

FINAL PLANS FOR
PUBLIC ROADWAY IMPROVEMENTS
OLDHAM PARKWAY & PRINCETON DRIVE
LEE'S SUMMIT, MISSOURI

LEGEND

▲CTL	SURVEY CONTROL POINT	☐	TRAFFIC SIGNAL BOX
▲	SURVEY BENCHMARK	⊙	TRAFFIC SIGNAL MANHOLE
▲TBM	SURVEY TEMPORARY BENCHMARK	○—○	TRAFFIC SIGNAL POLE W/ ARM
Ⓜ	GAS METER	☐	TRAFFIC SIGNAL POLE
☐GAR	GAS RISER	☐	TRAFFIC SIGNAL CONTROL BOX
⊙	GAS MANHOLE	☐	TRAFFIC SIGNAL PEDESTAL
☐GR	GAS REGULATOR	⊙	ELECTRIC MANHOLE
☐TP	TELEVISION PEDESTAL	Ⓜ	ELECTRIC METER
☐	FIBER BOX	Ⓜ	ELECTRIC RISER
⊙	FIBER PEDESTAL	☐	ELECTRIC BOX
☐	CABLE BOX	☐	ELECTRIC CABINET
☐V	CABLE VAULT	☐	ELECTRIC JUNCTION BOX
☐P	TELEPHONE PEDESTAL	○SPH	SPRINKLER HEAD
⊙	STORM MANHOLE	☐SCV	SPRINKLER CONTROL VALVE
☐	STORM GRATE	⊙	WATER METER PIT
⊙	SANITARY MANHOLE	⊙	FIRE HYDRANT
○YL	YARD LIGHT	☐WM	WATER METER
○LTP	LIGHT POLE	☐WV	WATER VALVE
☐	POWER POLE	○FP	FLAG POLE
☐LPPP	POWER POLE W/ LIGHT	○	SIGN
☐	GUY WIRE	⊙	BOLLARD
☐	STUMP	☐	WOOD POST
☐	BUSH	☐	STEEL POST
☐	EVERGREEN TREE	○COL	COLUMN
○	DECIDUOUS TREE	⊙	BORE HOLE

---	SECTION LINE
---	PROPERTY LINE
---	CENTER LINE
---	PROPOSED ROW LINE
---	EXISTING ROW LINE
---	UTILITY EASEMENT
---	EXISTING CONTOUR
---	EXISTING CONTOUR
---	PROPOSED MINOR CONTOUR
---	PROPOSED MAJOR CONTOUR
---	EXISTING TELEPHONE LINE
---	EXISTING SANITARY LINE
---	EXISTING STORM LINE
---	EXISTING GAS LINE
---	EXISTING WATER LINE
---	EXISTING CHAIN LINK FENCE
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING PIPE LINE
---	GRADING LIMITS
---	TEMPORARY CONSTRUCTION EASEMENT
---	PROPOSED UTILITY OVERHEAD EASEMENT
---	PROPOSED PERMANENT DRAINAGE EASEMENT
---	PROPOSED CHAIN LINK FENCE
---	PROPOSED WOOD PRIVACY FENCE
---	EXISTING TREELINE

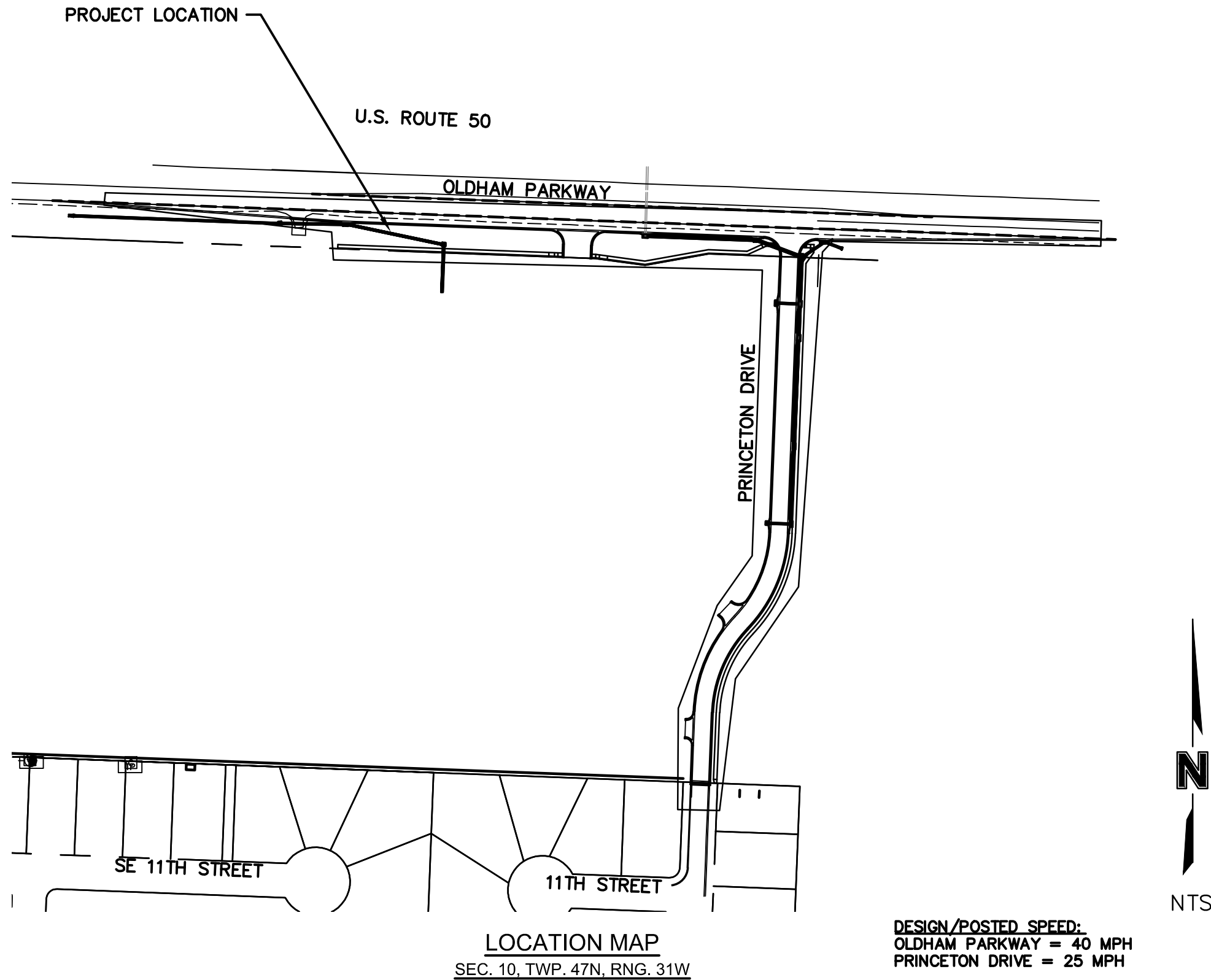
ABBREVIATION TABLE

M.G.	MATCH GRADE
BOC	BACK OF CURB
EOP	EDGE OF PAVEMENT
R/W	RIGHT-OF-WAY
D/E	DRAINAGE EASEMENT
S/E	SANITARY EASEMENT
S/W	SIDEWALK
TCE	TEMPORARY CONSTRUCTION EASEMENT
UOHE	UTILITY OVERHEAD EASEMENT
PDE	PERMANENT DRAINAGE EASEMENT
PROP.	PROPOSED
EXIST.	EXISTING
TYP.	TYPICAL
CONST.	CONSTRUCT
TBM	TEMPORARY BENCHMARK
C.P.	CONTROL POINT
D.N.D.	DO NOT DISTURB
U.I.P.	USE IN PLACE
ADJ.	ADJUST
EL.	ELEVATION
ESMT.	EASEMENT
BK.CB.	BACK OF CURB
BK.SWK.	BACK OF SIDEWALK

*PROPOSED UTILITIES

---	[ATT]	PROPOSED AT&T
---	[Fo]	PROPOSED FIBER
---	[G]	PROPOSED GAS
---	[W]	PROPOSED WATERLINE
---	[UTL OH]	PROPOSED OVERHEAD UTILITIES
---	[SL]	PROPOSED STREET LIGHT CONDUIT
---	[CCL]	PROPOSED CONSOLIDATED

*The utilities as shown in this legend represent the intended construction or relocation of utilities. These plans do not take into account the construction schedule or "As-Constructed Plans" of utility construction or relocations. Therefore, the Contractor shall notify all utility agencies before beginning work and shall cooperate with them in locating and protecting their utilities. The Engineer and Owner make no guarantee as to accuracy or completeness of information shown.



DESIGN/POSTED SPEED:
OLDHAM PARKWAY = 40 MPH
PRINCETON DRIVE = 25 MPH

INDEX OF SHEETS

SHEET NO.	TITLE
T1	TITLE SHEET
T2	GENERAL LAYOUT
T3	ALIGNMENT DATA & SURVEY CONTROL
T4	GENERAL NOTES
T5	DEMOLITION AND REMOVALS
T6	TYPICAL SECTIONS
T7-T11	PLAN AND PROFILES
T12	INTERSECTION LAYOUTS
T13-T14	DRIVE LAYOUTS
T15	SIDEWALK RAMP LAYOUTS
T16-T22	STANDARD DETAILS
T23-T24	EROSION CONTROL PLANS
T25-T29	PAVEMENT MARKING & SIGNING PLANS & DETAILS
T33-T34	TRAFFIC CONTROL PLANS & DETAILS
T35-T51	CROSS SECTIONS

PUBLIC STORM WATER

SHEET NO.	TITLE
ST1.0-ST1.3	STORM PROFILES
ST2.0-ST3.0	DRAINAGE MAP & STORM SEWER CALCULATIONS
ST4.0-ST4.1	STORM WATER DETAILS

PREPARED & SUBMITTED BY:

OLSSON ASSOCIATES
7301 W. 133RD STREET, SUITE 200
OVERLAND PARK, KANSAS 66213

RYAN B. FLEMING

DATE

I CERTIFY THESE PLANS WERE PREPARED BY ME
OR UNDER MY IMMEDIATE PERSONAL SUPERVISION.

olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com



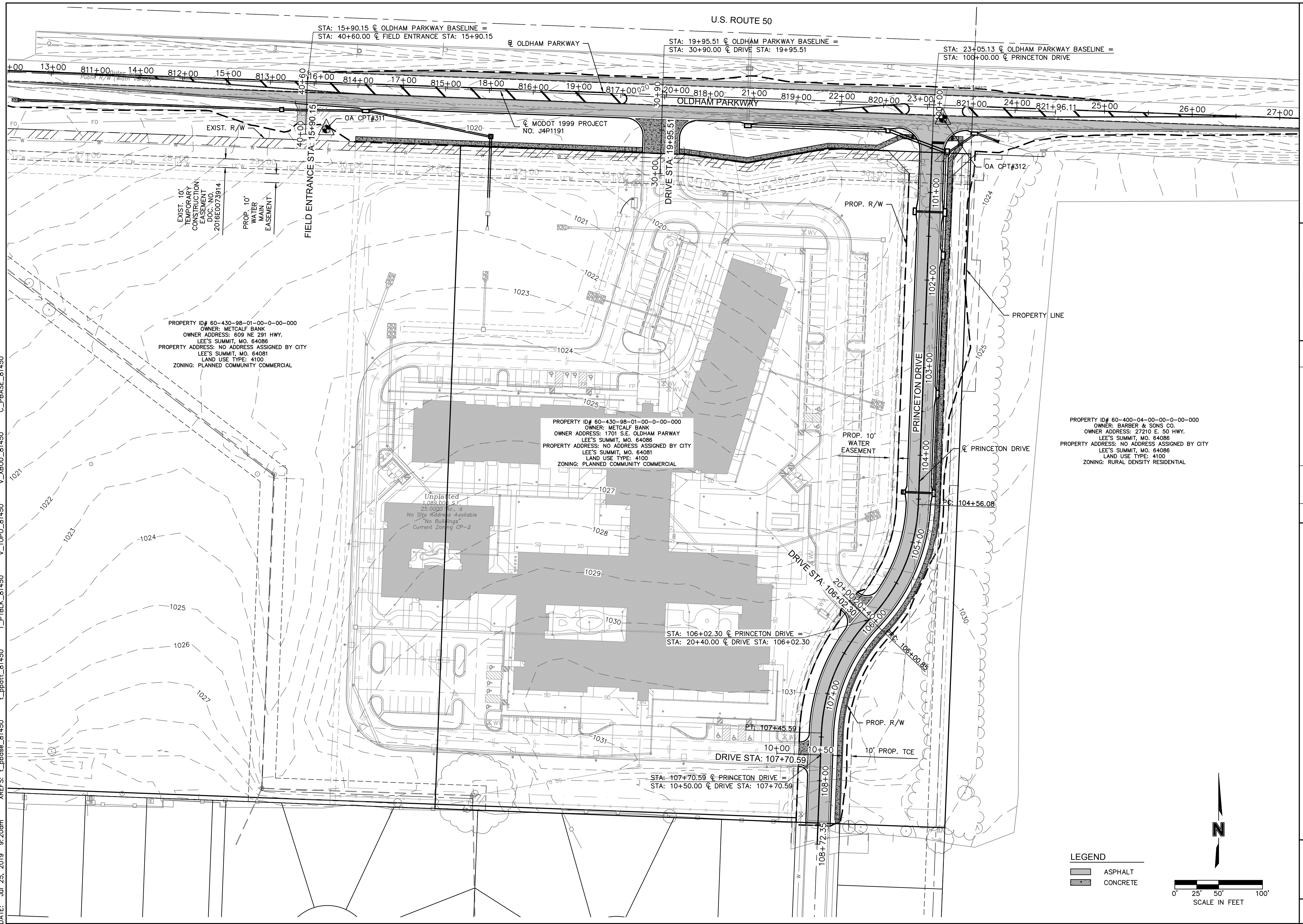
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	07/19/2019	ENGR. REVIEW COMMENTS	

TITLE SHEET	OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	2019
-------------	---	------

C.O.A. NO.:	001592
DRAWN BY:	AS
CHECKED BY:	JKL
APPROVED BY:	RBE
QA/QC BY:	JKL/RBE
PROJECT NO.:	018-1450
DWG NO.:	T_TTL_81450
DATE:	07.19.19

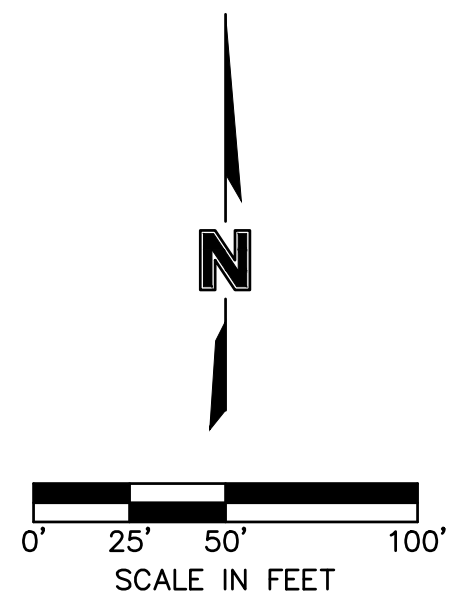
SHEET
T1 OF 70

DWG: F:\2018\1001-1500\018
DATE: Jul 25, 2019 9:20am



LEGEND

	ASPHALT
	CONCRETE



GENERAL LAYOUT

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

2019

DATE	REVISIONS DESCRIPTION
------	-----------------------

BY

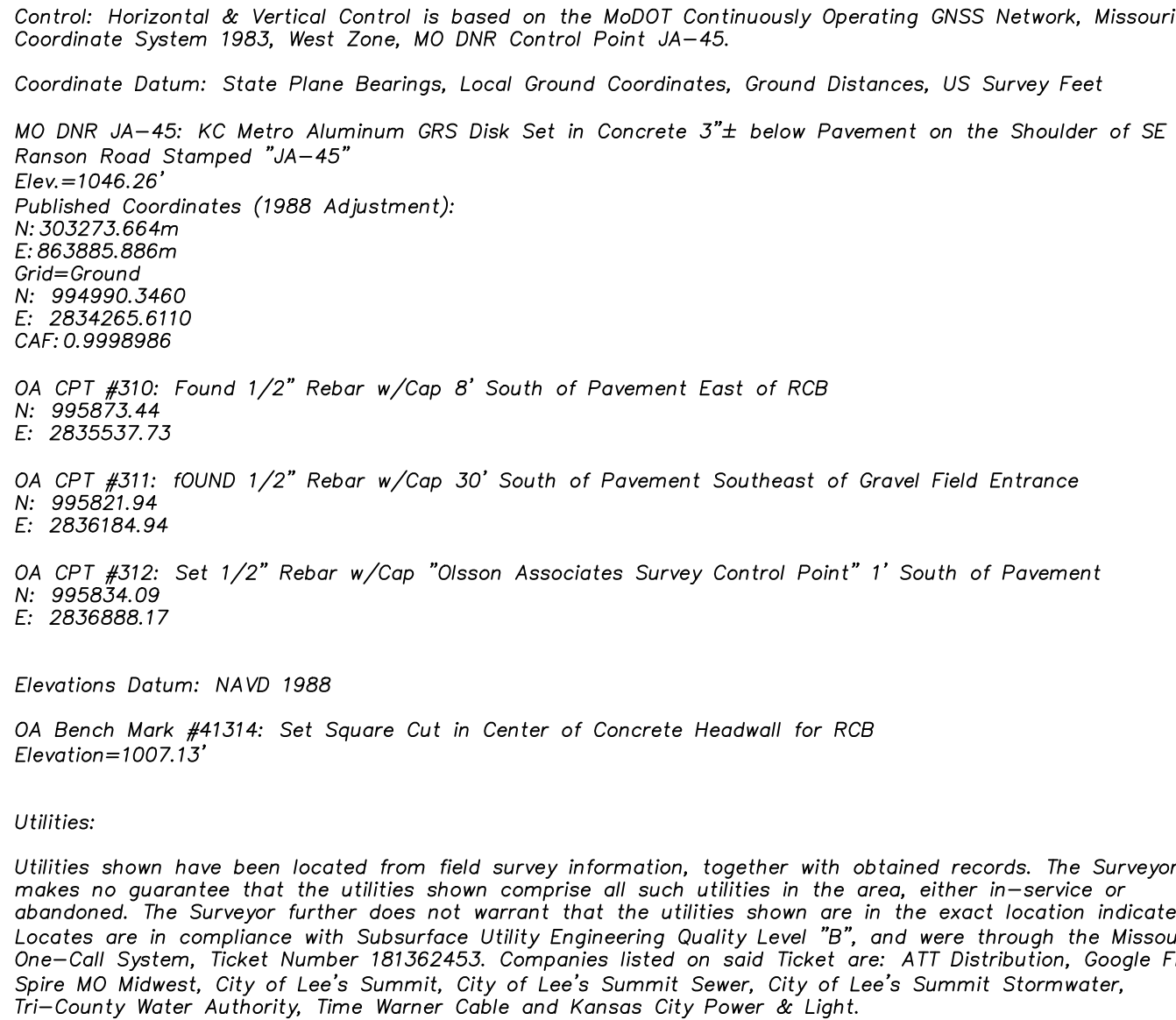
VISIONS DESCRIPTION

REVISIONS



olson

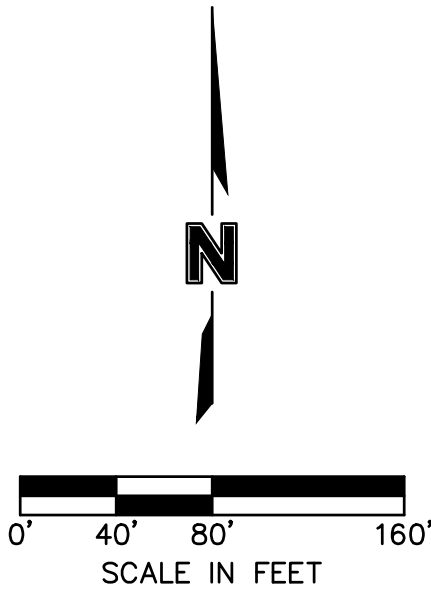
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com



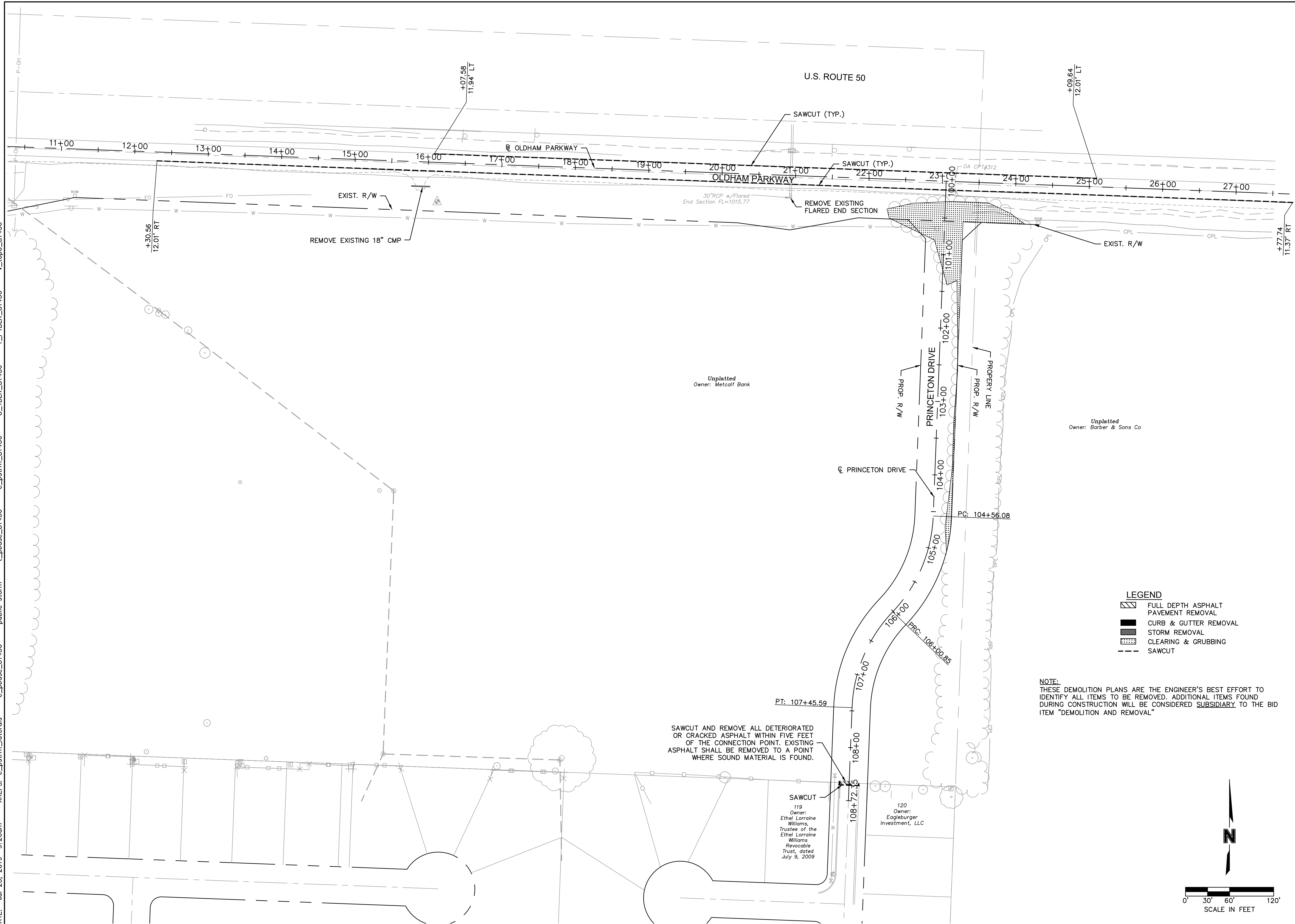
PRINCETON DRIVE								
ID #	STATION RANGE	START COORD.	END COORD.	PI STATION	PI COORD.	LINE/CHORD LENGTH (FT)	LINE/CHORD BEARING	RADIUS (FT)
L2	100+00 104+56.08	N: 995849.00 E: 2836877.81	N: 995393.27 E: 2836860.13			456.08	S2°13'14"W	
C1	PC 104+56.08 PT 106+00.85	PC N: 995393.27 E: 2836860.13	PT N: 995262.85 E: 2836804.89	105+31.80	N: 995317.60 E: 2836857.20	141.63	S22°57'27"W	200.00
C2	PC 106+00.85 PT 107+45.59	PC N: 995262.85 E: 2836804.89	PT N: 995132.47 E: 2836749.65	106+76.55	N: 995208.12 E: 2836752.59	141.60	S22°57'45"W	200.00
L3	107+45.59 108+72.35	N: 995132.47 E: 2836749.65	N: 995005.80 E: 2836744.72			126.77	S2°13'49"W	

DRIVE STATION: 106+02.30								
ID #	STATION RANGE	START COORD.	END COORD.	PI STATION	PI COORD.	LINE/CHORD LENGTH (FT)	LINE/CHORD BEARING	RADIUS (FT)
L5	20+00 20+40	N: 995289.44 E: 2836774.98	N: 995261.80 E: 2836803.89			40.00	S46°17'14"E	

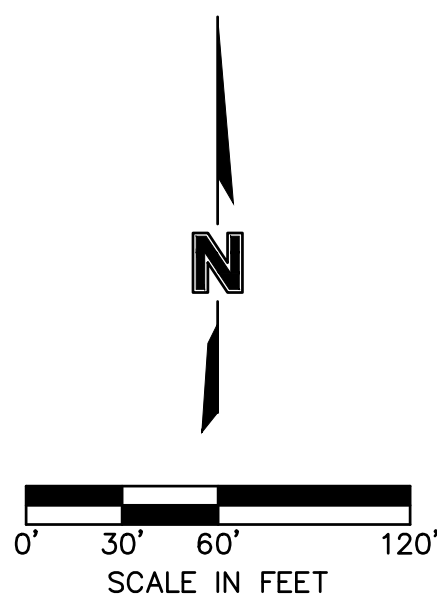
FIELD ENTRANCE STA_ 15+90.15								
ID #	STATION RANGE	START COORD.	END COORD.	PI STATION	PI COORD.	LINE/CHORD LENGTH (FT)	LINE/CHORD BEARING	RADIUS (FT)
L7	40+00 40+60	N: 995815.52 E: 2836161.09	N: 995875.48 E: 2836163.31			60.00	N2°07'21"E	



DWG:	F:\2018\1001-1500\018-1450-40-Design\AutoCAD\Final Plans\Sheets\RDRB\DEMOLITION & REMOVALS\T_DM01_81450.dwg	USER:	asacavedra
DATE:	Jul 25, 2019 9:20am	XREFs:	c_phase_81450 public storm c_pstrm_81450 c_pstrm_81450
			T_PTBK_81450 v_topo_81450



NOTE:
THESE DEMOLITION PLANS ARE THE ENGINEER'S BEST EFFORT TO IDENTIFY ALL ITEMS TO BE REMOVED. ADDITIONAL ITEMS FOUND DURING CONSTRUCTION WILL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "DEMOLITION AND REMOVAL"



DEMOLITION & REMOVALS

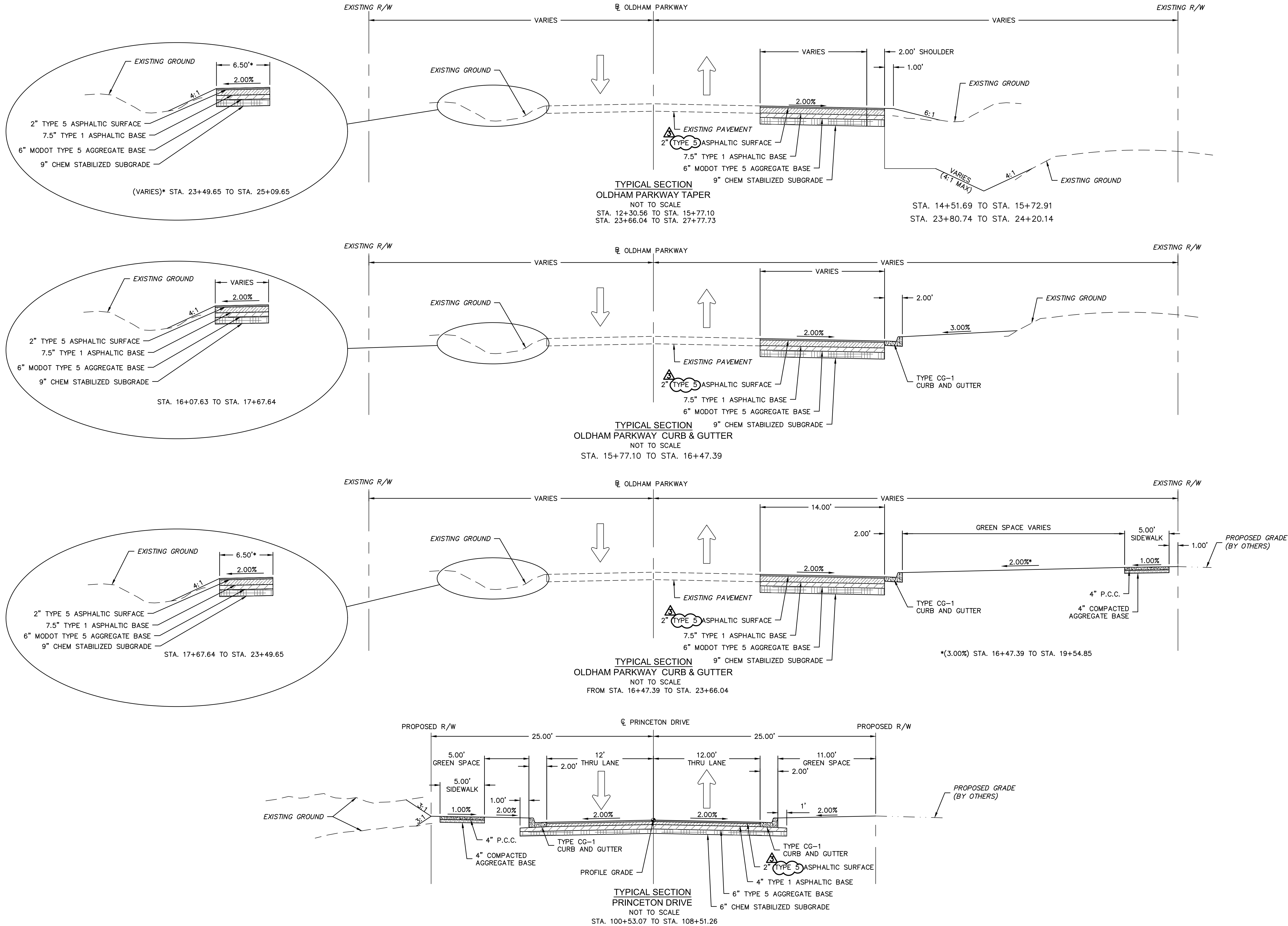
OREILLY DEVELOPMENT SENIOR LIVING FACILITY
COLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

LEE'S SUMMIT, MISSOURI	2019
------------------------	------

[illegible]

Olsson Engineering - MO State Certificate of Authority #001592
 7301 West 133rd Street, Suite 200 TEL 913.381.1170
 Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

Olsson



olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olson.com

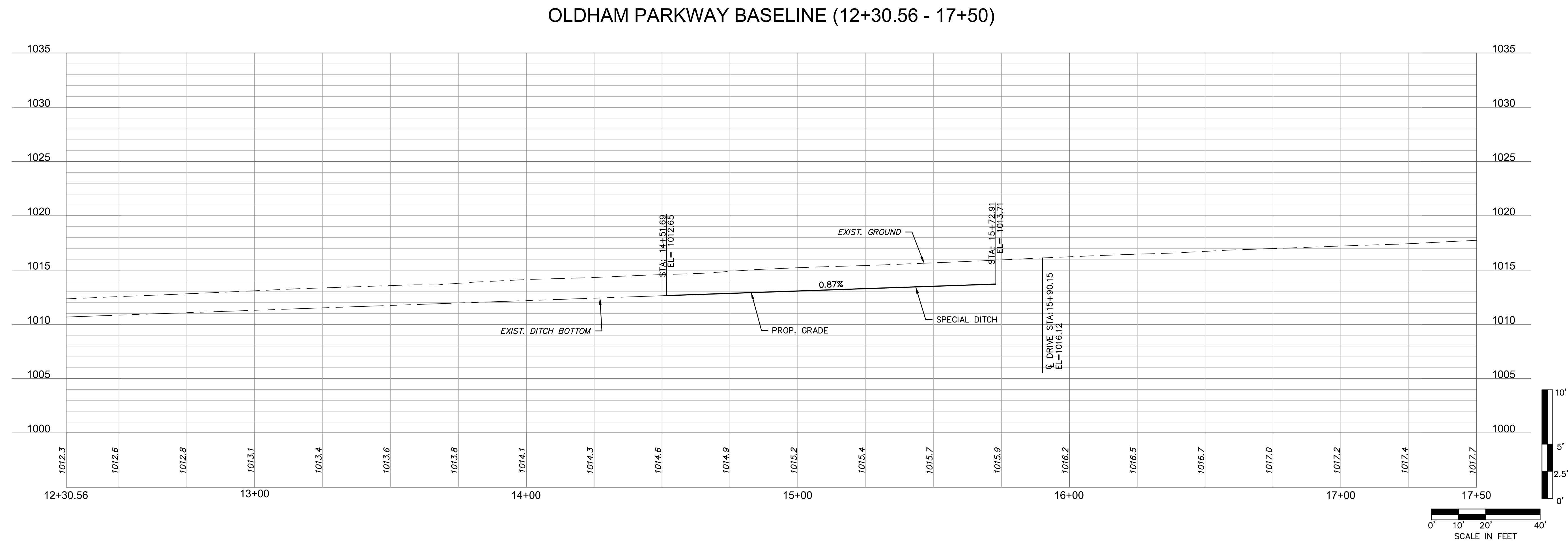
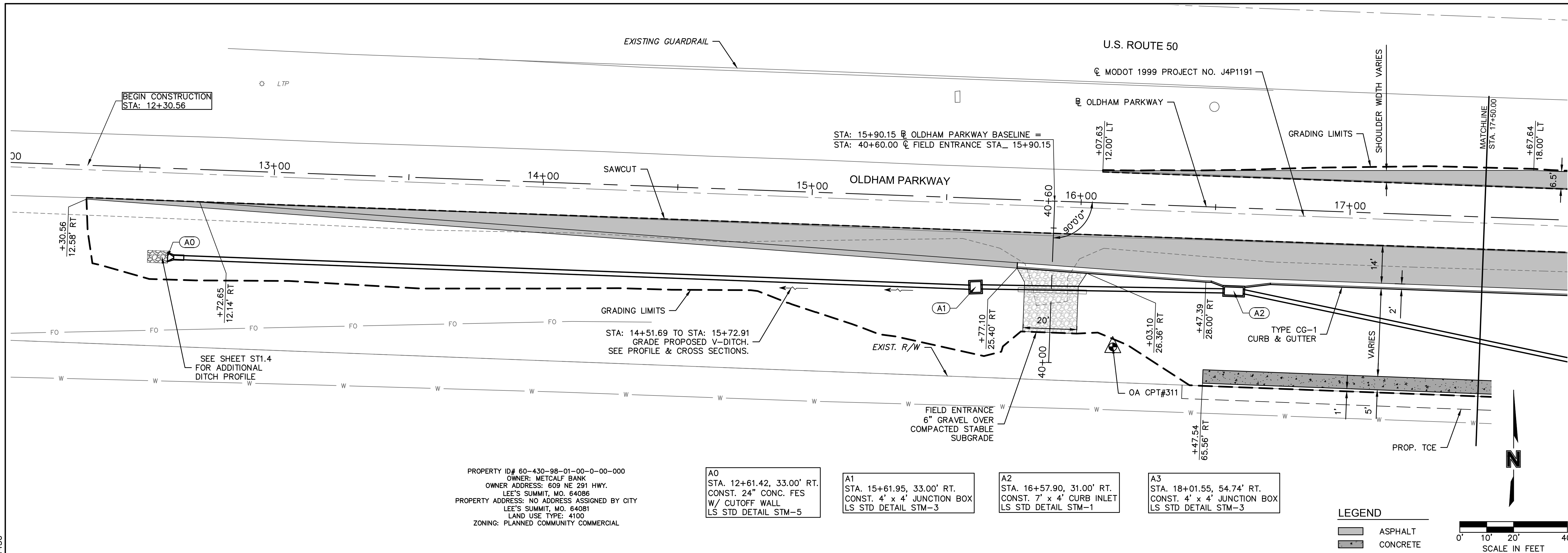
STATE OF MISSOURI
RYAN B. FLEMING
NUMBER PE-2002003161
1-24-19
PROFESSIONAL ENGINEER

BY
REVISIONS DESCRIPTION
DATE
REV. NO.
07/19/2019 ENGR. REVIEW COMMENTS
REVISIONS
2019

TYPICAL SECTIONS
OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS
LEE'S SUMMIT, MISSOURI

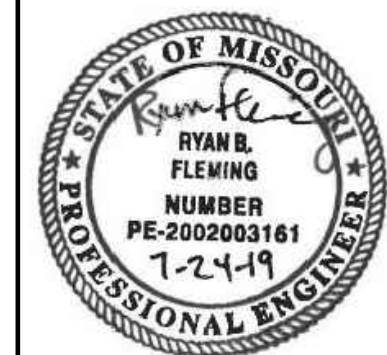
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBE
QA/QC BY: JKL/RBE
PROJECT NO.: 018-1450
DWG NO.: T_TYP_81450
DATE: 07.19.19

SHEET
T6 OF 70



olson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

[illegible]

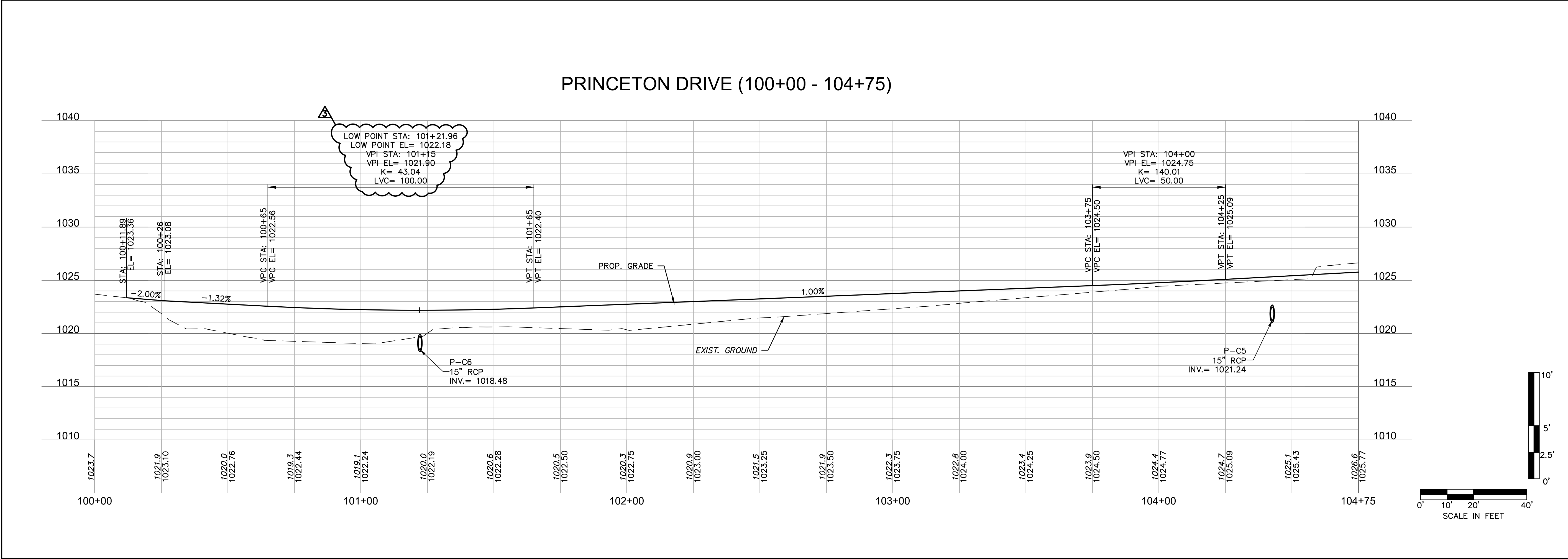
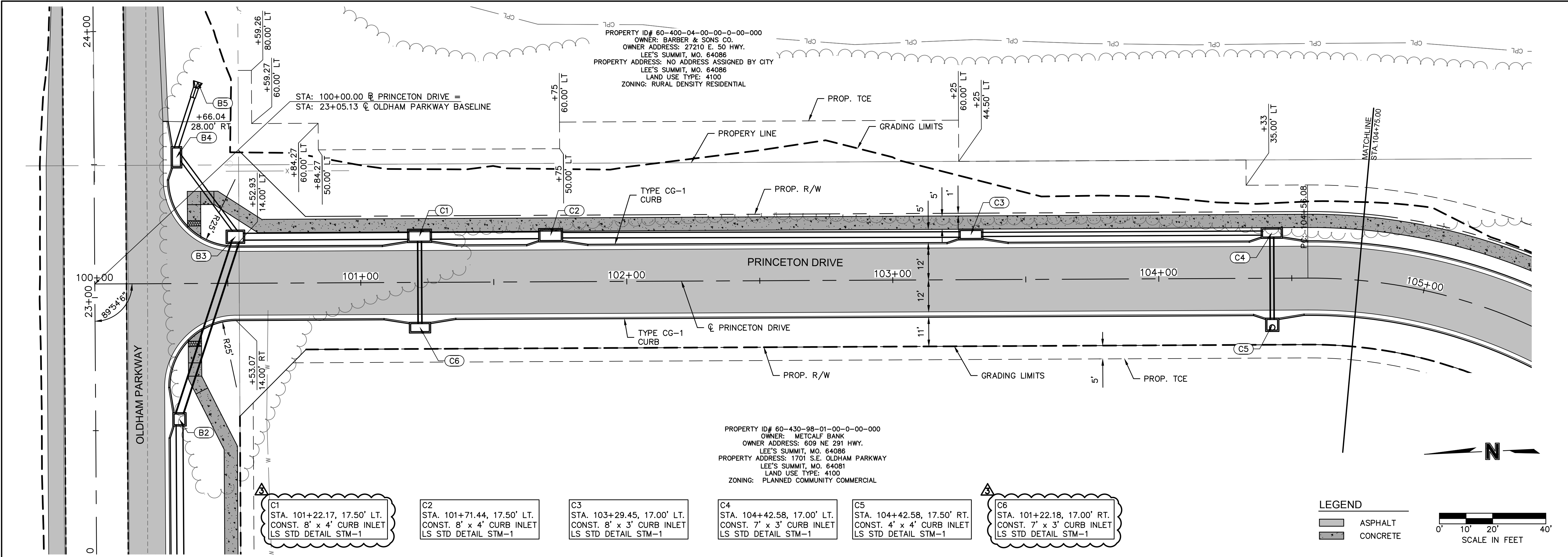
OLDHAM PARKWAY PLAN & PROFILE	
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	
LEE'S SUMMIT, MISSOURI	2017

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_RPP01_81450
DATE: 07.19.19

SHEET
T7 OF 70

USER: osocovedra

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Sheets\RD\BR\PLAN & PROFILES\T_RPP04_81450.dwg
DATE: Jul 25, 2019 9:23am XREFS: t_patt_81450 v_topo_81450 t_ptblk_81450



olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olsson.com

STATE OF MISSOURI
RYAN B. FLEMING
NUMBER
PE-200203161
1-24-19
PROFESSIONAL ENGINEER

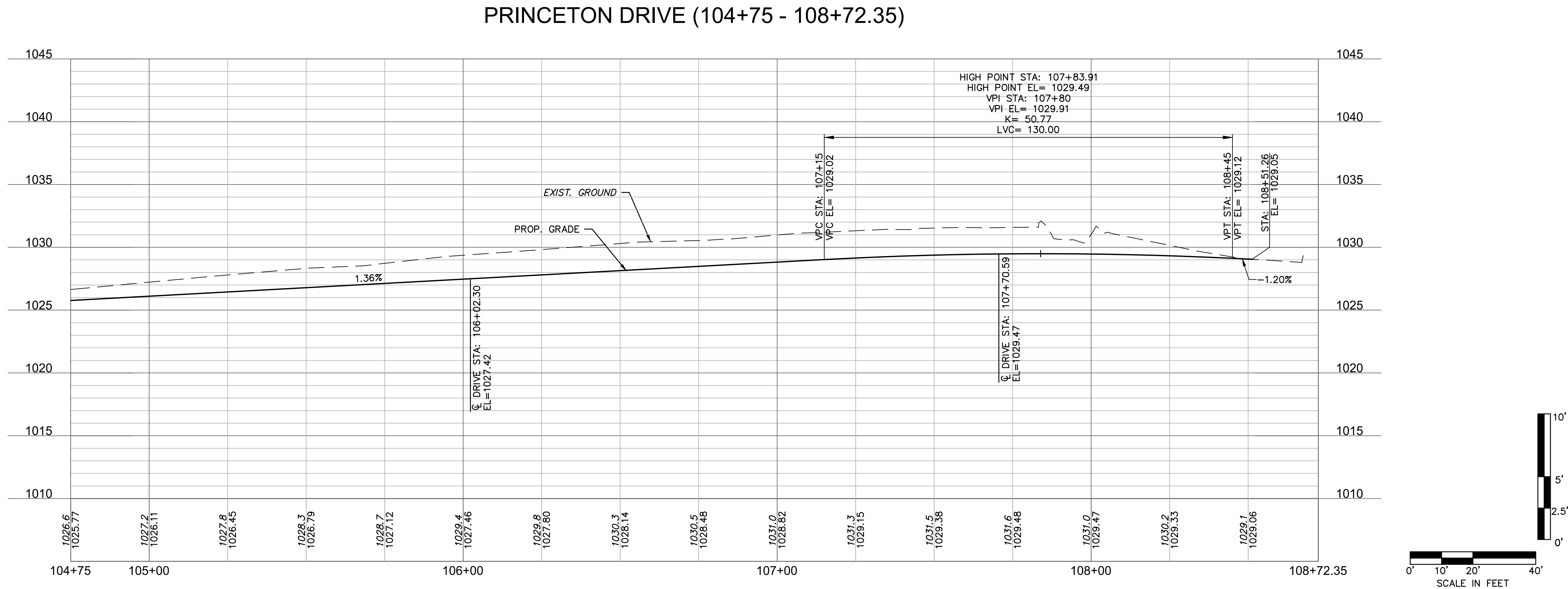
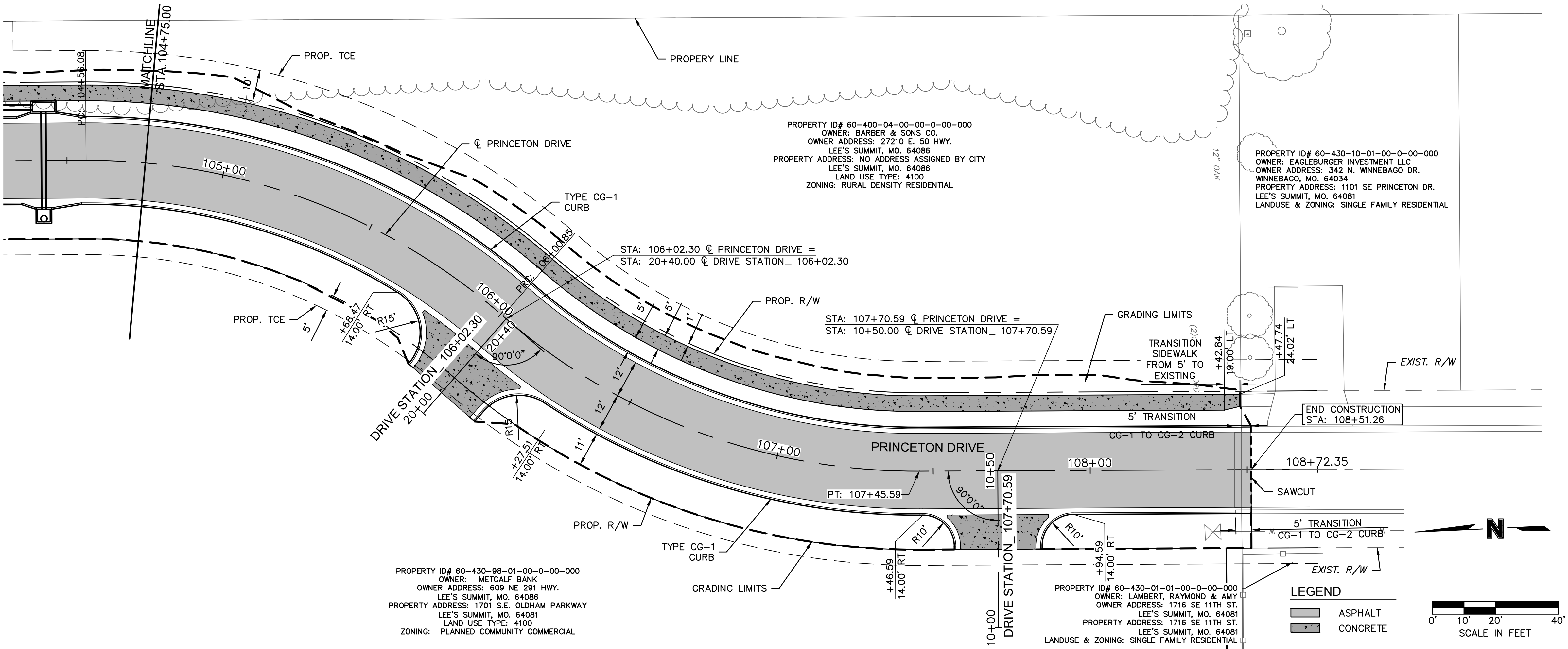
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	07/19/2019	ENGR. REVIEW COMMENTS	

PRINCETON DRIVE PLAN & PROFILE	OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	2019
LEE'S SUMMIT, MISSOURI		

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL/RBE
APPROVED BY: JKL/RBE
QA/QC BY: JKL/RBE
PROJECT NO.: 018-1450
DWG NO.: T_RPP04_81450
DATE: 07.19.19

SHEET
T10 OF 70

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Sheets\RD\BR\PLAN & PROFILES\T_RPP05_81450.dwg USER: oscarovedra
DATE: Jul 25, 2019 9:24am XREFS: t_pbase_81450 t_dpatt_81450 v_topo_81450 T_PTBK_81450 PUBLIC_STORM



olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olsson.com

STATE OF MISSOURI
RYAN B. FLEWING
NUMBER
PE-2002003161
1-24-19
PROFESSIONAL ENGINEER

BY
REVISIONS DESCRIPTION
DATE
REV. NO.

