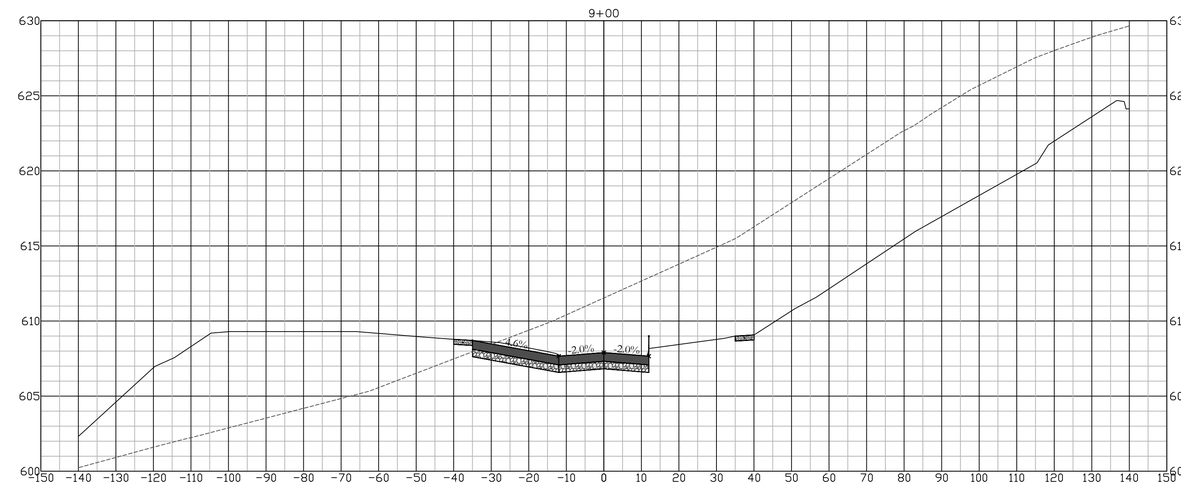












PLOTTED: 6/29/2018

F:\CIVIL3D PROJECTS\8180 OAK PARK SUBDIVISION\2 DESIGN DRAWINGS\8180 CORRIDOR.DWG

#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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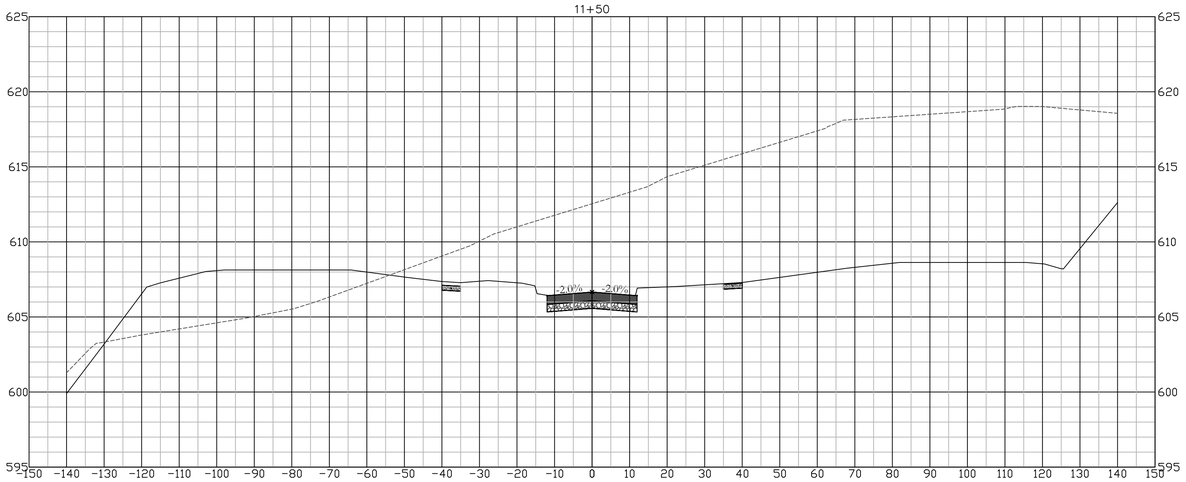
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