REVISIONS
2019

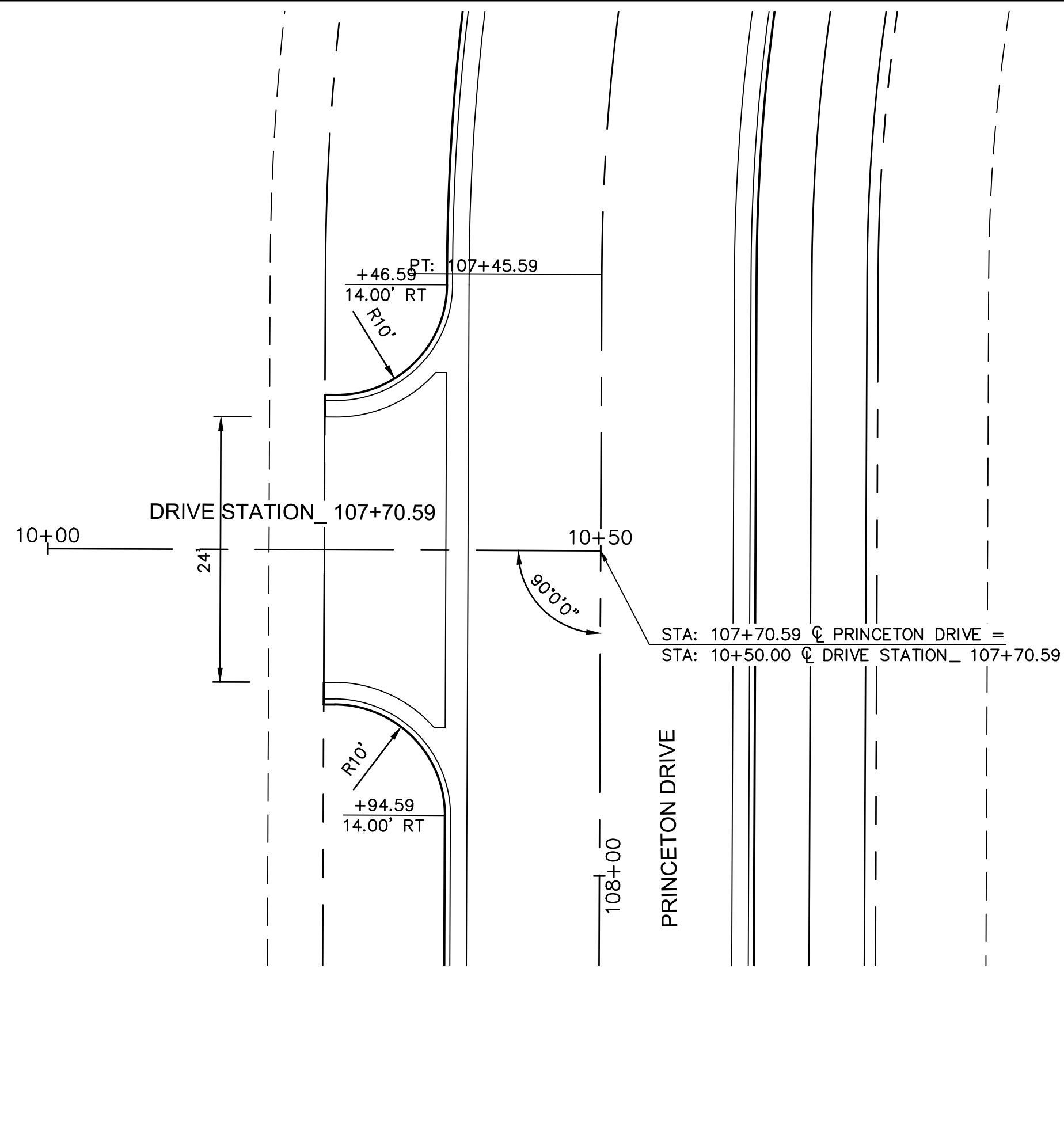
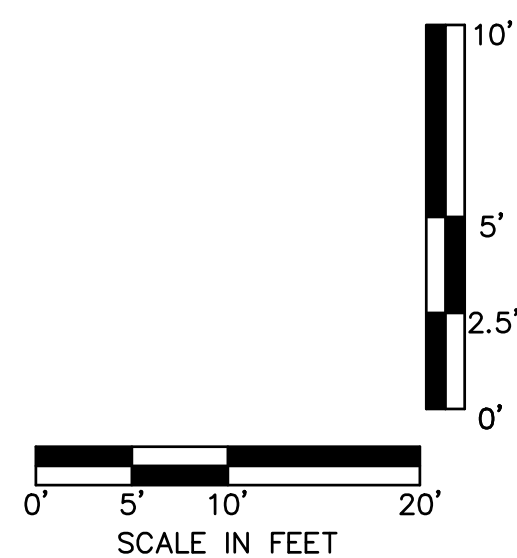
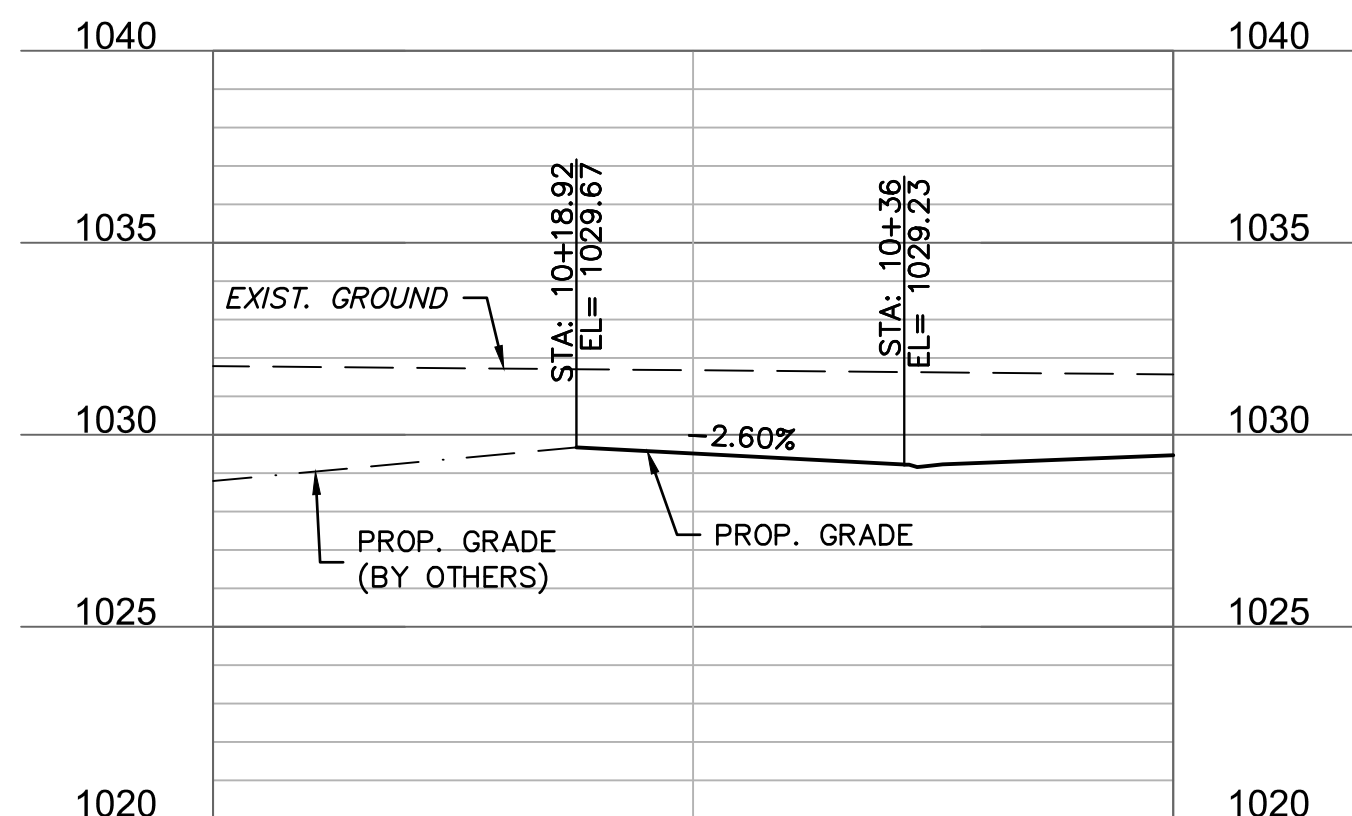
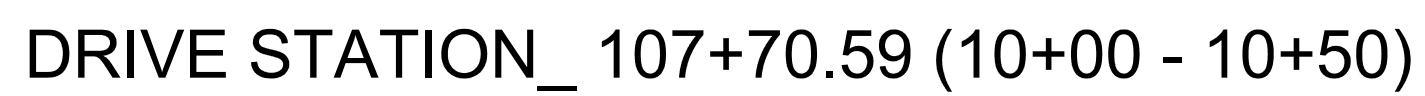
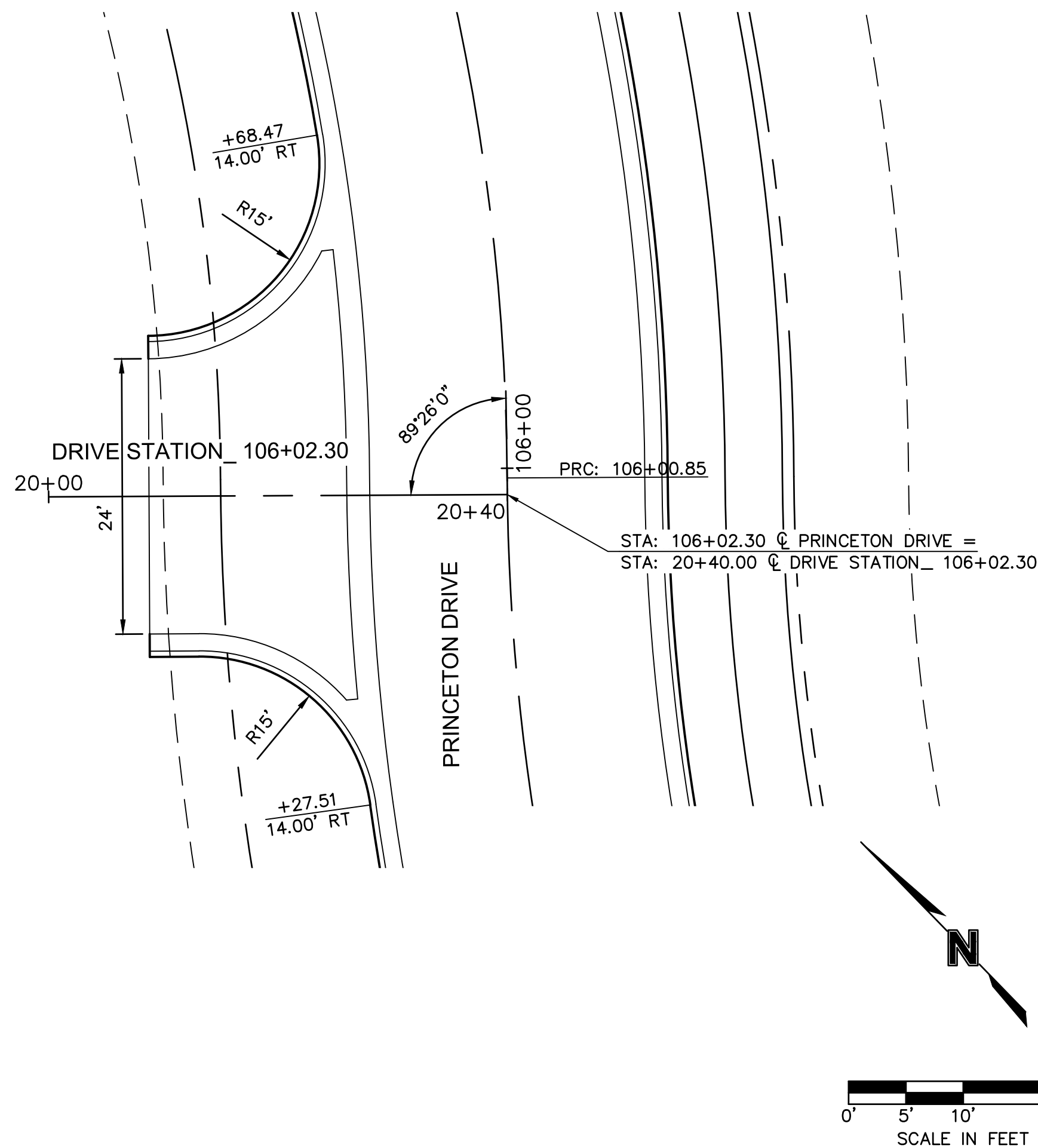
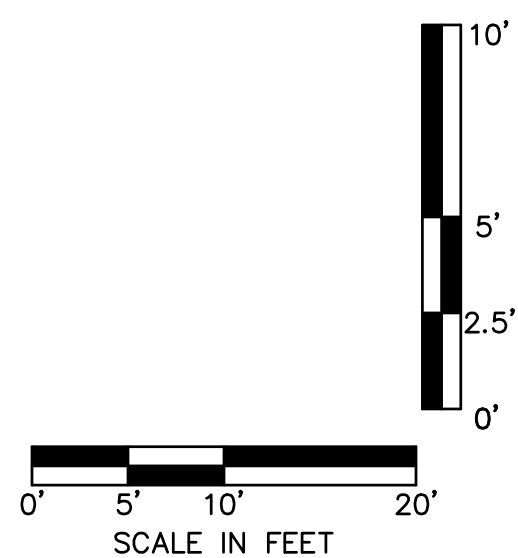
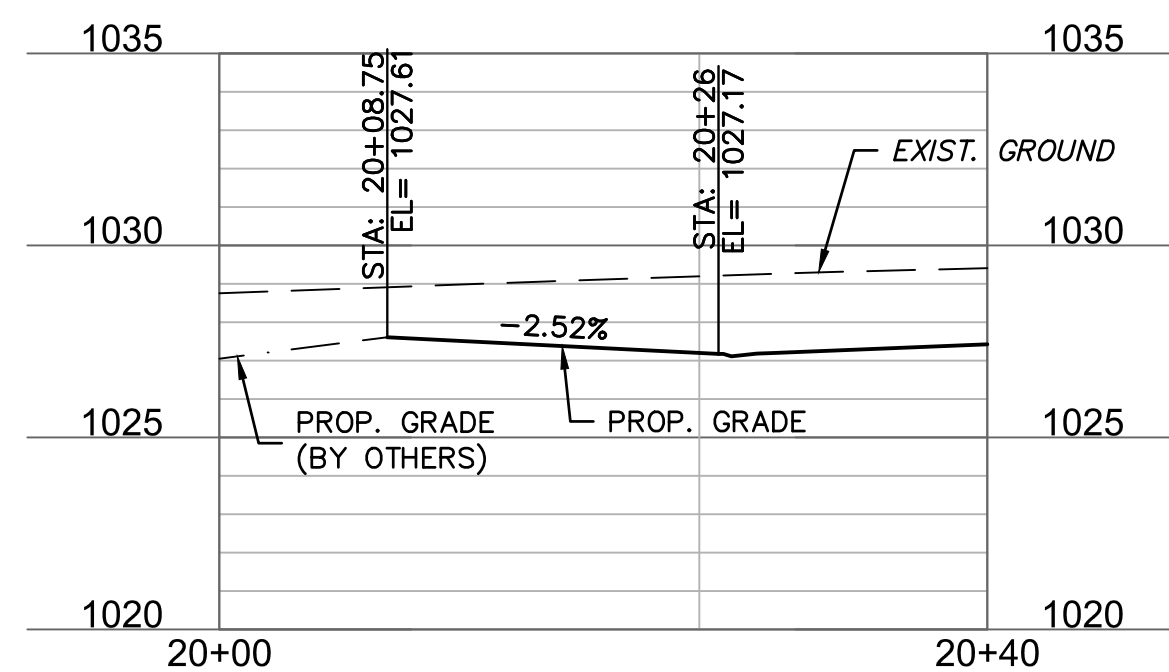
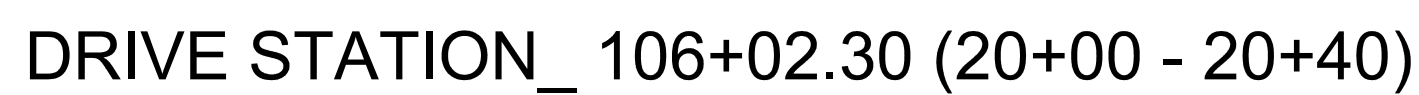
PRINCETON DRIVE
PLAN & PROFILE

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBE
QA/QC BY: JKL/RBE
PROJECT NO.: 018-1450
DWG NO.: T_RPP05_81450
DATE: 07.19.19

SHEET
T11 OF 70

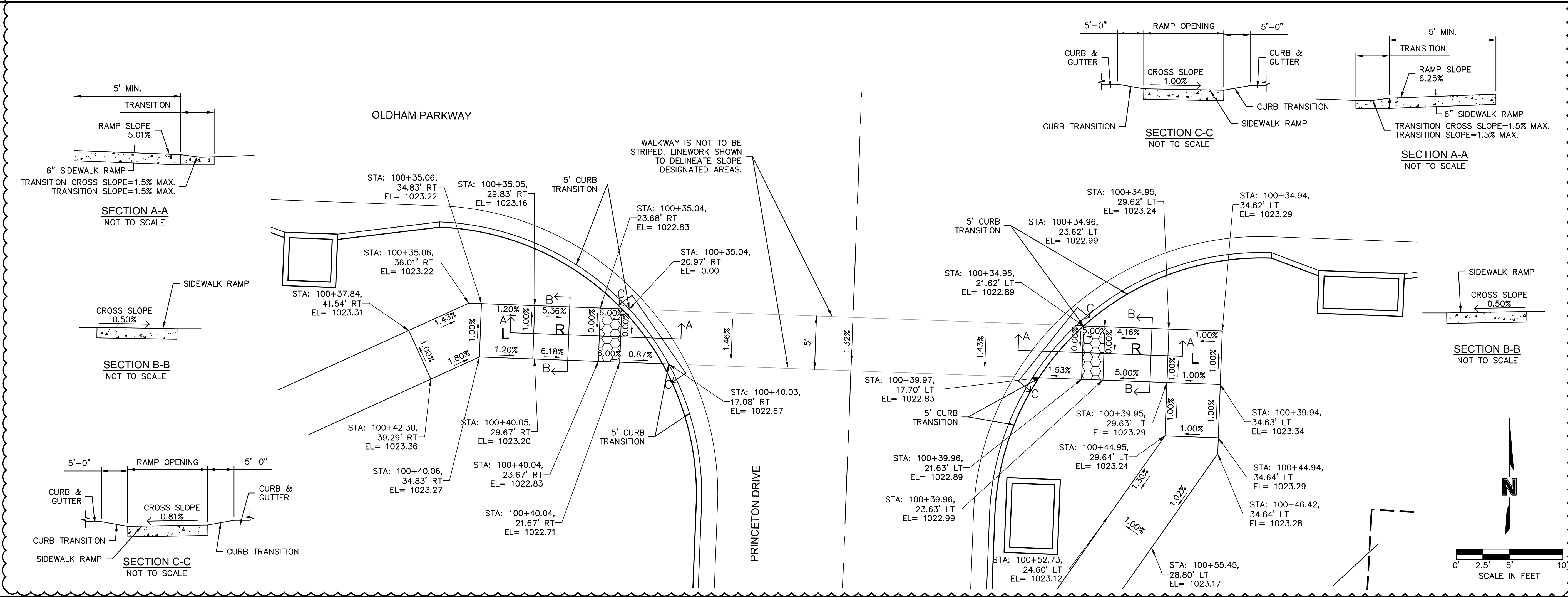
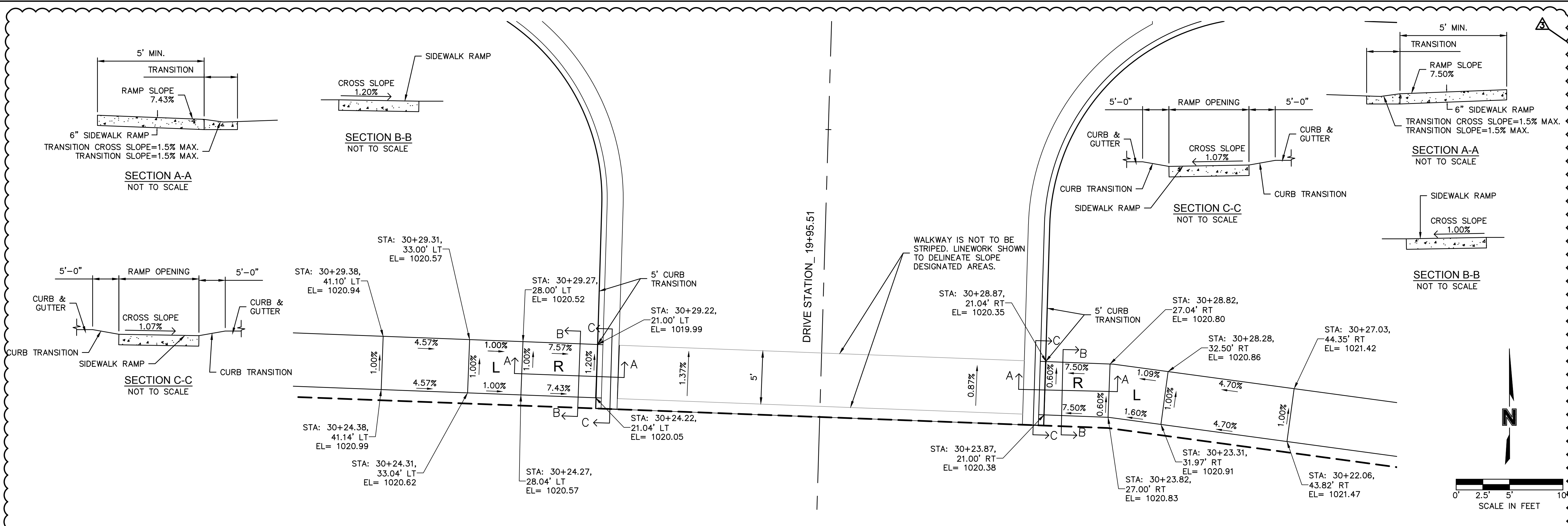


DRIVE LAYOUTS	C.O.A. NO.: 001592			
	DRAWN BY: AS			
	CHECKED BY: JKL			
	APPROVED BY: RBE			
	QA/QC BY: JKL/RBF			
	PROJECT NO.: 018-1450			
	DWG NO.: T_DRV01_81450			
	DATE: 07.19.19			
	2019			
	REVISIONS			
OREILLY DEVELOPMENT SENIOR LIVING FACILITY				
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS				
LEE'S SUMMIT, MISSOURI				



USER: ascavedra

DWG: F:\2018\1001-1500\018-1450-40-Design\AutoCAD\Final Plans\Sheets\RD\BR\SIDEWALK RAMP LAYOUTS\T_SWK01_81450.dwg
DATE: Jul 25, 2019 9:25am XREFS: t_pbase_81450 T_PTBK_81450



olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olsson.com

STATE OF MISSOURI
RYAN B. FLEWING
NUMBER
PE-2002003161
1-24-19
PROFESSIONAL ENGINEER

REV	NO.	DATE	DESCRIPTION	BY
A	07/19/2019	ENGR. REVIEW	COMMENTS	

REVISIONS

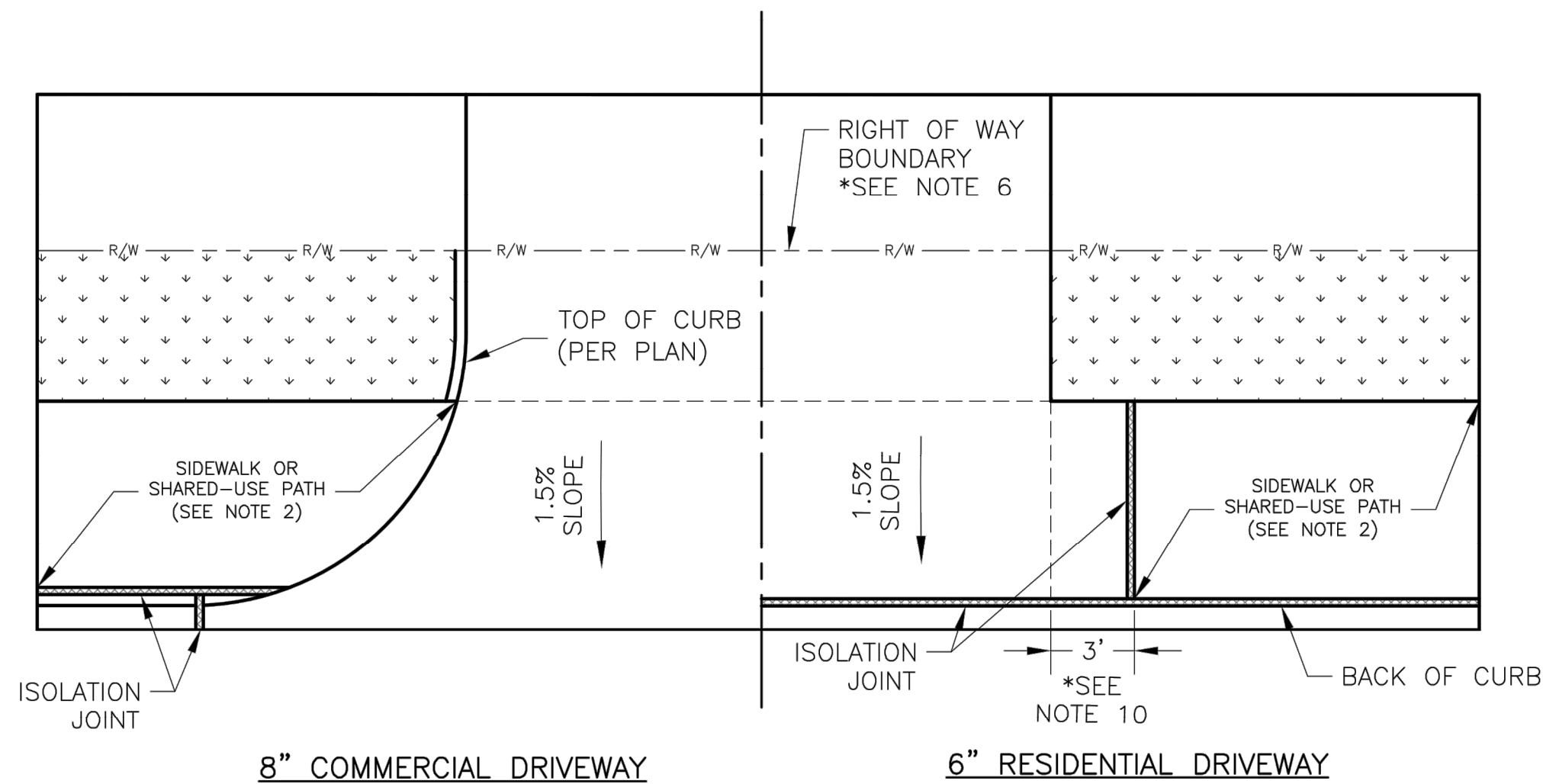
SIDEWALK RAMP LAYOUT

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

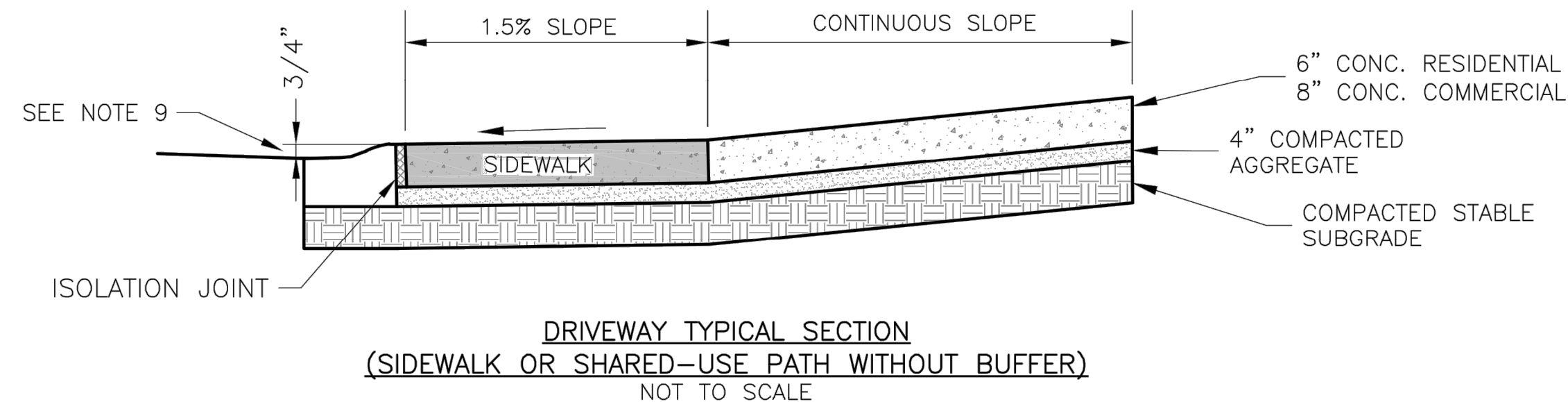
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBE
QA/QC BY: JKL/RBE
PROJECT NO.: 018-1450
DWG NO.: T_SWK01_81450
DATE: 07.19.19

SHEET
T15 OF 70



DRIVEWAY WITHOUT BUFFER
NOT TO SCALE

1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN-3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
5. COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEEDS TO BE APPROVED BY CITY INSPECTOR.
7. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
9. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
10. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
11. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITHOUT BUFFER)
NOT TO SCALE

GEN-1

DRIVEWAY DETAIL

Sheet Na²⁷e:

Project:

Pr[?][?][?]:

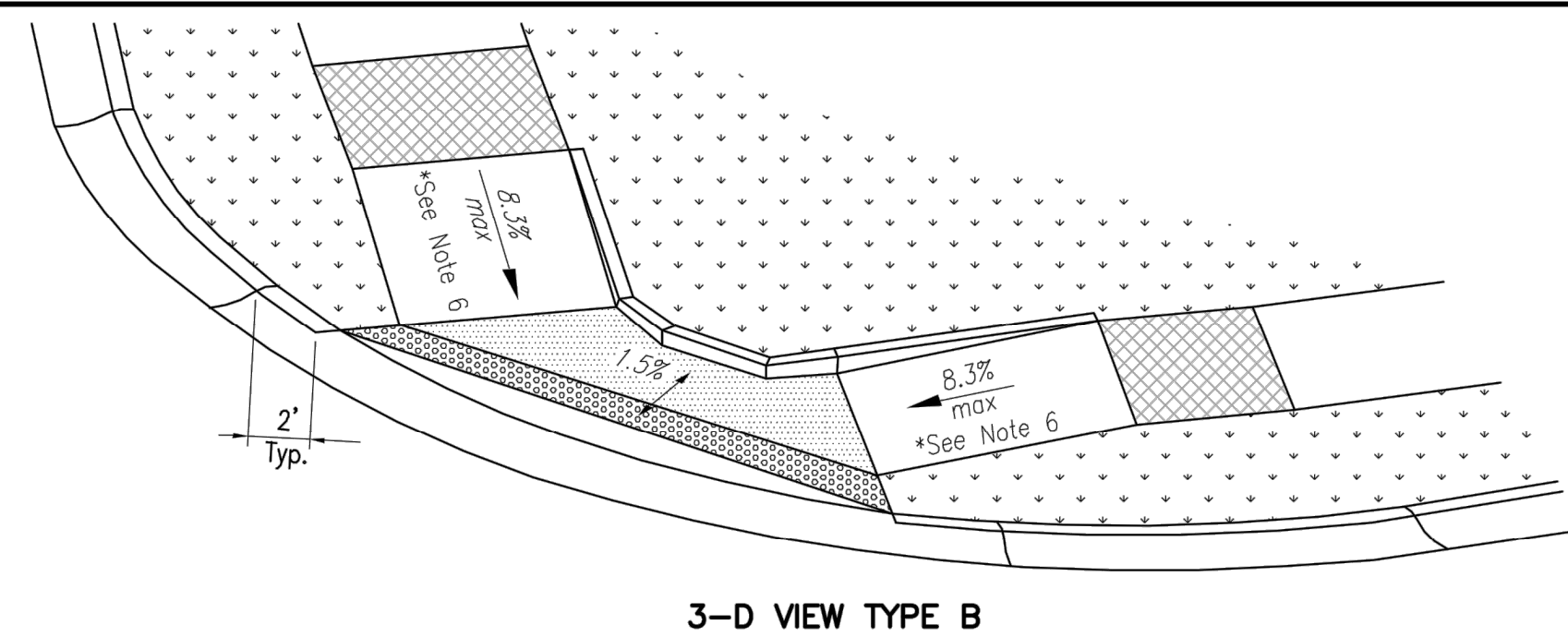
Date: 04/17

Date: 04/17

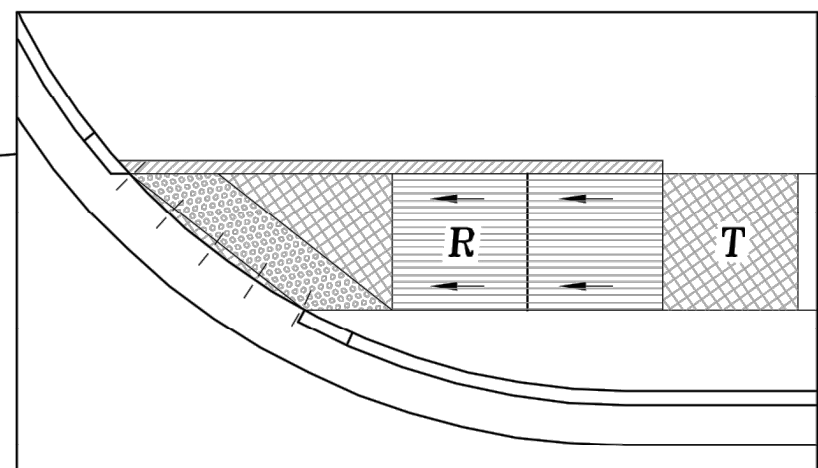
Pr[?][?][?]:

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_STD1_81450
DATE: 07.19.19

SHEET
T16 OF 70



3-D VIEW TYPE B
SIDEWALK/SHARED-USE RAMP



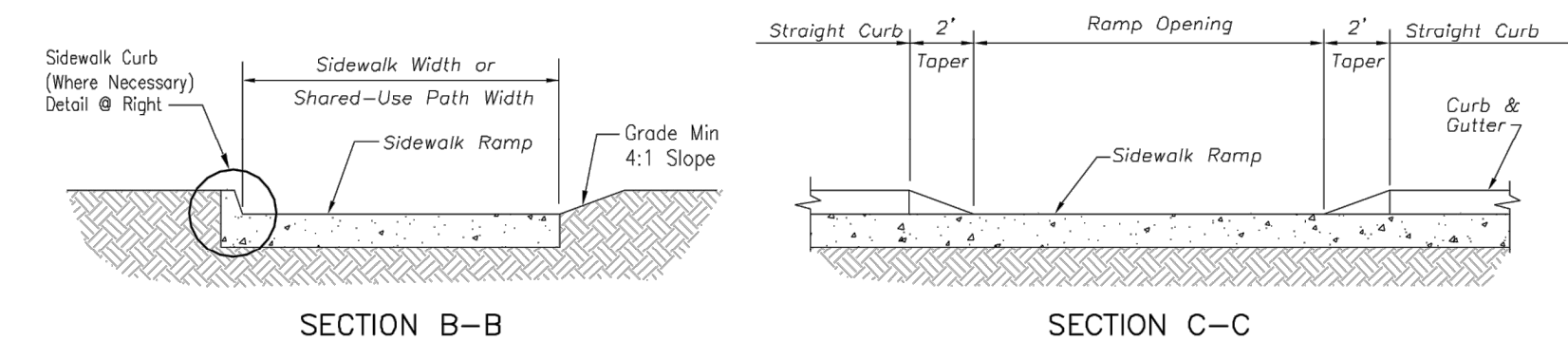
ALTERNATE DETECTABLE SURFACE LAYOUT

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
ADA MAXIMUM CROSS SLOPE = 2.0%

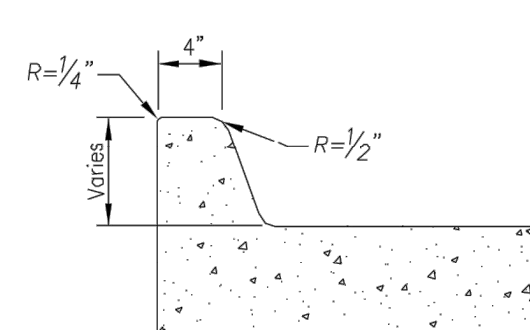
*ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, $\pm 0.5\%$.
7. TURNING SPACES SHALL BE 1.5%, $\pm 0.5\%$, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).



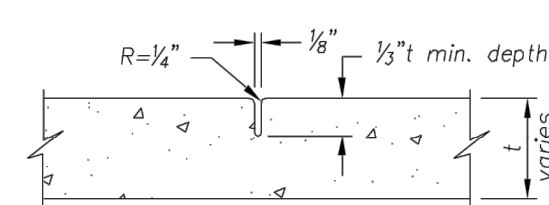
TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale



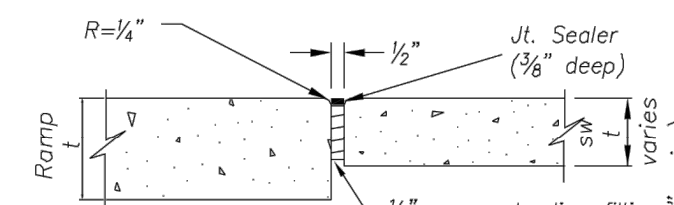
TYPE A & B SIDEWALK RAMP
Not to Scale



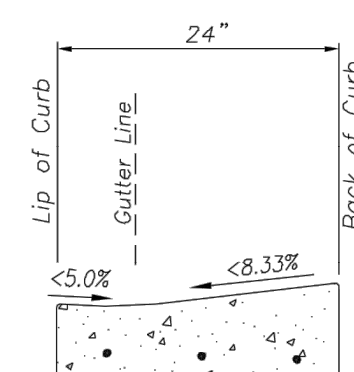
SIDEWALK CURB DETAIL
Not to Scale



CONTRACTION JOINT



ISOLATION JOINT



CURB & GUTTER DETAIL AT RAMP
Not to Scale

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-3A

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

ADA RAMP RETROFIT DETAIL

STANDARD DETAILS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
WOLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

[illegible]

REVISIONS

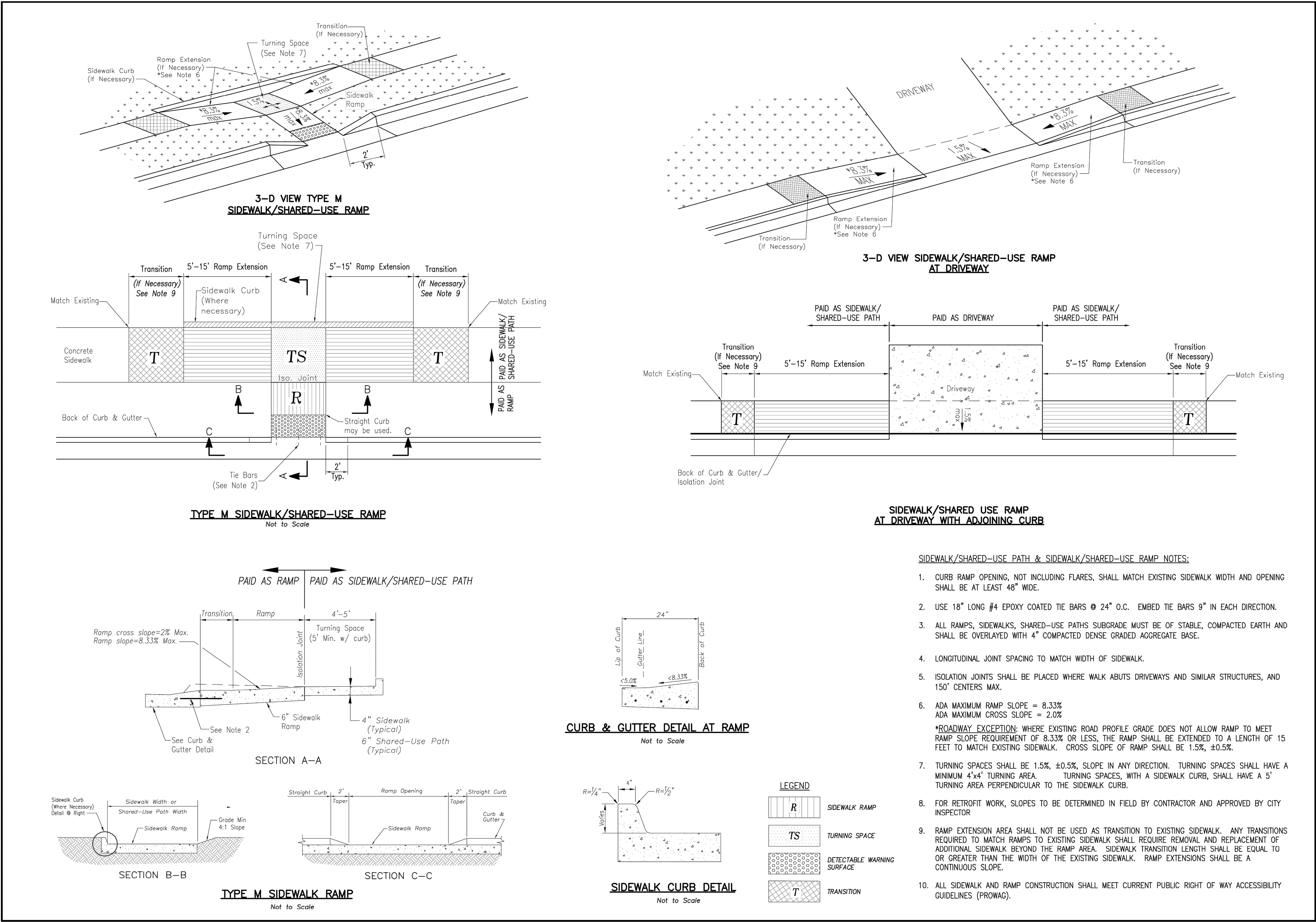


Olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_STD1 81450
DATE: 07.19.19

SHEET
T18 OF 70



LEE'S SUMMIT

MISSOURI

PROJECT: STANDARD DETAILS

CITY OF LEE'S SUMMIT, MO

LEE'S SUMMIT, JACKSON COUNTY, MO

SHEET NAME: ADA RAMP RETROFIT DETAIL

GEN-3B

Drawn By: MJF

Checked By: DL

Date: 04/17

Proj. #:

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olson.com

STATE OF MISSOURI

RYAN B. FLEWING

NUMBER

PE-2002003161

7-24-19

PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

STANDARD DETAILS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2019

C.O.A. NO.: 001592

DRAWN BY: AS

CHECKED BY: JKL

APPROVED BY: RBE

QA/QC BY: JKL/RBE

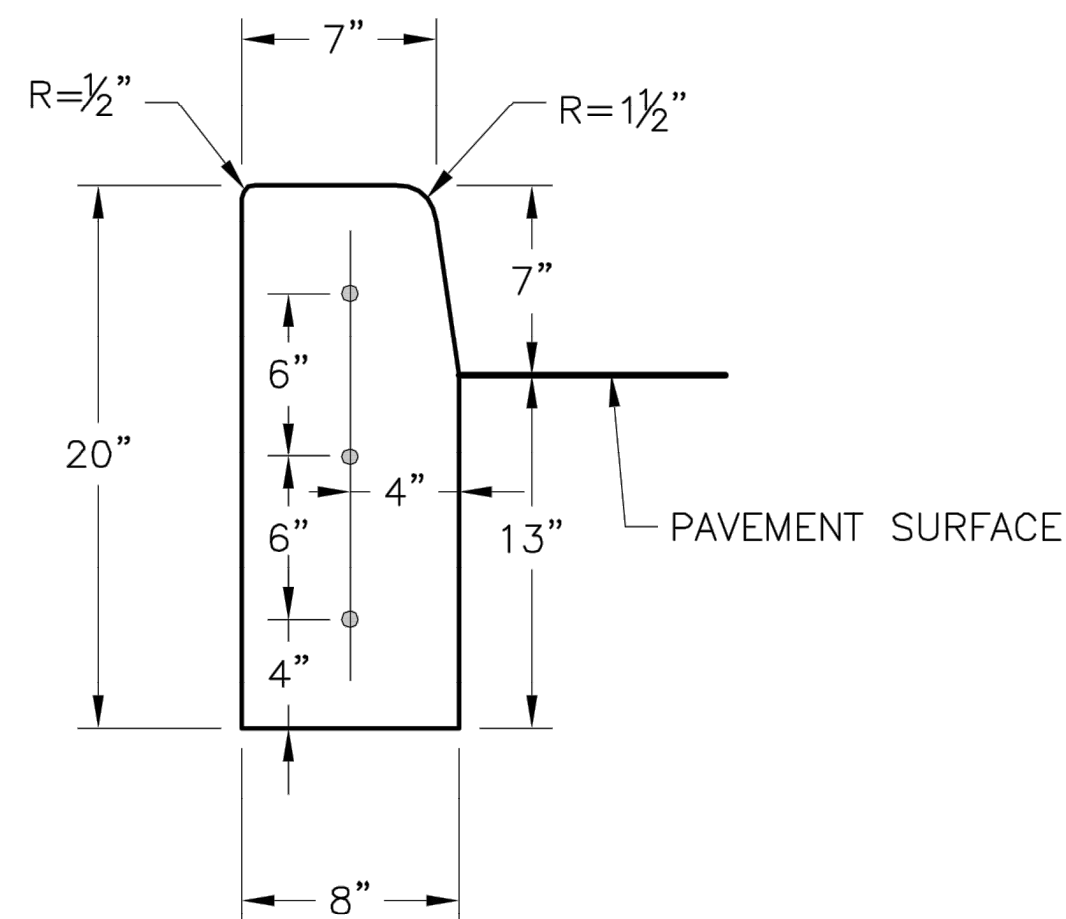
PROJECT NO.: 018-1450

DWG NO.: T_STD1_81450

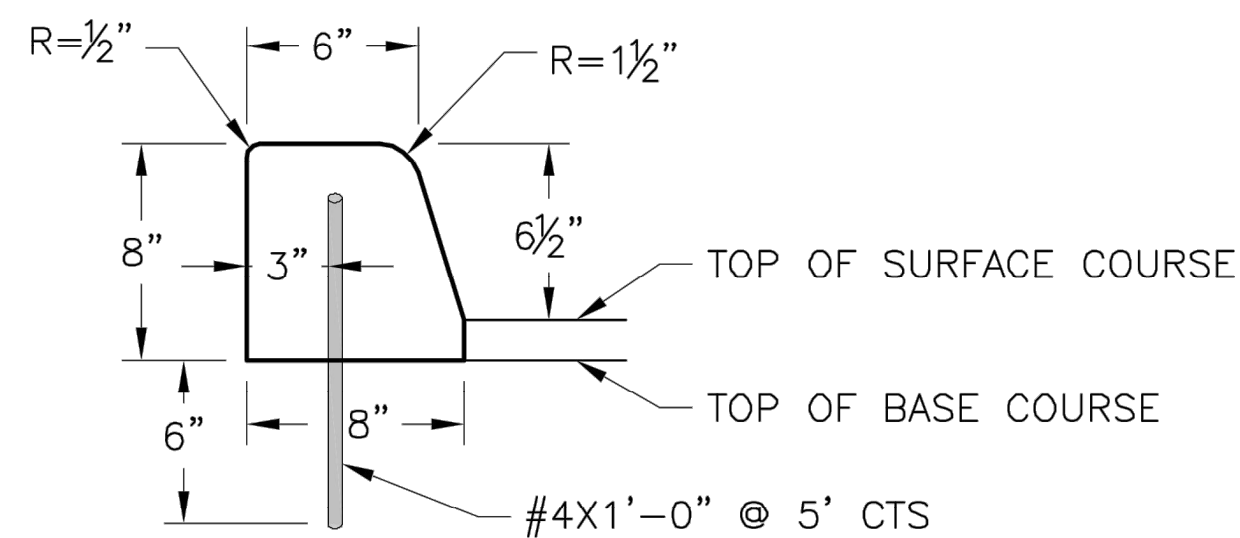
DATE: 07.19.19

SHEET

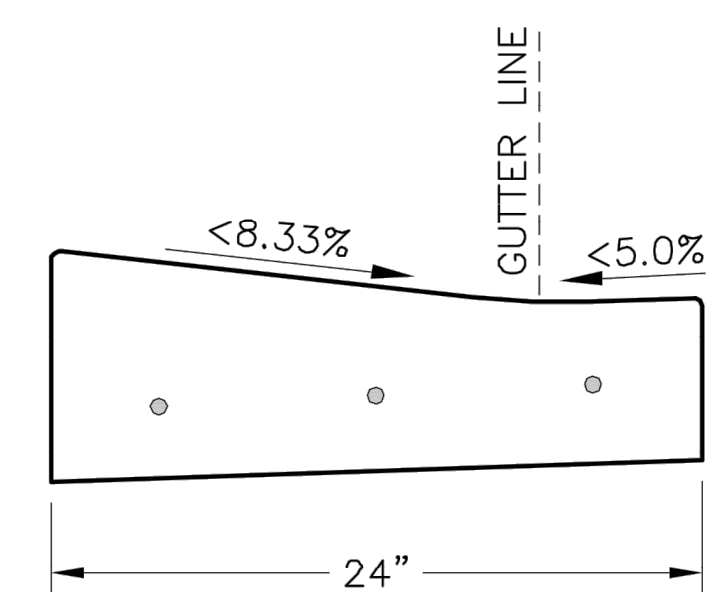
T19 OF 70



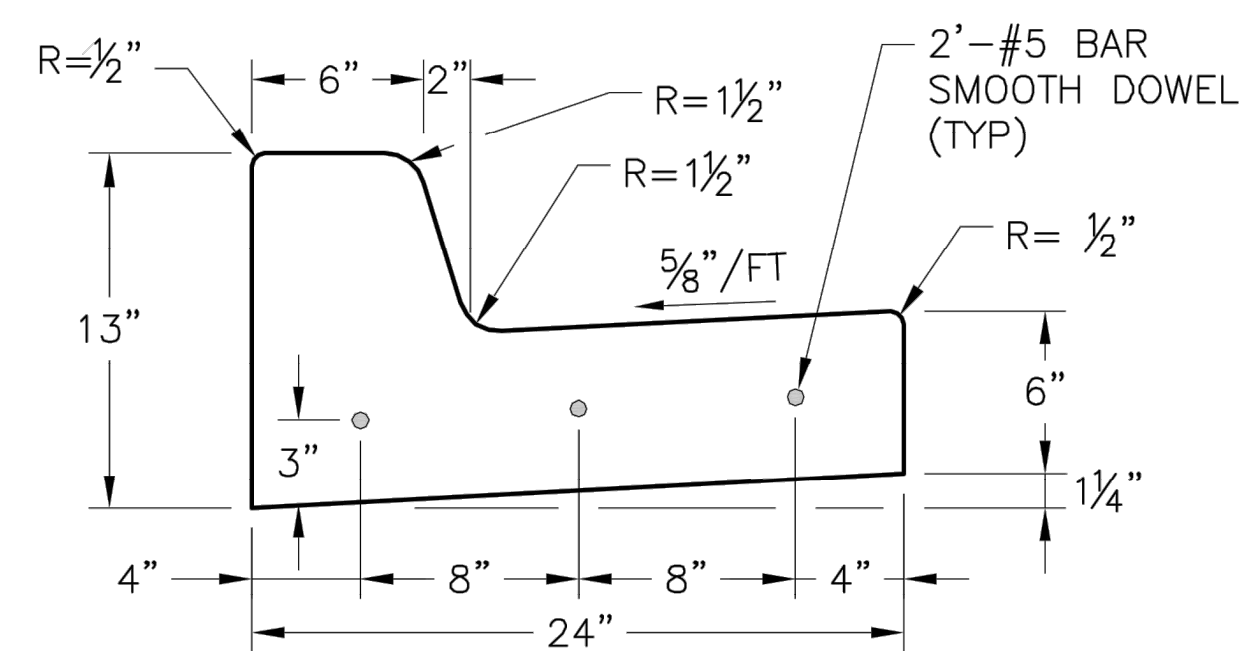
STRAIGHT CURB
(TYPE C-1)



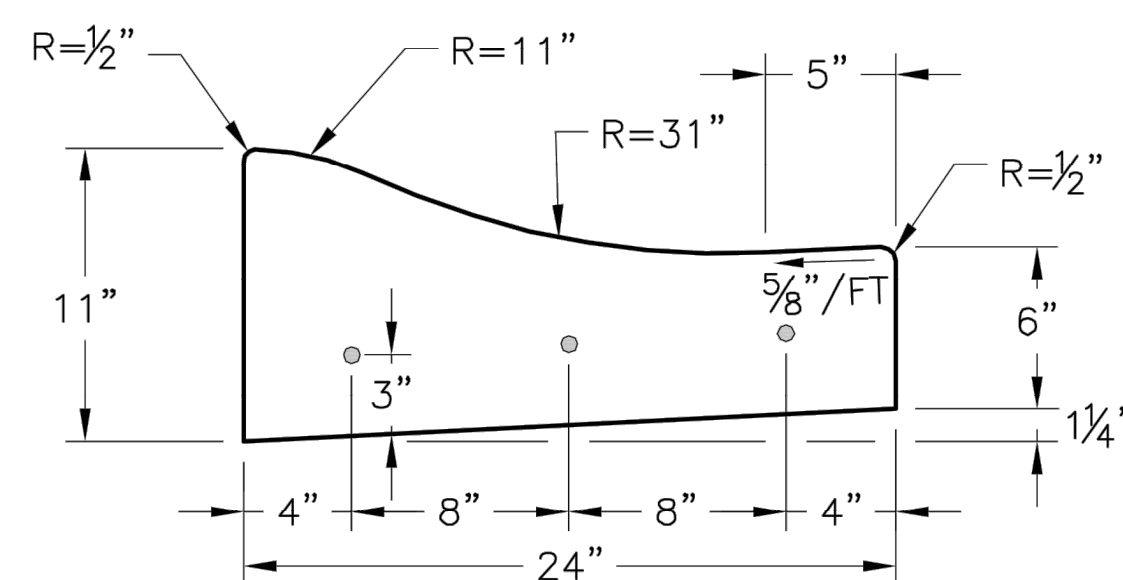
DOWELLED CURB
(TYPE DC)



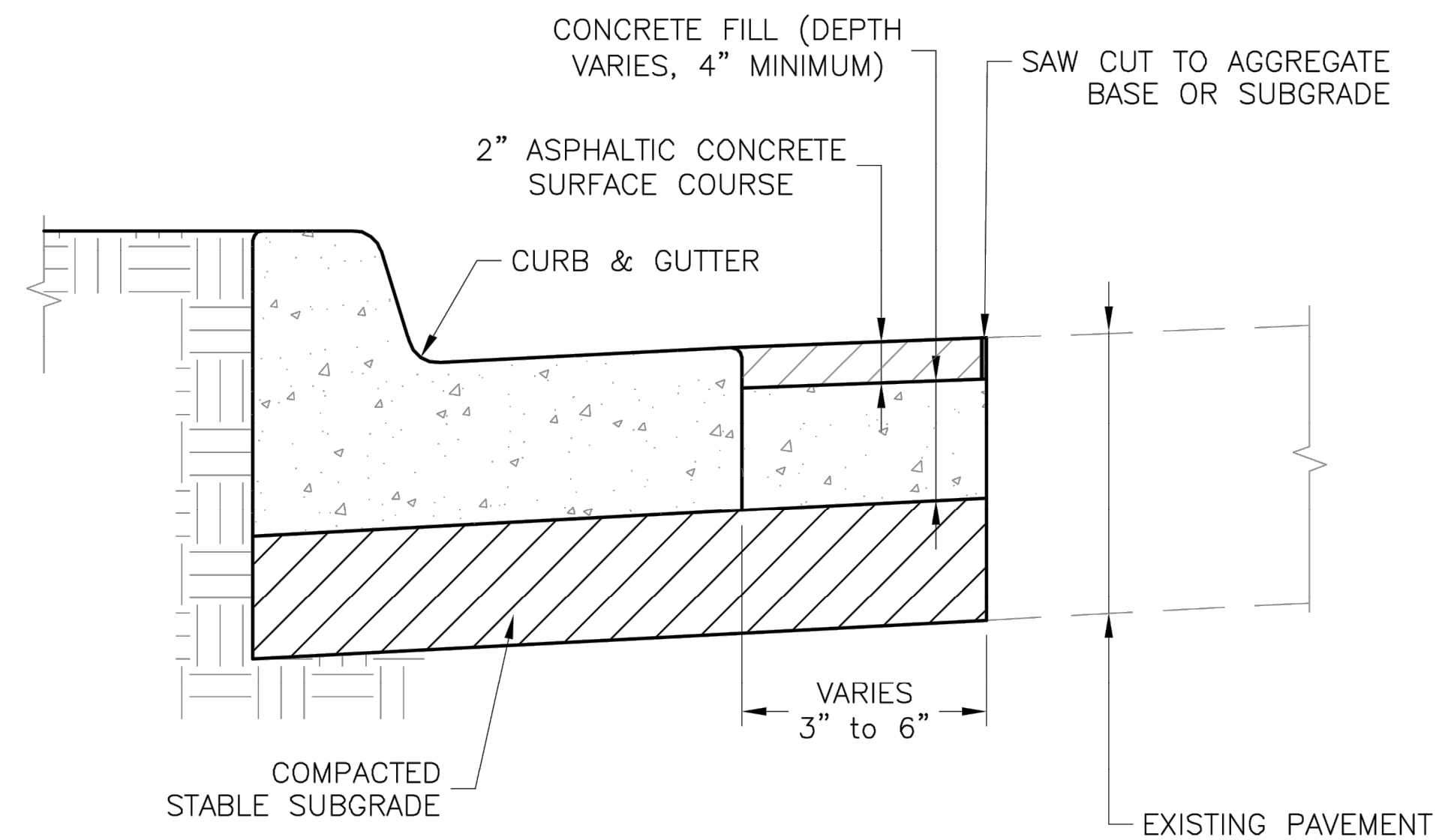
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



STRAIGHT BACK CURB &
GUTTER
(TYPE CG-1)



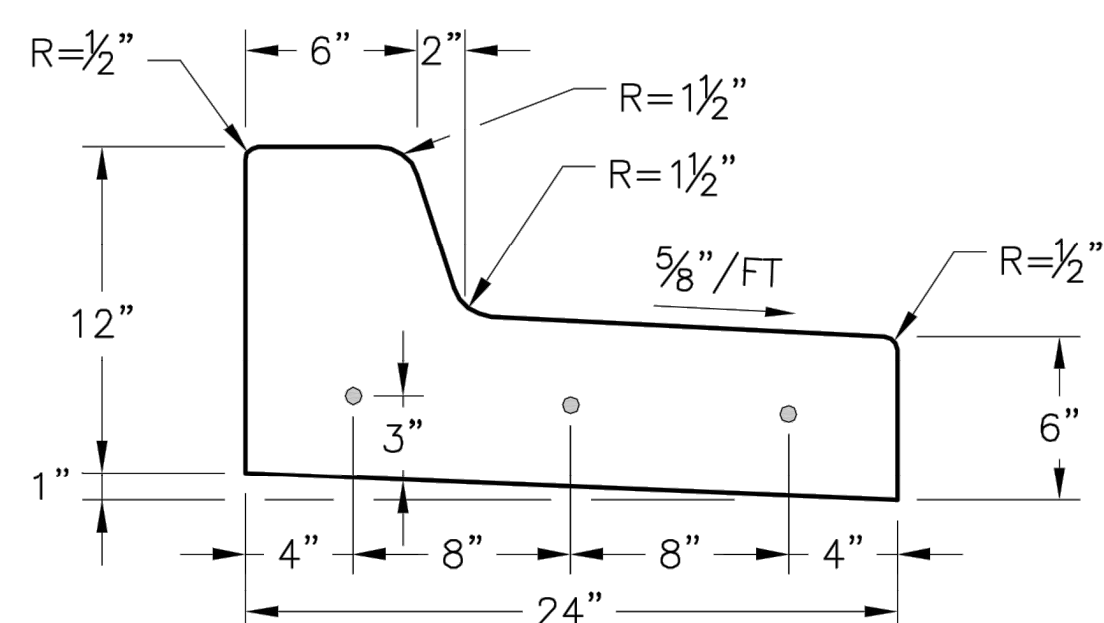
ROLL BACK CURB &
GUTTER
(TYPE CG-2)



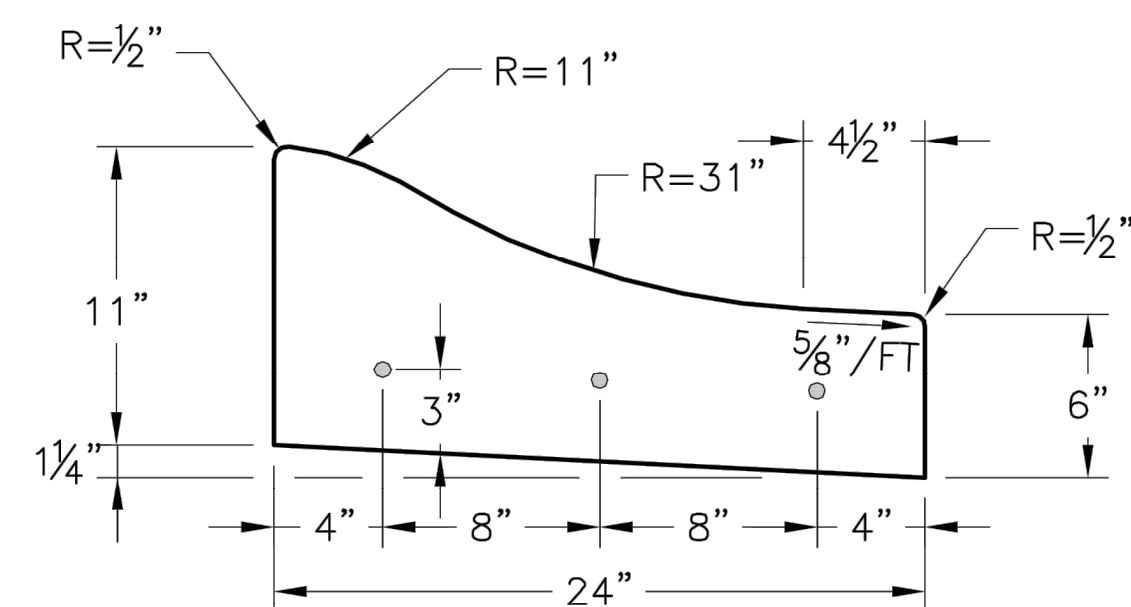
CURB REPLACEMENT DETAIL

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.



STRAIGHT BACK DRY CURB &
GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB &
GUTTER
(TYPE CG-2 DRY)

LS
LEE'S SUMMIT
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

CURB & GUTTER DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

GEN-4



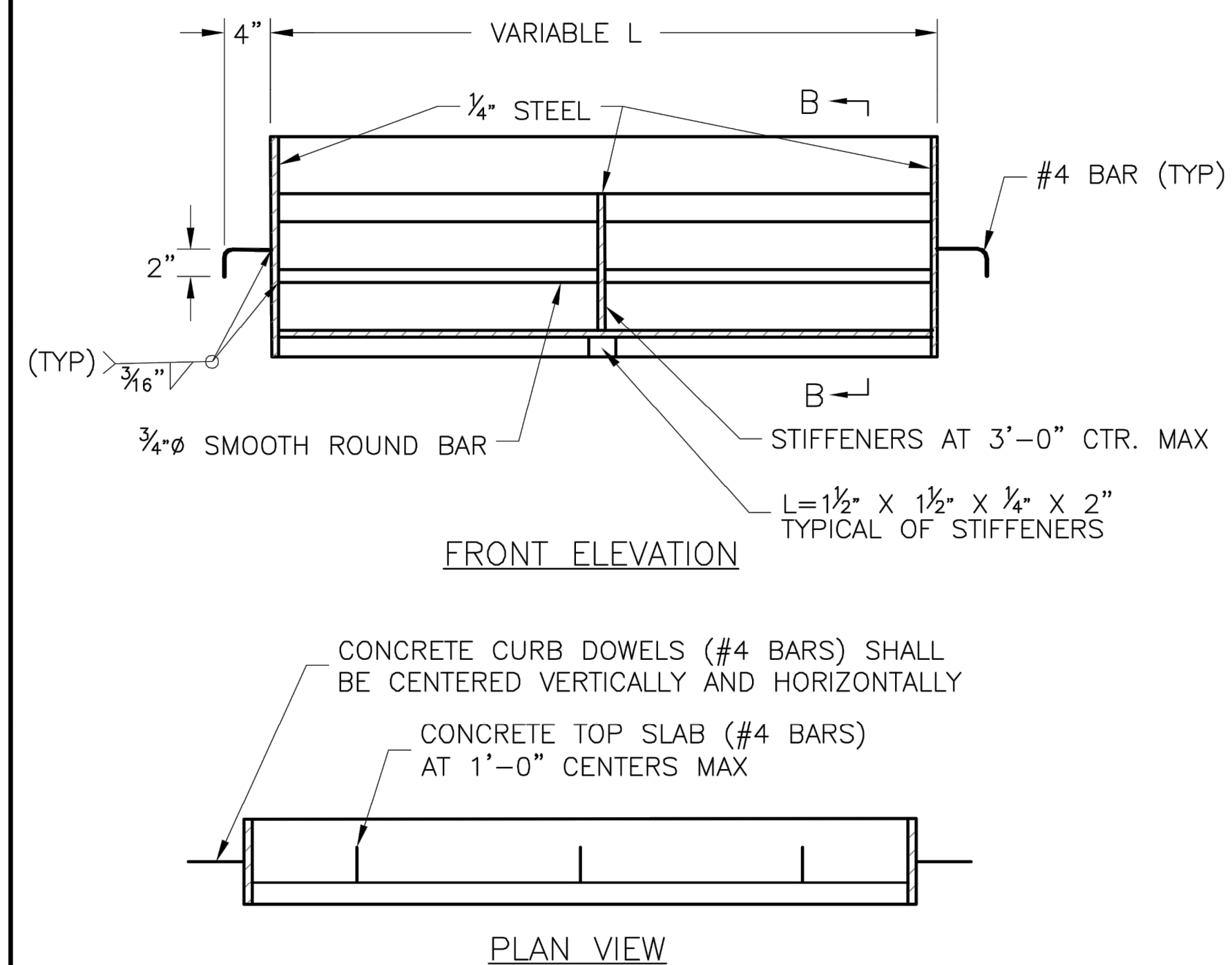
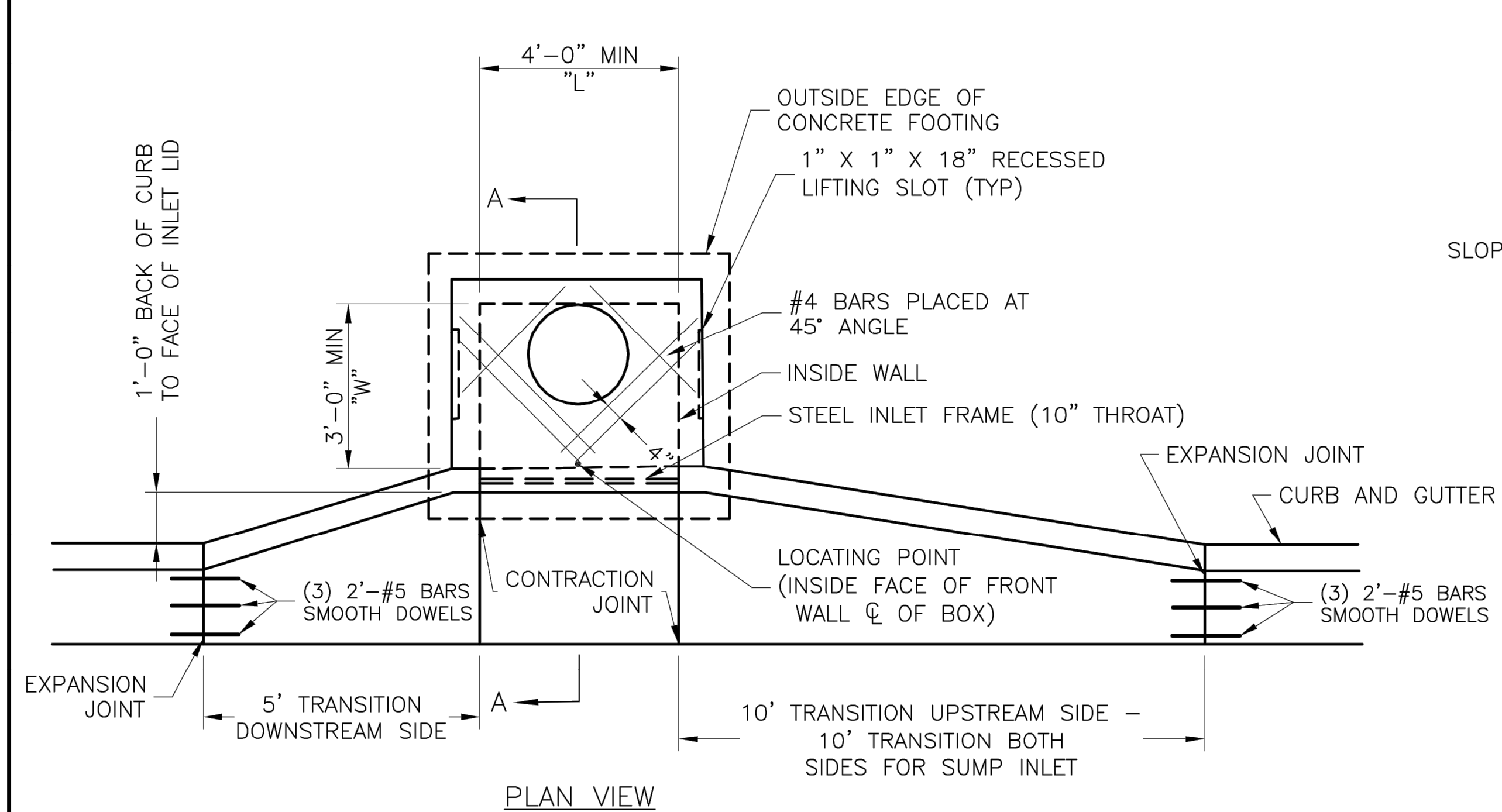
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

Olsson

[illegible]

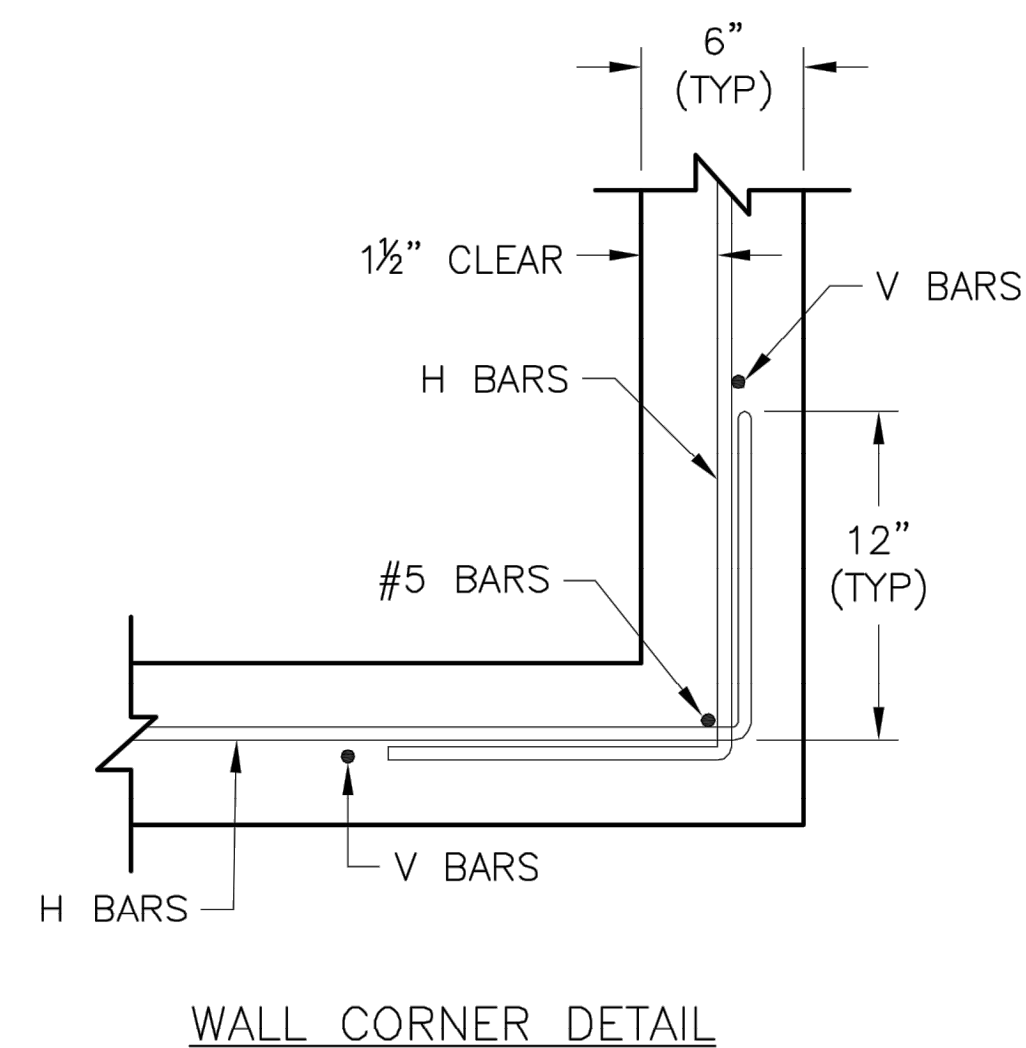
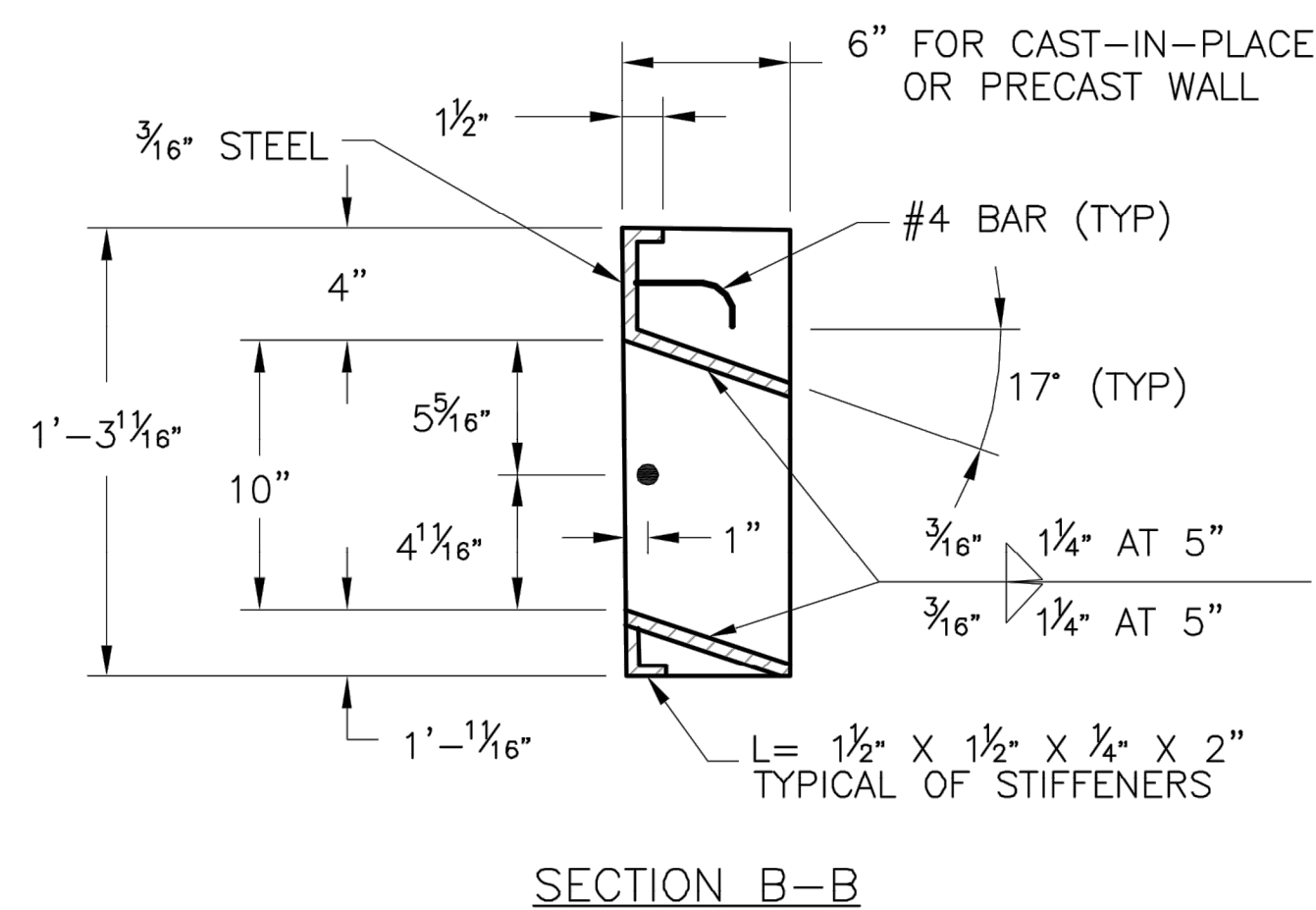
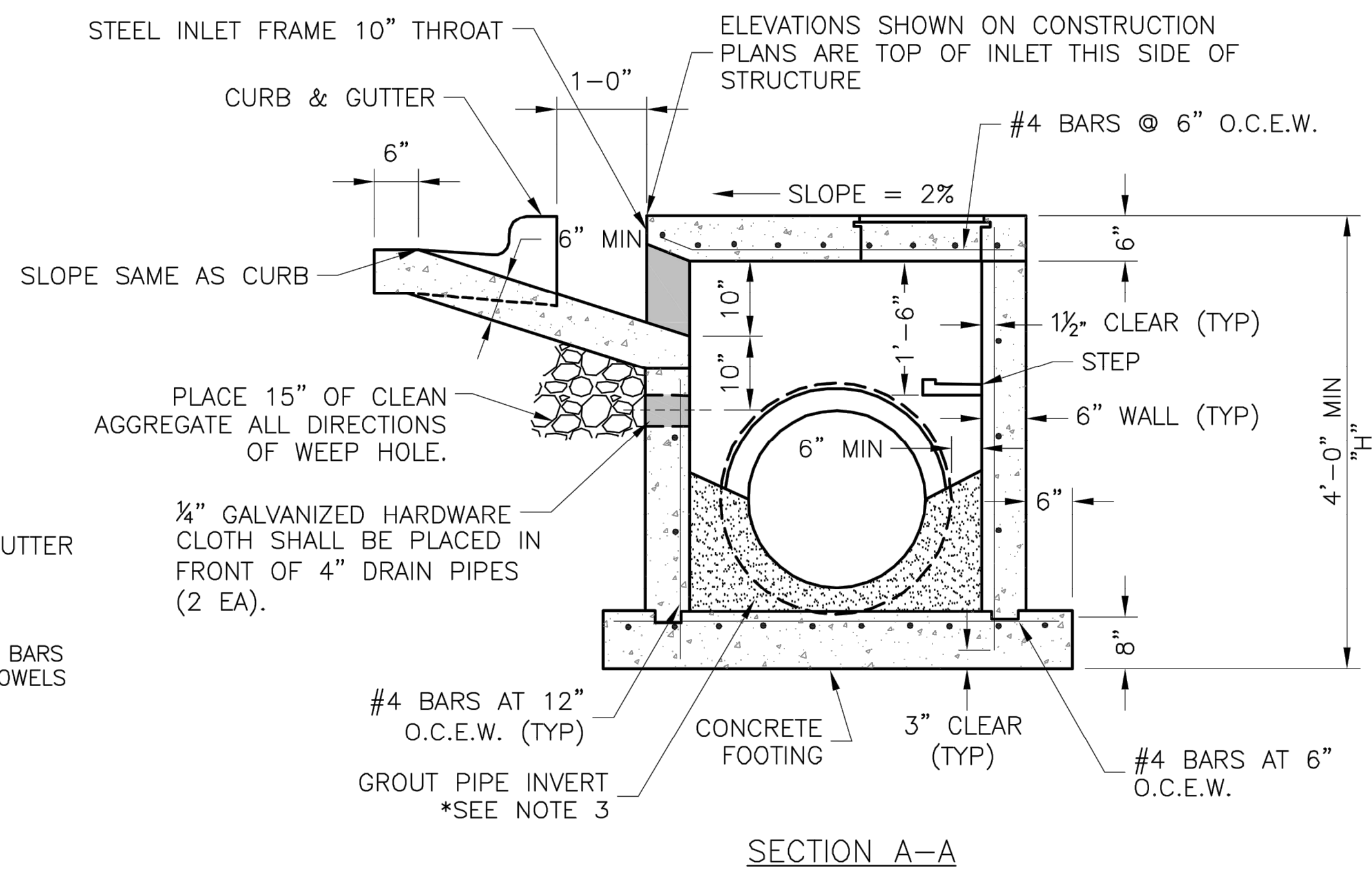
STANDARD DETAILS	
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	
LEE'S SUMMIT, MISSOURI	2019

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_STD1_81450
DATE: 07.19.19



STEEL FRAME NOTES:

1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM-PRIME #37H-78 PRIMER (GRAY) OR EQUAL.



GENERAL NOTES:

1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH 3/4" CHAMFER OR 1/2" TOOLED EDGE.
7. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON-SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

STM-1

LS **LEE'S SUMMIT**
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

CURB INLET DETAIL

Project:

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STANDARD DETAILS

STANDARD DETAILS	OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS
------------------	---

LEE'S SUMMIT, MISSOURI

[illegible]

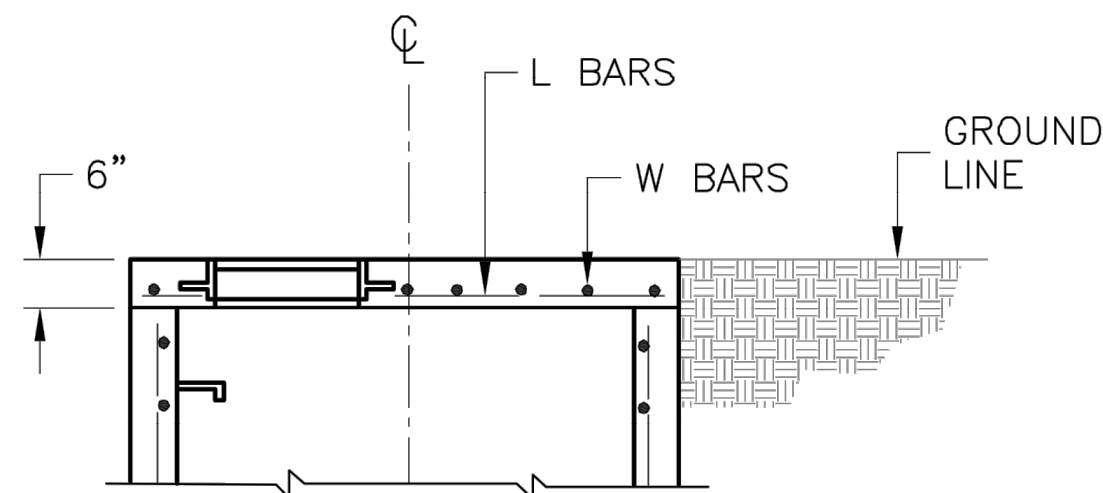
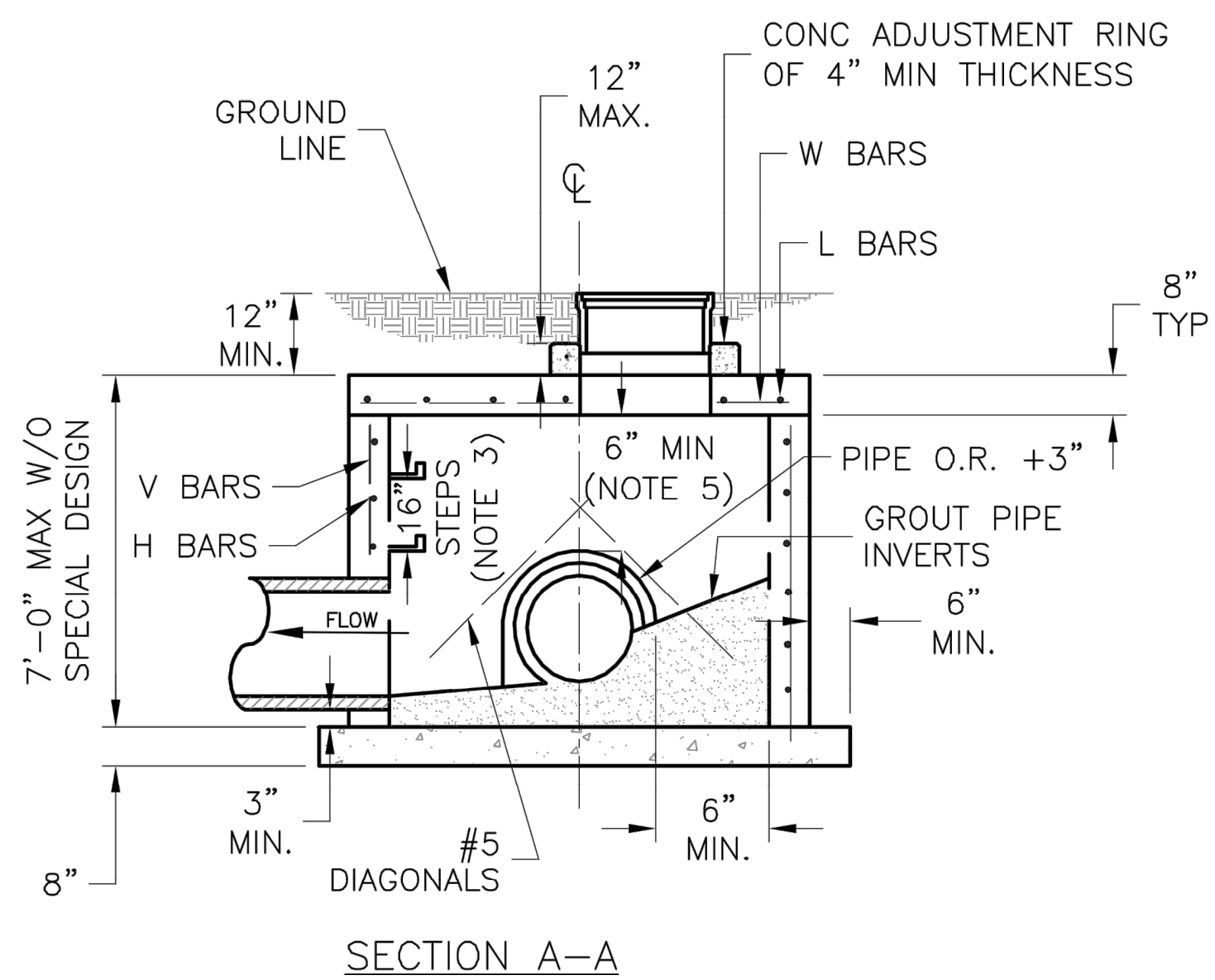
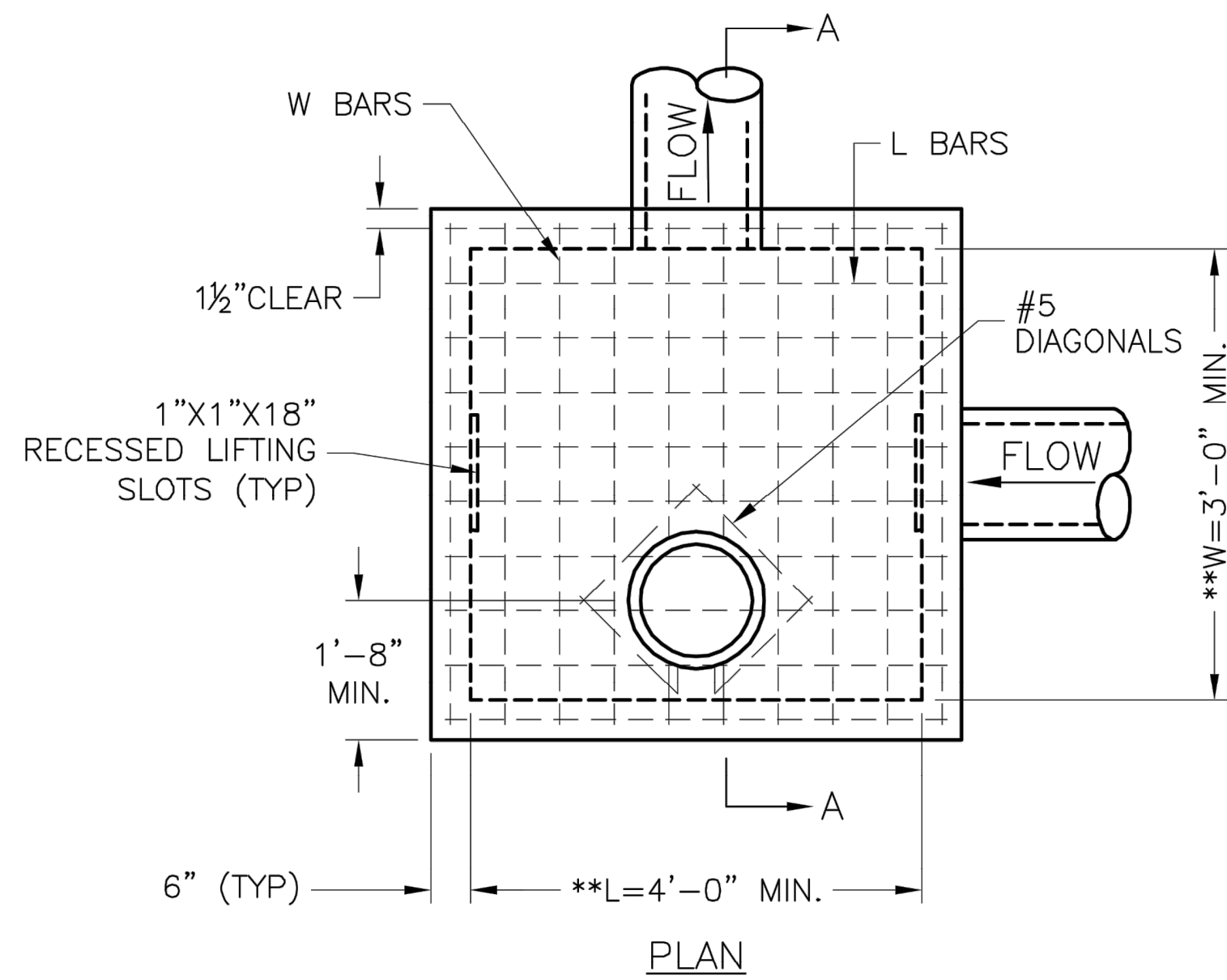
STATE OF MISSOURI
 RYAN B. FLEMING
 NUMBER
 PE-2002003161
 7-24-19
 PROFESSIONAL ENGINEER

olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_STD1_81450
DATE: 07.19.19

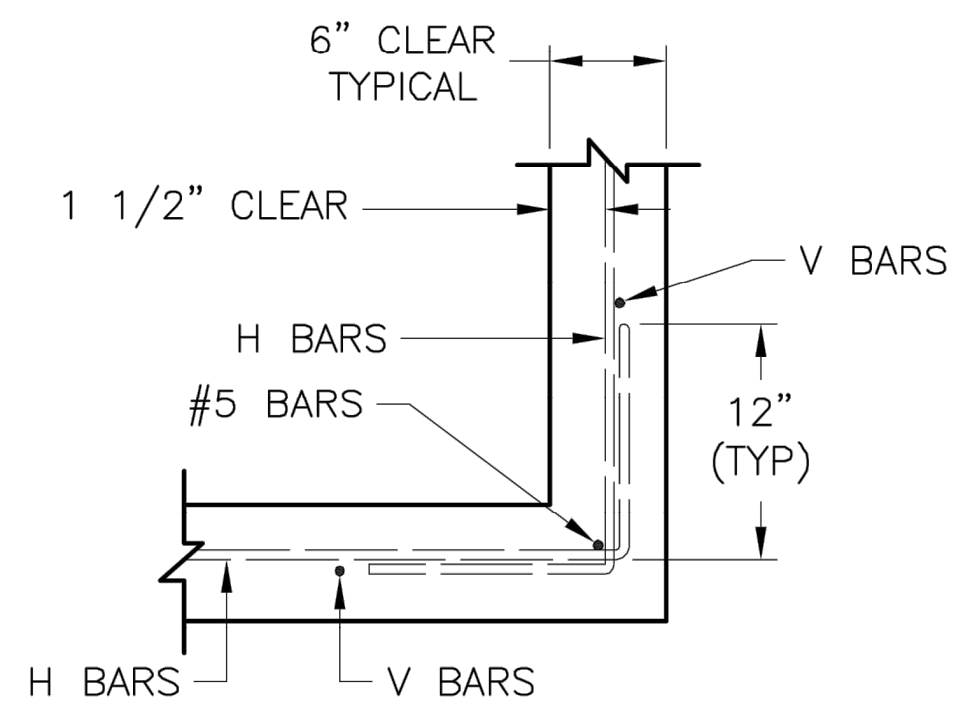
SHEET
T21 OF 70



SLAB TOP ALTERNATE FOR
JUNCTION BOX (SHALLOW)

** INCREASE IN MULTIPLES OF 6"
(7'-0") MAX WITHOUT SPECIAL DESIGN.
(SEE PROJECT PLANS FOR DETAILS)

REINFORCING		
BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6



WALL CORNER DETAIL

GENERAL NOTES:

1. LOCATE RING AND COVER ON BLANK WALL.
2. USE $\frac{3}{4}$ " CHAMFER STRIP OR $\frac{1}{2}$ " R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
5. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
6. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
7. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
8. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

STM-3

LS
LEE'S SUMMIT
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Object: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

JUNCTION BOX DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STANDARD DETAILS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

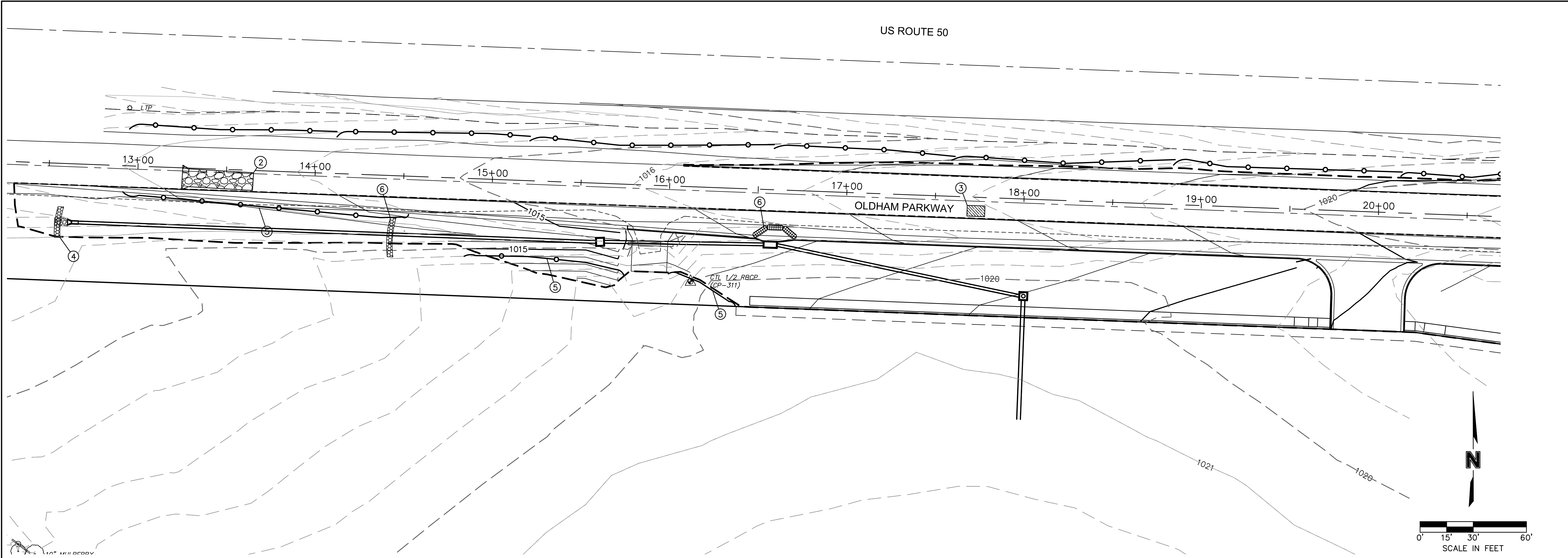
LEE'S SUMMIT, MISSOURI

olsson

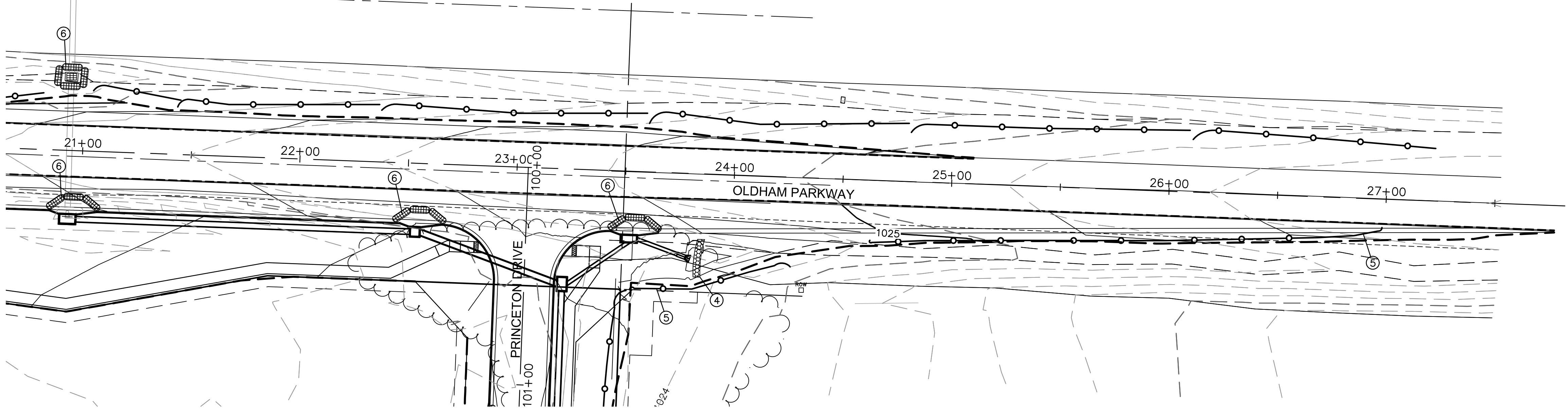
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Sheets\ROBBER\EROSION CONTROL PLANS\T_ERC1_81450.dwg
DATE: Jul 25, 2019 11:43am XREFS: t_phase_81450 T_PTBK_81450

USER: asaavedra

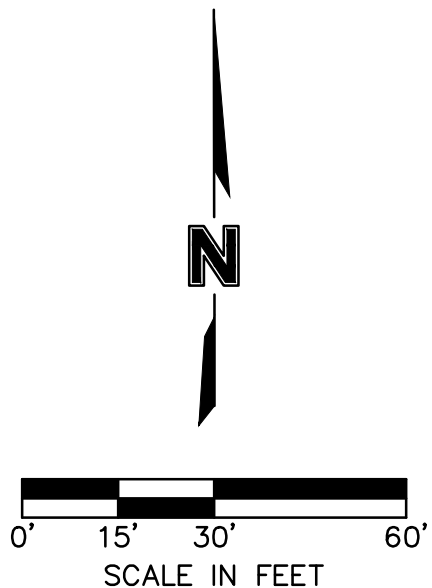


- NOTES:
- CONTRACTOR SHALL ADJUST SWPPP AND EROSION CONTROL PLANS PER PHASING AND FIELD CONDITIONS.
 - CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT CONFORMING TO THE LATEST EDITION OF THE CITY'S BMP MANUAL FOR LAND DISTURBANCE ACTIVITY. CONCRETE WASHOUT IS SUBSIDIARY TO OTHER EROSION CONTROL BID ITEMS. NO DIRECT PAY.
 - CONTRACTOR SHALL COORDINATE WITH THE CITY'S INSPECTOR TO DETERMINE THE LOCATION OF THE CONCRETE WASHOUT.
 - REFER TO PHASED EROSION CONTROL STAGING CHART.



EROSION AND SEDIMENT CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	STAGING AREA	C	
	2	TEMPORARY CONSTRUCTION ENTRANCE	C	
	3	CONCRETE WASHOUT	C	
	4	TYPE II DITCH CHECK		
	5	SILT FENCE AND/OR STRAW WATTLES	D	INSTALL BEFORE STORM SEWER INSTALLATION
B - ROADWAY GRADING & STORM SEWER INSTALLATION	N/A	EROSION AND SEDIMENT CONTROL	N/A	PERFORM MAINTENANCE ON ALL EROSION CONTROL MEASURES FOR ALL PREVIOUS PHASES AS NECESSARY.
C - PAVING	6	CURB INLET/AREA INLET PROTECTION	C	PROTECT ALL OPEN BOXES WITH SILT FENCE PER CURB INLET DETAIL
D - STABILIZE SITE	7	SEED & SOD	N/A	

- LEGEND
- SILT FENCE
 - CONSTRUCTION ENTRANCE
 - CONCRETE WASHOUT
 - TURF REINFORCEMENT MAT
 - OUTLET STABILIZATION
 - INLET PROTECTION
 - TYPE II DITCH CHECKS



olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olsson.com

STATE OF MISSOURI
RYAN B. FLEMING
NUMBER
PE-2002003161
1-24-19
PROFESSIONAL ENGINEER

BY
REVISIONS DESCRIPTION
DATE
REV. NO.

REVISIONS

EROSION CONTROL PLANS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

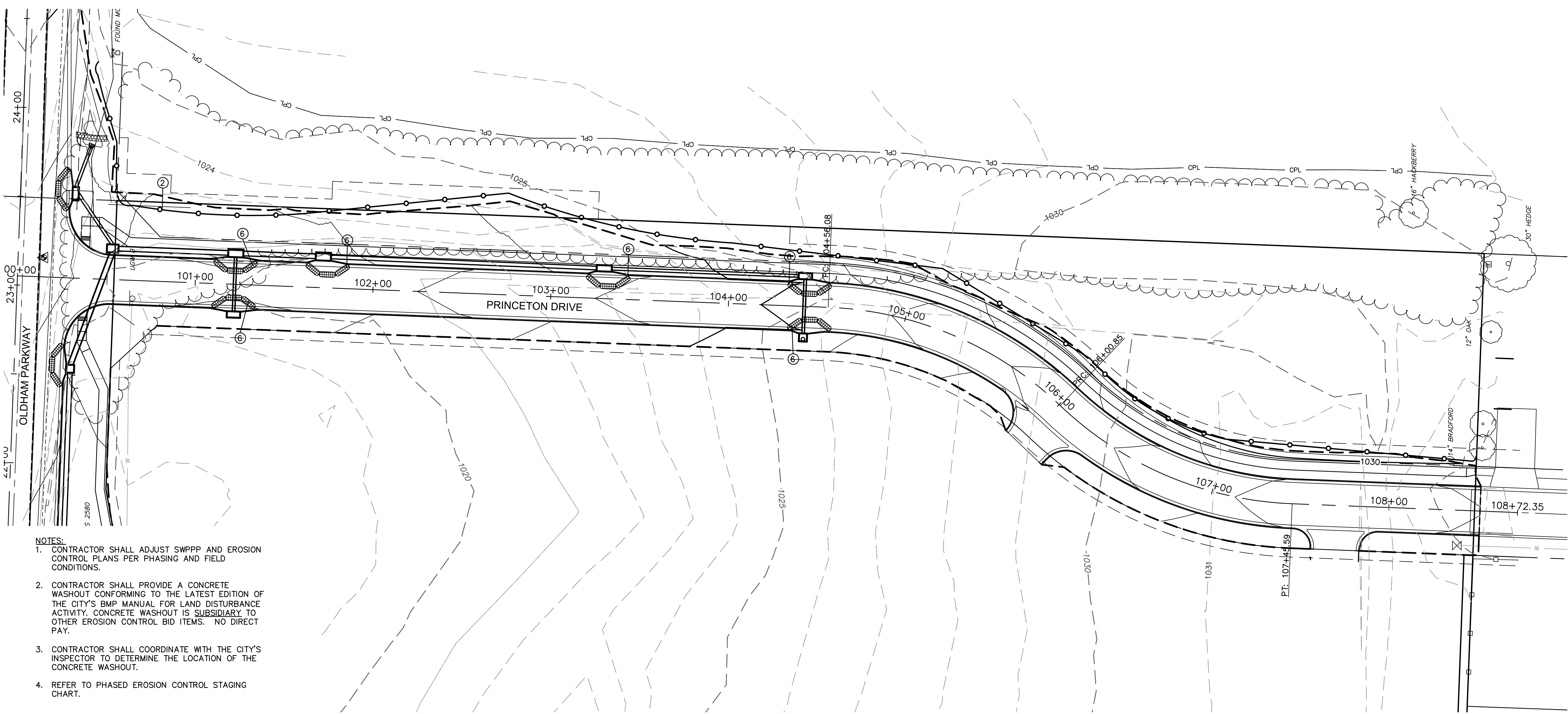
LEE'S SUMMIT, MISSOURI

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
QA/QC BY: JKL/RBE
PROJECT NO.: 018-1450
DWG NO.: T_ERC1_81450
DATE: 07.19.19

SHEET
T23 OF 70

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final_Plans\Sheets\ROBBER\EROSION CONTROL PLANS\I_ERC1_81450.dwg
DATE: Jul 25, 2019 9:27am XREFS: t_ptblk_81450 V_TOPO_81450 USER: asaavedra

EROSION AND SEDIMENT CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	STAGING AREA	C	
	2	TEMPORARY CONSTRUCTION ENTRANCE	C	
	3	CONCRETE WASHOUT	C	
	4	TYPE II DITCH CHECK		INSTALL BEFORE STORM SEWER INSTALLATION
	5	SILT FENCE AND/OR STRAW WATTLES	D	
B - ROADWAY GRADING & STORM SEWER INSTALLATION	N/A	EROSION AND SEDIMENT CONTROL	N/A	PERFORM MAINTENANCE ON ALL EROSION CONTROL MEASURES FOR ALL PREVIOUS PHASES AS NECESSARY.
C - PAVING	6	CURB INLET/AREA INLET PROTECTION	C	PROTECT ALL OPEN BOXES WITH SILT FENCE PER CURB INLET DETAIL
D - STABILIZE SITE	7	SEED & SOD	N/A	



- NOTES:
- CONTRACTOR SHALL ADJUST SWPPP AND EROSION CONTROL PLANS PER PHASING AND FIELD CONDITIONS.
 - CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT CONFORMING TO THE LATEST EDITION OF THE CITY'S BMP MANUAL FOR LAND DISTURBANCE ACTIVITY. CONCRETE WASHOUT IS SUBSIDIARY TO OTHER EROSION CONTROL BID ITEMS. NO DIRECT PAY.
 - CONTRACTOR SHALL COORDINATE WITH THE CITY'S INSPECTOR TO DETERMINE THE LOCATION OF THE CONCRETE WASHOUT.
 - REFER TO PHASED EROSION CONTROL STAGING CHART.