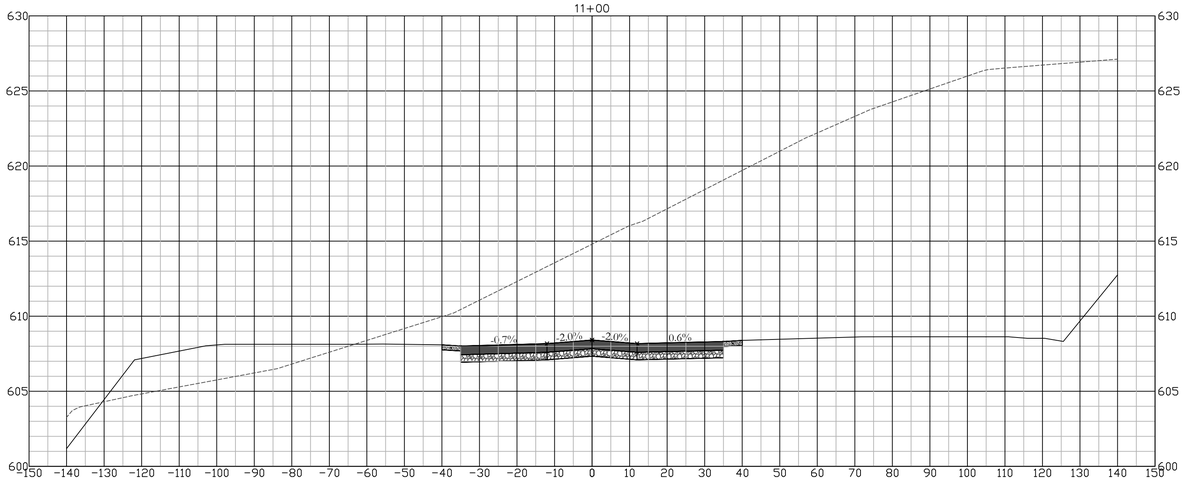
CROSS SECTION - MAINLINE

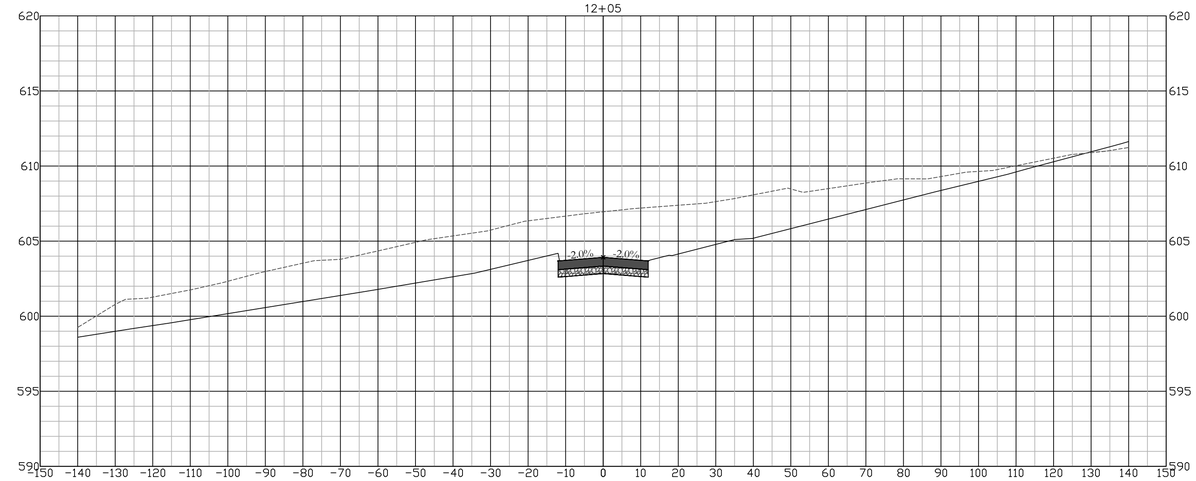
PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