LEGEND

- SILT FENCE
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- TURF REINFORCEMENT MAT
- OUTLET STABILIZATION
- INLET PROTECTION
- TEMPORARY ROCK DITCH CHECKS

North Arrow

0' 15' 30' 60'

SCALE IN FEET

erosion control plans

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

2019

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

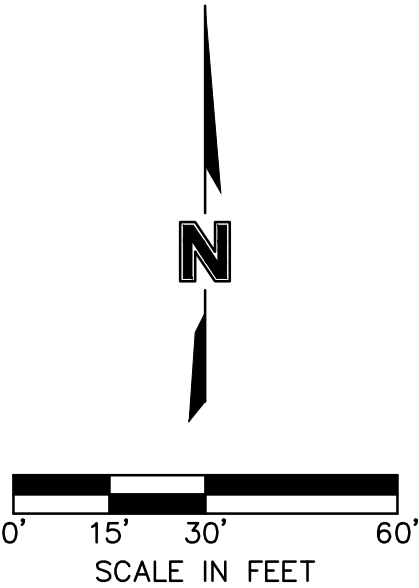
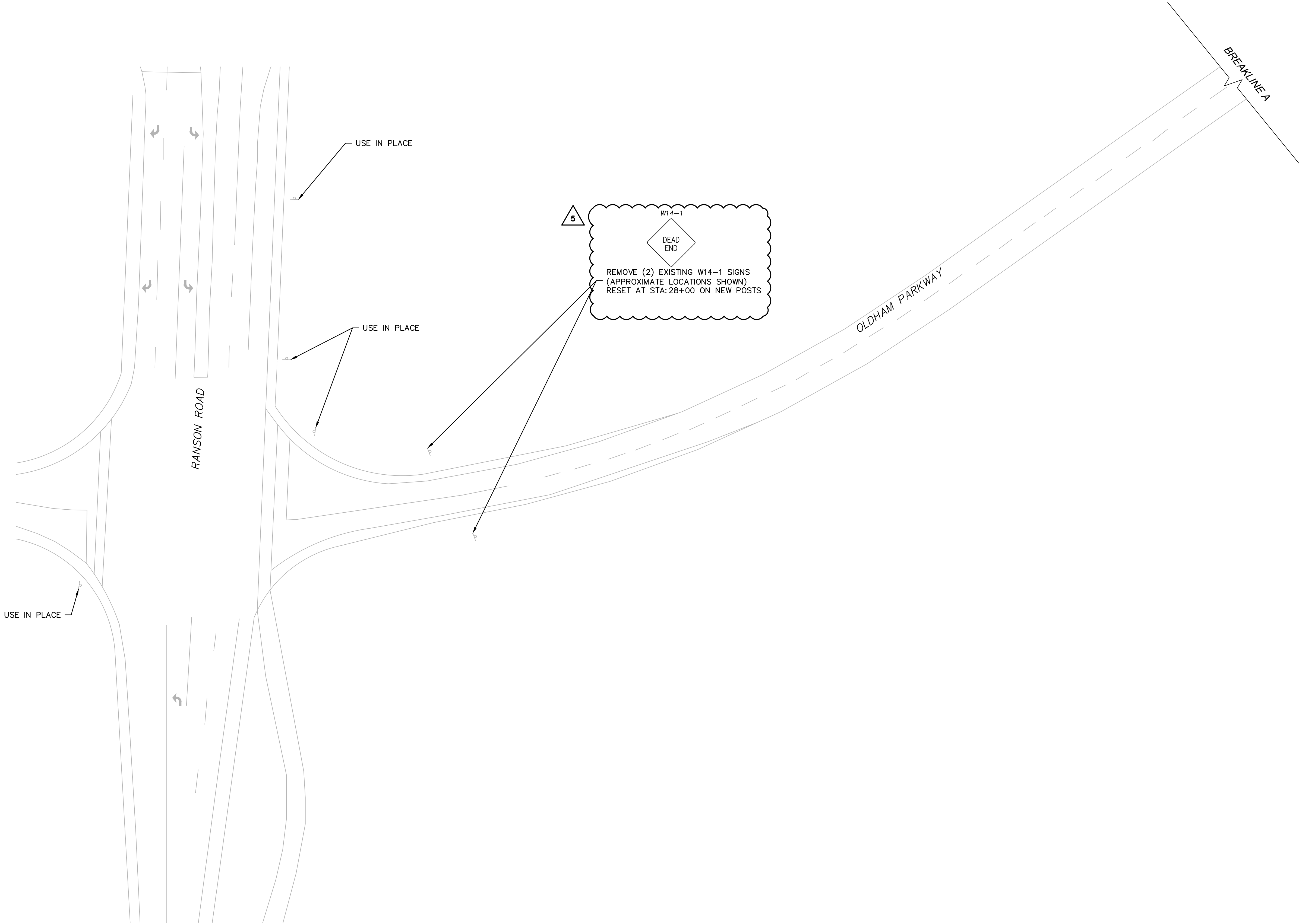
olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olson.com

STATE OF MISSOURI
RYAN B. FLEMING
NUMBER
PE-2002003161
7-24-19
PROFESSIONAL ENGINEER

SHEET
T24 OF 70

DWG: C:\Temp\AcPublish_13604\T_SAS01_81450.dwg USER: jclenence F_PBASE_SAS_81450 F_PTBLK_81450
DATE: Aug 14, 2019 2:44pm XREFS: t_pbase_81450 T_PTBLK_81450 V_TOPO_81450



PAVEMENT MARKING AND SIGNING		REV.	DATE	REVISIONS DESCRIPTION	BY
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS		5	08/14/2019	ModOT Review Comments	JRC
LEE'S SUMMIT, MISSOURI		REVISIONS			
		2019			

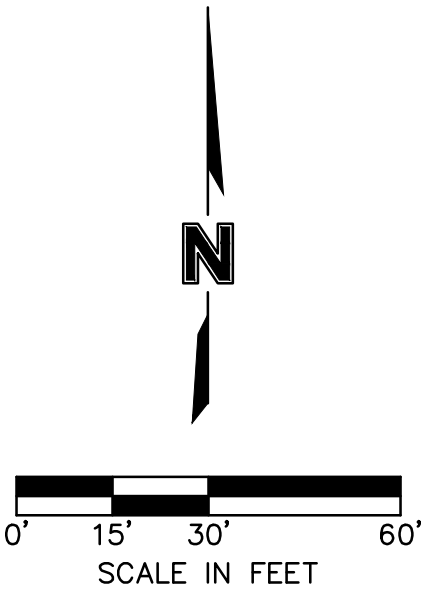
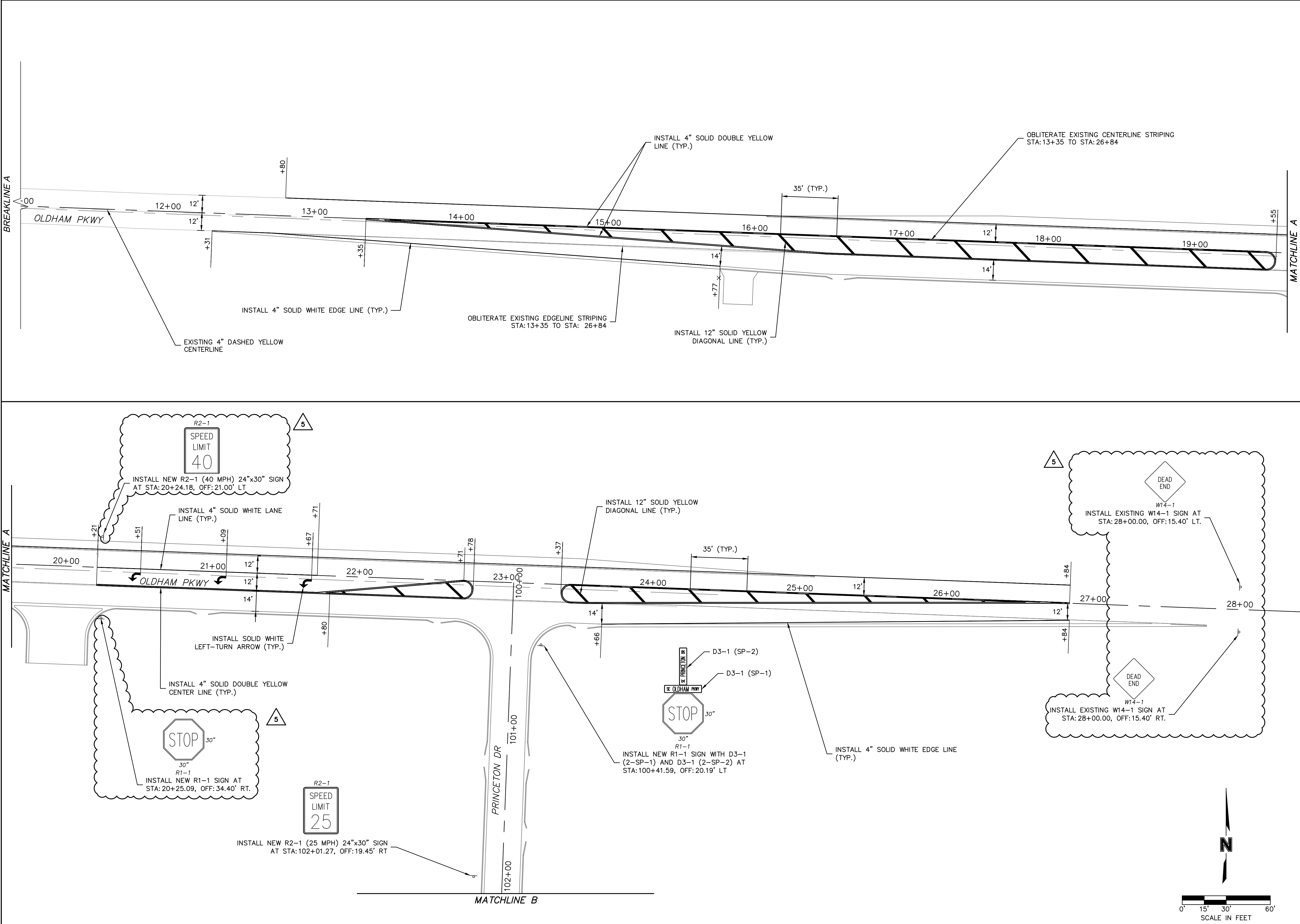
C.O.A. NO.: 001592
DRAWN BY: L
CHECKED BY: JAC
APPROVED BY: JSS
QA/QC BY: JSS
PROJECT NO.: 018-1450
DWG NO.: T_SAS01_81450
DATE: 07.19.19



olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170 www.olson.com
Overland Park, KS 66213-4760 FAX 913.381.1174

DWG: C:\Temp\AcPublish_13604\T_SAS01_81450.dwg
DATE: Aug 14, 2019 2:44pm
USER: jclenence
T_PTBK_81450
F_PBASE_81450
V_TOPO_81450
F_PBASE_73552
MATCHLINE A
F_PBASE_SAS_81450
F_PTBK_81450



olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olsson.com

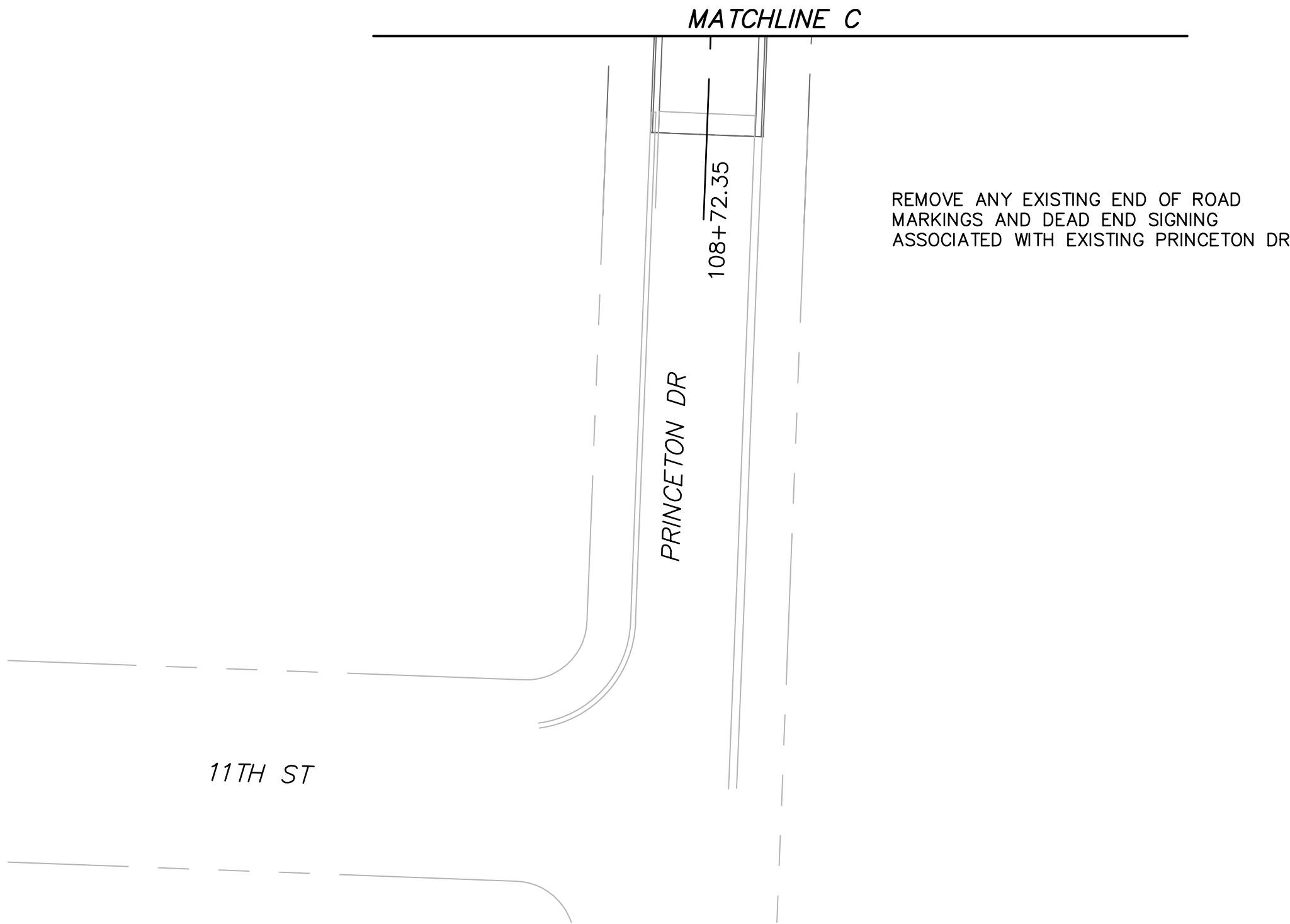
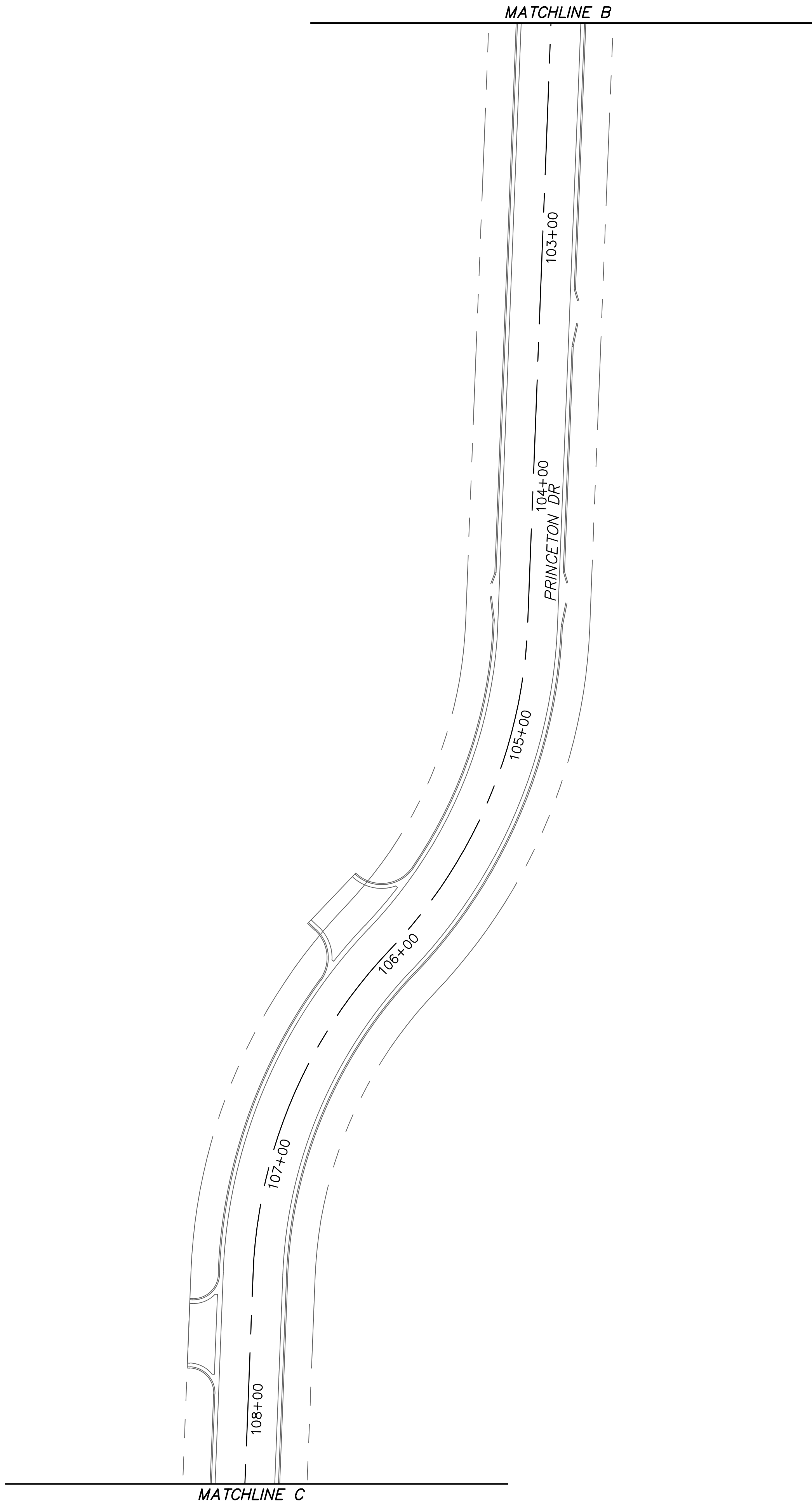
STATE OF MISSOURI
JEREMY BOOT
STREET
NUMBER
FE-2017023856
8.14.19
PROFESSIONAL ENGINEER

BY: JRC
REV. NO. 5
DATE 08/14/2019
REVISIONS DESCRIPTION
ModOT Review Comments
REVISIONS

PAVEMENT MARKING AND SIGNING
OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS
LEE'S SUMMIT, MISSOURI
2019

C.O.A. NO.: 001592
DRAWN BY: LK
CHECKED BY: JAC
APPROVED BY: JSS
QA/QC BY: JSS
PROJECT NO.: 018-1450
DWG NO.: T_SAS01_81450
DATE: 07.19.19

SHEET
T26 OF 70

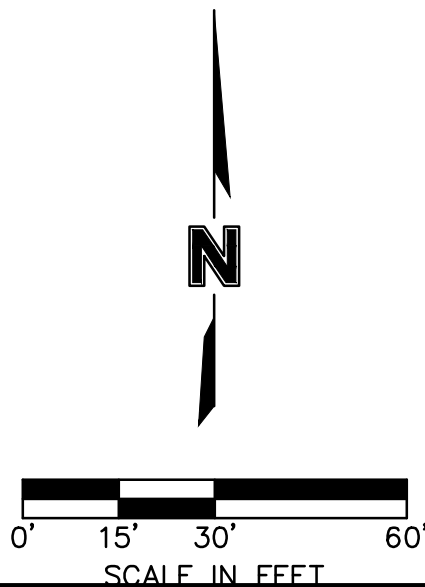


PAVEMENT MARKING SUMMARY						
STATION TO STATION		LOCATION	4" SOLID WHITE LANE LINES (LF) *	4" SOLID YELLOW LANE LINE (LF) *	12" YELLOW CROSSHATCH LINES (LF) *	WHITE TURN ARROWS (EA) **
13+35	19+55	OLDHAM		2480		LT.
13+35	19+55	OLDHAM			178	
12+31	15+77	OLDHAM	346			
20+21	21+71	OLDHAM	150			
20+21	22+78	OLDHAM		710		
20+51		OLDHAM				1
21+09		OLDHAM				1
21+67		OLDHAM				1
21+80	22+78	OLDHAM			25	
23+37	26+84	OLDHAM		1388		
23+37	26+84	OLDHAM			65	
23+66	26+84	OLDHAM	318			
12+80	26+84	OLDHAM	1404			
TOTALS			2218	4578	268	3

*ALL PAVEMENT MARKINGS ON ASPHALT SHALL BE THERMOPLASTIC
**PAVEMENT MARKINGS SHALL BE PRE-FORMED THERMOPLASTIC

PERMANENT SIGNING SUMMARY ***						
STATION	STREET REFERENCE	OFFSET FROM CL	MUTCD DESIGNATION	SIGN SIZE	AREA (S.F.) MEP SIGNS	POST TYPE
APPROX.	OLDHAM	-	W14-1 (2)	EXISTING	EXISTING	REMOVE (2)
20+24.18	OLDHAM	21.00'L	R2-1	24"x30"	5	SQUARE
20+25.09	OLDHAM	34.40'R	R1-1	30"x30"	5.18	SQUARE
28+00.00	OLDHAM	15.40'R	W14-1	EXISTING	EXISTING	SQUARE
28+00.00	OLDHAM	15.40'L	W14-1	EXISTING	EXISTING	SQUARE
100+41.59	PRINCETON	20.19'L	R1-1	30"x30"	5.18	SQUARE
100+41.59	PRINCETON	20.19'L	D3-1 (SP-1) (2)	9"x48"	3 (2)	SHARED
100+41.59	PRINCETON	20.19'L	D3-1 (SP-2) (2)	9"x48"	3 (2)	SHARED
102+1.27	PRINCETON	19.45'R	R2-1	24"x30"	5	SQUARE
TOTALS				32.36 SF	6 EA	

***ALL SIGNS REMOVED SHALL BE SUBSIDIARY TO NEW SIGNING



olsson

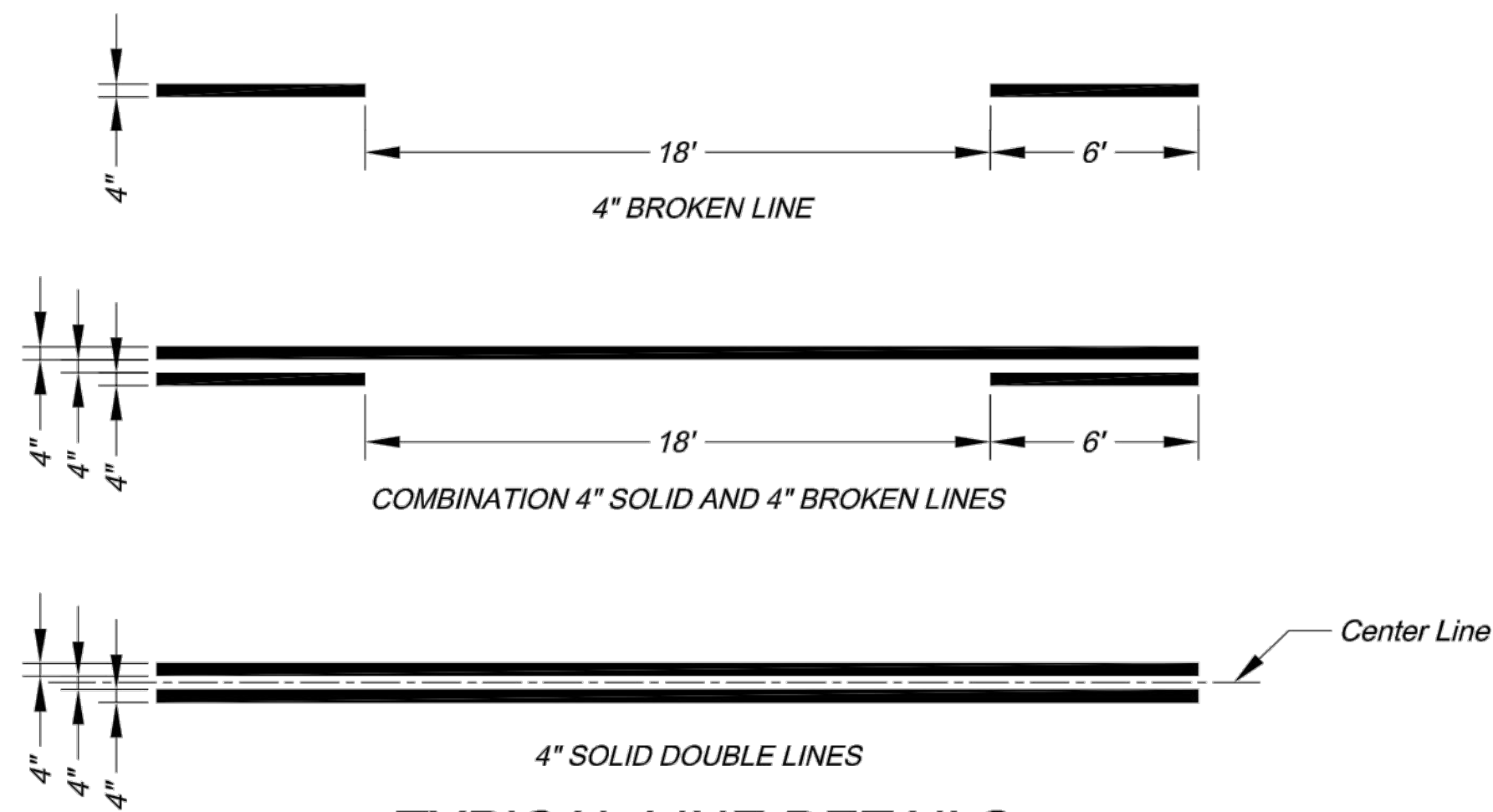
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4760
TEL 913.381.1170
FAX 913.381.1174
www.olsson.com

BY	JRC
REVISIONS DESCRIPTION	
DATE	08/14/2019
REV. NO.	5
REVISIONS	

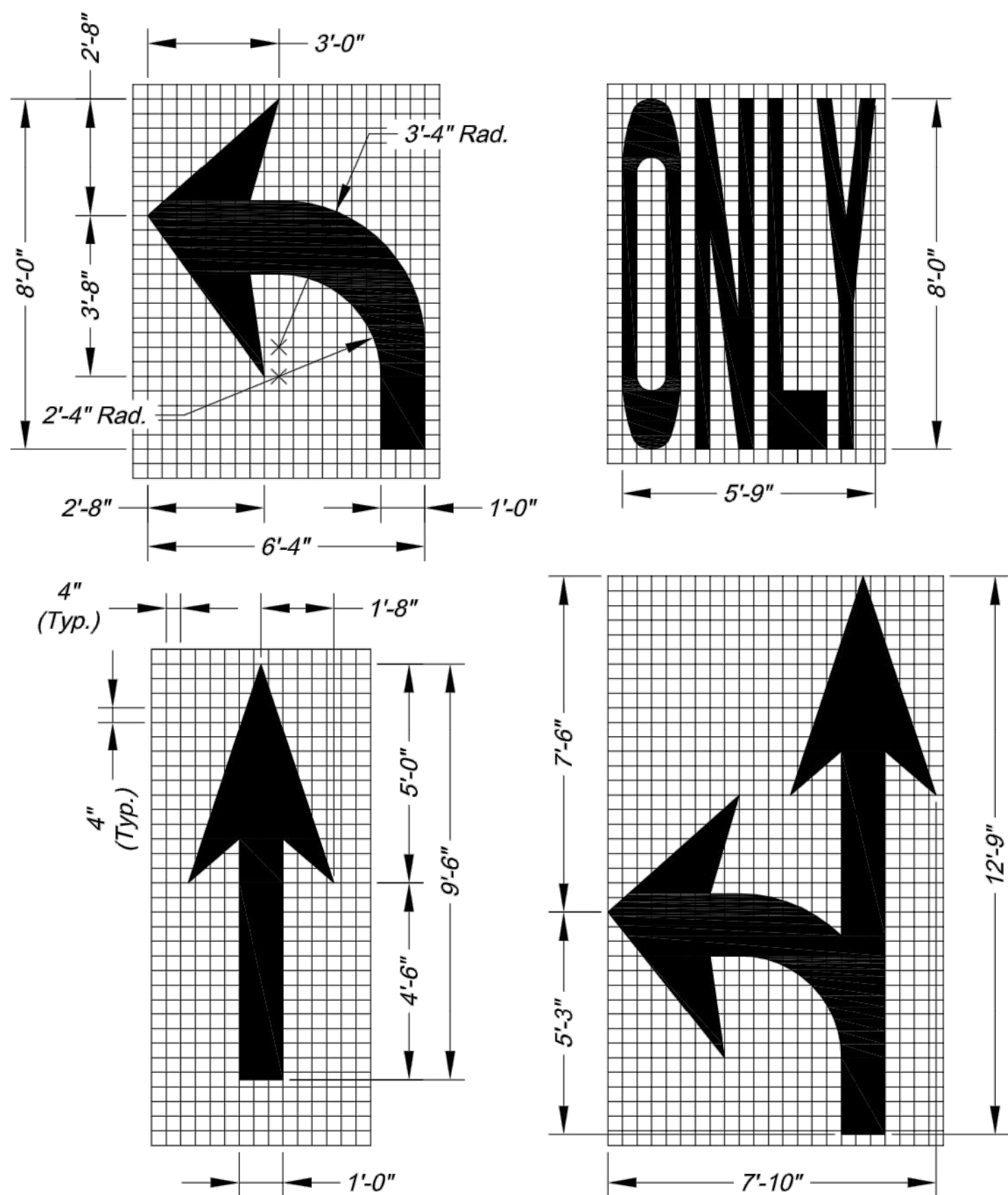
PAVEMENT MARKING AND SIGNING	OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	2019
------------------------------	---	------

C.O.A. NO.: 001592
DRAWN BY: L
CHECKED BY: JAC
APPROVED BY: JSS
QA/QC BY: JSS
PROJECT NO.: 018-1450
DWG NO.: 13604-81450
DATE: 07.19.19

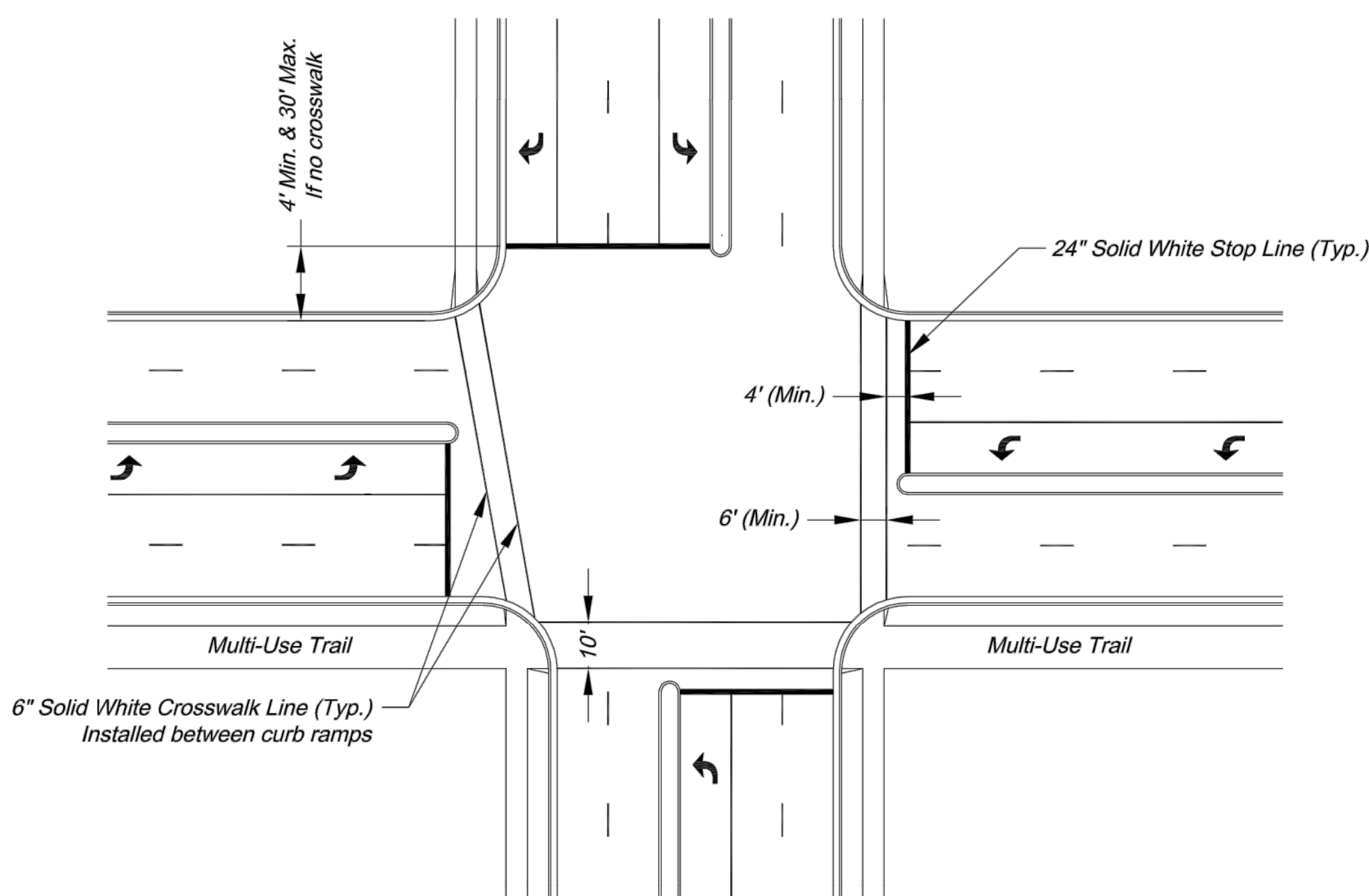
SHEET
T27 OF 70



- NOTES:
1. All edge line, center line, and lane line pavement markings shall be 4" wide unless otherwise noted.
 2. Edge lines shall be continuous solid white or yellow lines. Right side edge lines shall be solid white. Median or left side edge lines on divided roadways are to be solid yellow. Edge lines and center lines shall be continuous across driveways.

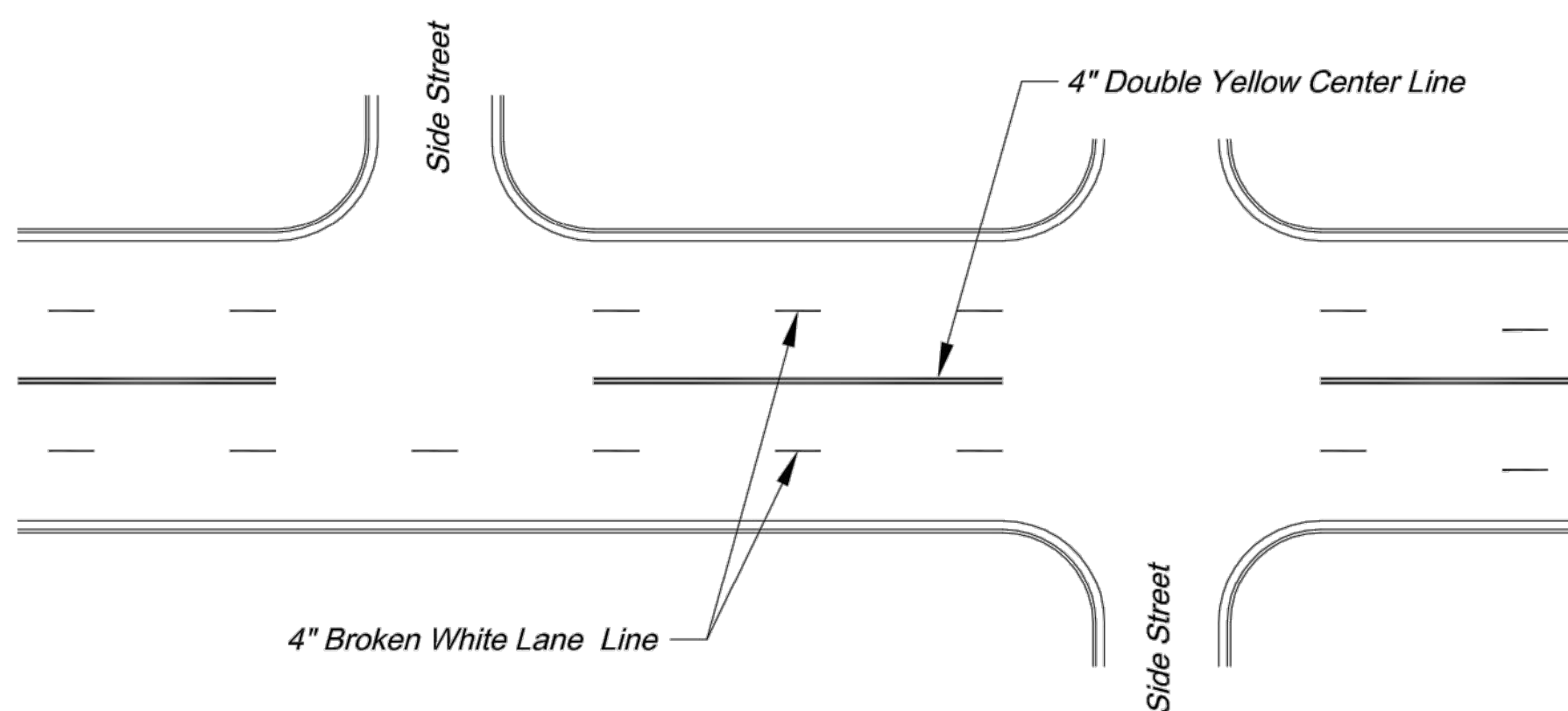


- NOTES:
1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
 2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown.



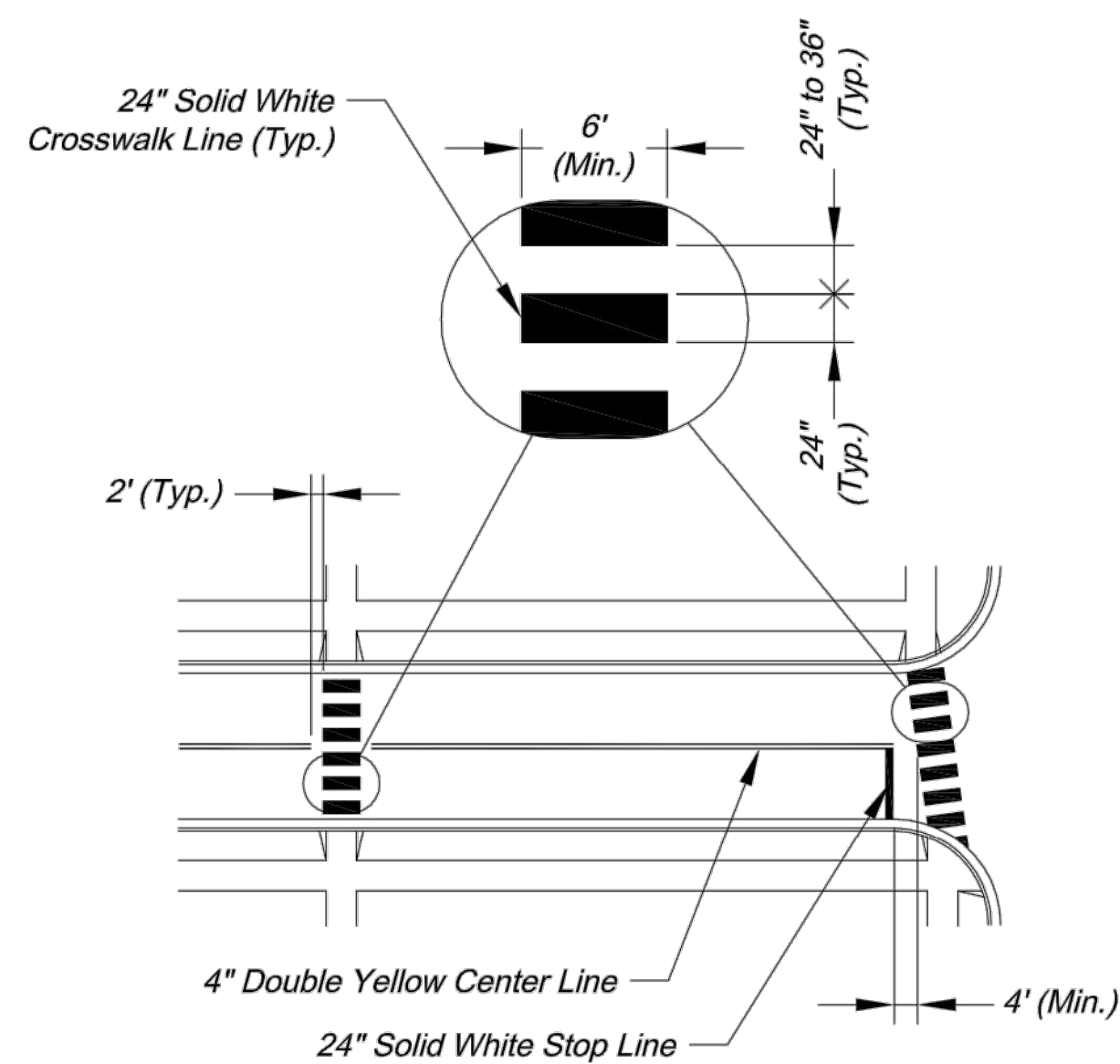
TYPICAL INTERSECTION MARKINGS

- NOTES:
1. Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
 2. Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections.

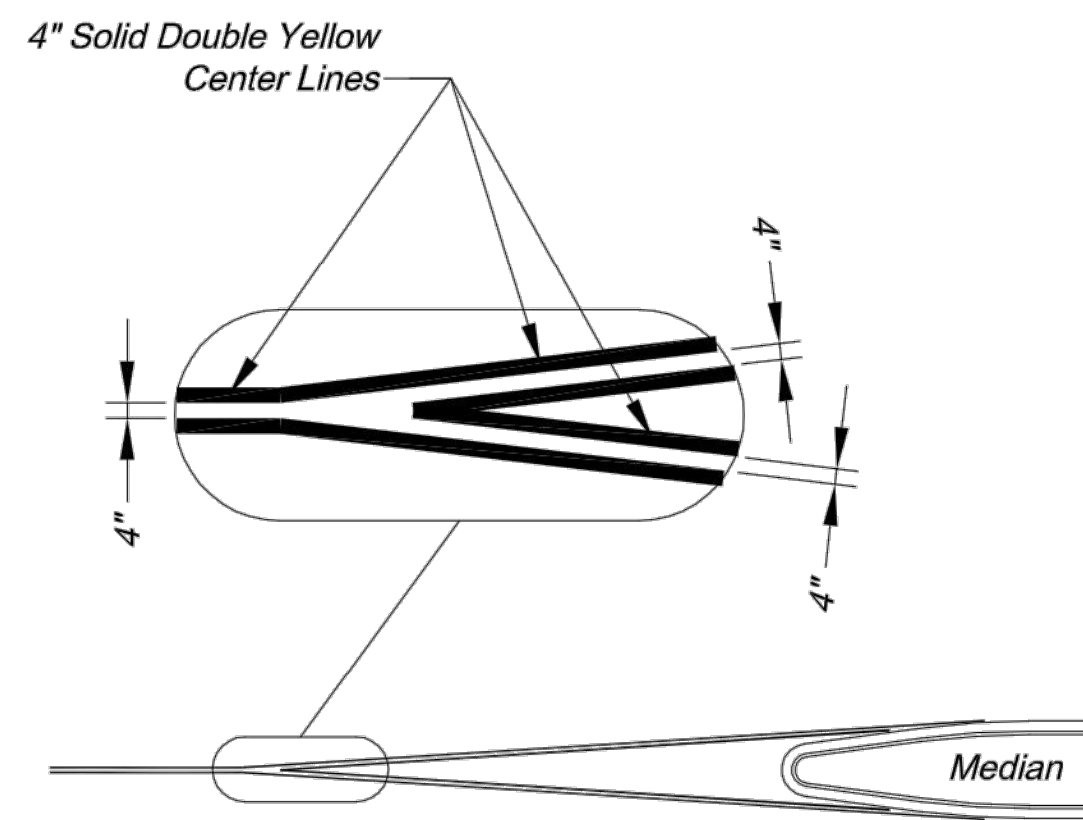


TYPICAL MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY

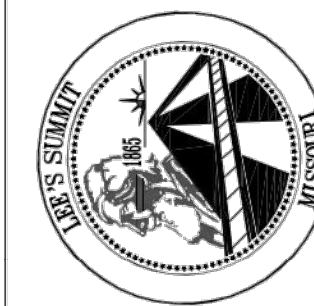
- PAVEMENT MARKING GENERAL NOTES:
1. All pavement markings shall be in accordance with the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*.
 2. All words and symbols shall conform to the latest edition of *Standard Alphabets for Highway Signs and Pavement Markings* printed by the U.S. Department of Transportation, Federal Highway Administration.
 3. Pavement markings, either temporary or permanent are required at all times if the roadway is open to traffic.
 4. All pavement markings that conflict with the desired markings shall be completely removed. Removals shall not leave the road surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement shall be repaired at the Contractor's expense.
 5. The proposed permanent markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be applied until the layout has been approved by the City Traffic Engineer.
 6. Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.
 7. Edge lines shall be marked on all non-curbed streets.



TYPICAL MIDBLOCK OR SCHOOL CROSS WALK



TYPICAL MEDIAN NOSE CENTER LINE DETAIL



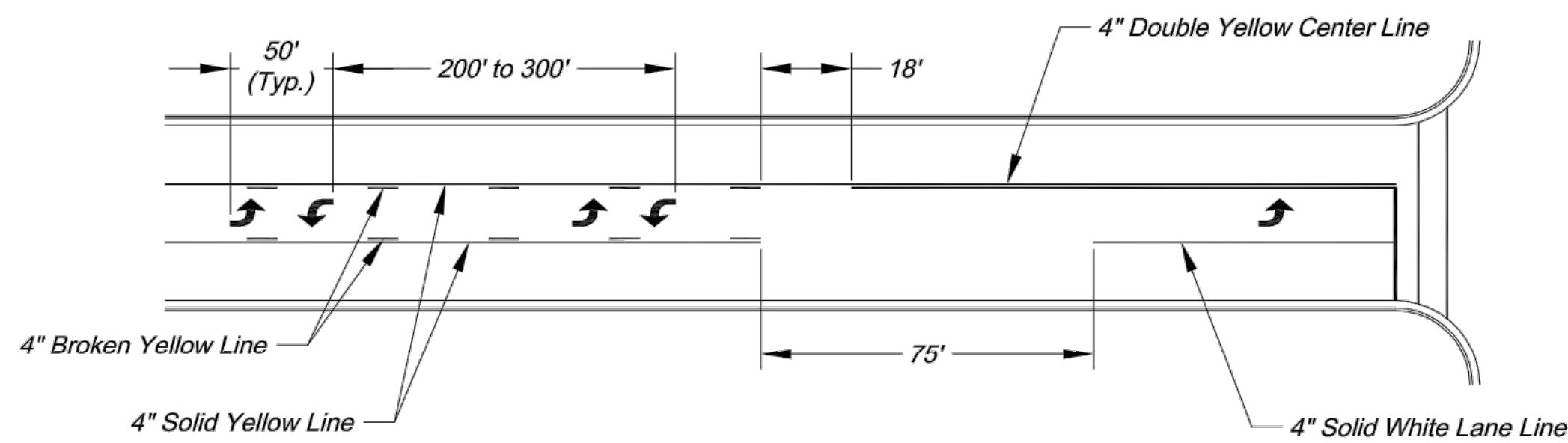
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: O'REILLY DEVELOPMENT SENIOR LIVING

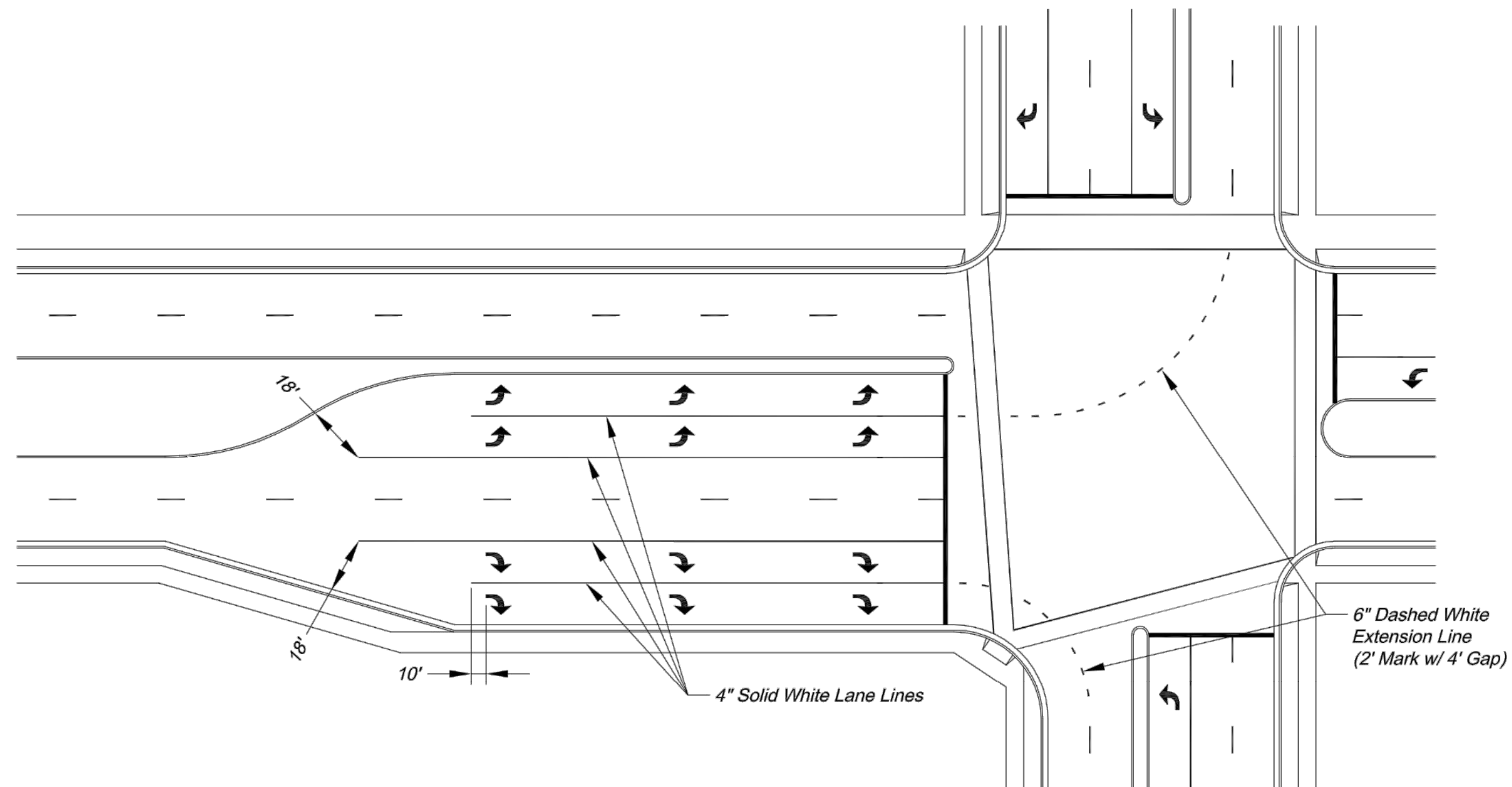
ROADWAY MARKING DETAILS

Sheet Name: STANDARD DRAWING PM-1

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#

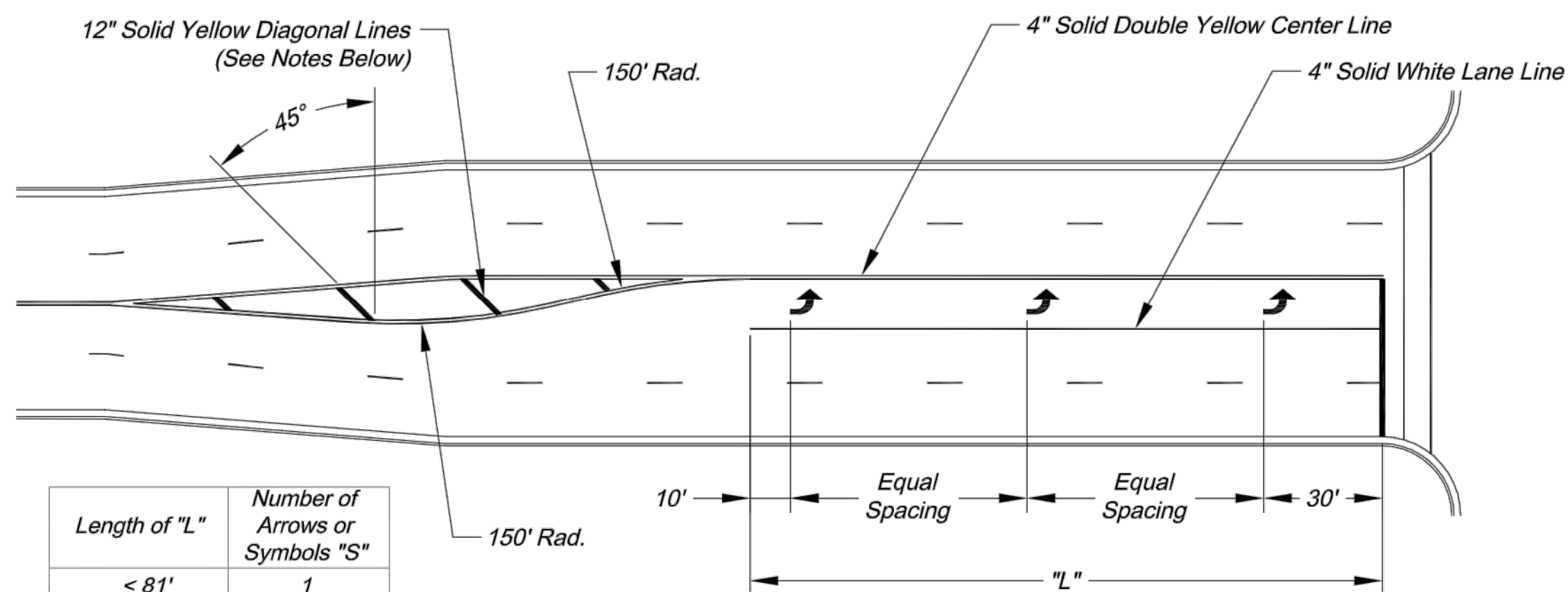


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



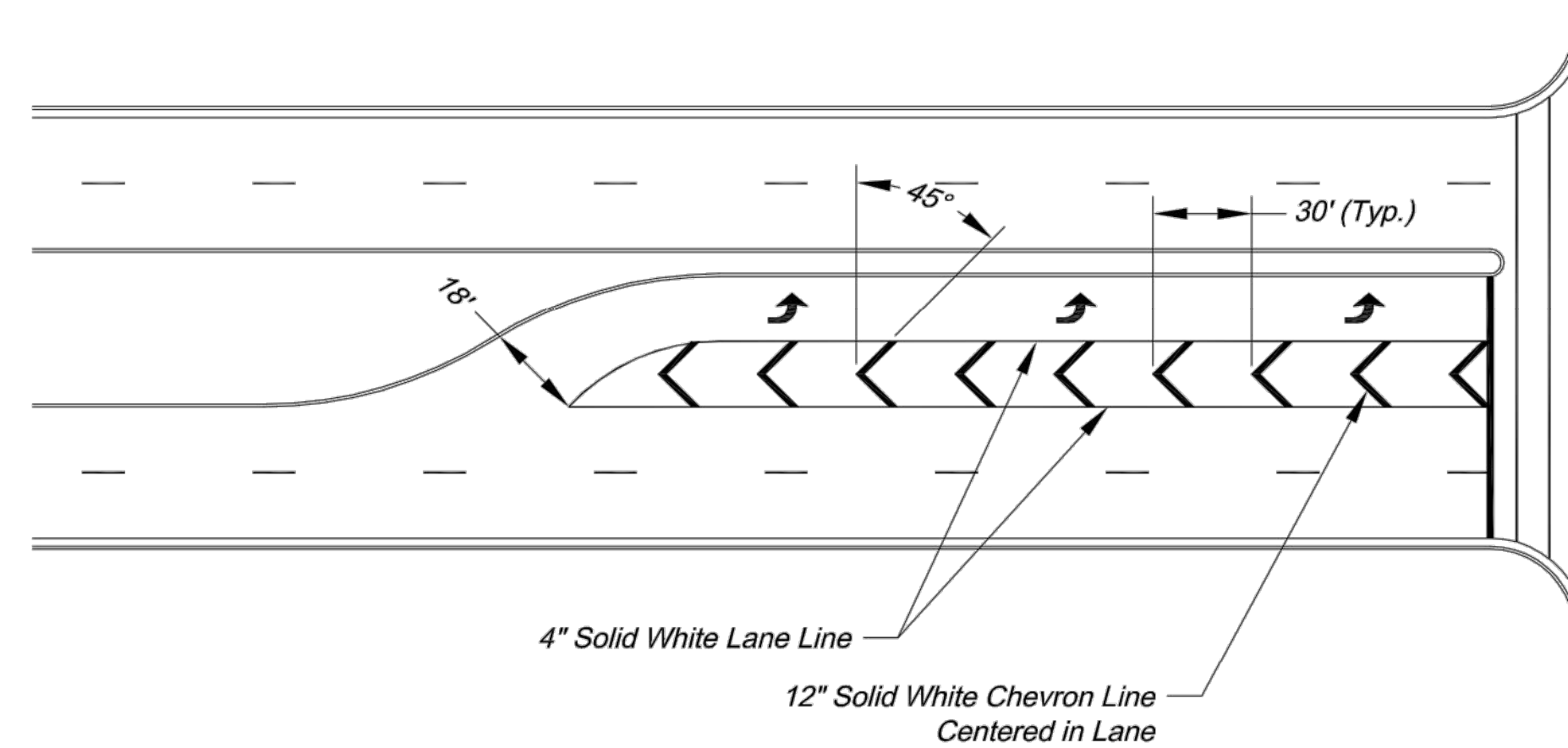
TYPICAL DUAL TURN LANE MARKINGS

NOTE:
1. Dashed extension lines shall not extend through crosswalks.



TYPICAL TURN LANE MARKINGS

NOTES:
1. Diagonal lines are required between centerlines if the width of the area between the center lines is greater than 12' and/or the length of the area between center lines is greater than 250'.
2. Diagonal lines should be spaced at 5' increments, equal to the posted speed limit.
3. Equal Spacing is calculated as $(L - 40) / (S - 1)$.
4. When a through lane of traffic terminates as a mandatory turn lane, Arrow and "ONLY" symbols should be marked in the turn lane, in alternating order. The first and last symbols should be Arrows.



TYPICAL STRIPED OUT TURN LANE MARKINGS



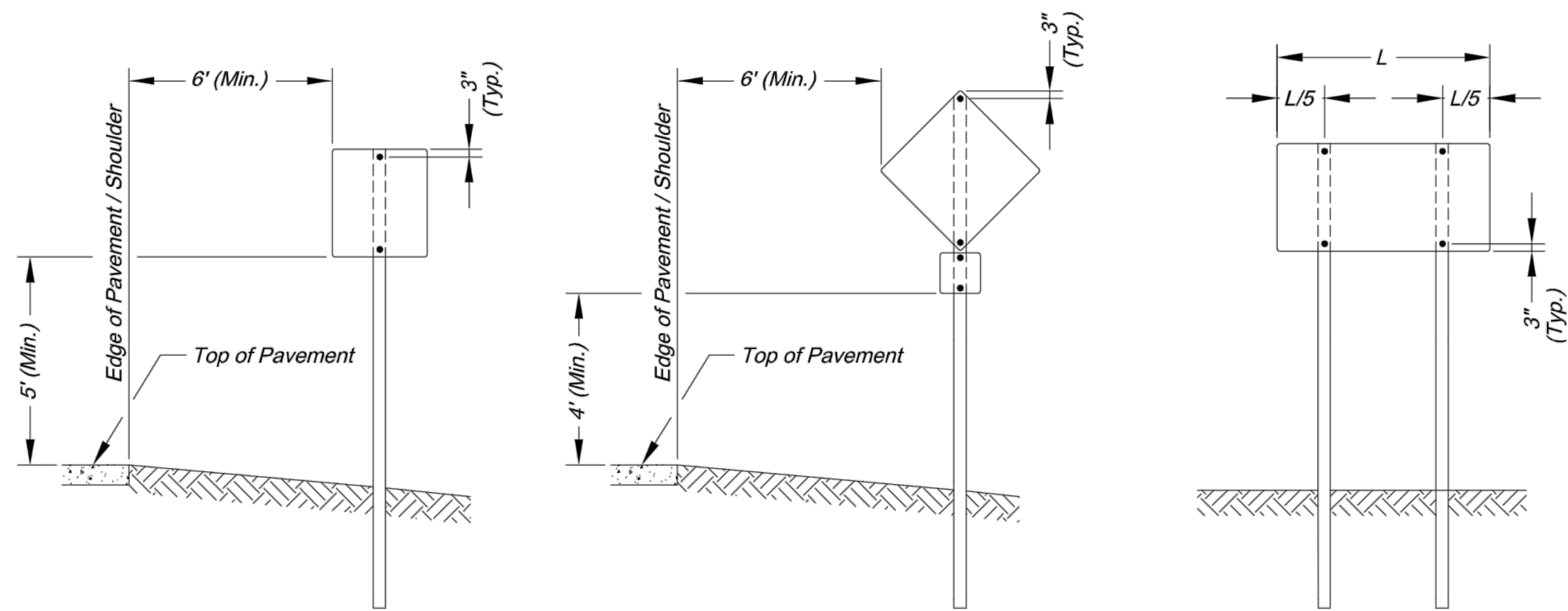
CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: O'REILLY DEVELOPMENT SENIOR LIVING

INTERSECTION MARKING DETAILS

Sheet Name: STANDARD DRAWING PM-2

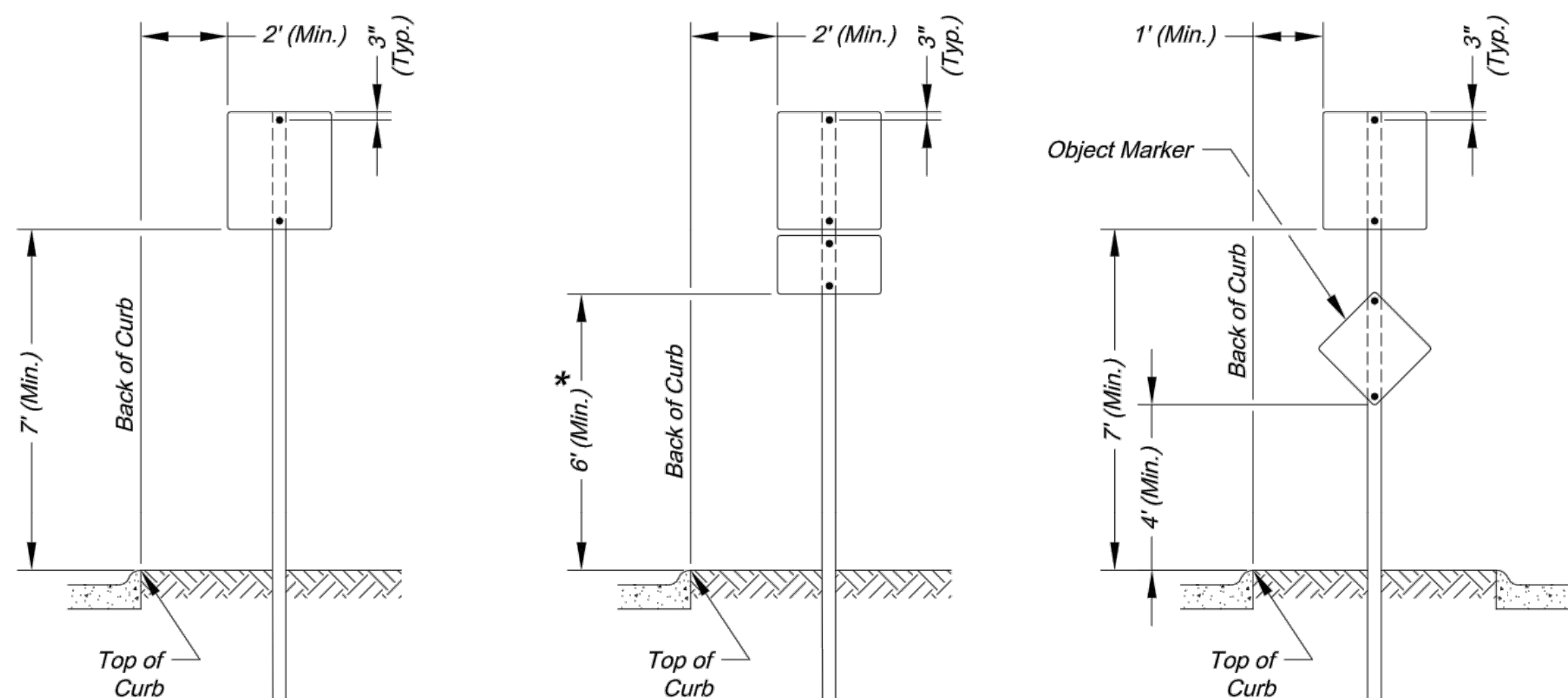
Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#



SIGN INSTALLATION FOR
NON-CURBED STREET

SIGN INSTALLATION WITH
AUXILARY SIGN FOR
NON-CURBED STREET

SIGN INSTALLATION WITH
TWO SIGN POSTS



SIGN INSTALLATION FOR
CURBED STREET

SIGN INSTALLATION WITH
AUXILARY SIGN FOR
CURBED STREET

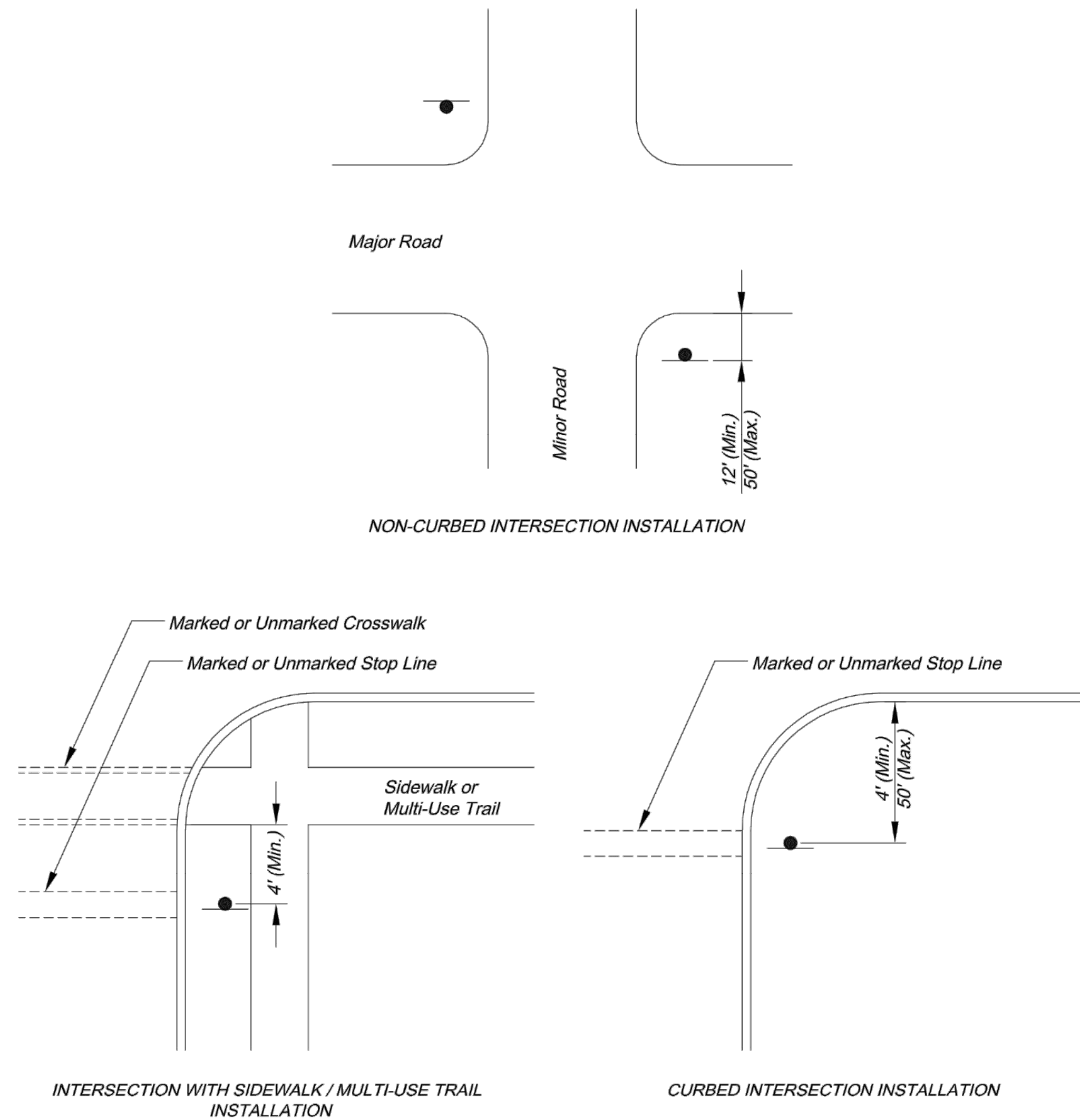
SIGN INSTALLATION FOR
RAISED MEDIANS

SIGN MOUNTING DETAILS

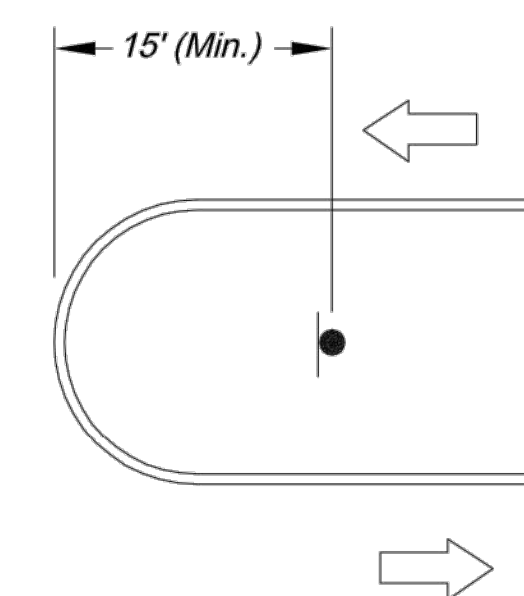
* The height to the bottom of a sign when it is located in a pedestrian walkway or extends into a walkway shall be a minimum of 80 inches above the walkway.

NOTE:

- Generally, the sign mounting height should not be more than 1' greater than the minimum mounting height.



CONTROL SIGN LOCATION

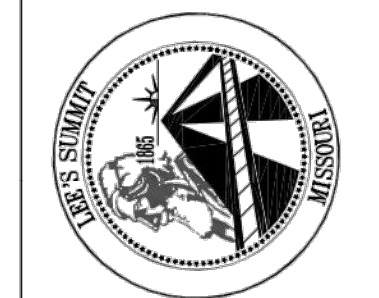


TYPICAL MEDIAN SIGN LOCATION

MEDIAN SIGN LOCATION

NOTES:

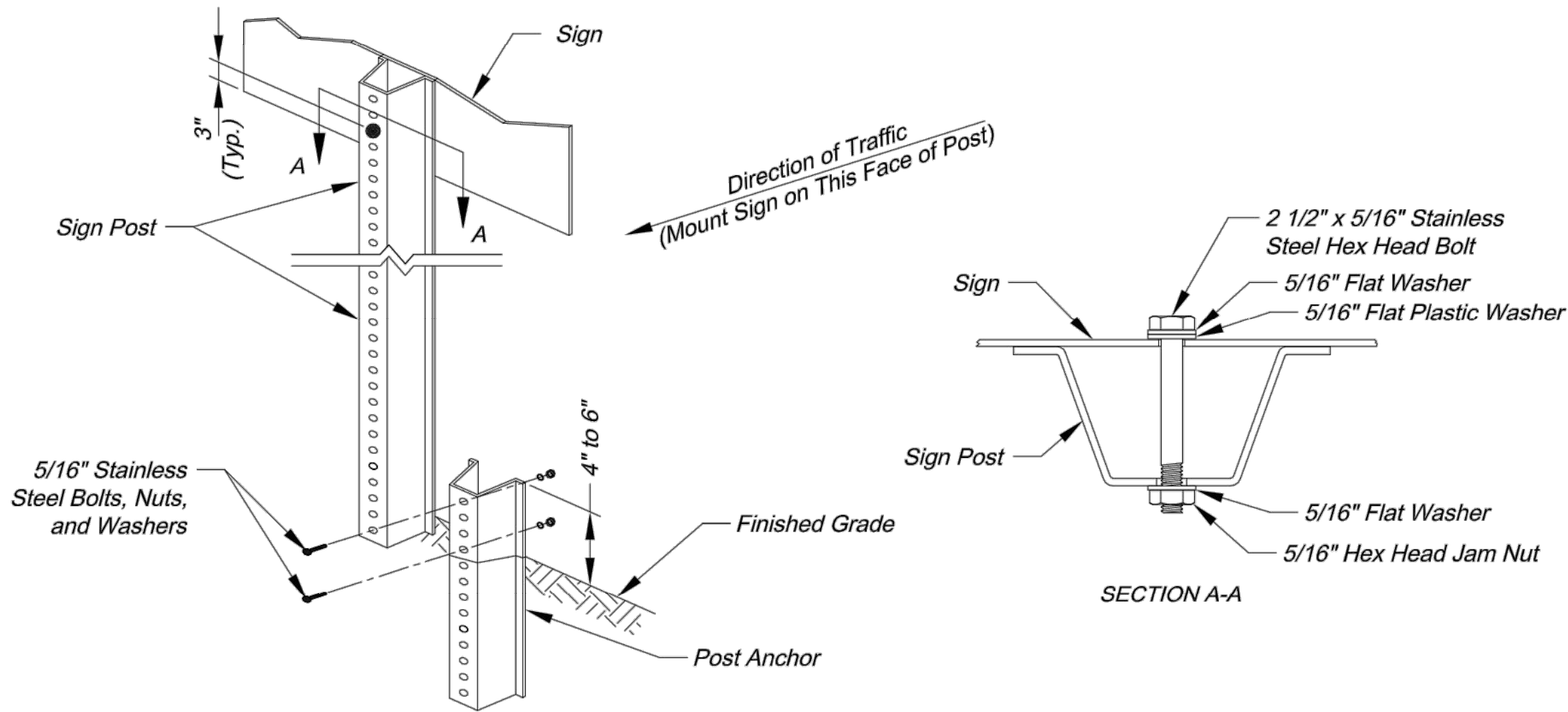
- A 4" P.V.C. sleeve shall be installed in new concrete medians at each location where a sign is to be installed.
- For existing concrete medians, a 4" hole shall be cored into the concrete.



CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: O'REILLY DEVELOPMENT SENIOR LIVING
SIGN MOUNTING DETAILS
Sheet Name: STANDARD DRAWING SN-1

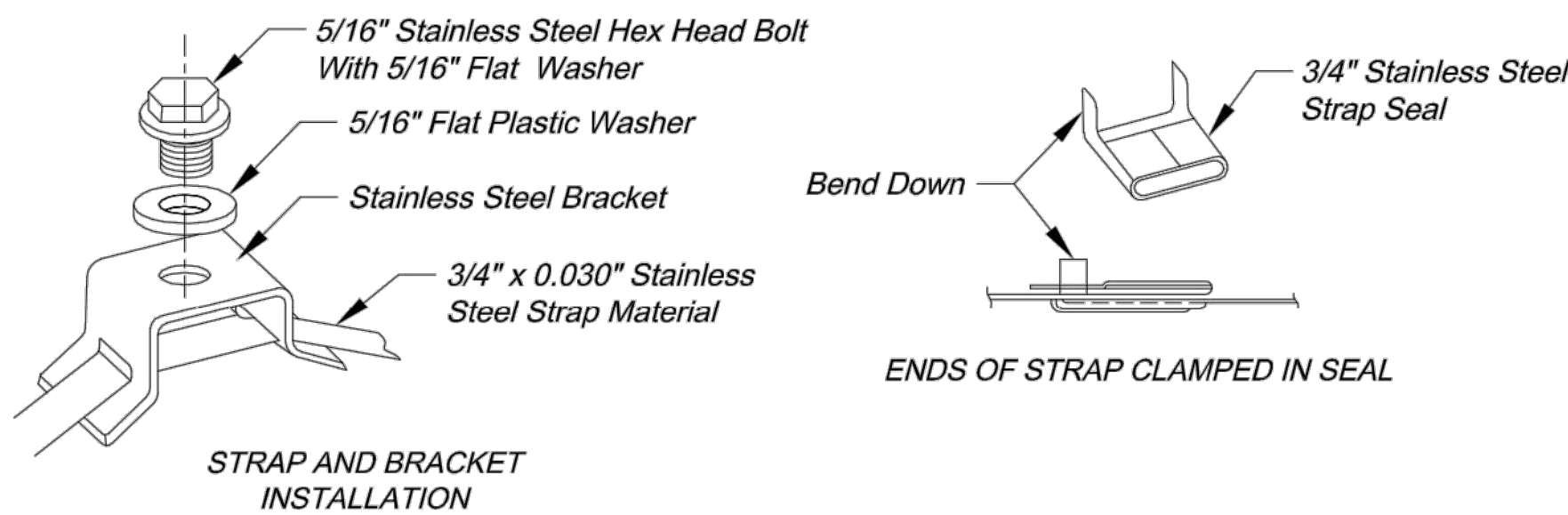
Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#



U-STEEL POST DETAILS

U-STEEL POST NOTES:

1. Splice shall be positioned entirely between finished grade line and 18" above finished grade line. Only one splice will be allowed per post.
2. U-Steel post shall be 3 lb./ft., galvanized according to ASTM A123.
3. U-Steel post can be used for installation of signs with an area of less than 2.5 square feet.
4. All posts shall be embedded a minimum of 3 feet.



STRAP TYPE SIGN SUPPORT DETAILS

METAL POLE SIGN MOUNTING NOTES:

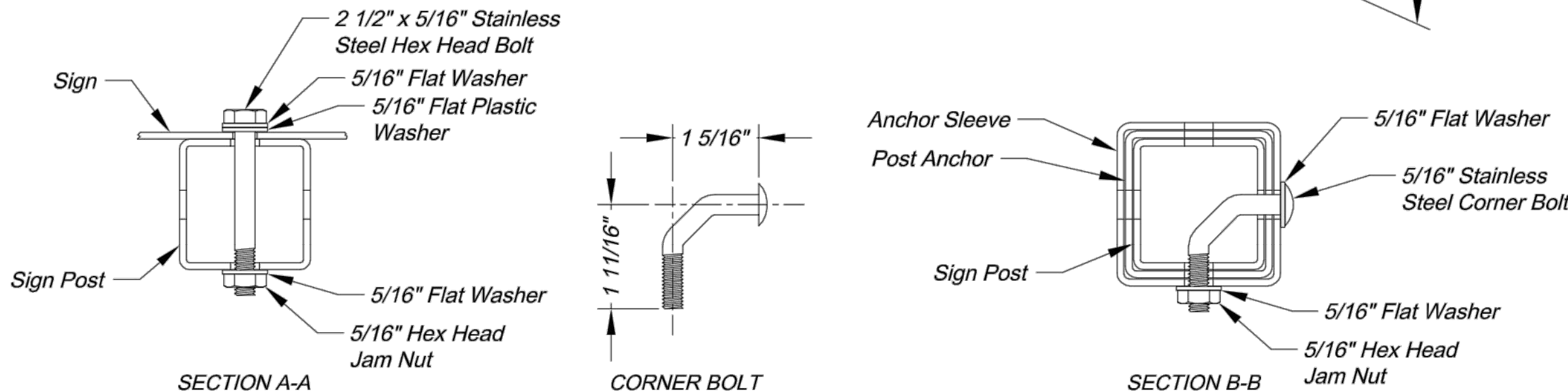
1. Signs on metal poles shall be attached with two brackets and stainless steel bands.
2. Holes in sign for attachment to the mounting brackets shall be offset a minimum of 2 inches from the edge of the sign.
3. Holes in sign shall be located such that the sign is level.
4. All strap, bracket, and seal materials should be Type 201 stainless steel.

PERMANENT SIGNING GENERAL NOTES:

1. All signing shall be in accordance with the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*.
2. The Contractor is responsible for avoiding any and all utilities when installing sign posts, whether the utility is indicated on the plans or not.
3. All workmanship and materials shall be subject to the inspection and approval of the Public Works Department of the City of Lee's Summit.
4. The Contractor shall stake the location of all sign posts to be installed. The City Inspector shall inspect the staking prior to installation. Minor relocation to avoid conflicts may be allowed with the approval of the City Traffic Engineer or designee.
5. Signs shown to be installed on the side of metal poles shall be mounted with stainless steel straps or wing brackets as detailed. No signs are to be installed on wood poles. See Traffic Signal Standard Drawings for the installation of signs on mast arms.
6. All post mounted signs shall be installed with breakaway anchors according to the Standard Drawings.
7. All existing signs will be used in place during construction and protected from damage unless otherwise indicated in the plans. If the Contractor damages any existing sign or posts during construction, the Contractor will be required to replace the damaged materials with new signs or posts of the same type and size at the Contractor's expense. The Contractor shall be responsible for removing and storing any signs that are to be reinstalled on the project. All equipment shall be reinstalled in good condition.
8. Existing permanent signs and posts removed by the Contractor for construction purposes which are not to be reinstalled shall be delivered to the City's Public Works Maintenance Facility (1971 SE Hamblen Road). The Contractor shall be responsible for removing and storing equipment in good condition and is fully responsible for the equipment until it is delivered.
9. All Stop, Yield, or street name signs shall be maintained in a conspicuous location for the driving public. All Stop and Yield signs removed for construction purposes can be temporarily erected in reflectorized drums (no less than 7 feet above the pavement surface) until they can be reinstalled. Any temporary Stop or Yield sign installation to be left in place overnight will require prior approval from the City Inspector.

SQUARE STEEL POST INSTALLATION SEQUENCE:

1. Sign post anchor driven partially into the ground using a drive cap with a sledge or power equipment.
2. Anchor sleeve slipped over anchor and drive into the ground together with the sign post anchor.
3. Insert sign post into the post anchor and bolt in place.



SQUARE STEEL POST DETAILS

SQUARE STEEL POST NOTES:

1. Square steel sign posts and break-away anchor shall consist of the following materials:
 - Sign Post - 14 Ga. 2" x 2" Square Steel Post
 - Post Anchor - 12 Ga. 2 1/4" x 2 1/4" x 36" Square Steel Post
 - Anchor Sleeve - 12 Ga. 2 1/2" x 2 1/2" x 18" Square Steel Post
2. 14 Gauge posts must meet a certified minimum yield strength of 60,000 psi.
3. In all installations the first hole above the finished grade line on the sign post, anchor, and anchor sleeve must be in line for the insertion of the corner bolt.
4. The maximum area for one sign post is 9.0 square feet. A sign or combination of signs with an area greater than 9.0 square feet will require two posts. Also, signs with a width greater than 36" (not including 36" x 36" diamond shaped signs) will require two posts.



CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project: O'REILLY DEVELOPMENT SENIOR LIVING

SIGN POST DETAILS

Sheet Name: STANDARD DRAWING SN-2

Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

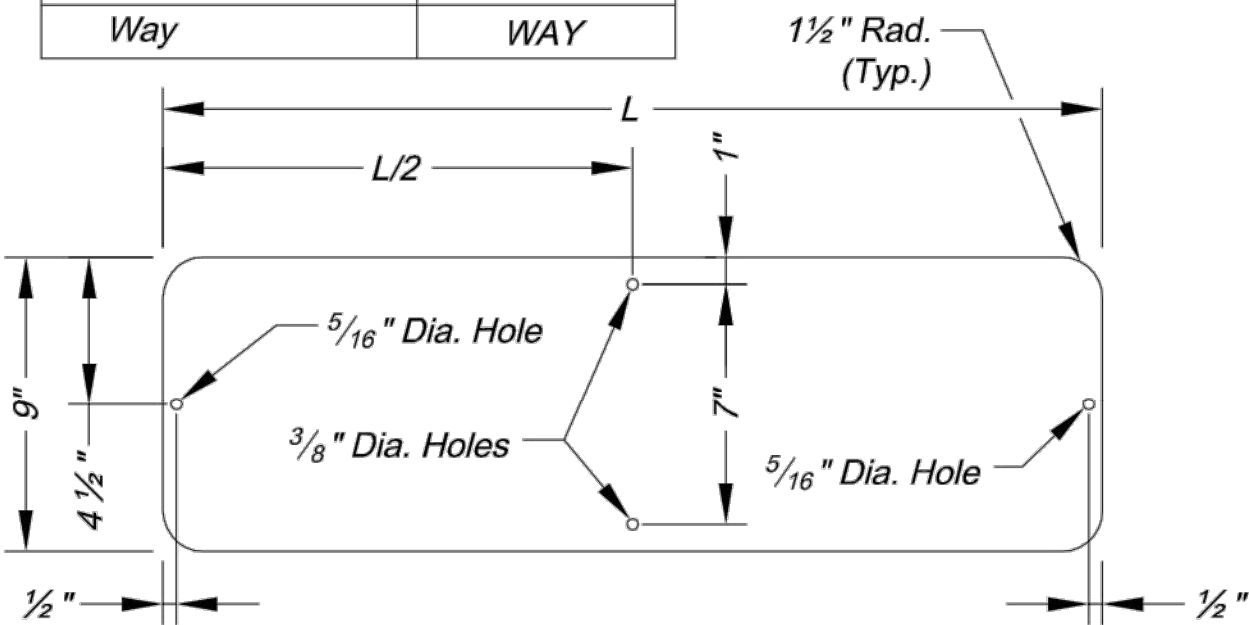
STANDARD ABBREVIATION LISTS

Named Streets	
Avenue	AVE
Boulevard	BLVD
Circle	CIR
Creek	CR
Court	CT
Crossing	XING
Drive	DR
Highway	HWY
Lane	LN
Parkway	PKWY
Place	PL
Road	RD
Street	ST
Terrace	TER
Trail	TRL
Way	WAY

Numbered Streets	
First	ST
Second	ND
Third	RD
Fourth to Tenth	TH

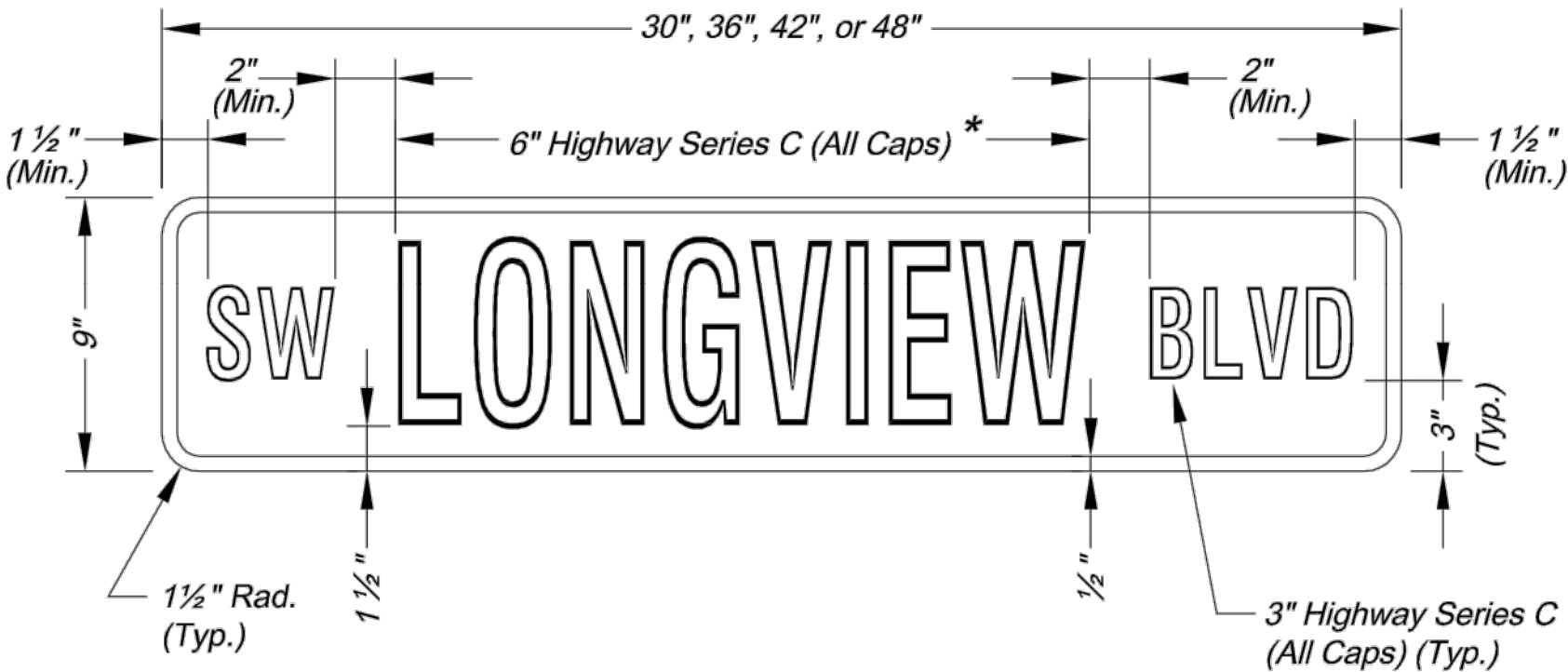
STREET NAME SIGN QUANTITIES

Sign Designation	Sign Size	Sign Area (Sq. Ft.)	Number	Quantity (Sq. Ft.)
D3-1 (SP-1)	9" x 48"	3	2	6
D3-1 (SP-2)	9" x 48"	3	2	6



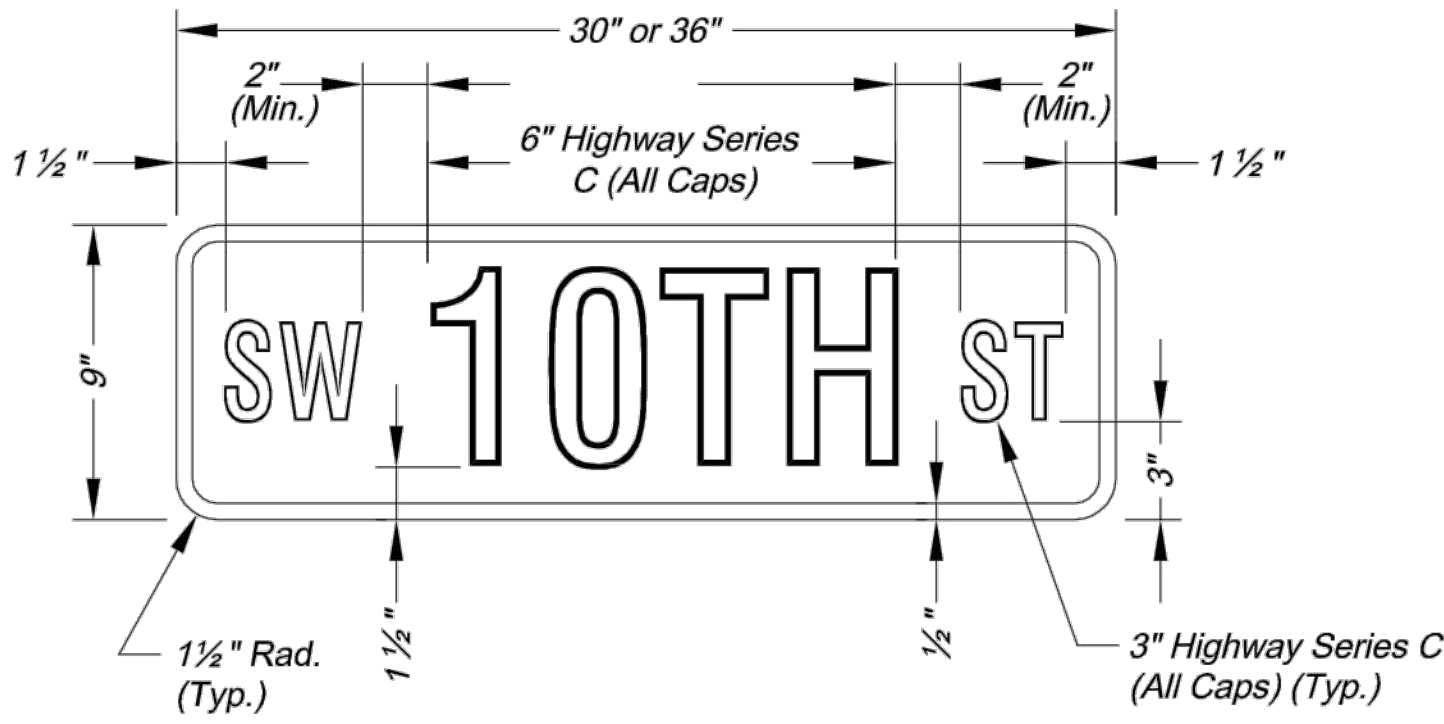
STREET NAME SIGN BLANK DETAILS

For Mounting on Square Steel Posts

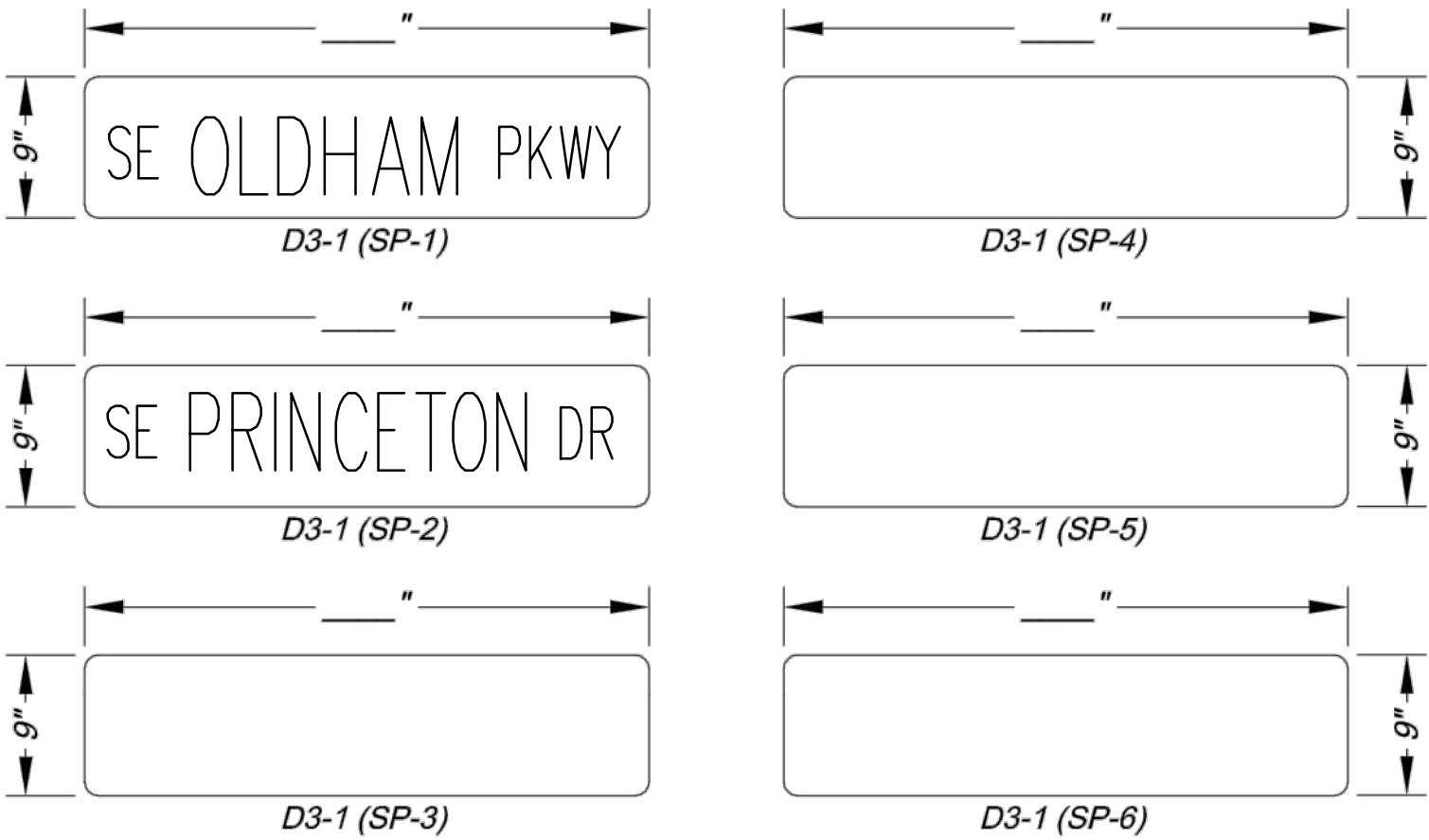


NAMED STREET NAME SIGN DETAIL

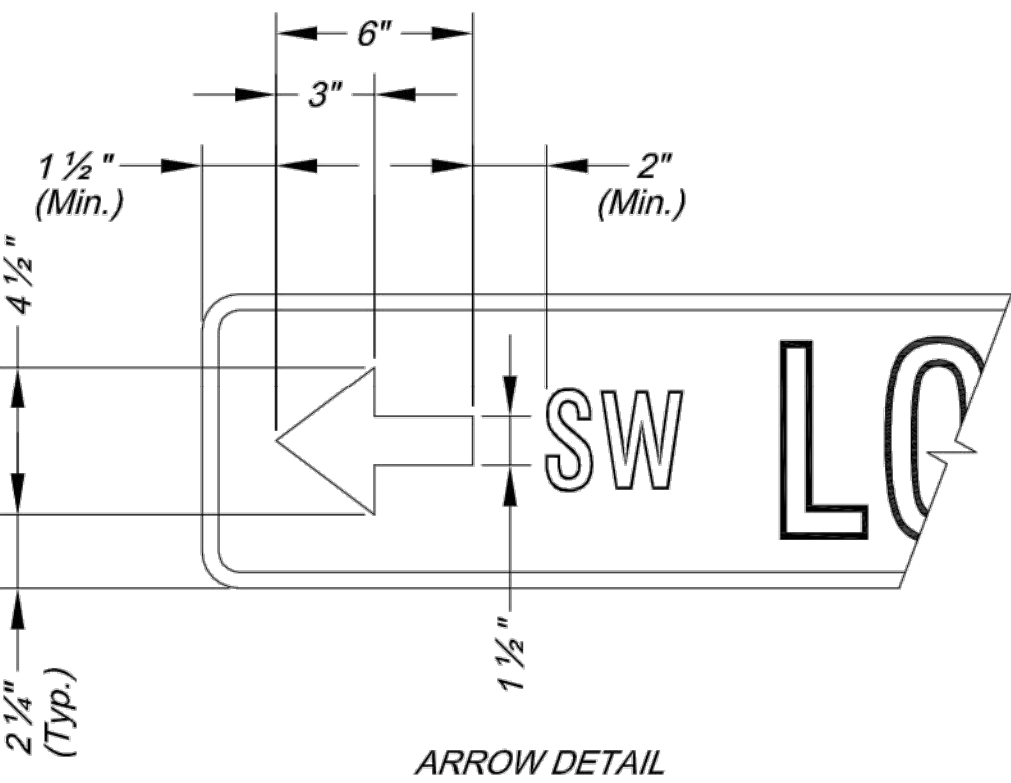
* Use Highway Series B (All Caps) in lieu of series C if necessary to fit text on a 36" sign blank.



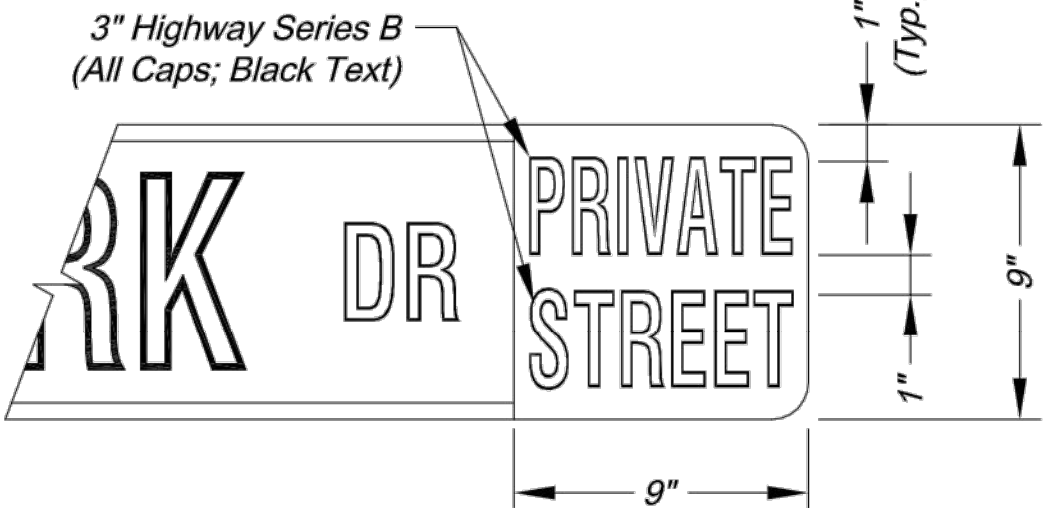
NUMBERED STREET NAME SIGN DETAIL



PROJECT SIGN DETAILS



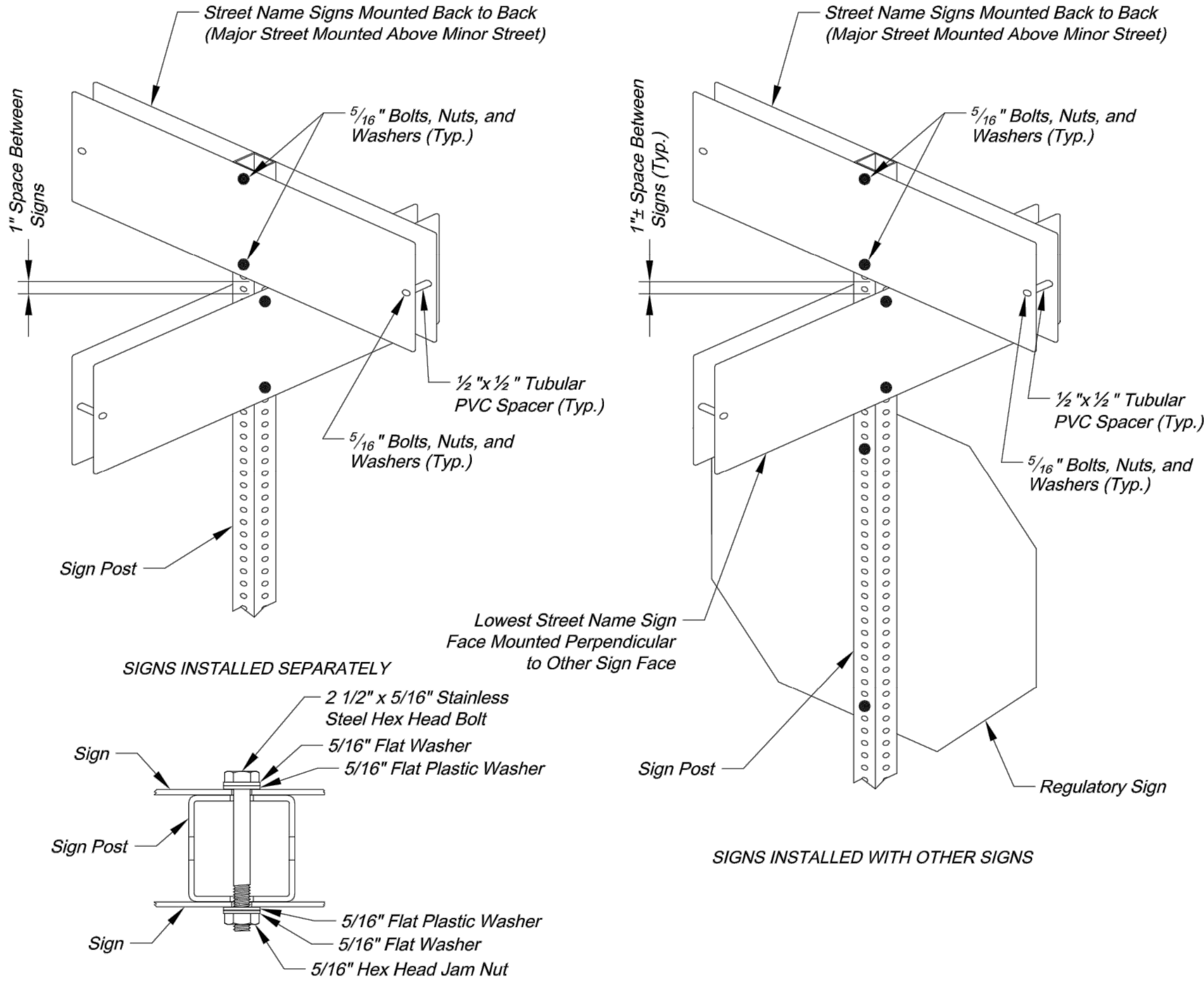
ARROW DETAIL



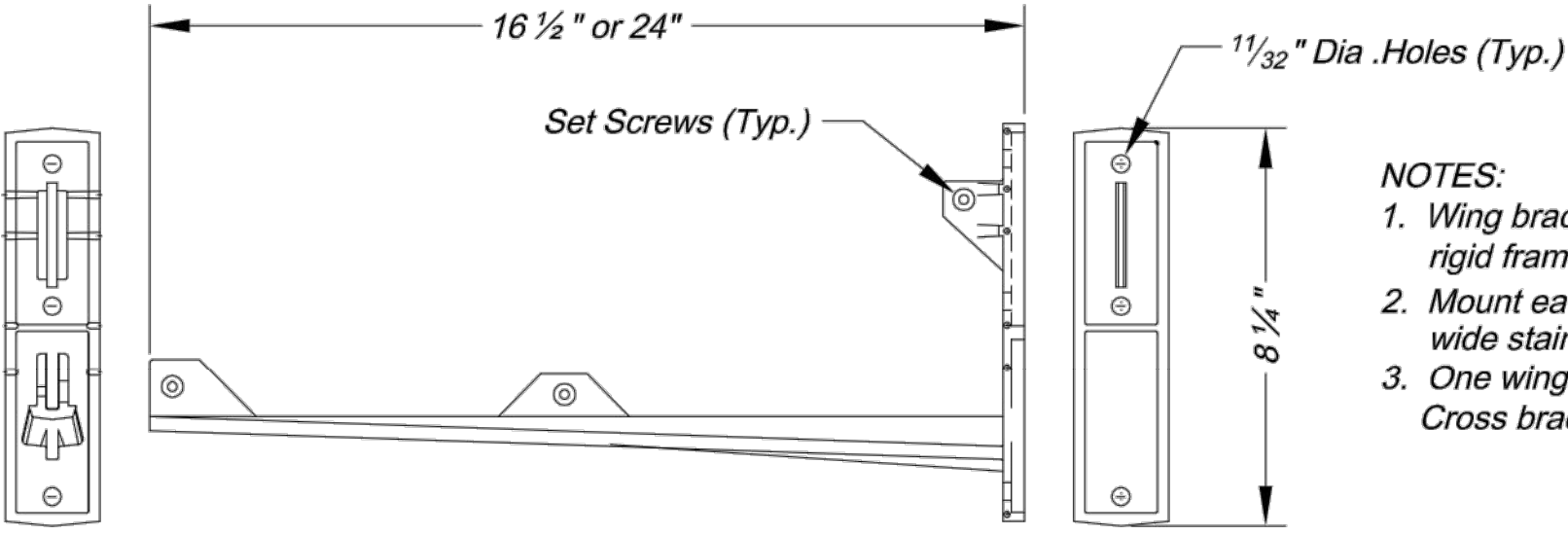
PRIVATE STREET TAG DETAIL

- NOTES:
- For all street name signs, the legend shall be white and the background shall be green.
 - Arrows shall be added to street name signs where the name of a street changes at an intersection. Street name signs with arrows are to be installed on each side of the intersection to indicate the change in names. Arrows shall be white.
 - The "PRIVATE STREET" tag should be added to the end of street name signs to indicate where a street that is outside the right-of-way intersects a public street. The background for the "PRIVATE STREET" tag shall be yellow.

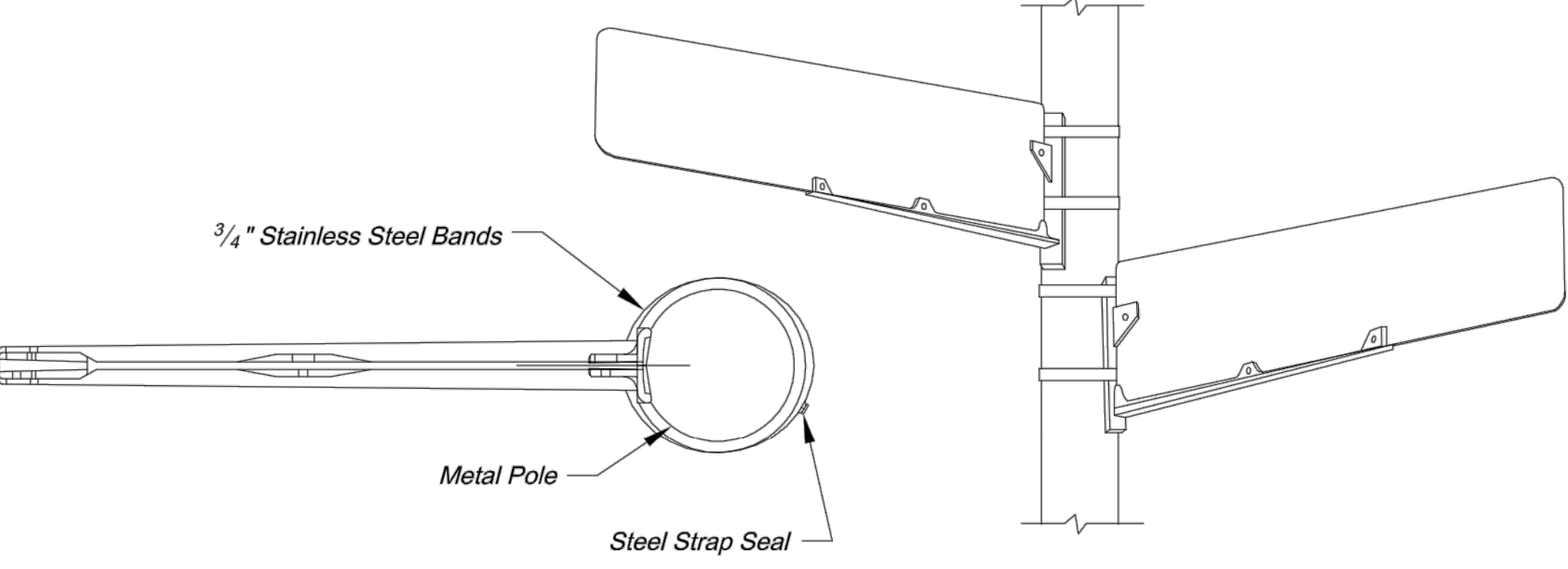
STREET NAME SIGN FACE DETAILS



SQUARE STEEL POST MOUNTING DETAILS

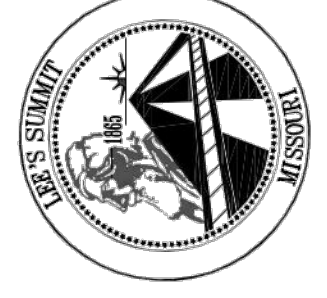


- NOTES:
- Wing bracket shall be an L-shaped cantilever of T-beam rigid frame 380-3 aluminum alloy construction.
 - Mount each wing bracket to metal pole using two 3/4" wide stainless steel straps.
 - One wing bracket shall be installed per each sign. Cross brackets are not allowed.