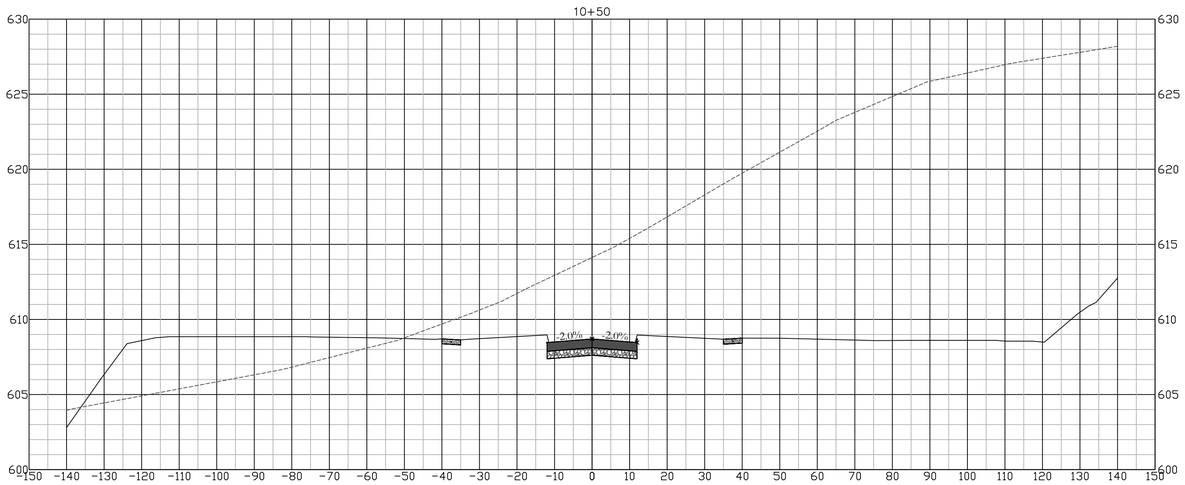
DRAWING NO: W.03

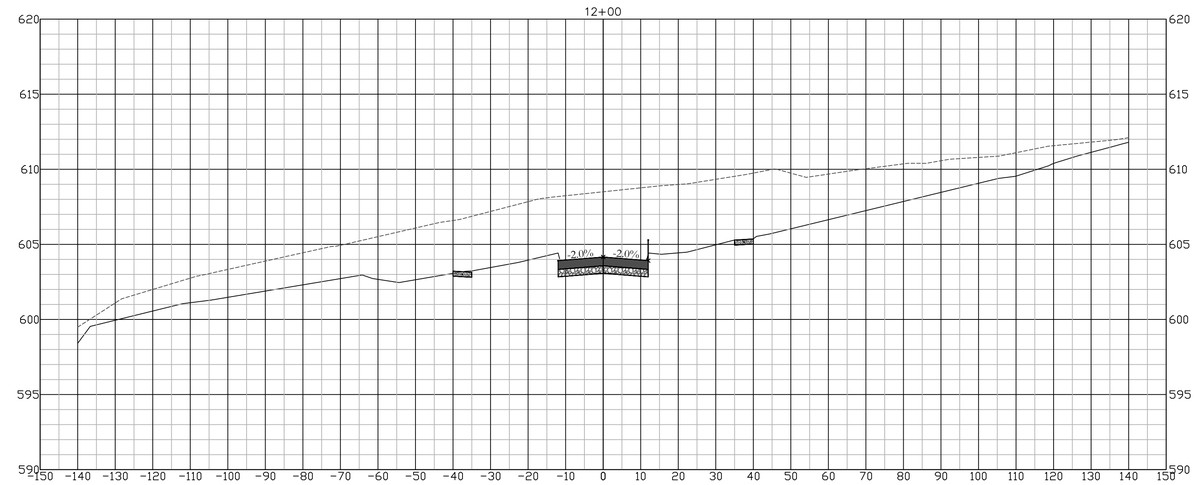
SHEET NO: 40 OF 42











PLOTTED: 6/29/2018

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#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

Martin & Whitacre Surveyors & Engineers, Inc.
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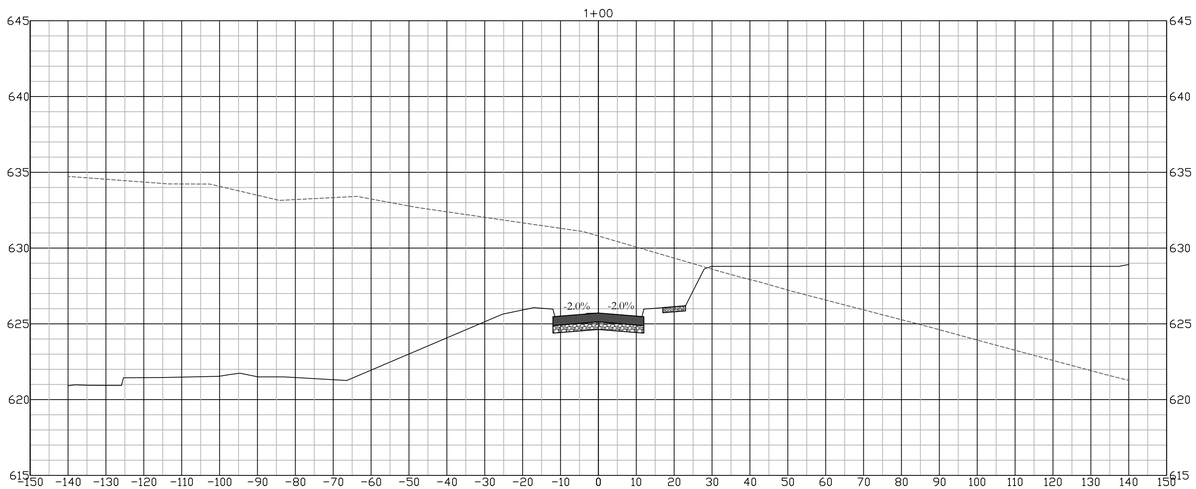
OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

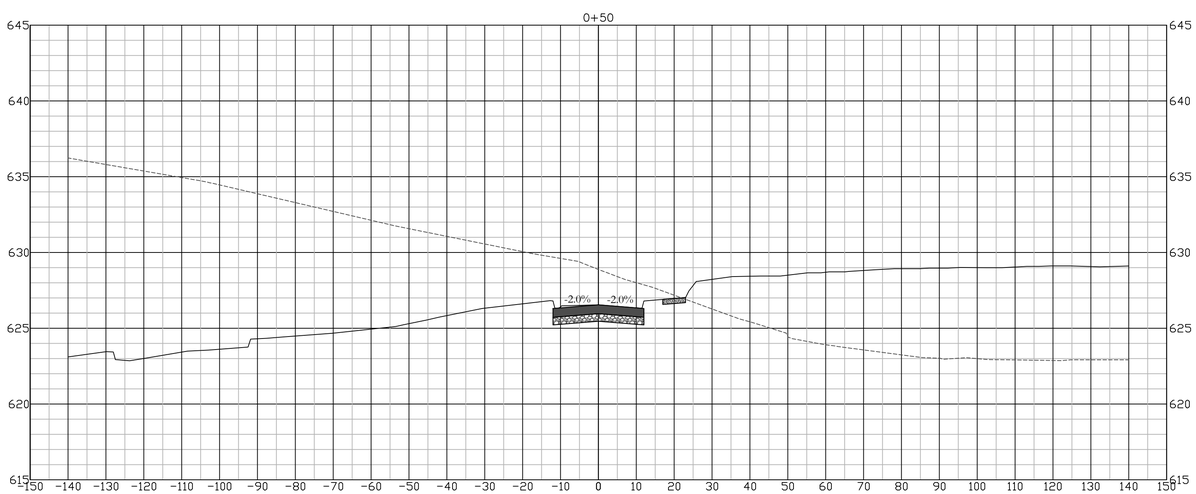
CROSS SECTION - MAINLINE

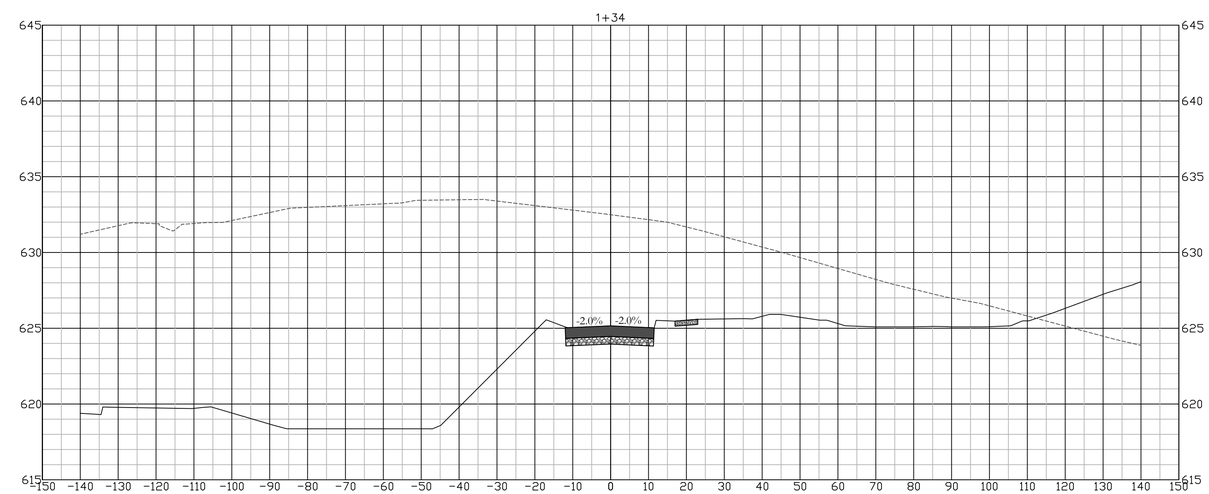
PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: W.04

SHEET NO: 41 OF 42







PLOTTED: 6/29/2018

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#	DATE	DESCRIPTION	BY

DESIGNED BY: JMS
DRAWN BY: JMS
PROJECT ENGR: RHT

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OAK PARK DEVELOPMENT
JNB OAK PARK, LP
MUSCATINE, IOWA

CROSS SECTION - CLUB HOUSE DRIVE

PROJ NO: 8180.17
CONST PROJ: 000
SCALE: AS NOTED
DATE: 6/29/2018

DRAWING NO: W.05
SHEET NO: 42 OF 42