WING BRACKET MOUNTING DETAILS

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

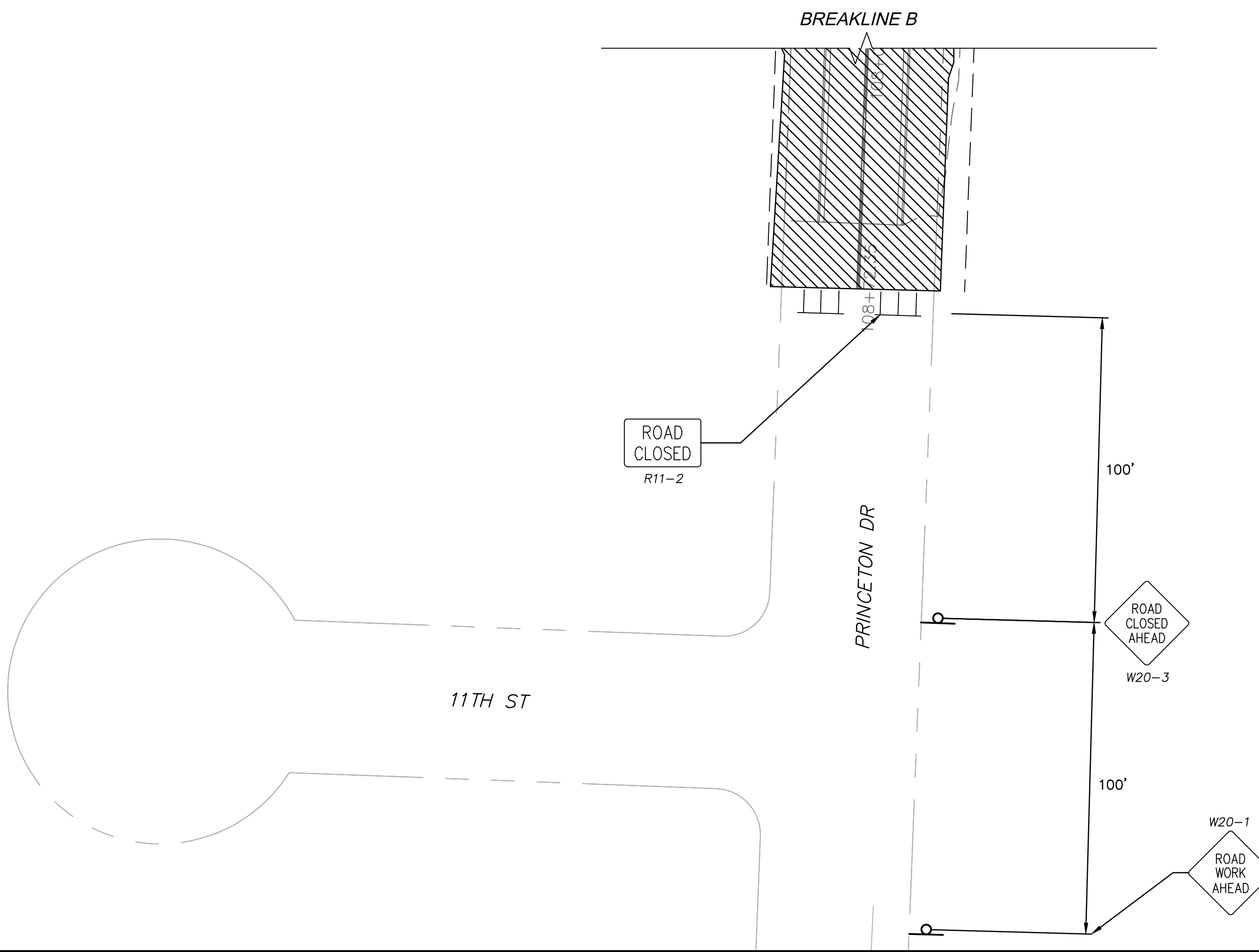
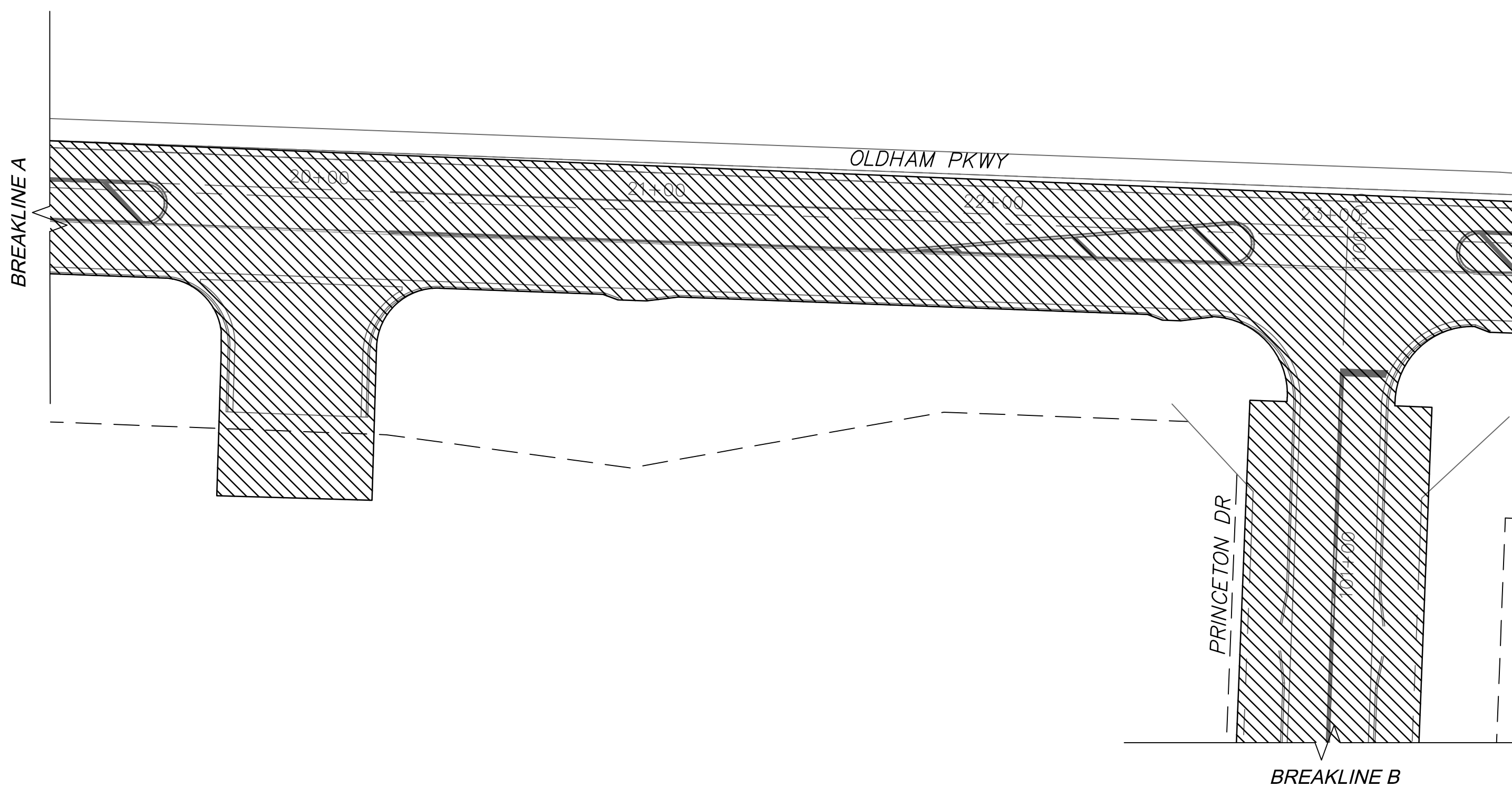
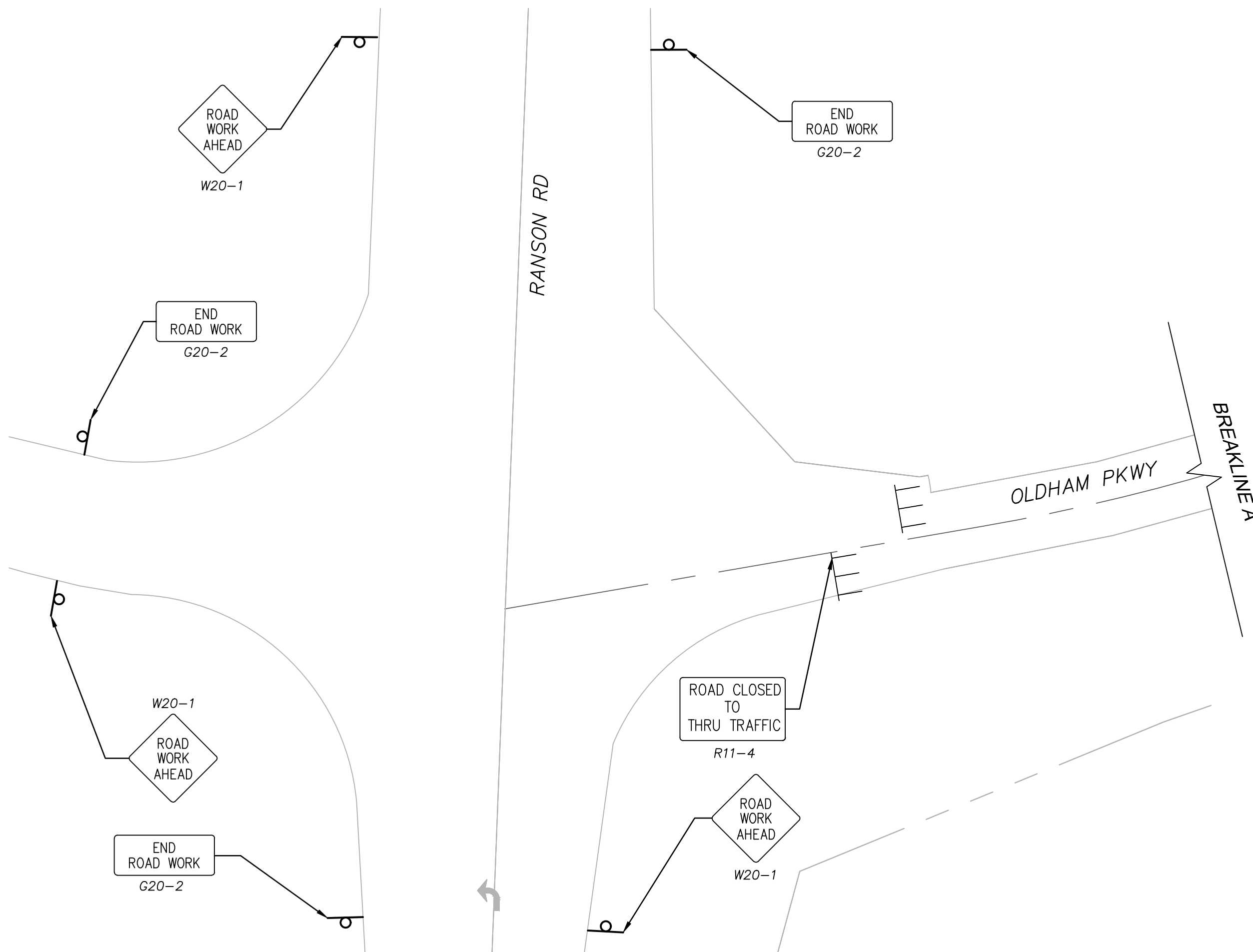


Project: O'REILLY DEVELOPMENT SENIOR LIVING
STREET NAME SIGN DETAILS
Sheet Name: STANDARD DRAWING SN-3



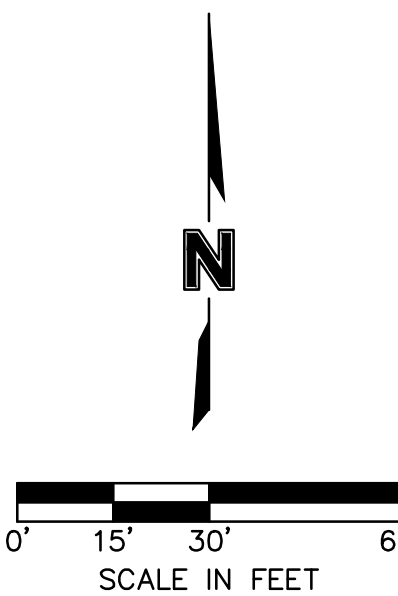
Drawn By: AS
Checked By: JW
Date: 08/26/2009
Project#

asaavedra
F_PTBLK_81450



LEGEND

 - Type III Barricade
 - Sign Symbol



TRAFFIC CONTROL	REV. NO.	DATE	REVISIONS DESCRIPTION	BY
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS				
PROJECT NO.: 018-1450 DWG NO.: T_TFTC_81450 DATE: 07.19.19				
SHEET T33 OF 70				
LEE'S SUMMIT, MISSOURI		2019		
DEVISIONS				

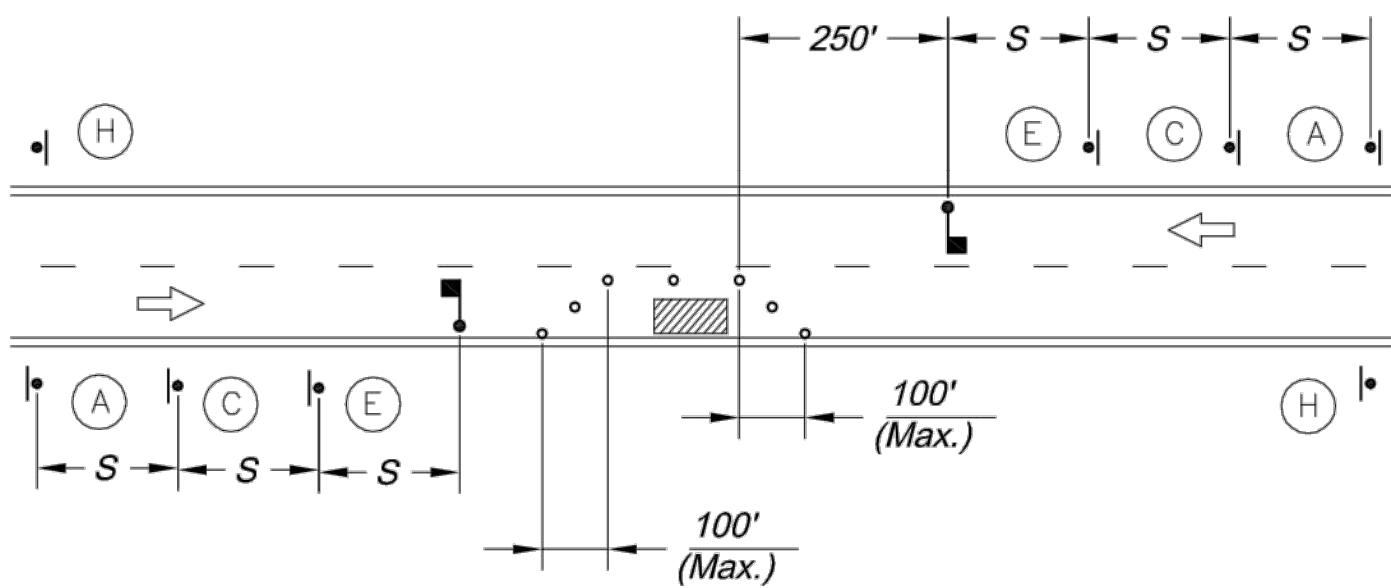


olson

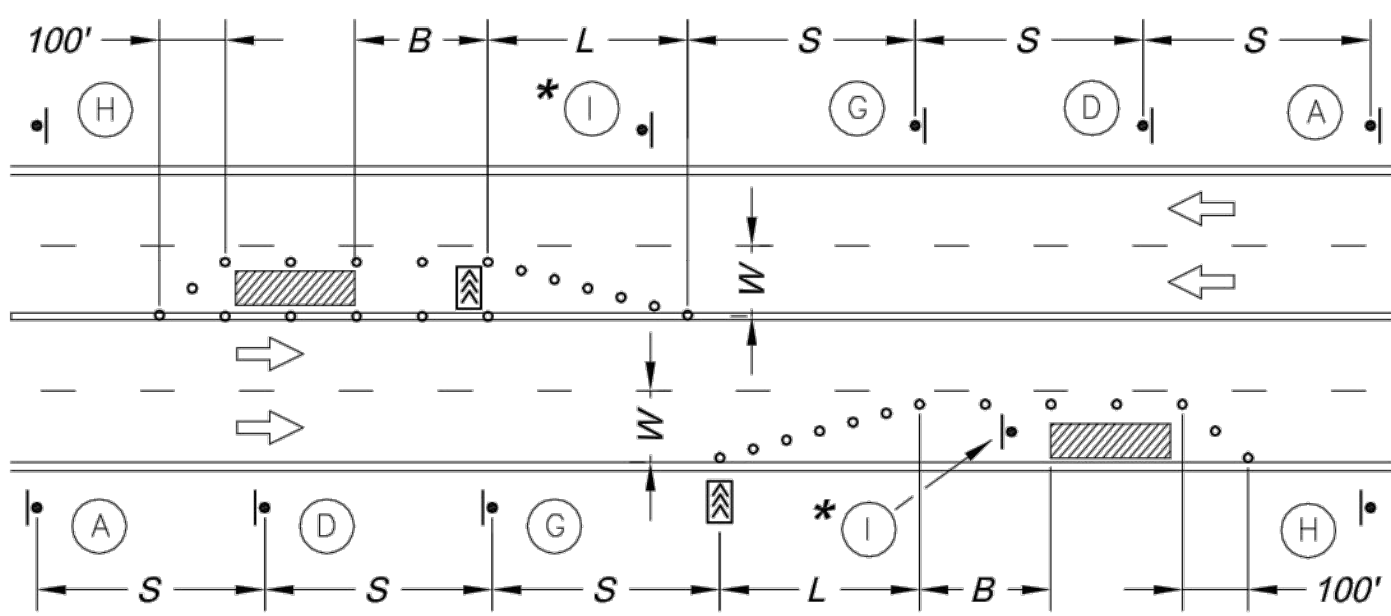
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66212 FAX 913.381.1174
www.olsson.com

SYMBOL LEGEND

- Work Area
- Channelizer
- Sign
- Arrow Panel
- Barricade
- Flagger
- Direction of Travel

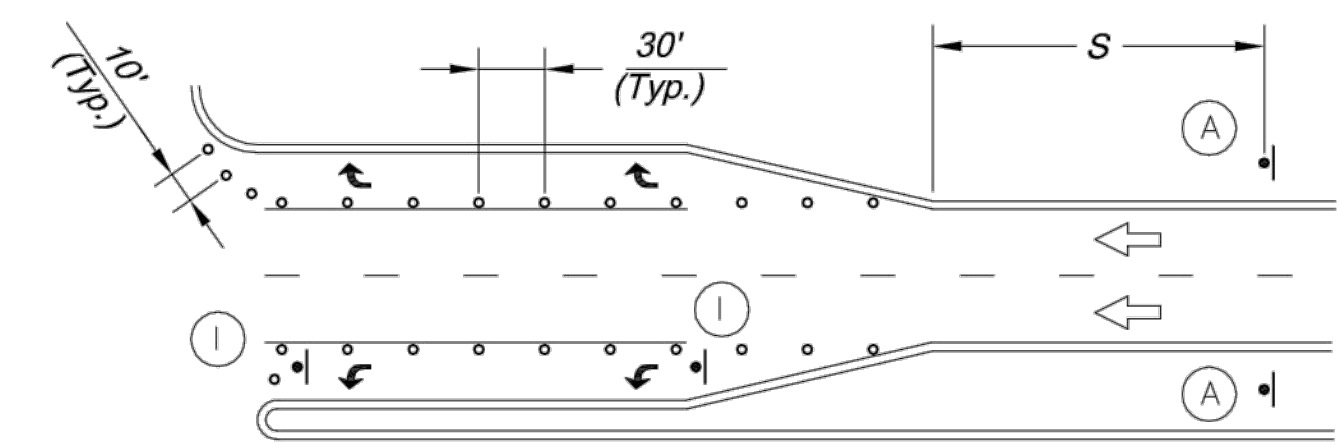


LANE CLOSURE - TWO LANE STREET



LANE CLOSURE - FOUR LANE STREET

* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



TURN LANE CLOSURE

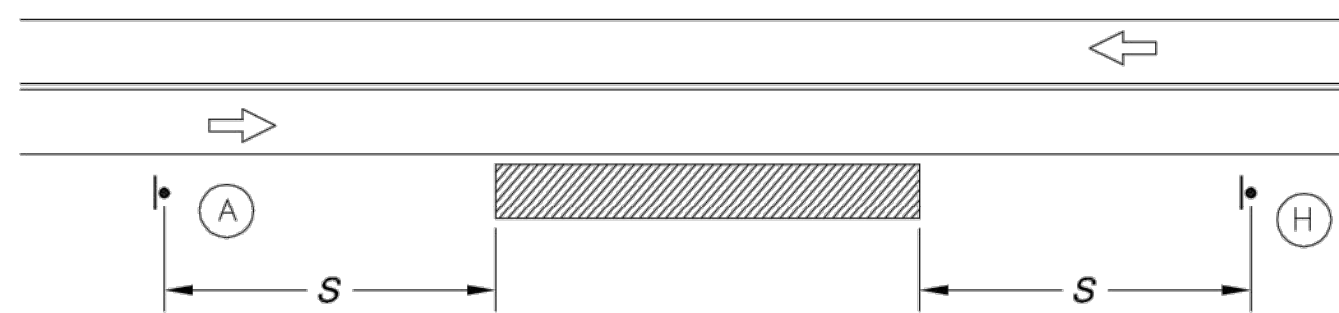
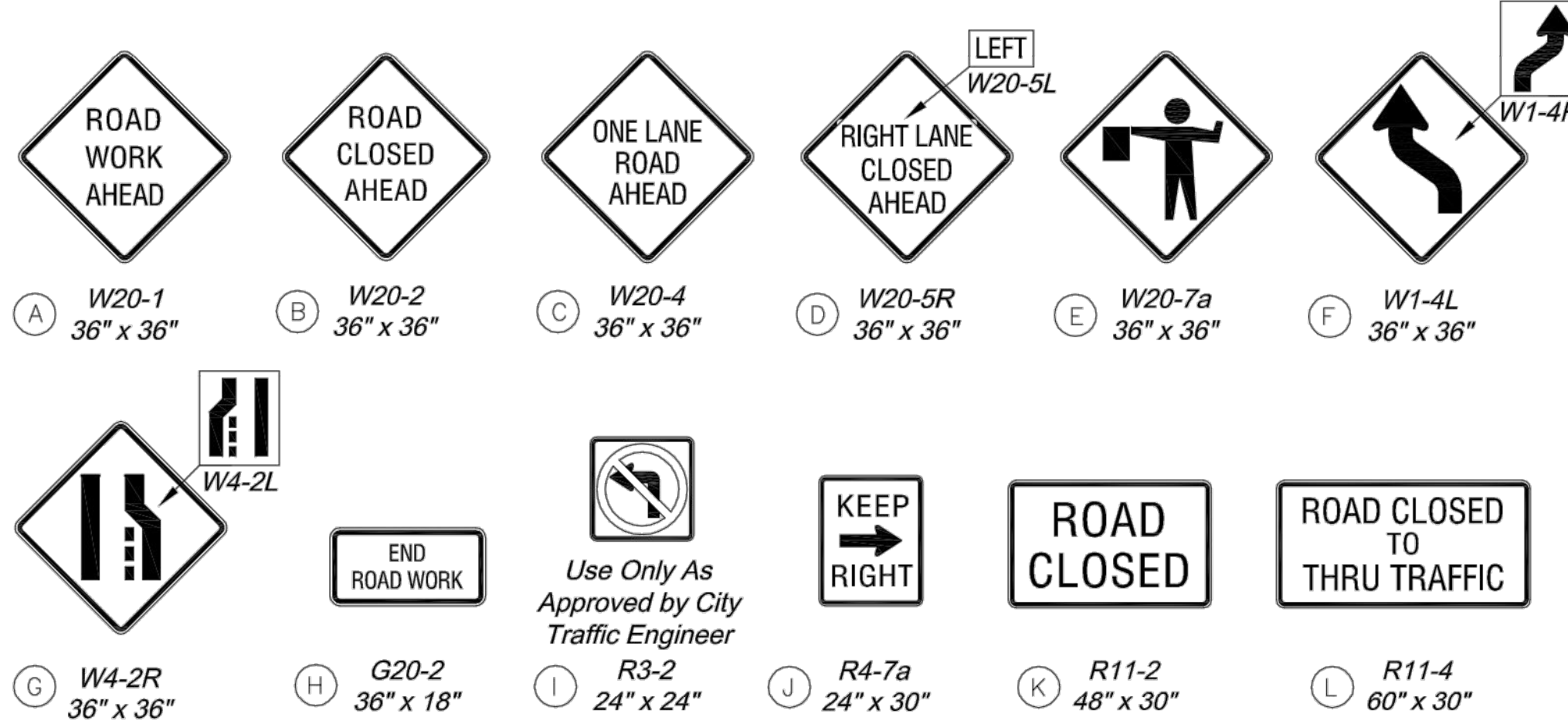
Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

Taper Dimensions (Feet)				
Speed Limit (mph)	Minimum Taper Length "L", per Lane Width "W"			Minimum Number of Channelizers
	10	11	12	
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13

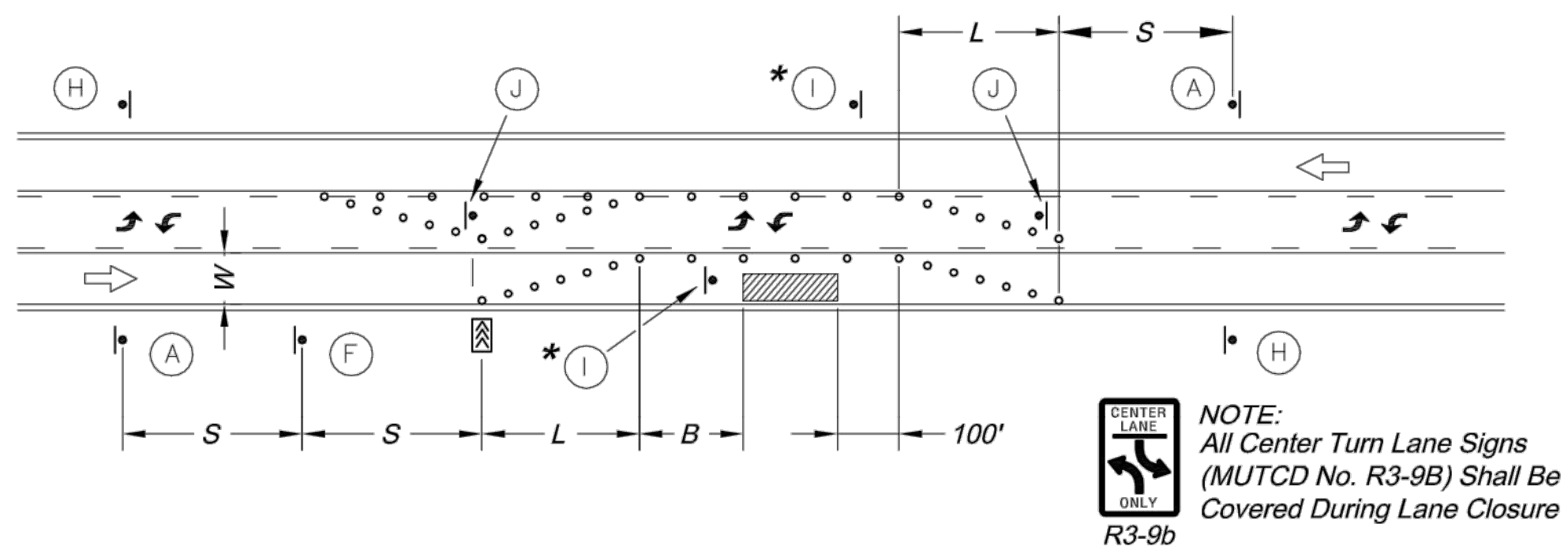
Guidelines for Length of Longitudinal Buffer Space "B"	
Speed Limit (mph)	Length (Feet)
25	35
30	55
35	85
40	120
45	170

Maximum Channelizer Spacing		
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90

SIGN LEGEND

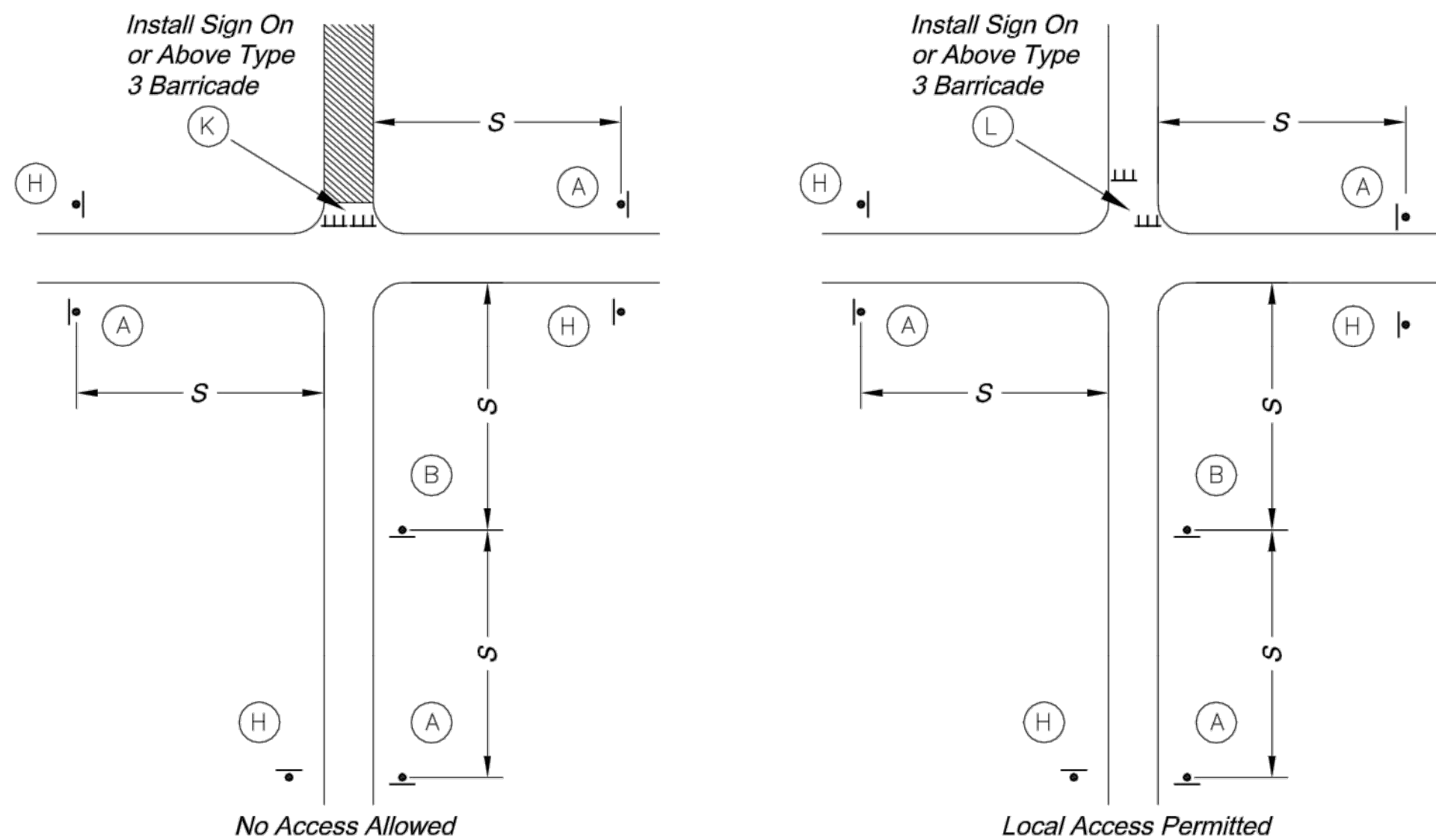


TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET



LANE CLOSURE - THREE LANE STREET

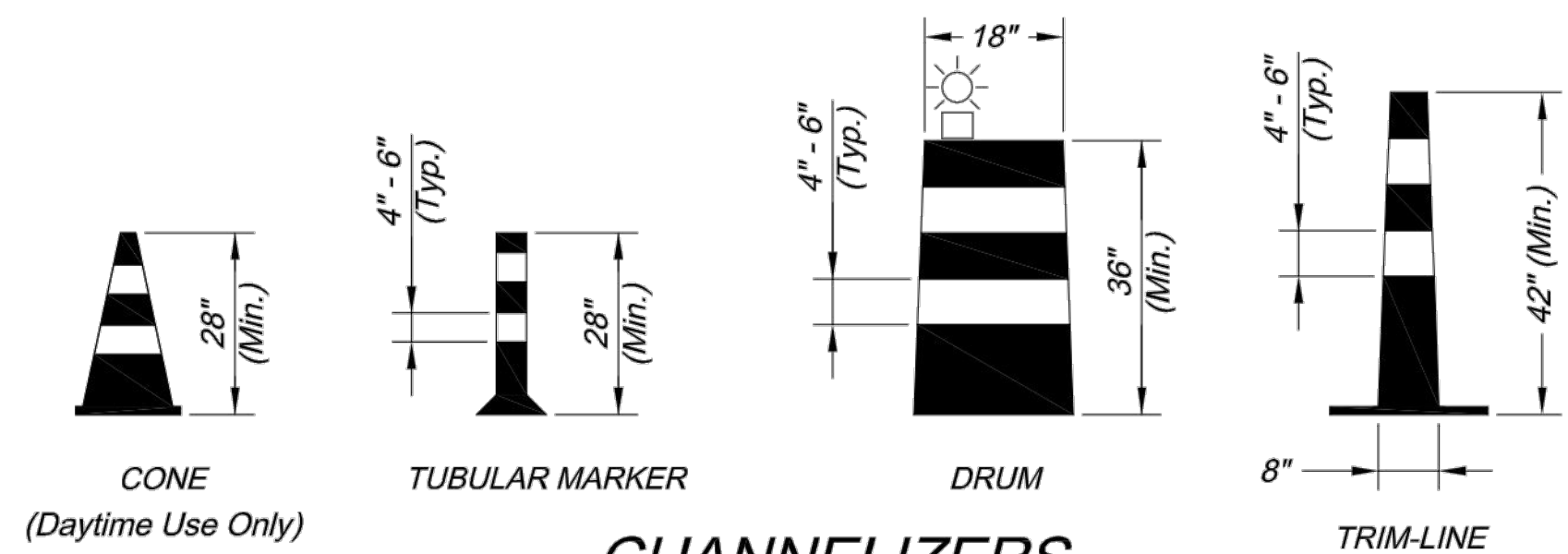
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



TYPICAL STREET CLOSURE

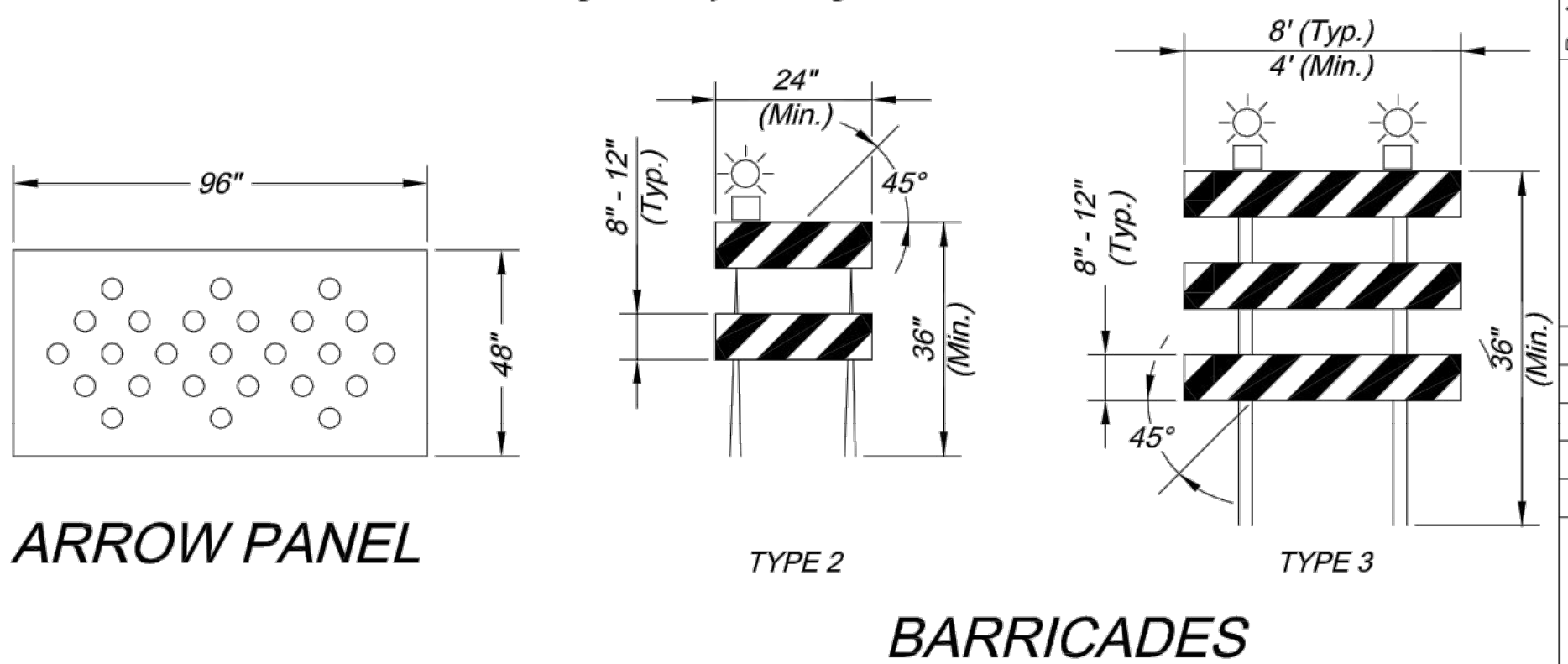
GENERAL NOTES:

- All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*.
- All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectORIZED. All signs shall be securely mounted with height and lateral location as described in the *MUTCD*.
- Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
- Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the *MUTCD*. Flaggers shall meet the requirements in the *MUTCD* in regard to character, training, attire, and behavior.
- Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
- Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
- The Contractor shall use barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
- Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
- No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
- Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction materials, including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
- Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
- The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. or 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
- All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
- All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
- The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
- No traffic signal shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
- The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
- The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
- Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
 - Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate.
 - Stop the work until deficiencies are corrected.
 - Suspend all pay estimates until deficiencies are corrected, or
 - Place the Contractor in default.



CHANNELIZERS

NOTE: White Bands On Barricades and Channelizers Shall Be Made From High Intensity Sheeting Material.



BARRICADES

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809



Project: O'REILLY DEVELOPMENT SENIOR LIVING

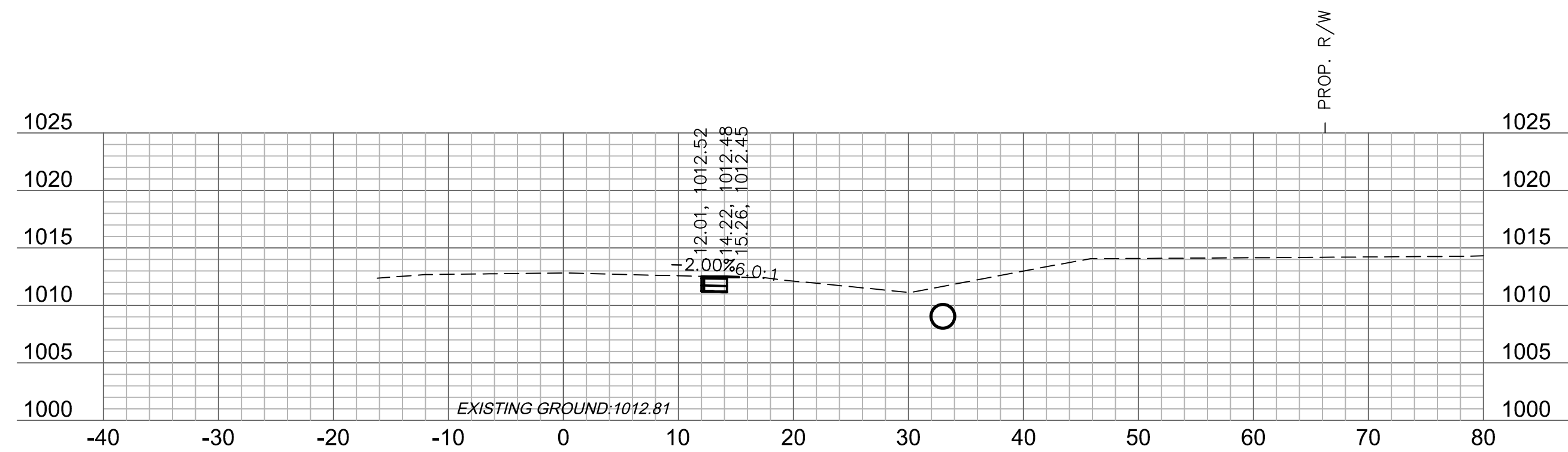
TRAFFIC CONTROL DETAILS

Sheet Name: STANDARD DRAWING TC-1

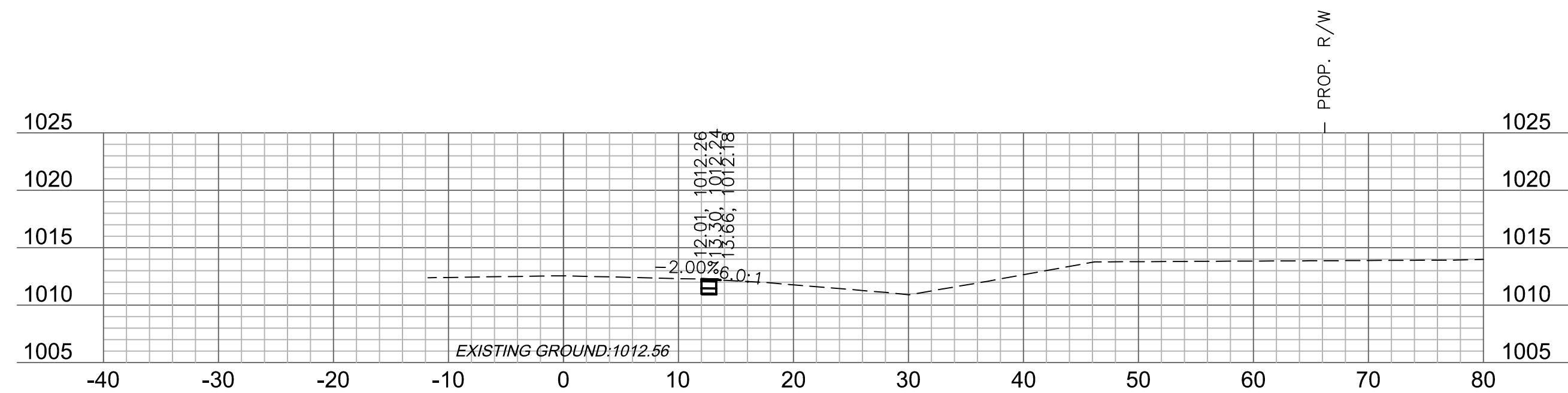
Drawn By: JJW
Checked By: MP
Date: 12-10-2008
Project No.: X

T34

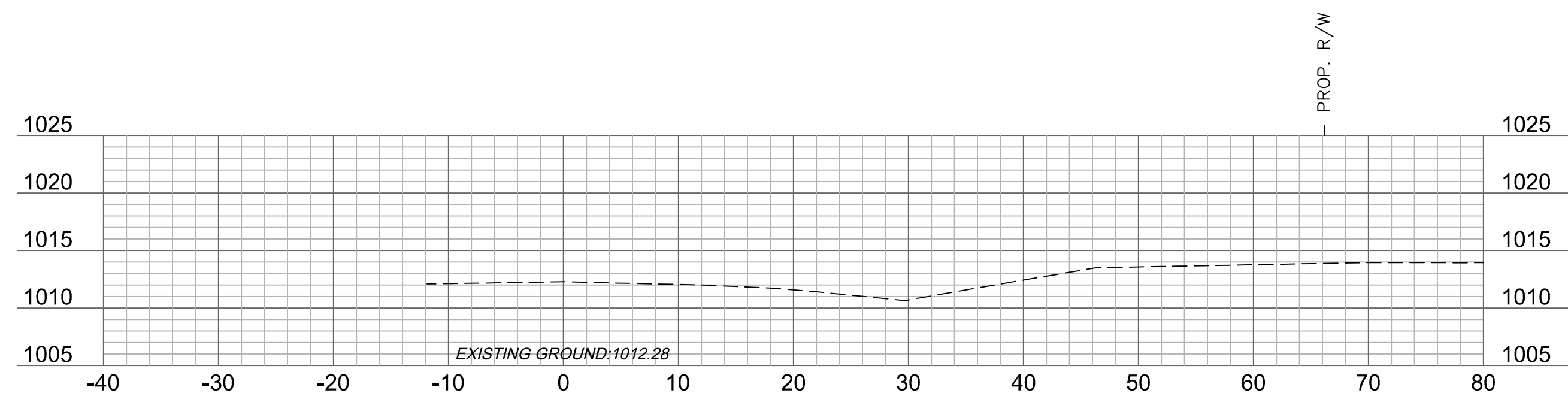
DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
 XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
 DATE: Jul 25, 2019 9:37am USER: ascavedra



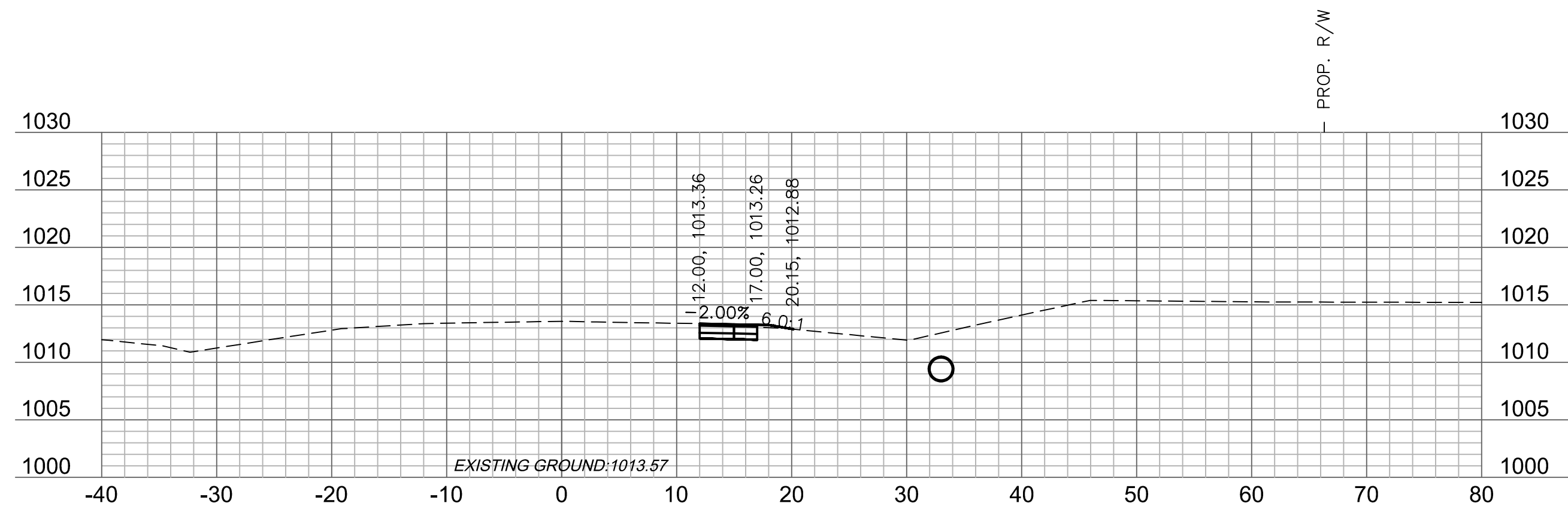
12+75



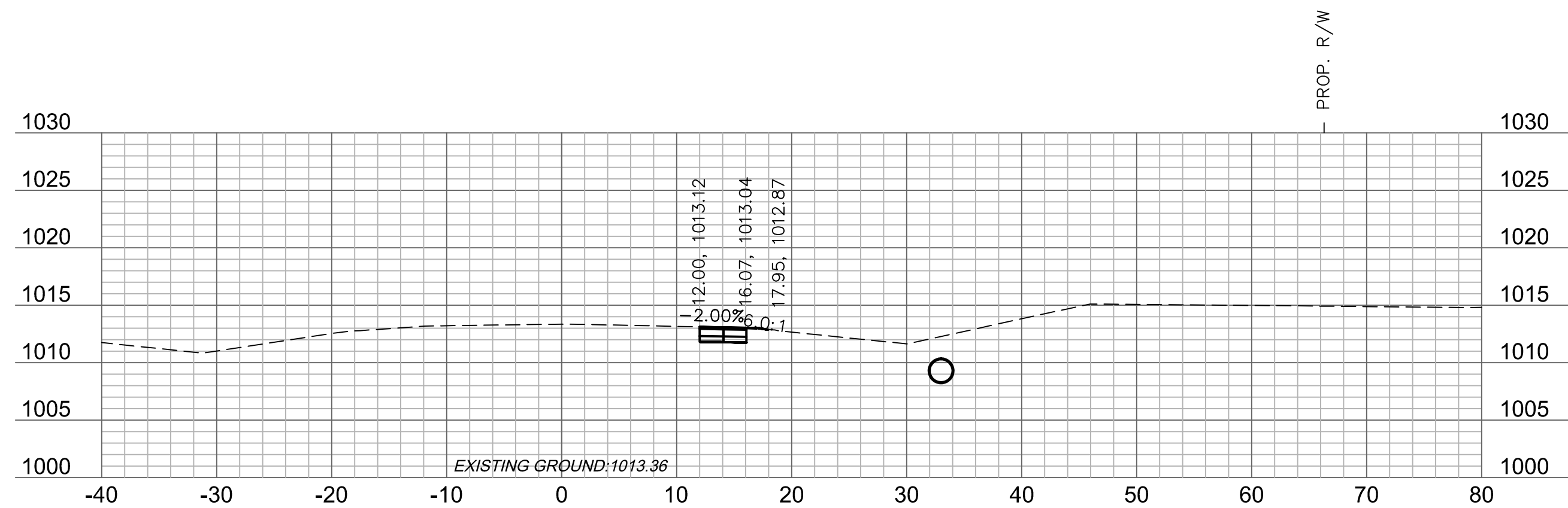
12+50



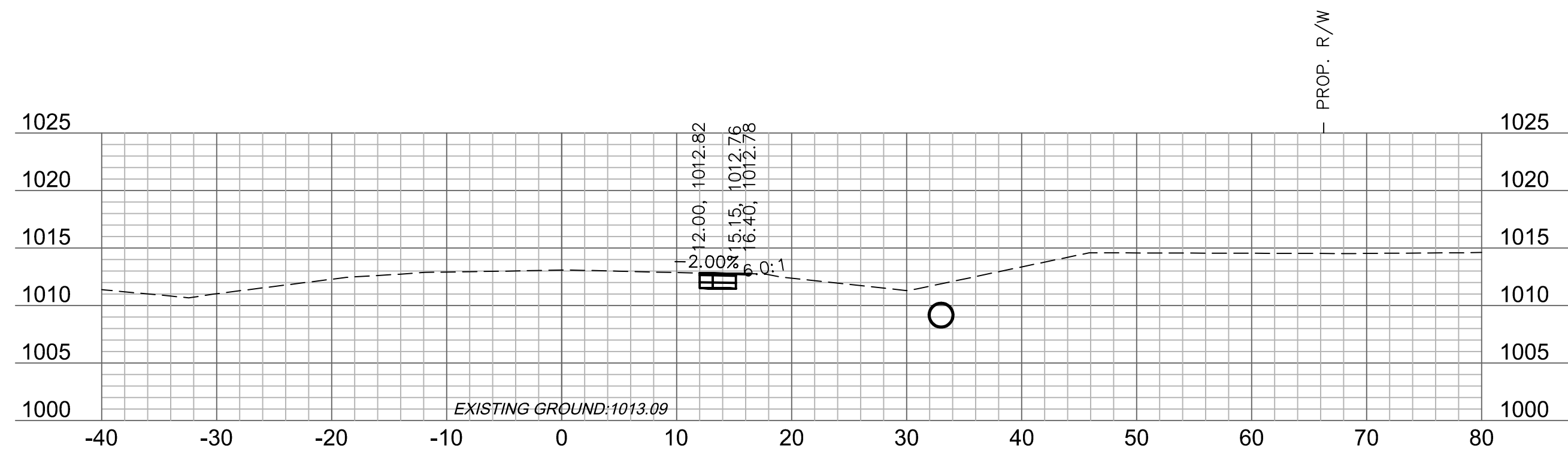
12+25



13+50

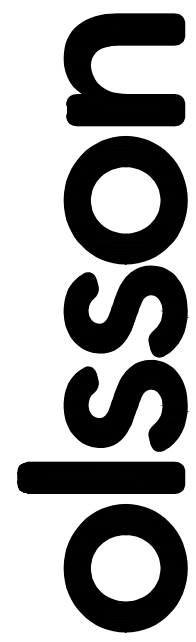


13+25



13+00

GRADING (BY OTHERS)	
---------------------	--



Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

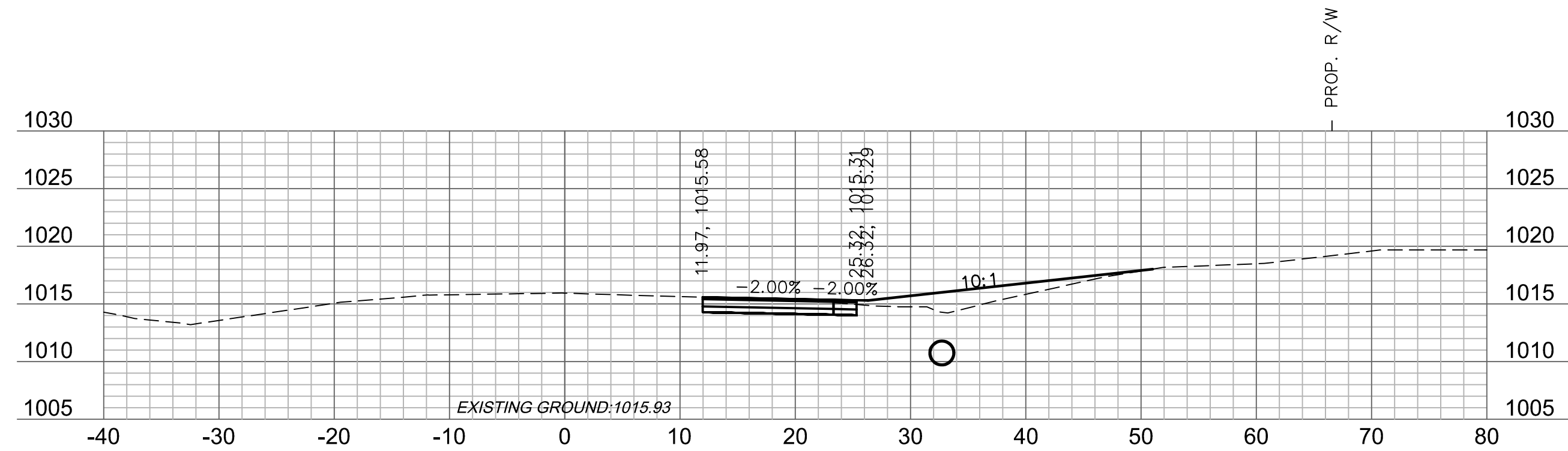
[illegible]

OLDHAM PARKWAY CROSS SECTIONS	2017
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	2018
LEE'S SUMMIT, MISSOURI	2019

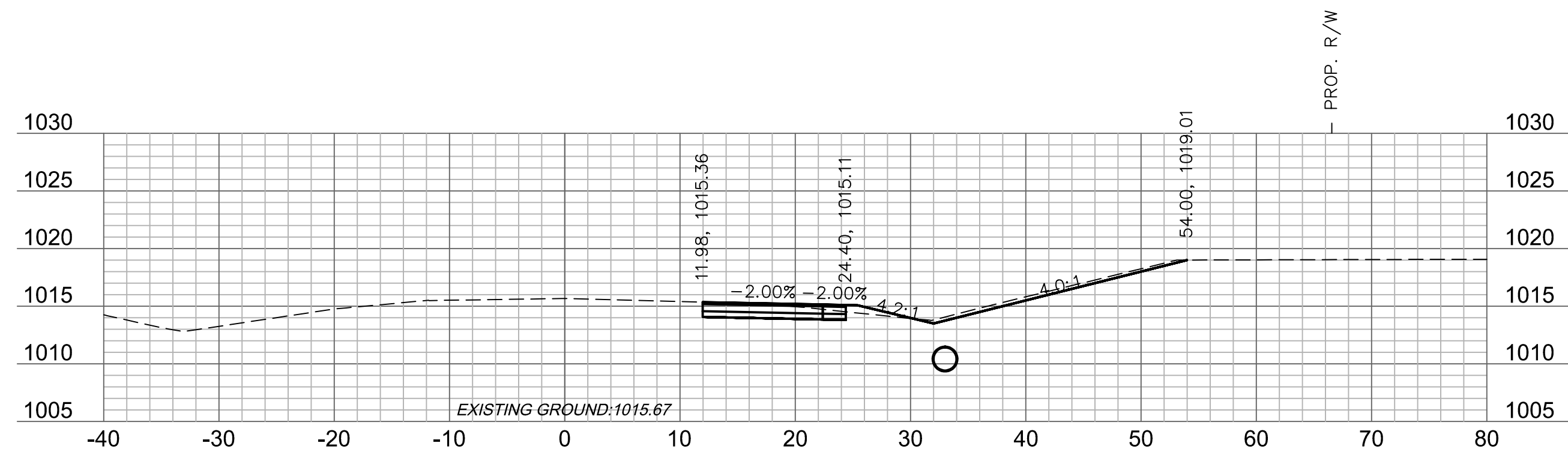
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

SHEET
T35 OF 70

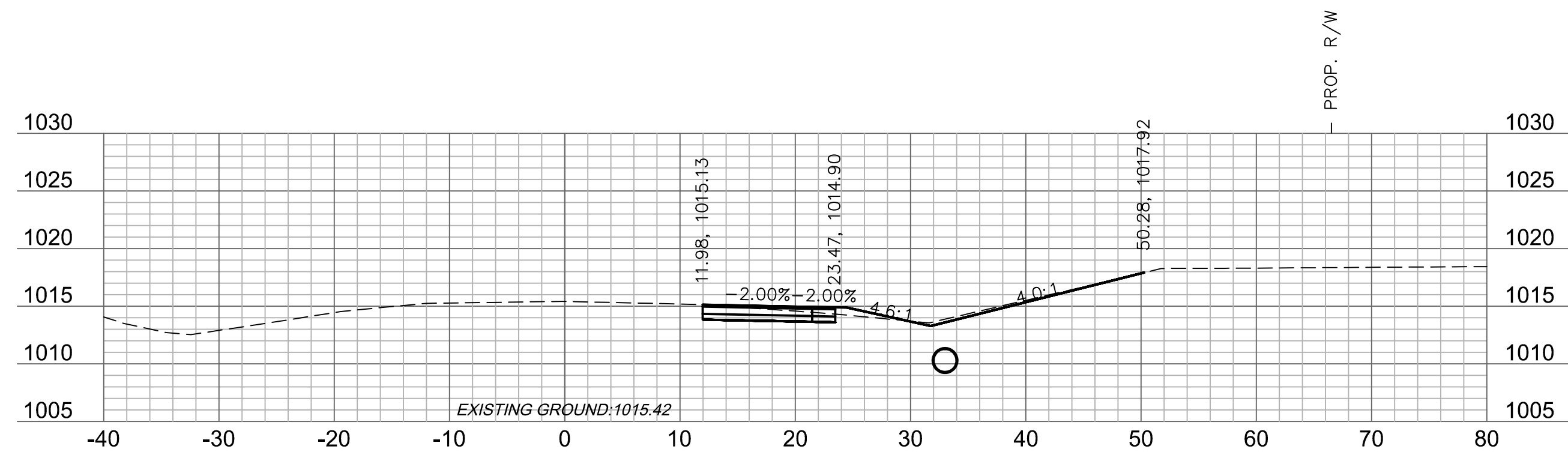
DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
DATE: Jul 25, 2019 9:37am USER: ascavedra



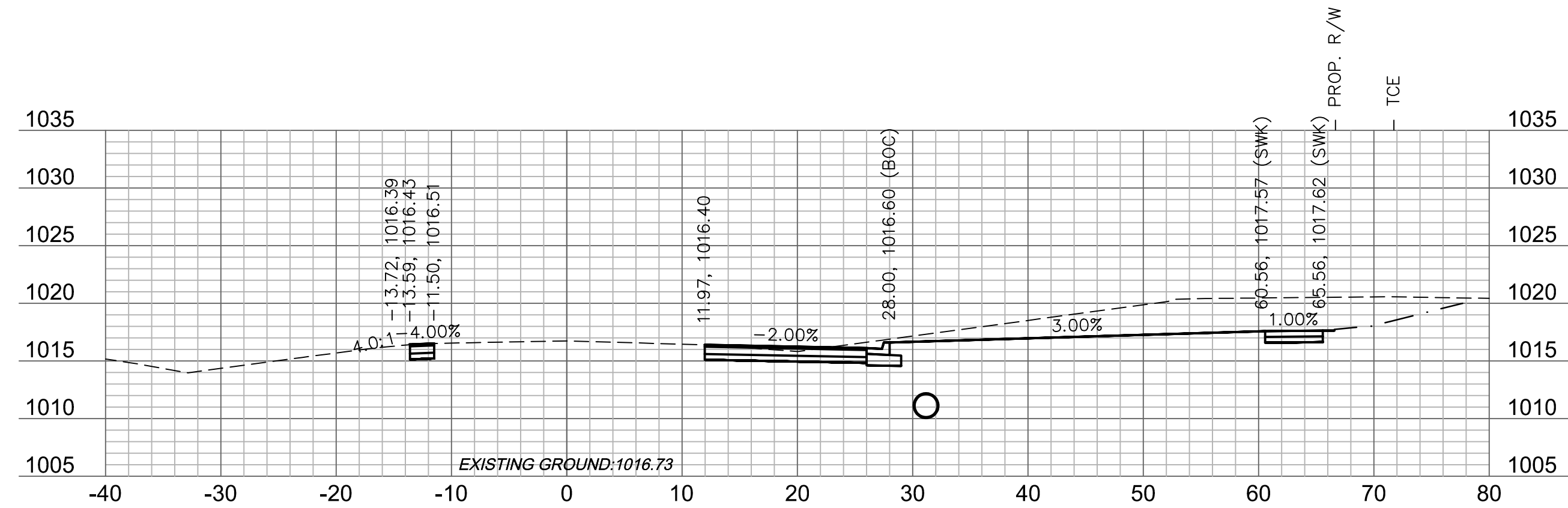
15+75



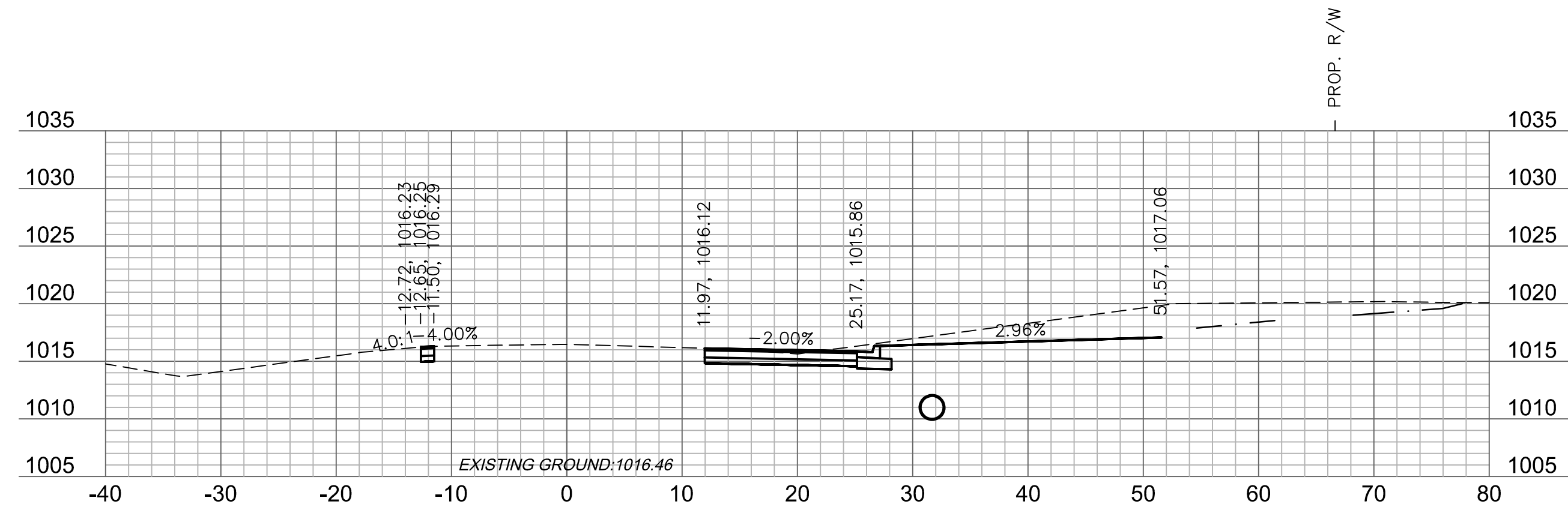
15+50



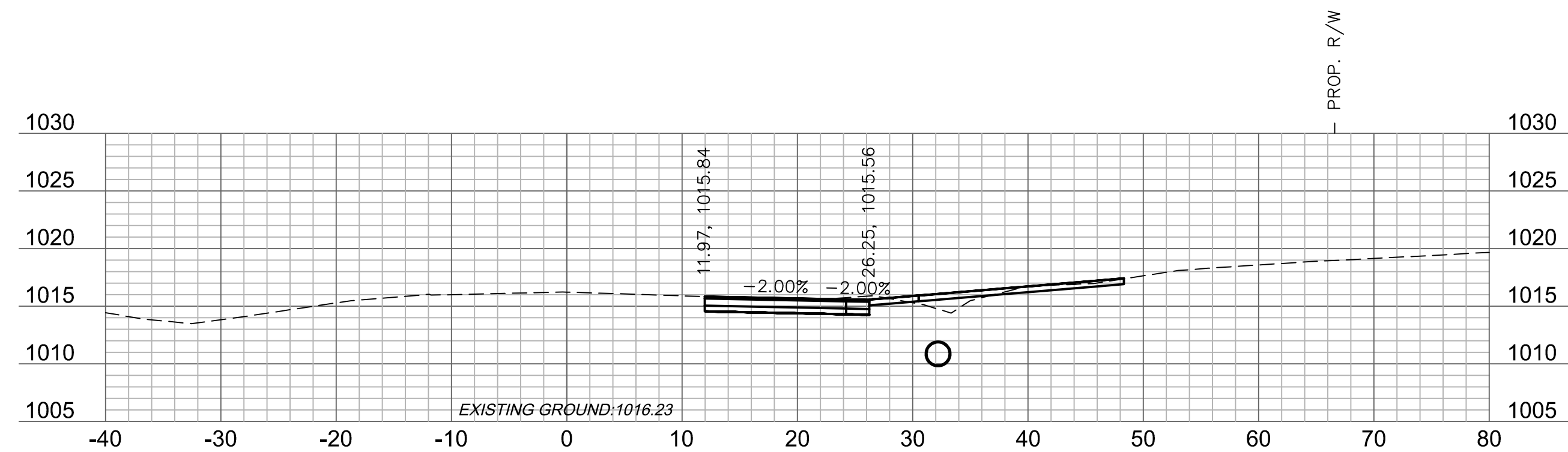
15+25



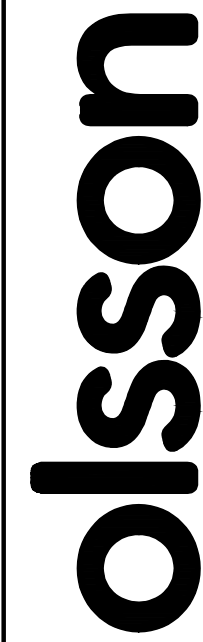
16+50



16+25



16+00

[illegible]

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

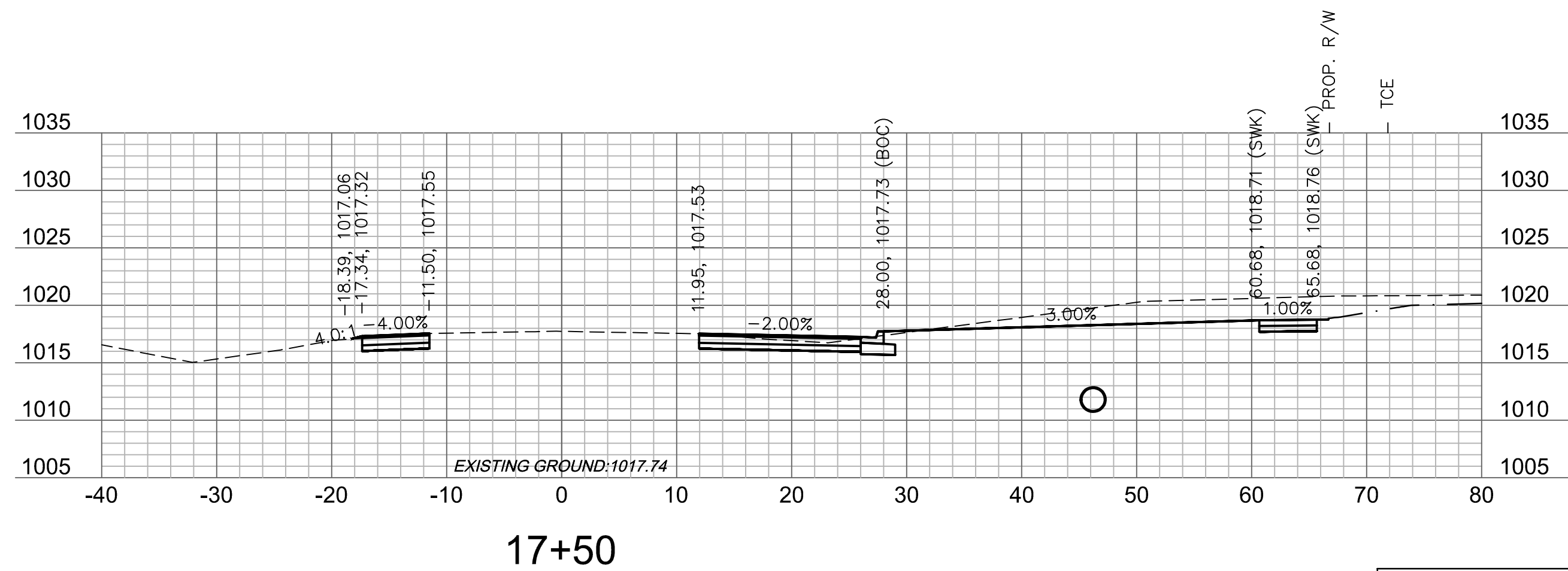
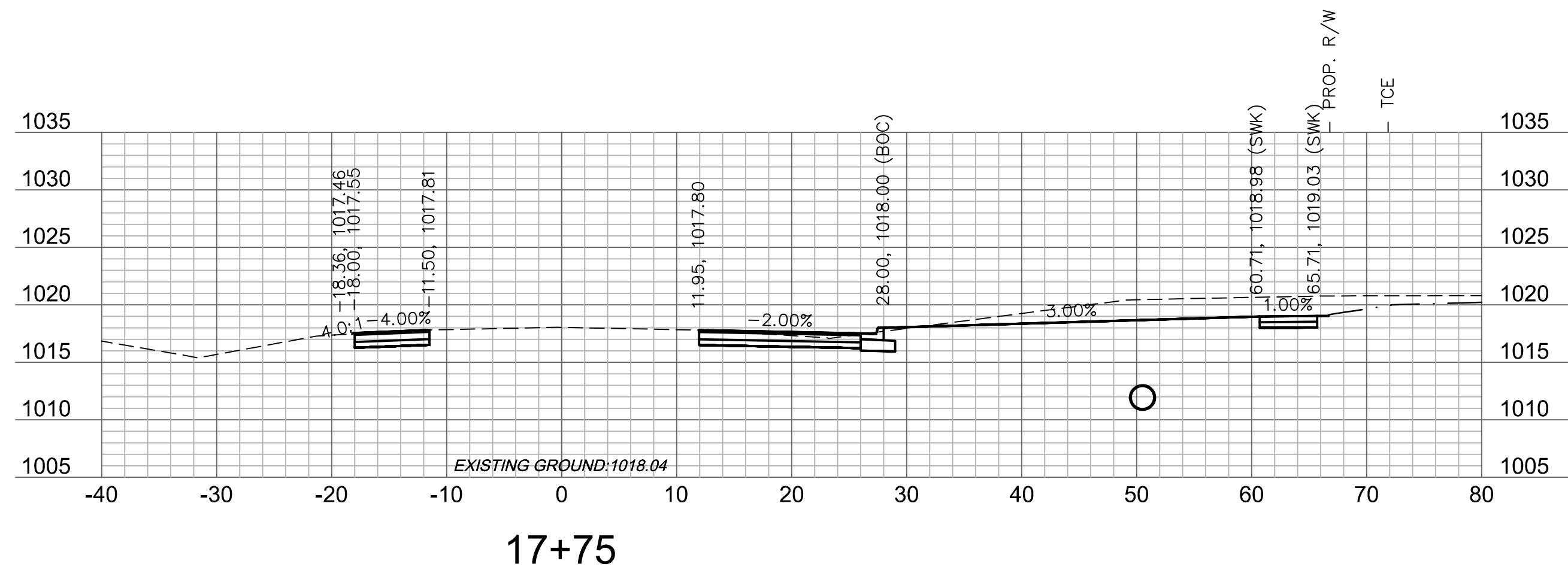
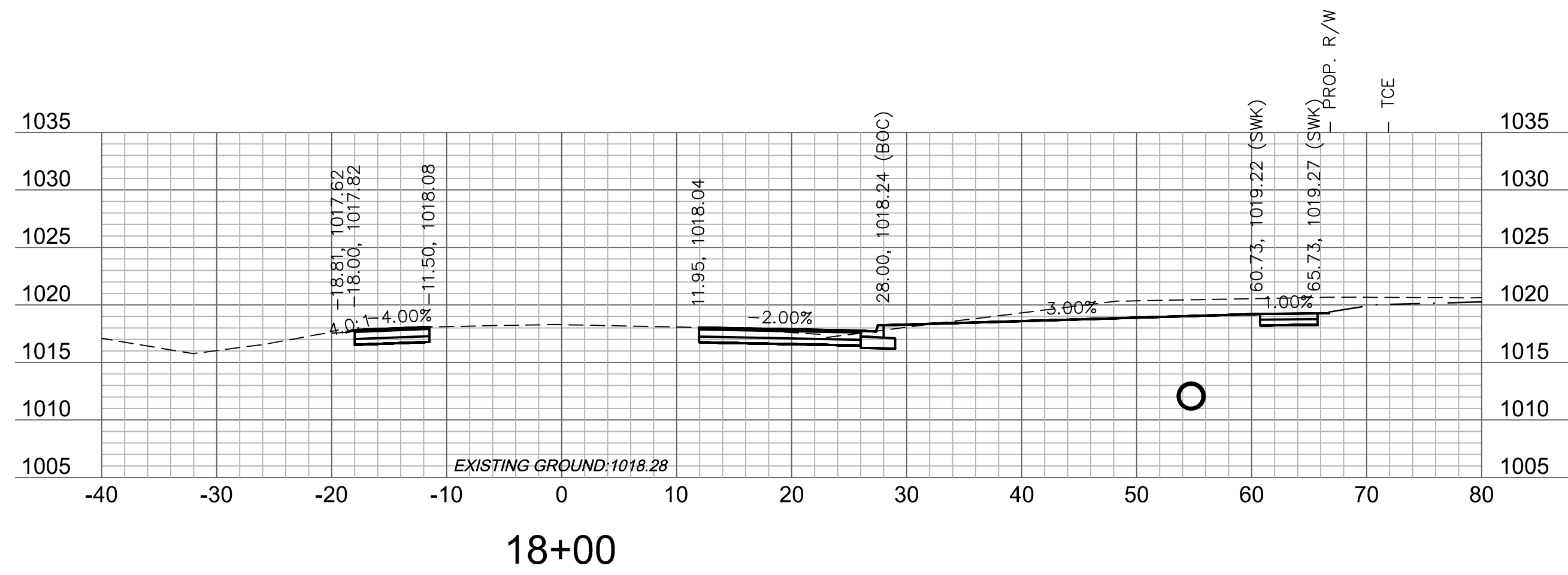
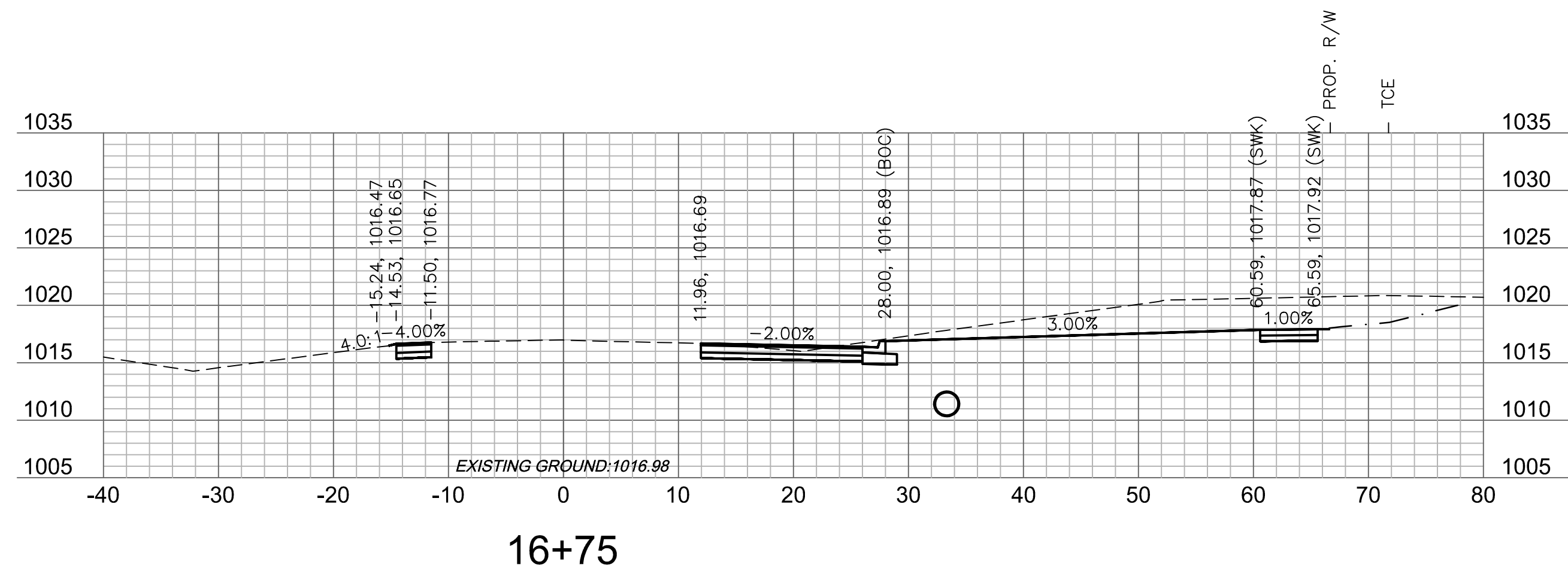
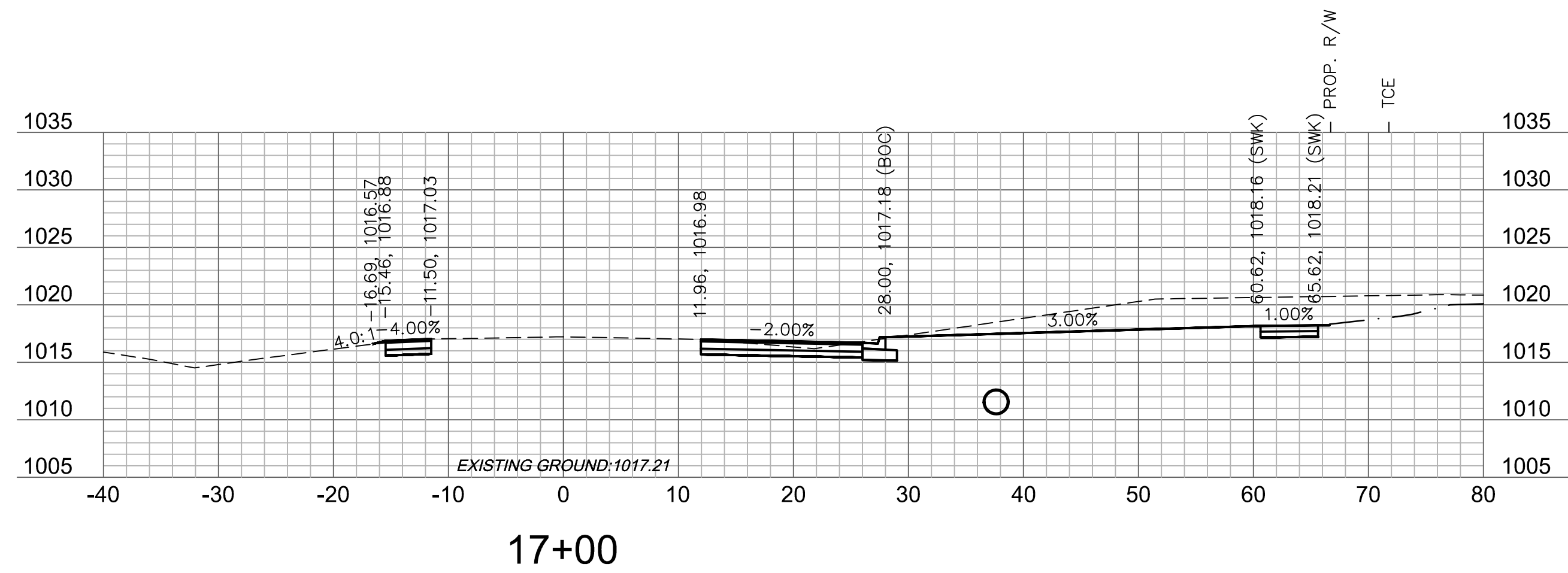
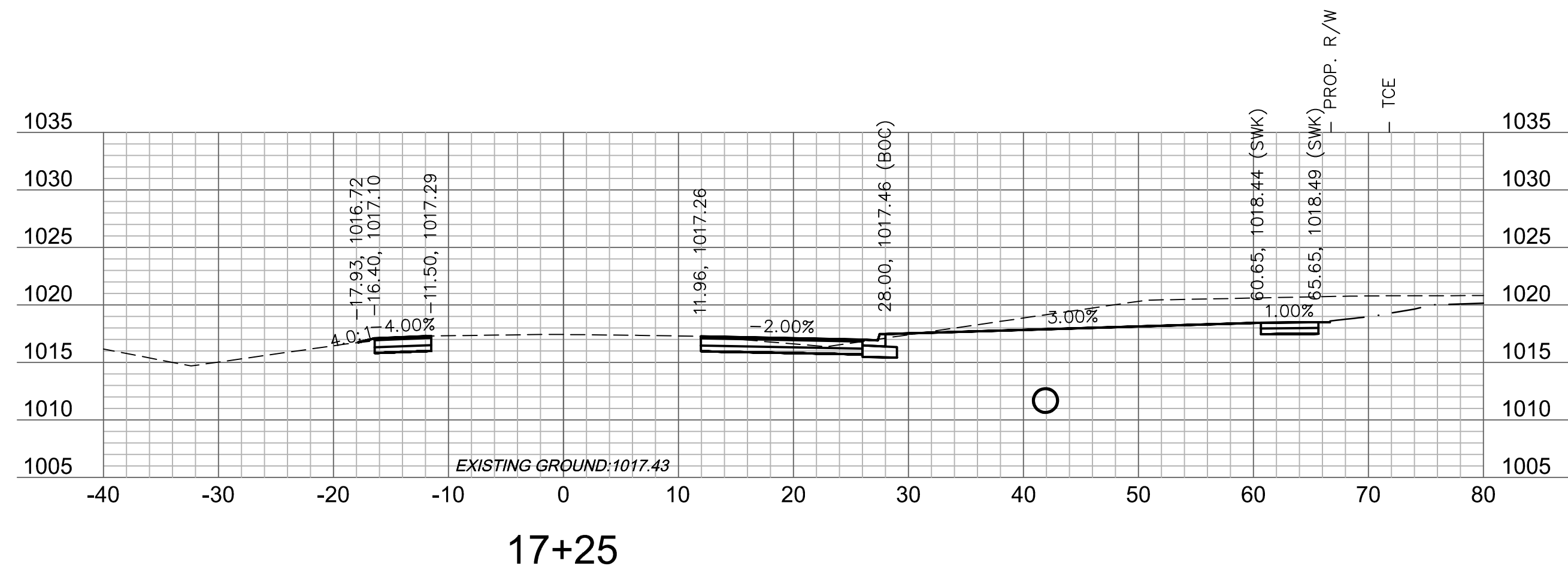
[illegible]

OLDHAM PARKWAY CROSS SECTIONS	2017
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	2017
LEE'S SUMMIT, MISSOURI	2017

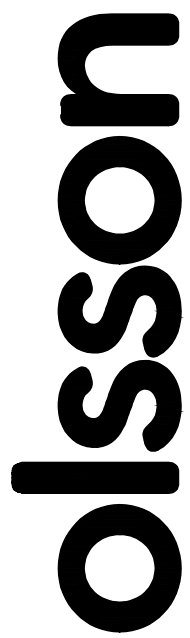
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

SHEET
T37 OF 70

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
 XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
 DATE: Jul 25, 2019 9:37am USER: ascavedra



GRADING (BY OTHERS)



Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

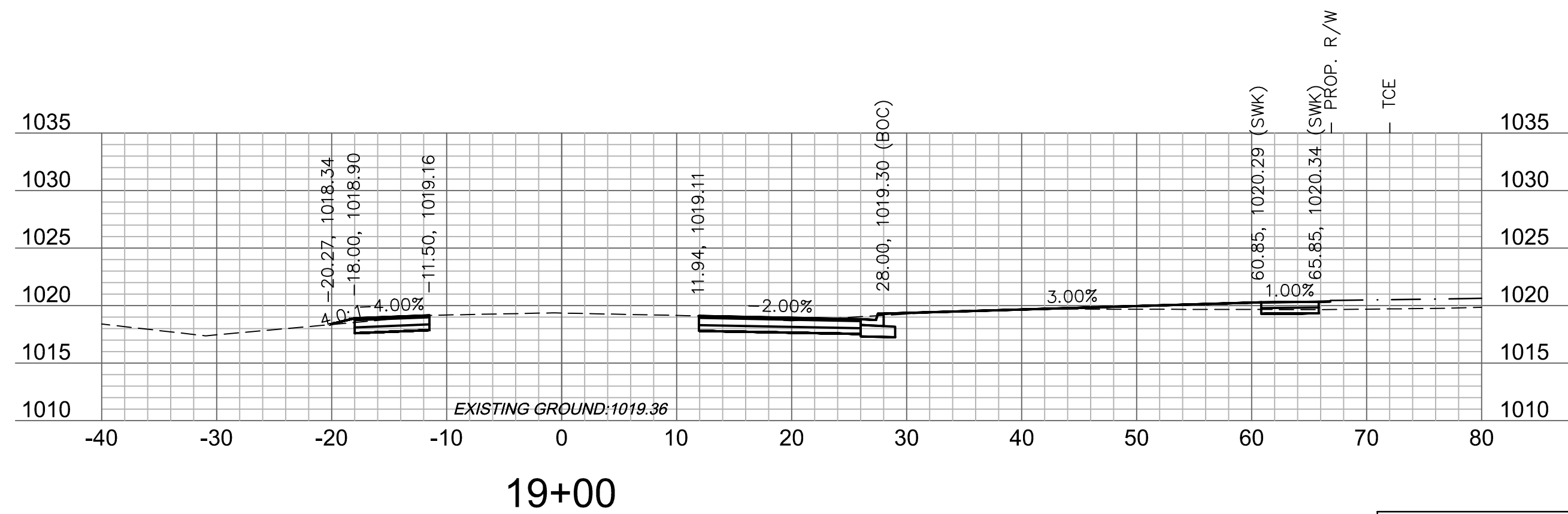
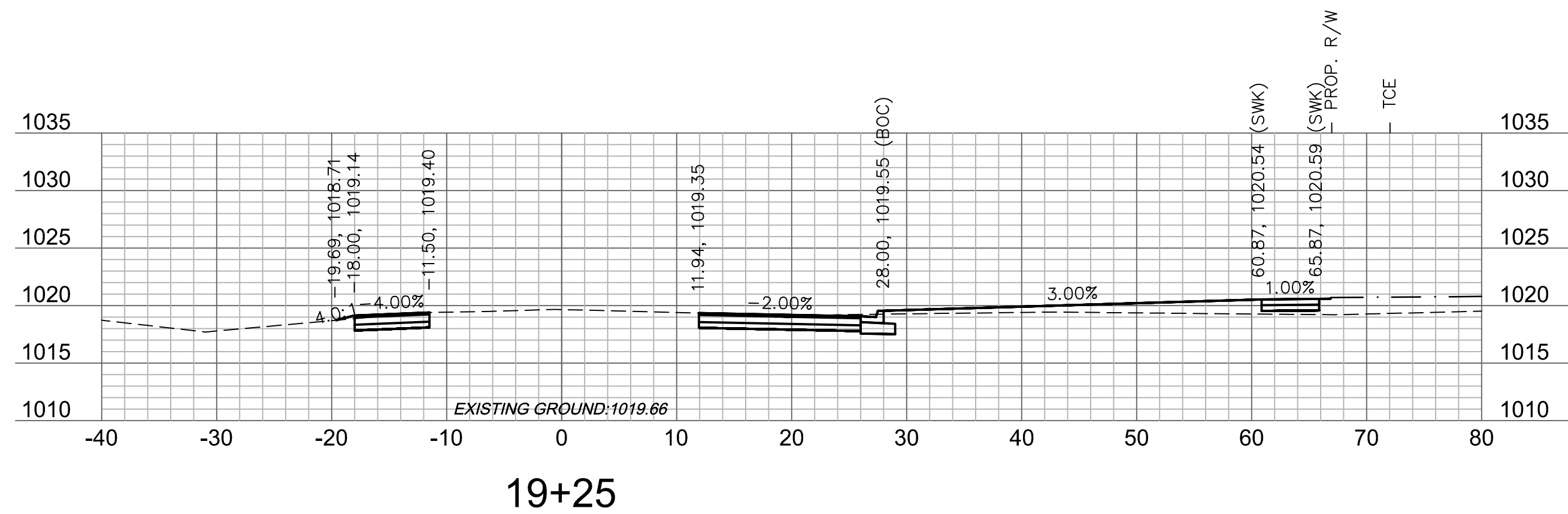
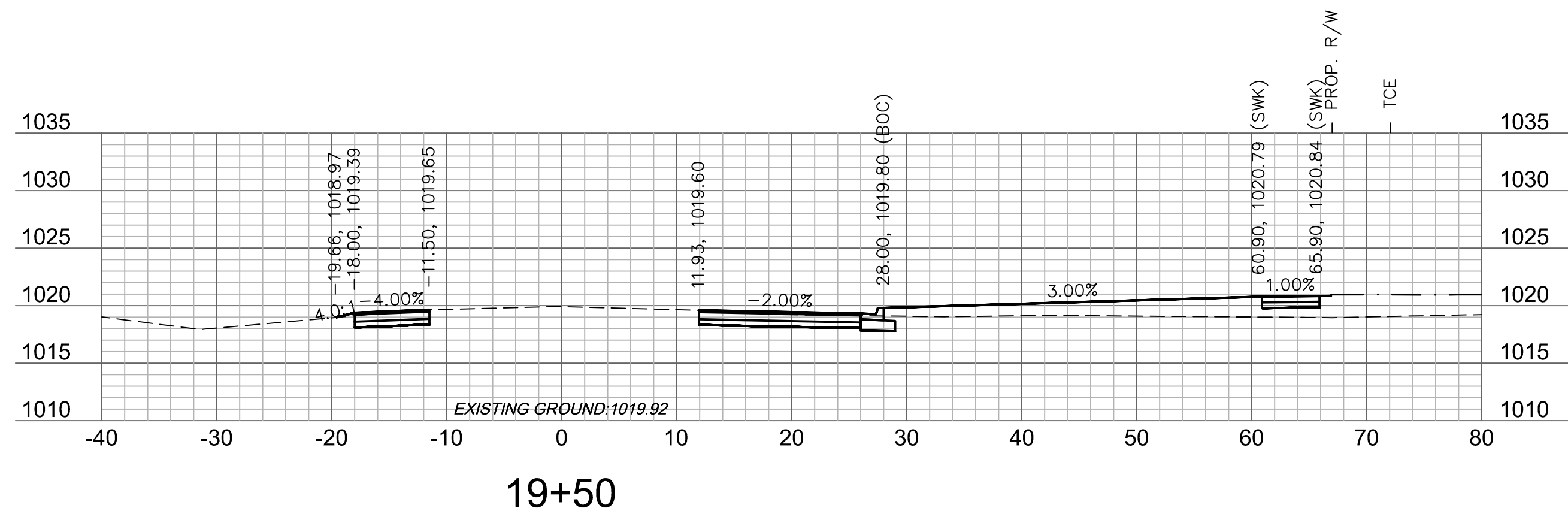
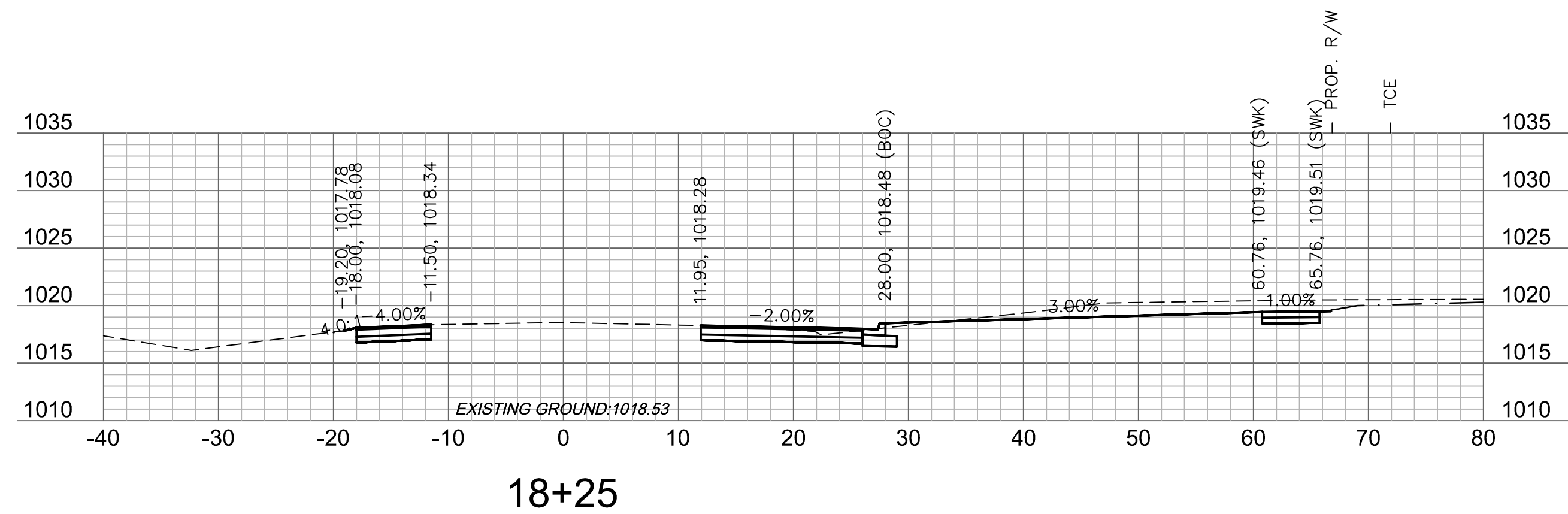
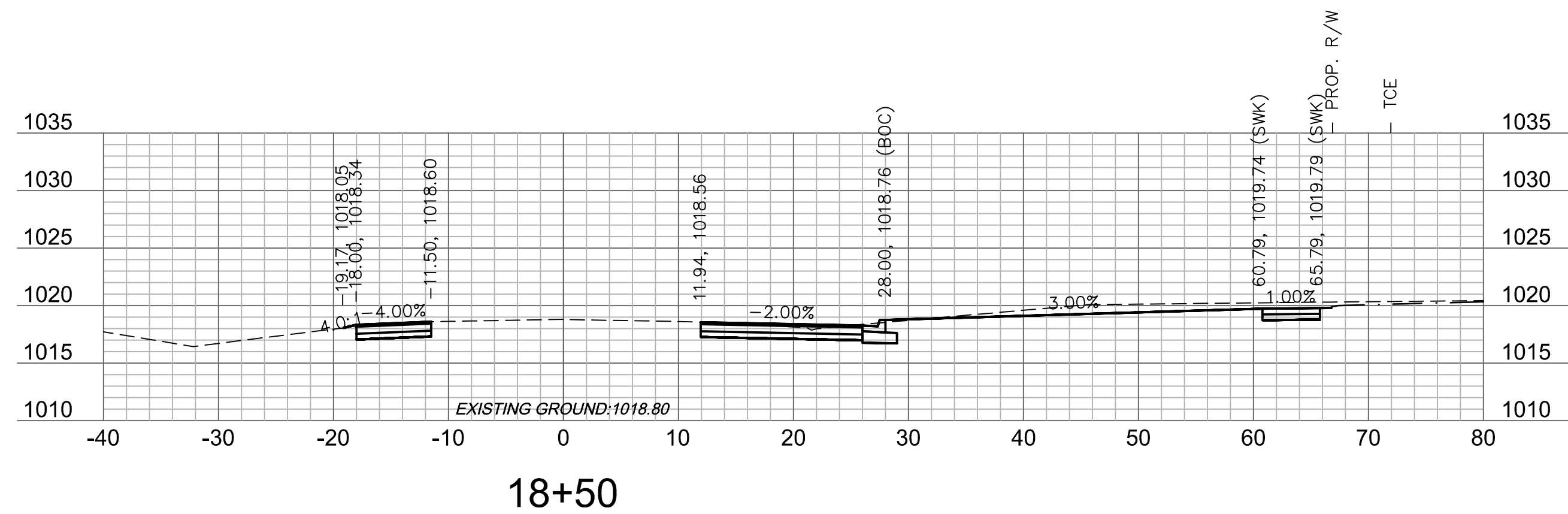
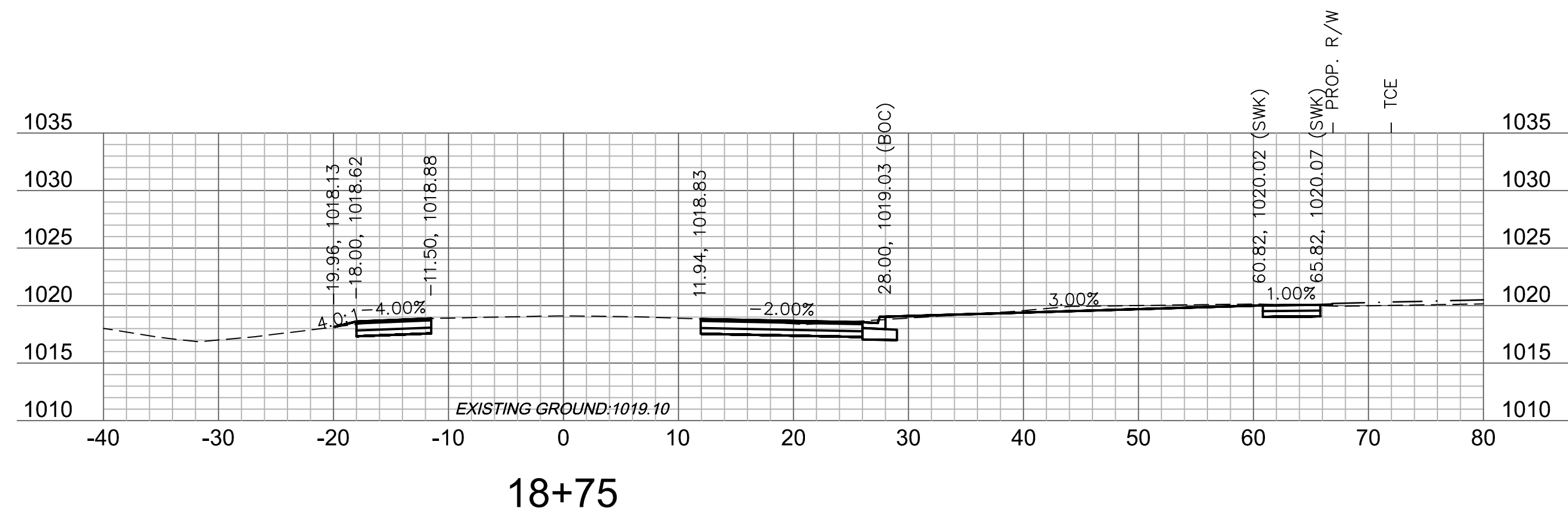
[illegible]

OLDHAM PARKWAY CROSS SECTIONS	
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	
LEE'S SUMMIT, MISSOURI	2019

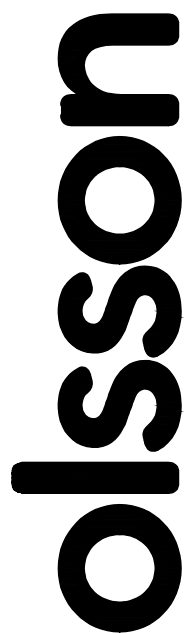
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

SHEET
T38 OF 70

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
DATE: Jul 25, 2019 9:37am USER: ascavedra



GRADING (BY OTHERS)



Olsson Engineering - MO State Certificate of Authority #001592
37301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

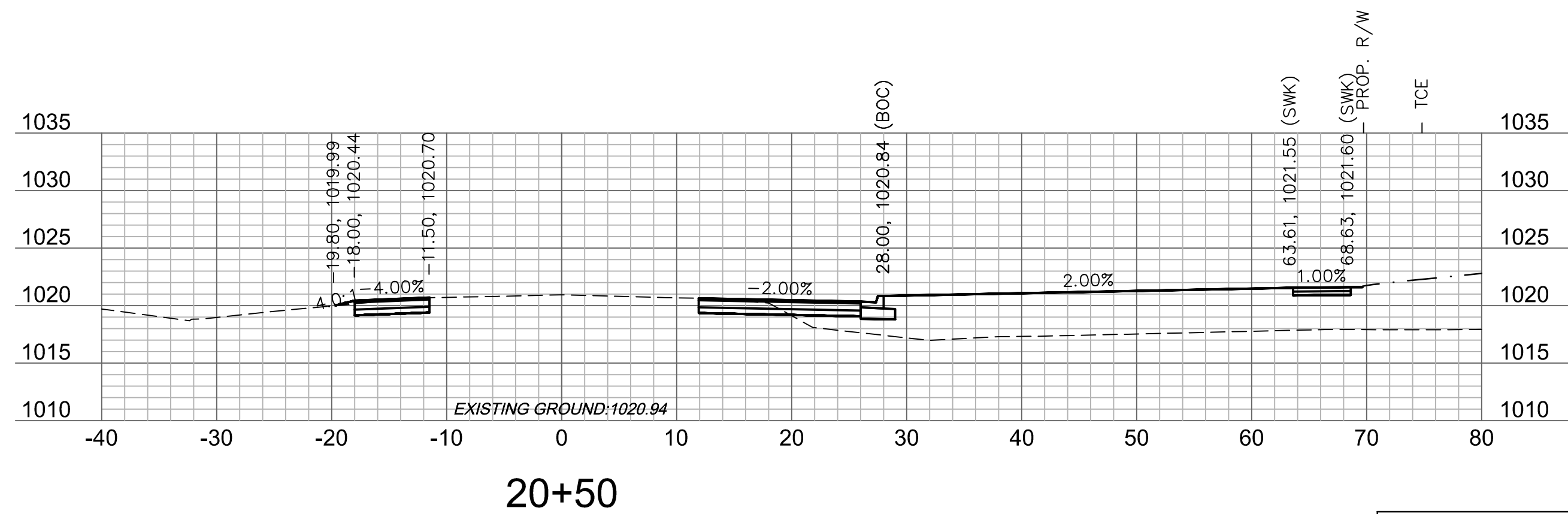
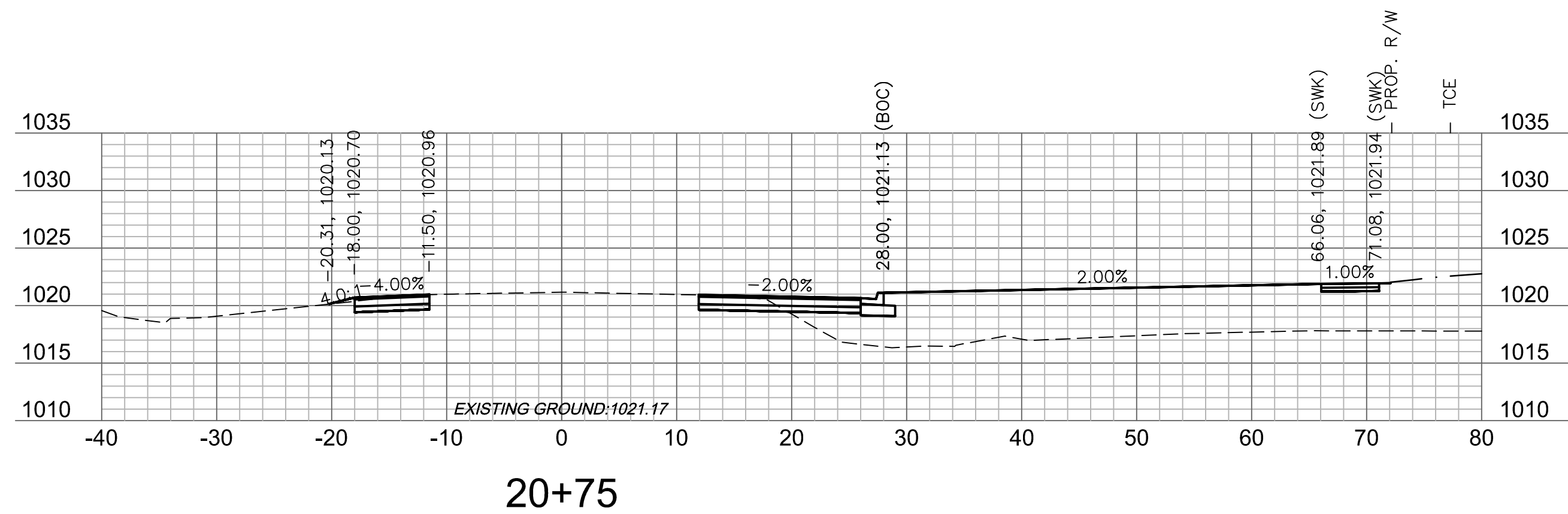
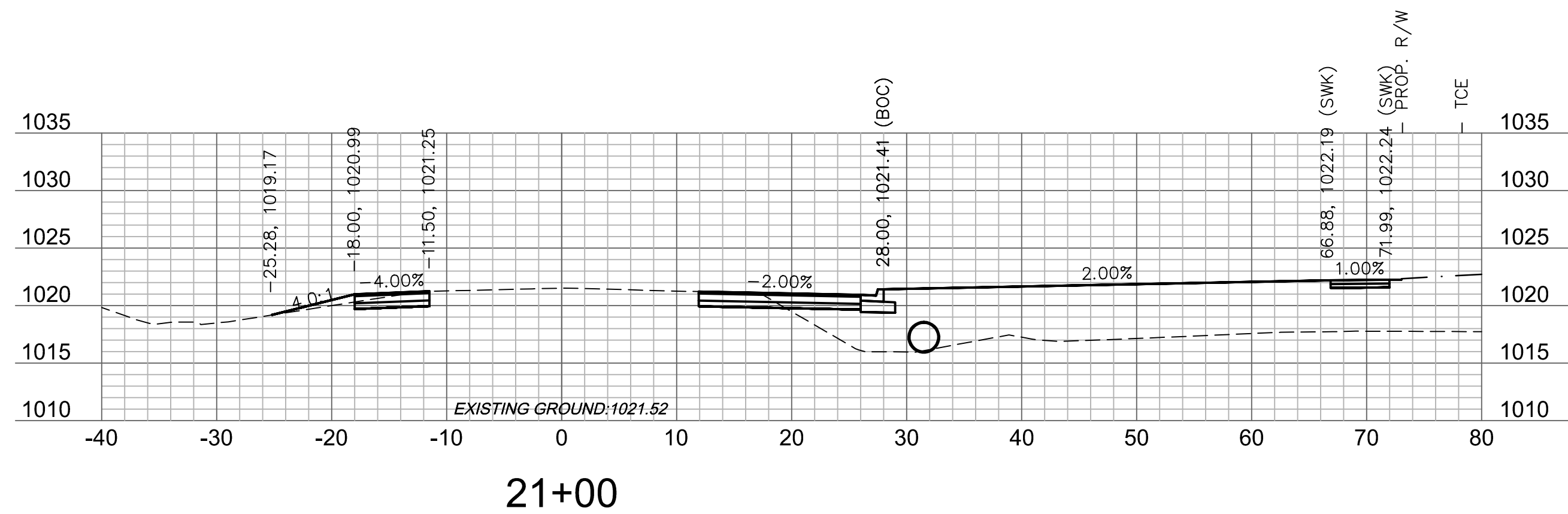
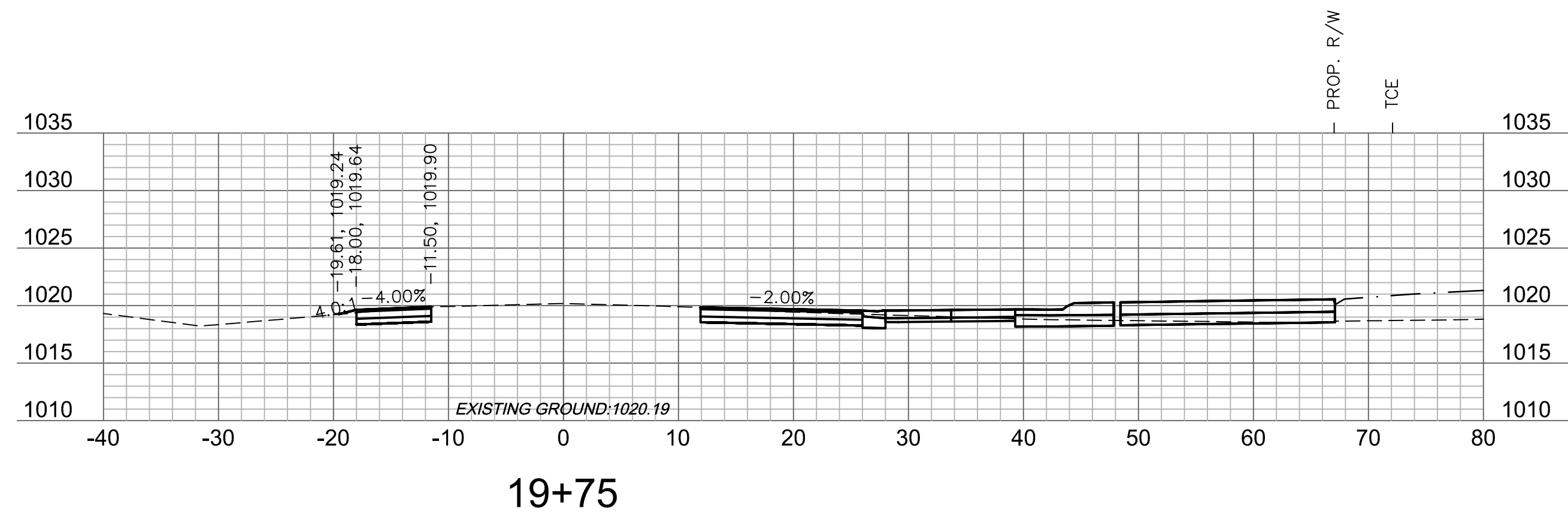
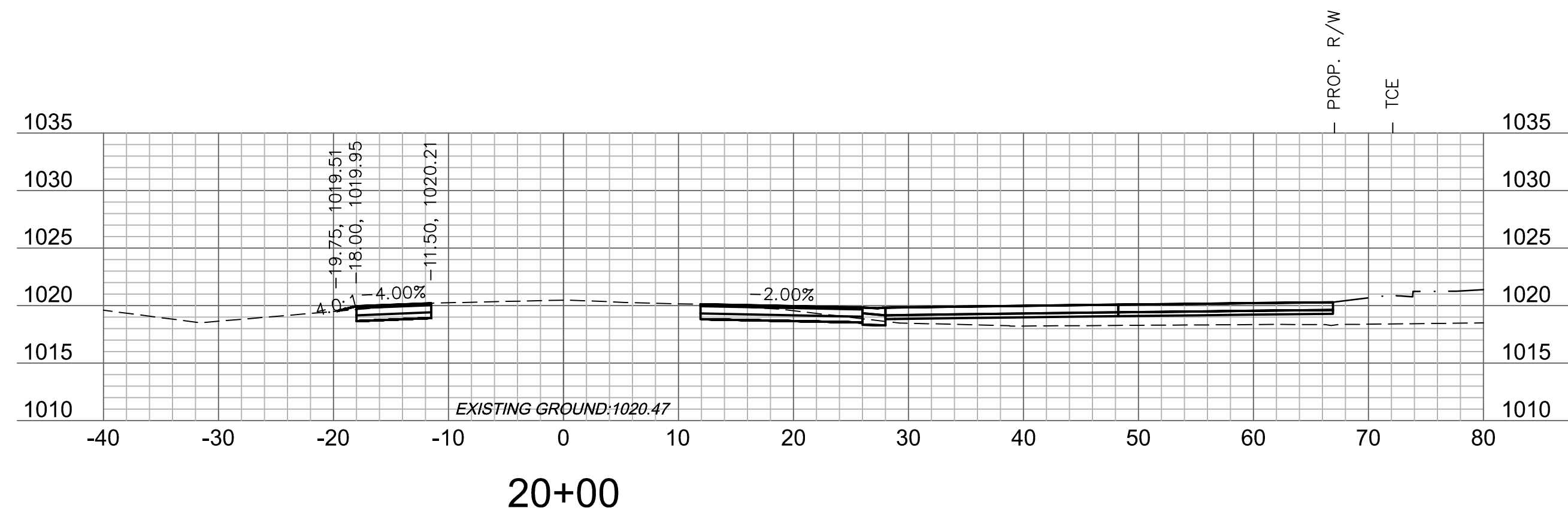
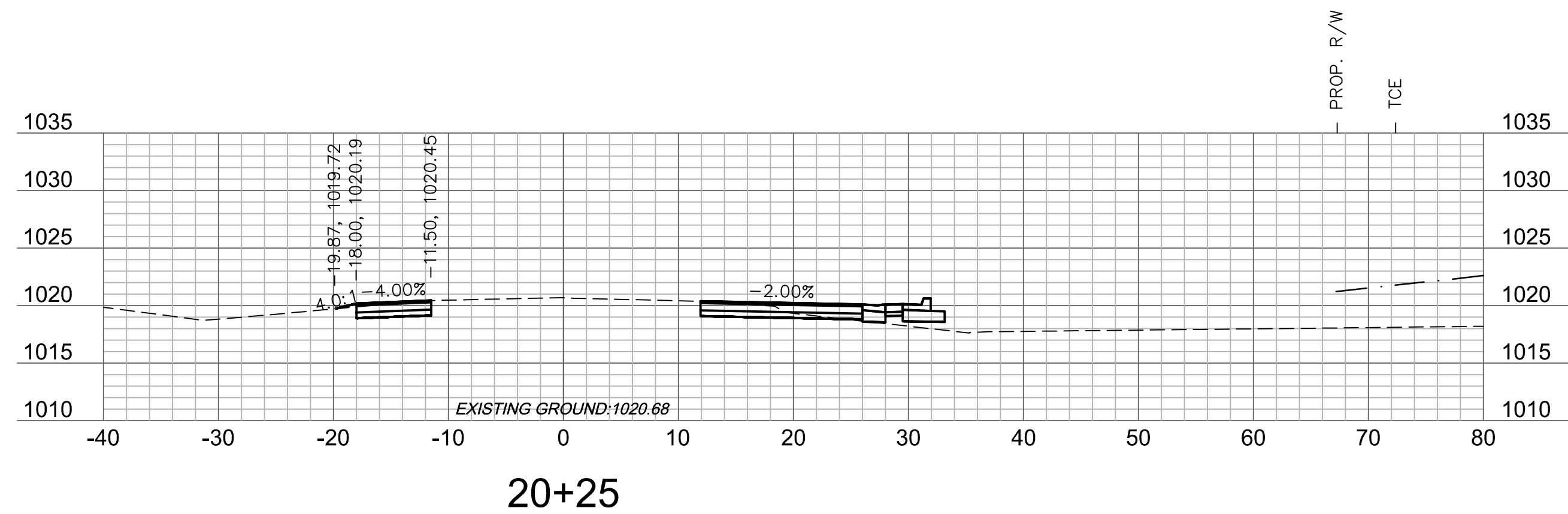
[illegible]

OLDHAM PARKWAY CROSS SECTIONS	OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	201
LEE'S SUMMIT, MISSOURI		

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

SHEET
T39 OF 70

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
 XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
 DATE: Jul 25, 2019 9:37am USER: ascavedra



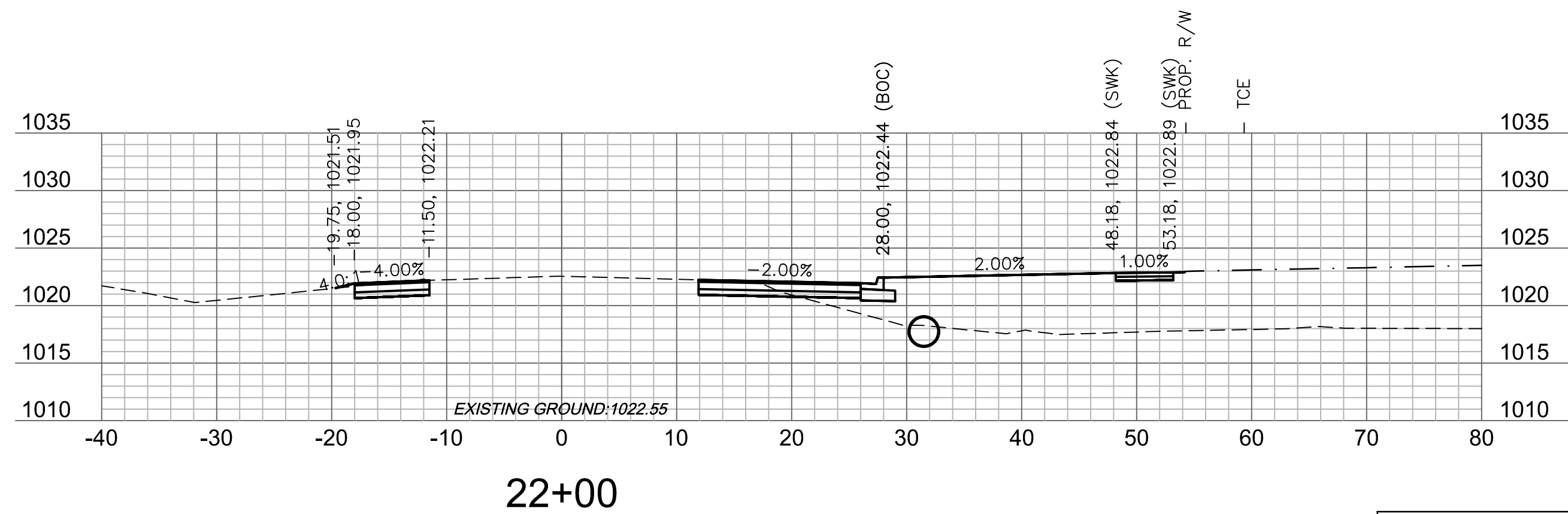
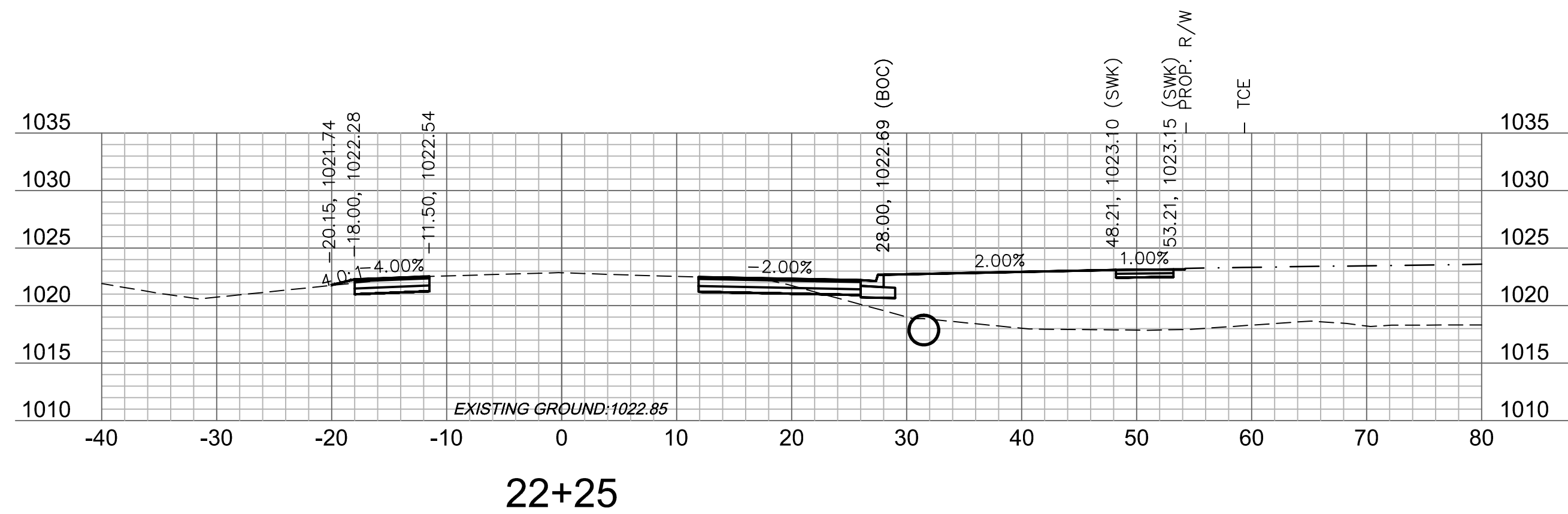
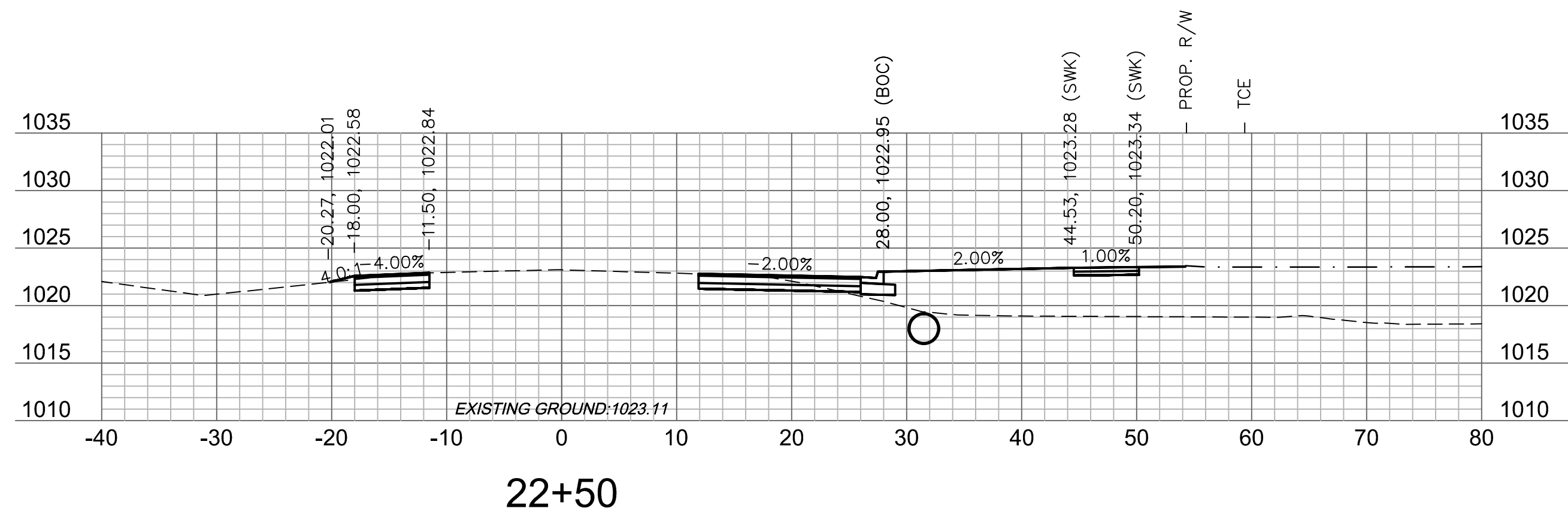
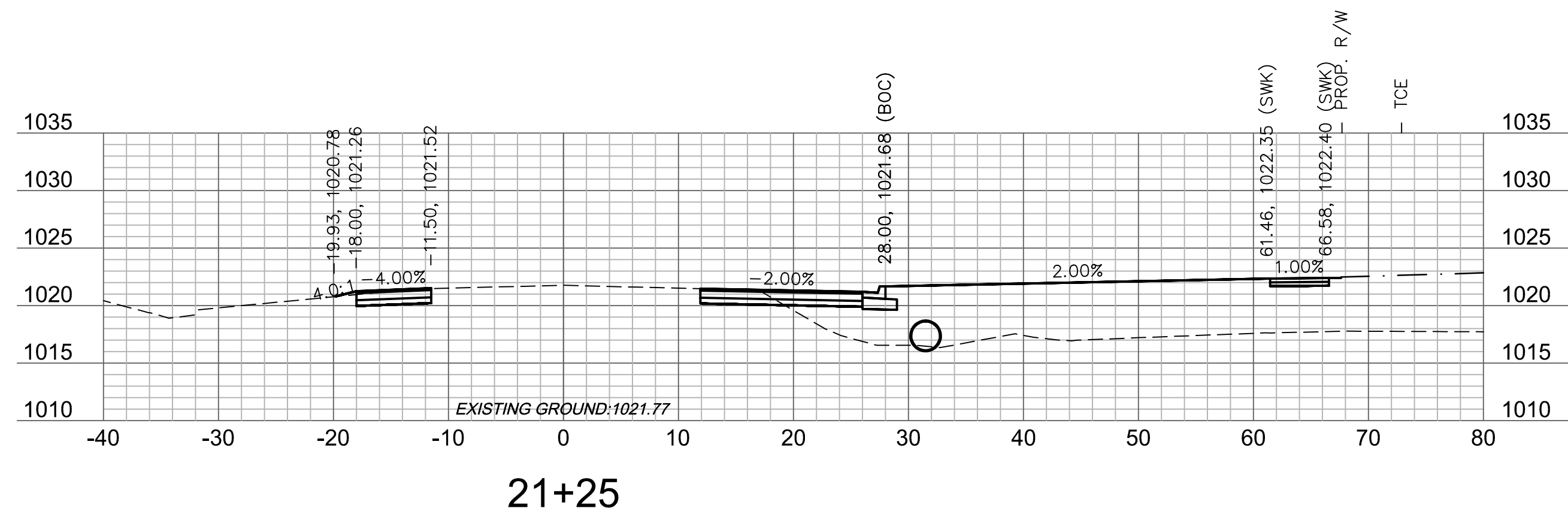
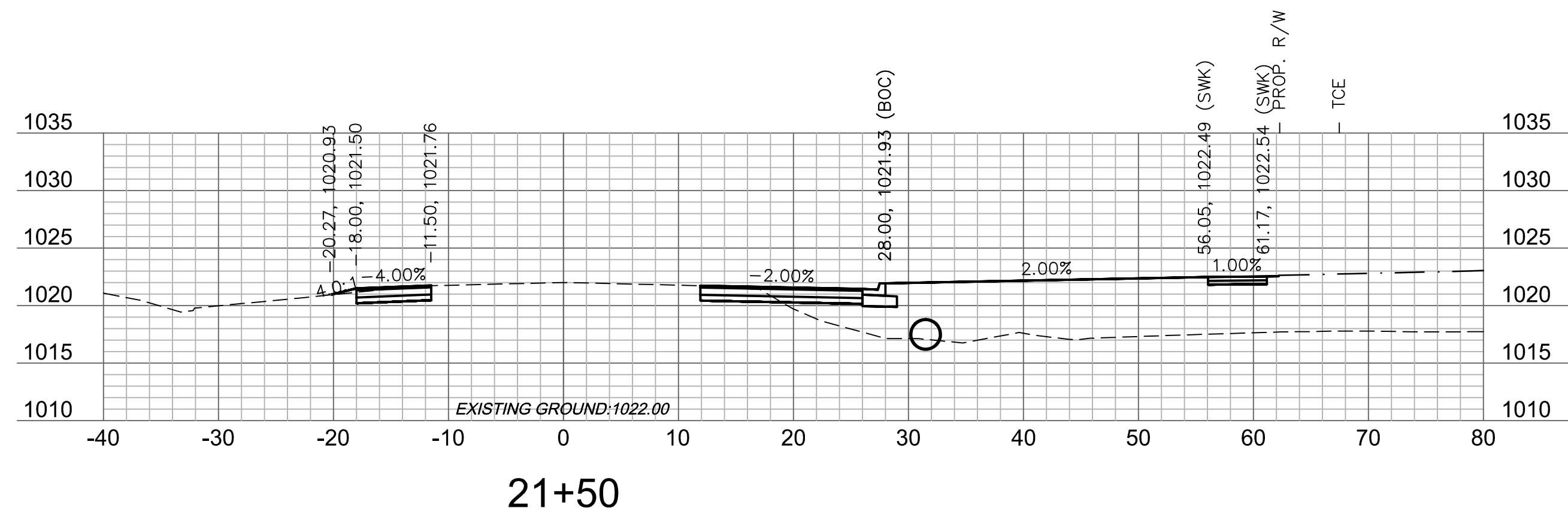
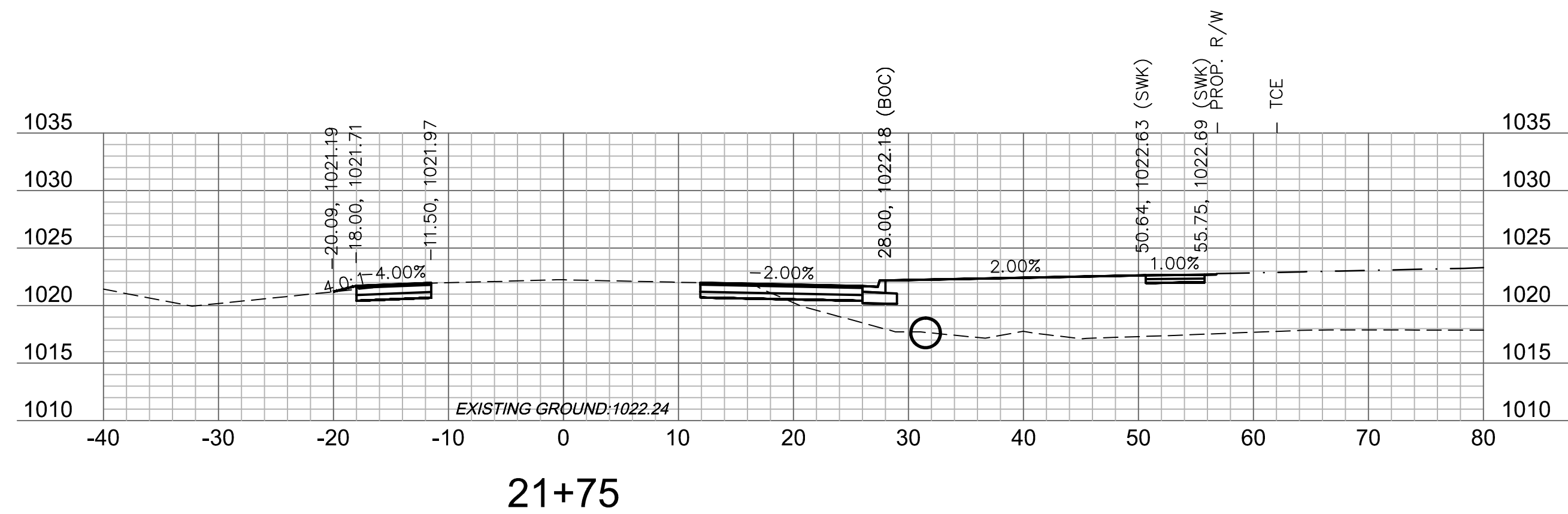
GRADING (BY OTHERS)

[illegible]

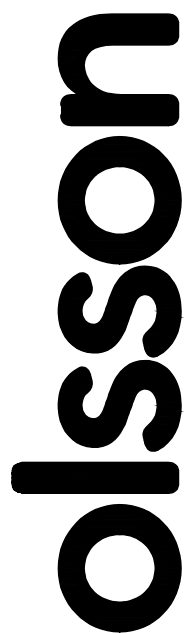
OLDHAM PARKWAY CROSS SECTIONS	
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	
LEE'S SUMMIT, MISSOURI	2019

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
 XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
 DATE: Jul 25, 2019 9:37am USER: ascavedra



GRADING (BY OTHERS)



Olsson Engineering - MO State Certificate of Authority #001592
31301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

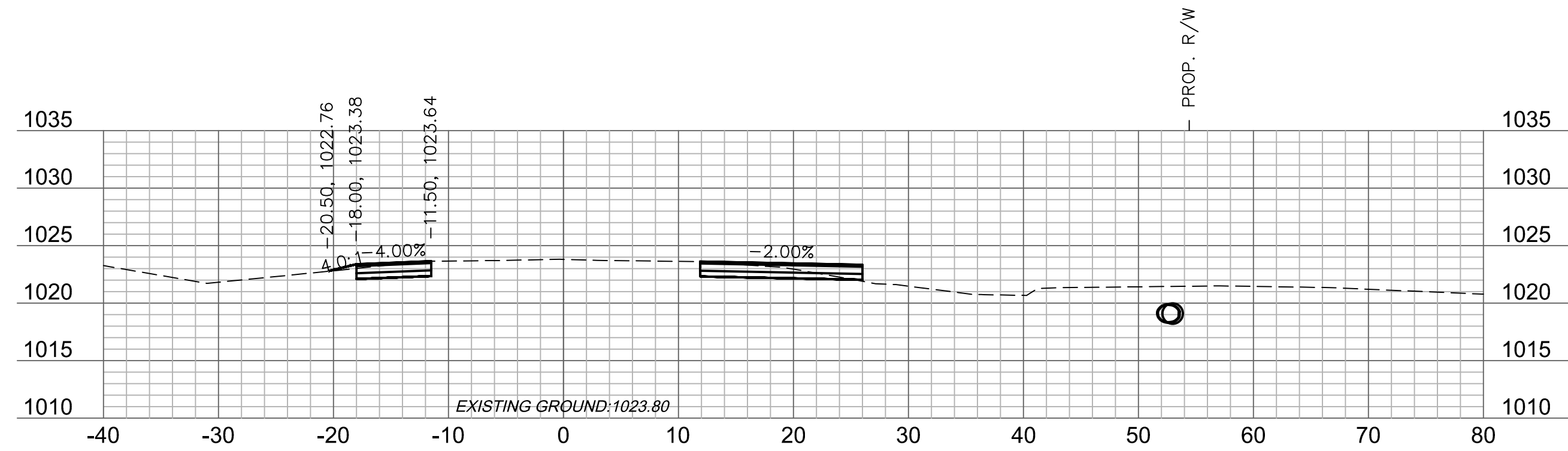
[illegible]

OLDHAM PARKWAY CROSS SECTIONS	20
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	20
LEE'S SUMMIT, MISSOURI	20

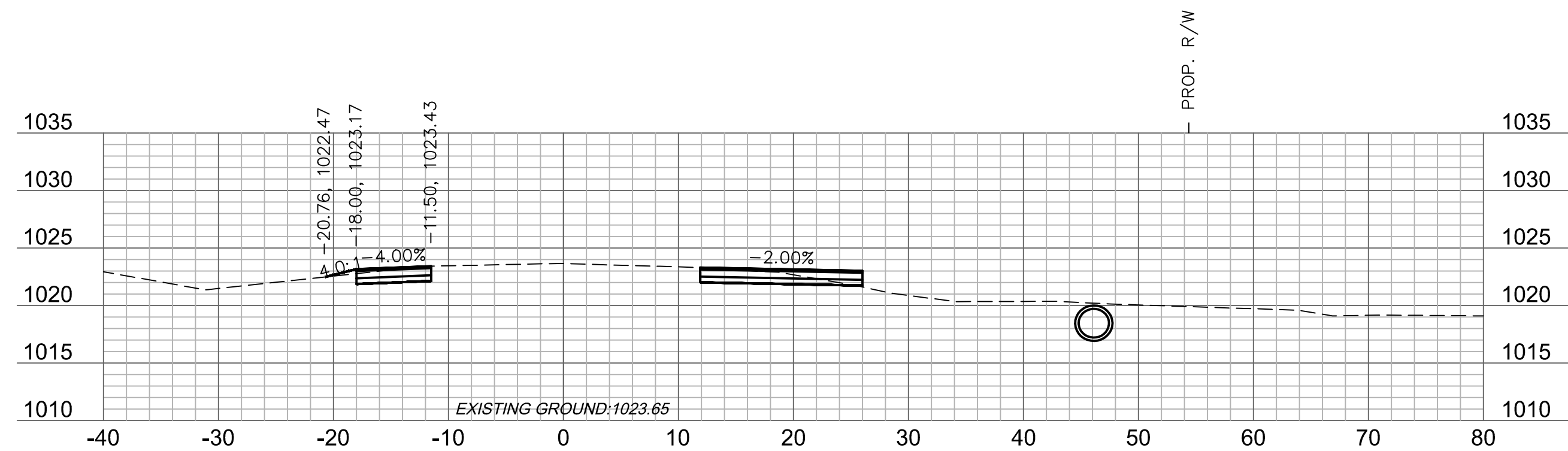
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

SHEET
T41 OF 70

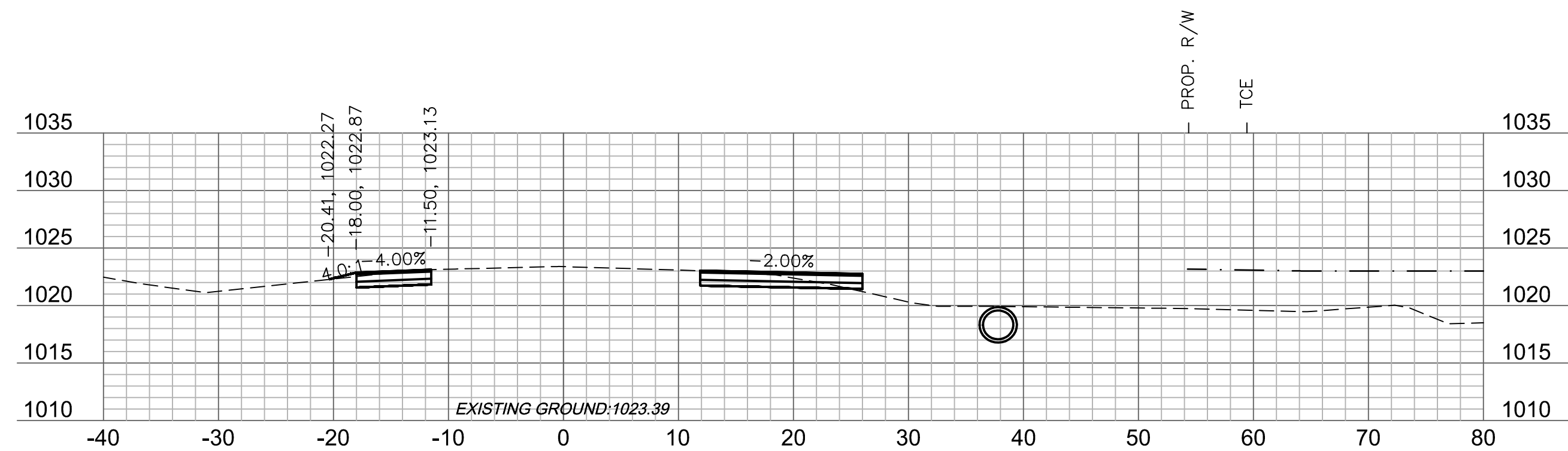
DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
 XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
 DATE: Jul 25, 2019 9:37am
 USER: ascavedra



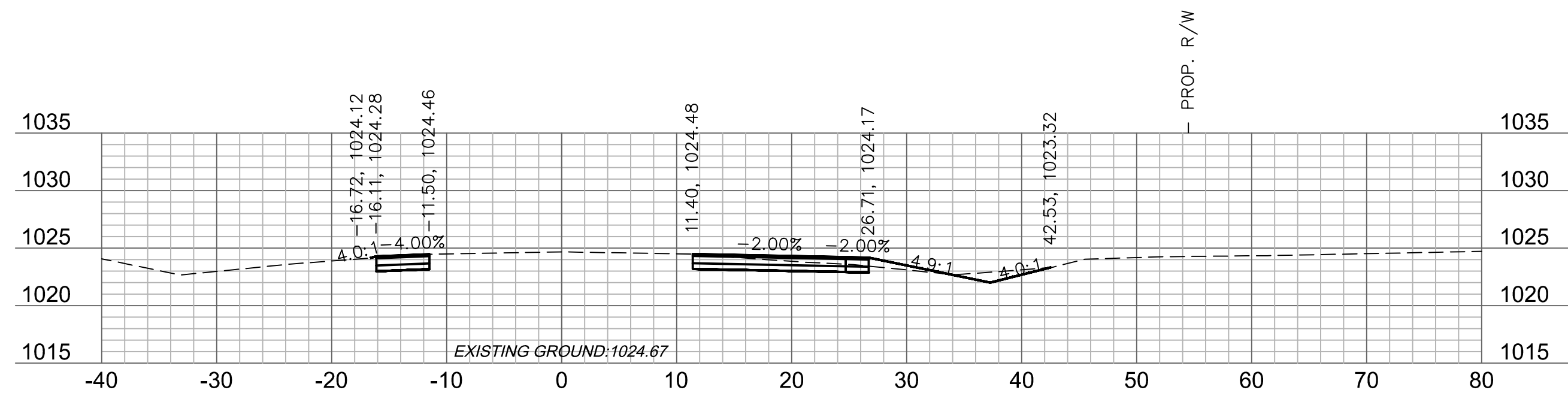
23+25



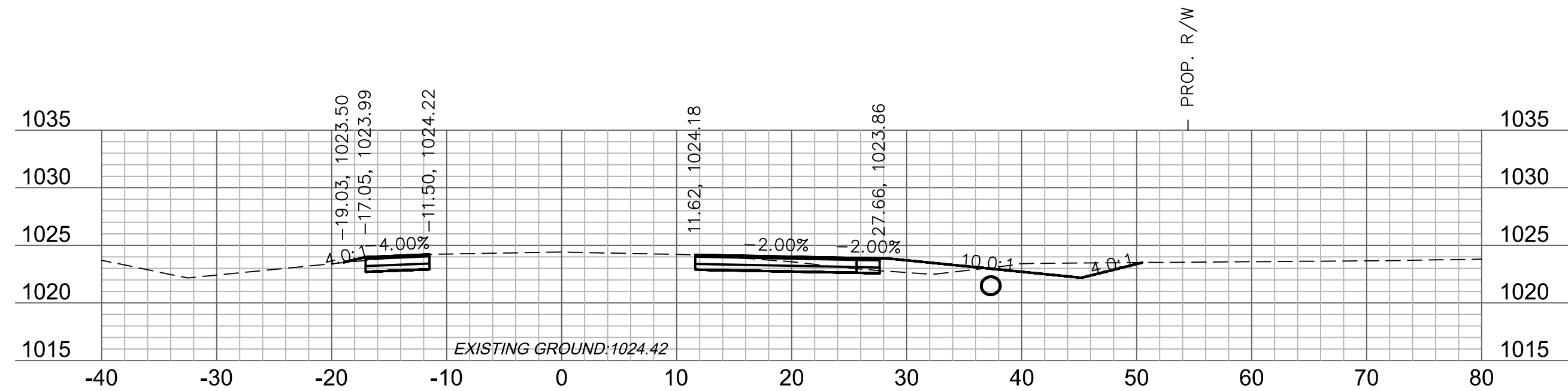
23+00



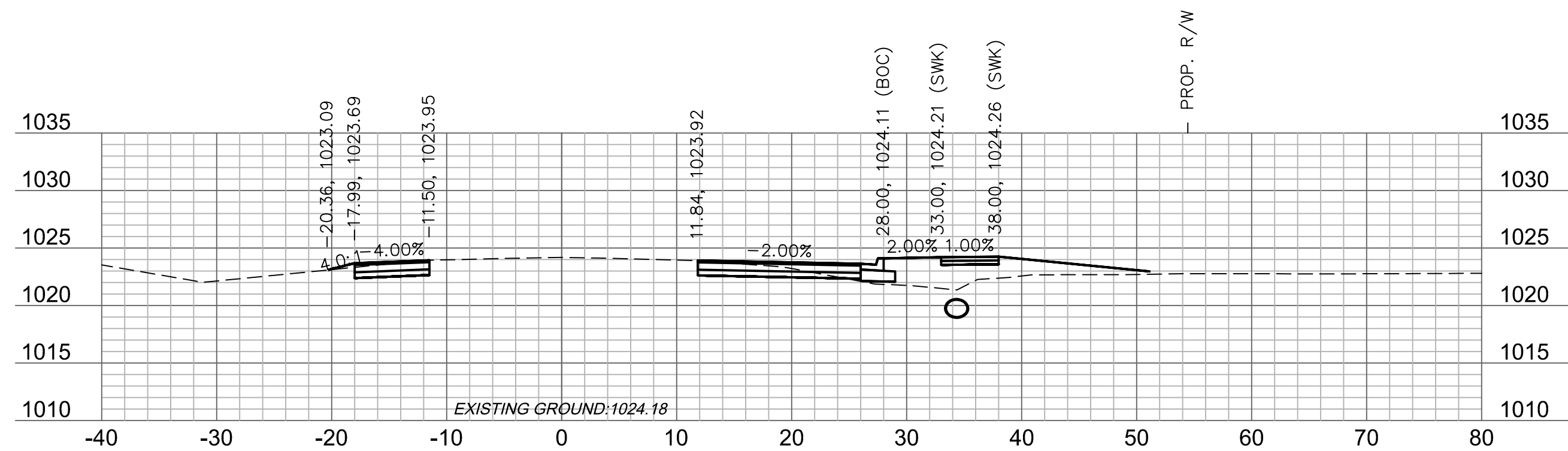
22+75



24+00

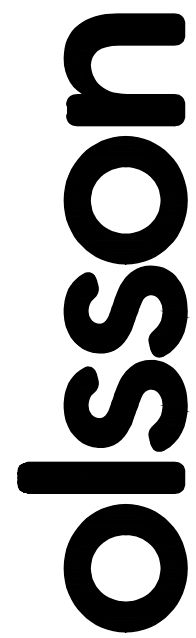


23+75



23+50

GRADING (BY OTHERS)	
---------------------	--



Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

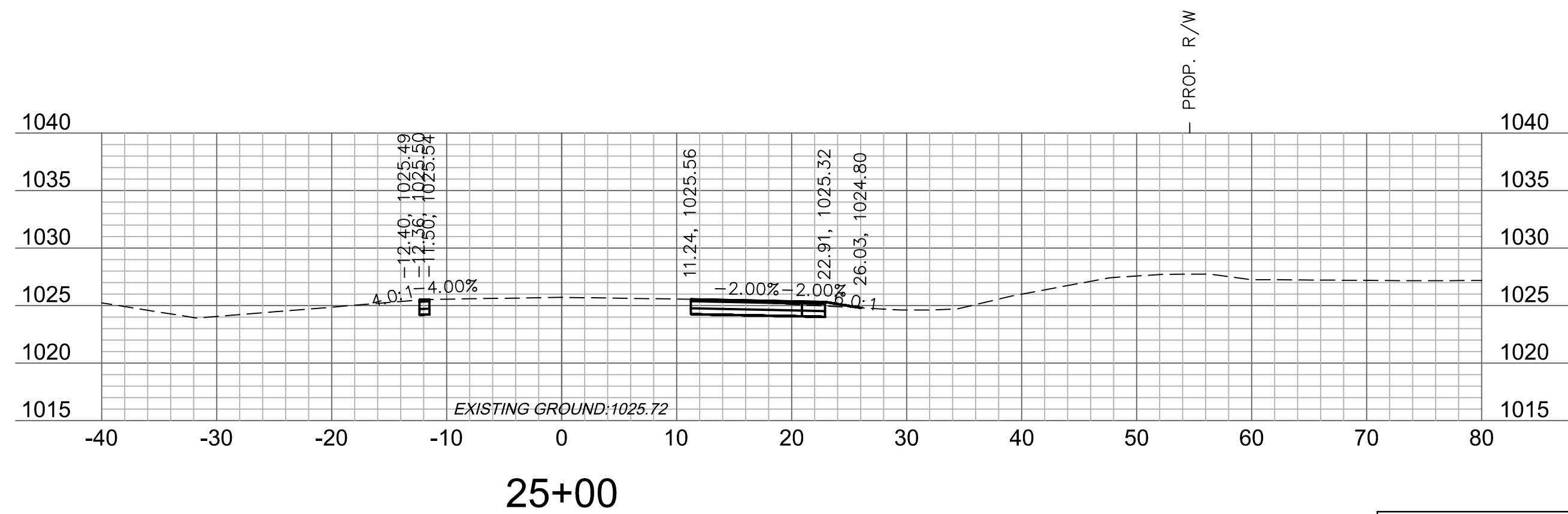
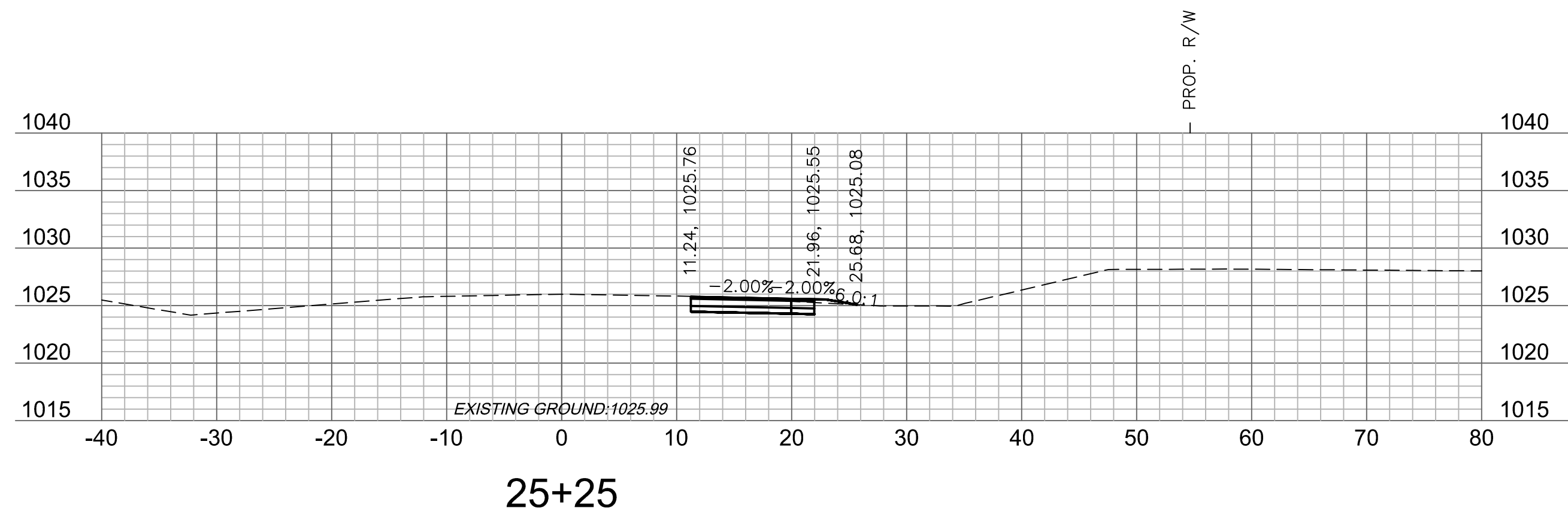
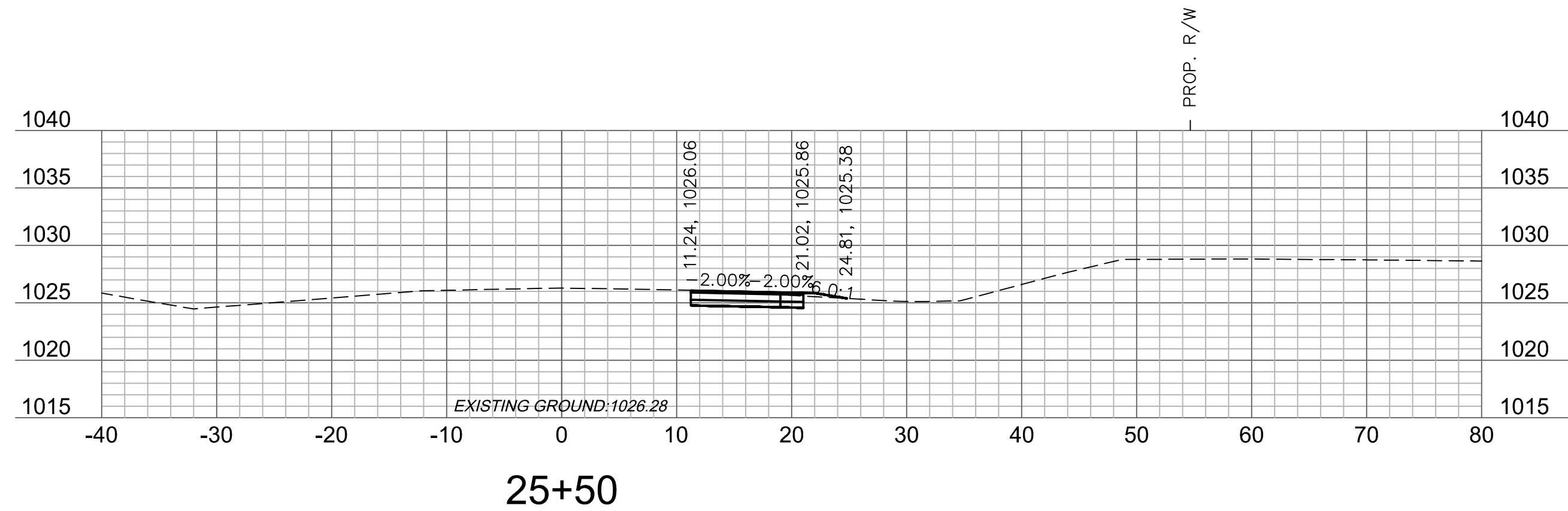
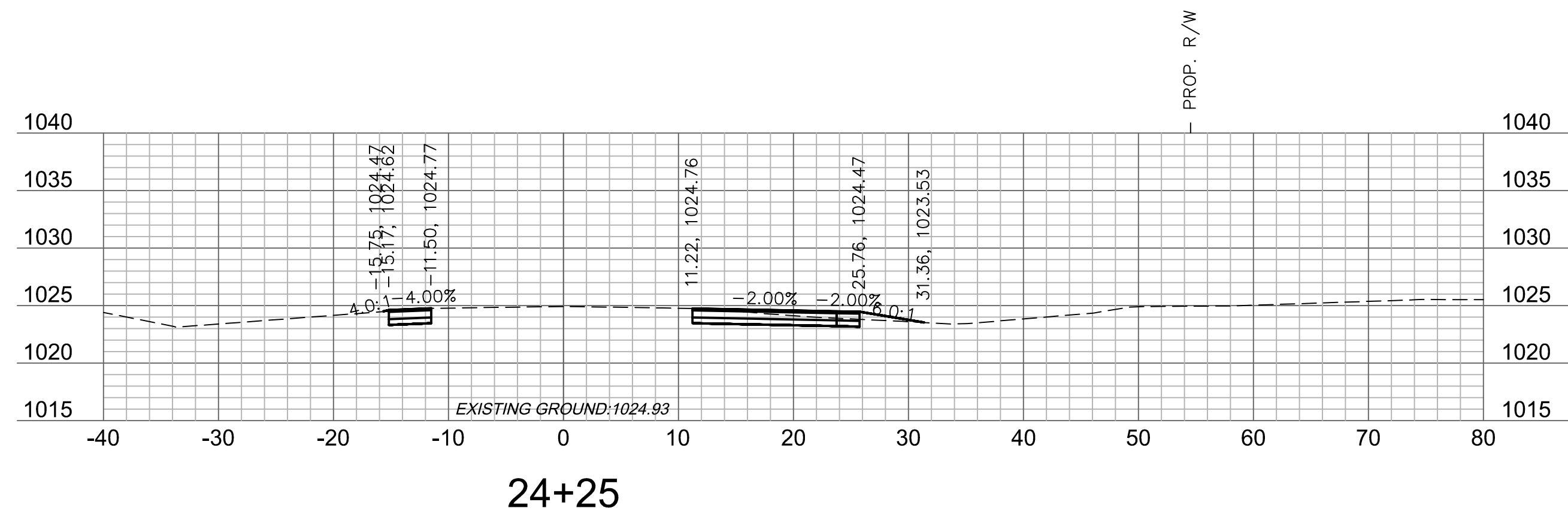
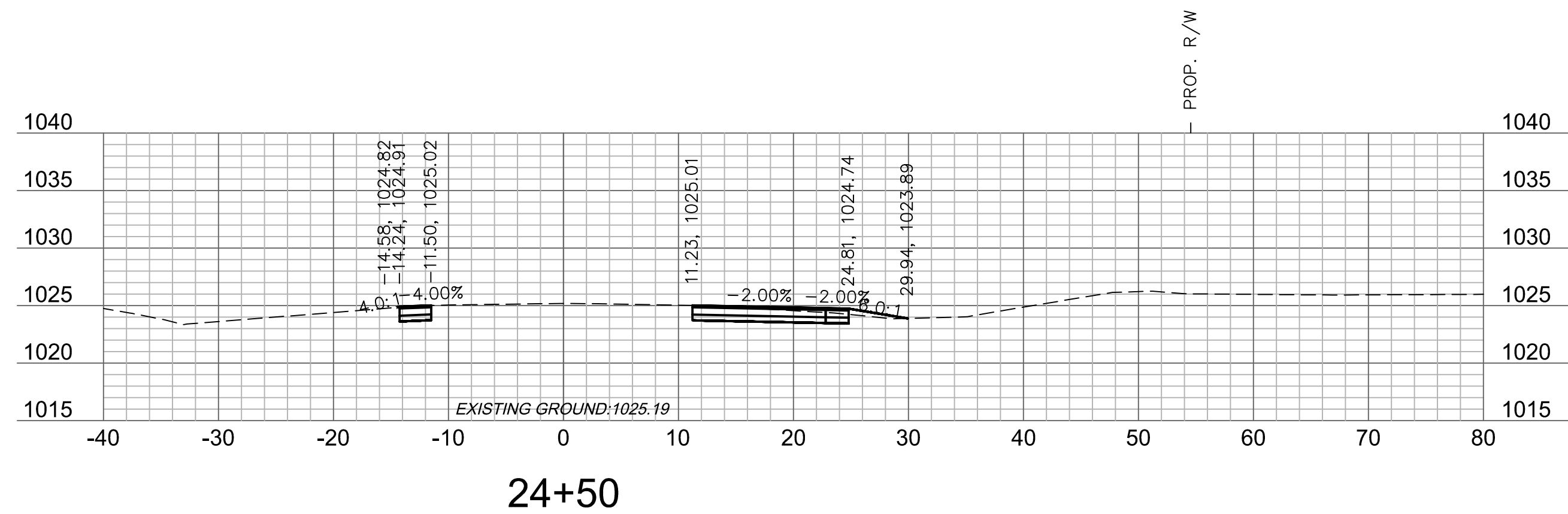
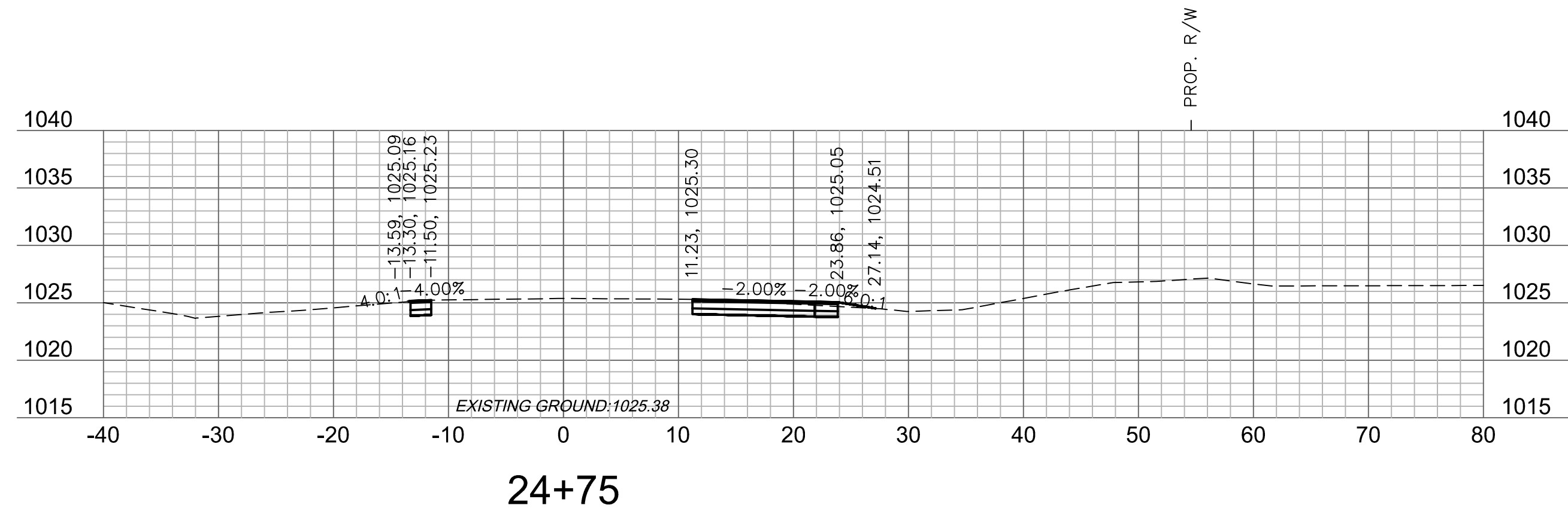
[illegible]

OLDHAM PARKWAY CROSS SECTIONS	2011
O'REILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	2012
LEE'S SUMMIT, MISSOURI	2013

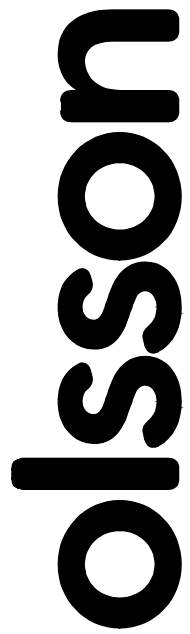
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

SHEET
T42 OF 70

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
 XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
 DATE: Jul 25, 2019 9:33am USER: ascavedra



GRADING (BY OTHERS)



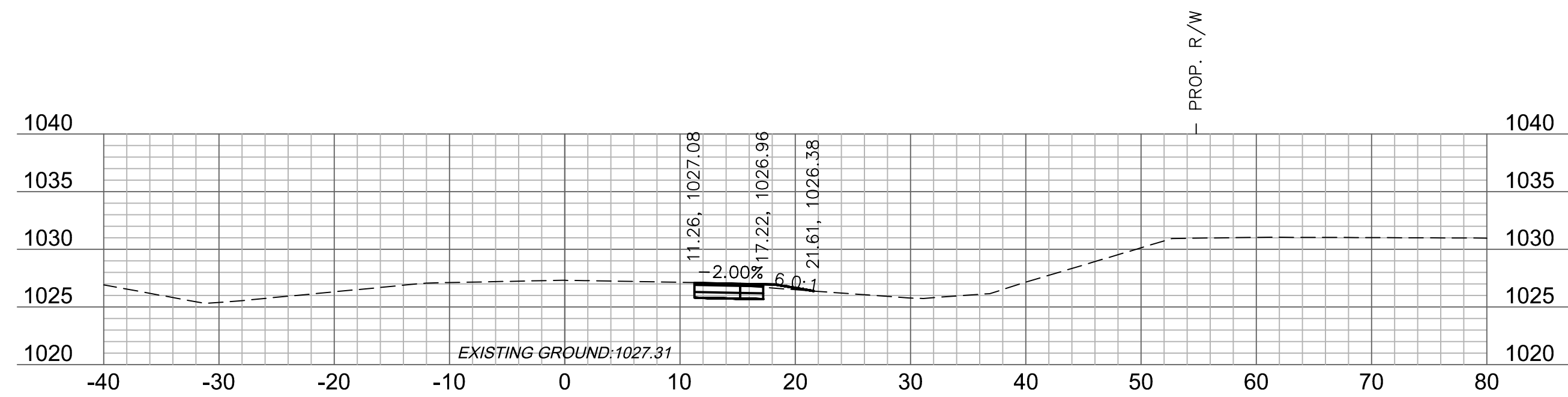
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

[illegible]

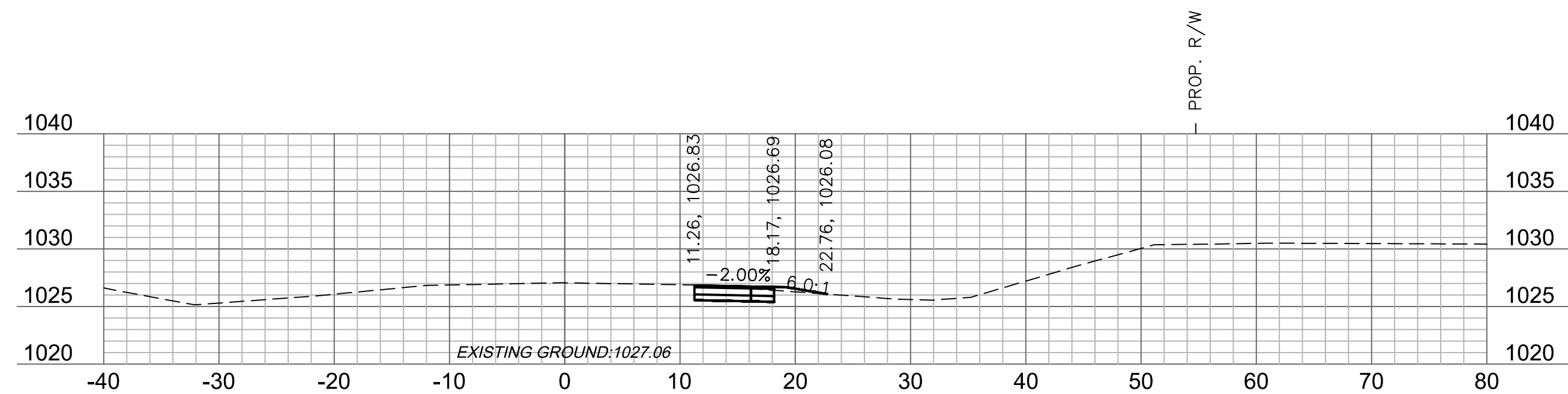
OLDHAM PARKWAY CROSS SECTIONS OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	2017
LEE'S SUMMIT, MISSOURI	

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

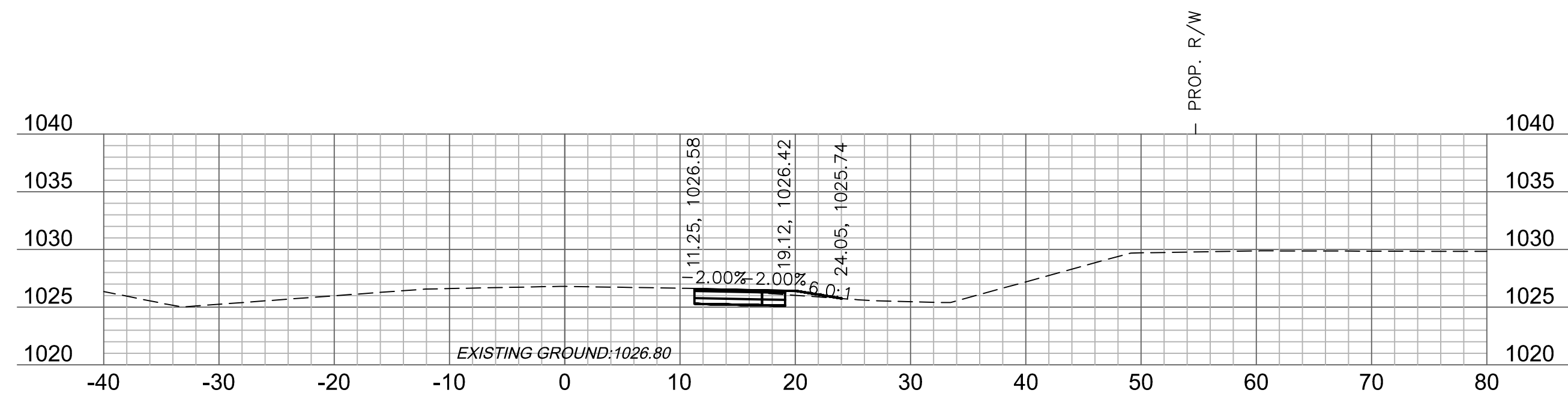
SHEET
T43 OF 70



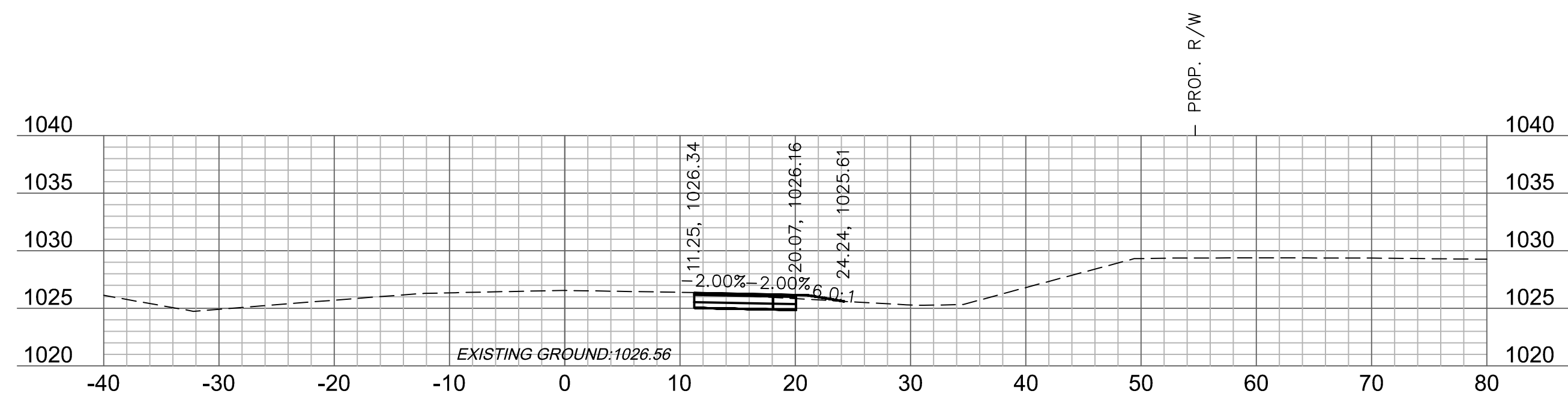
26+50



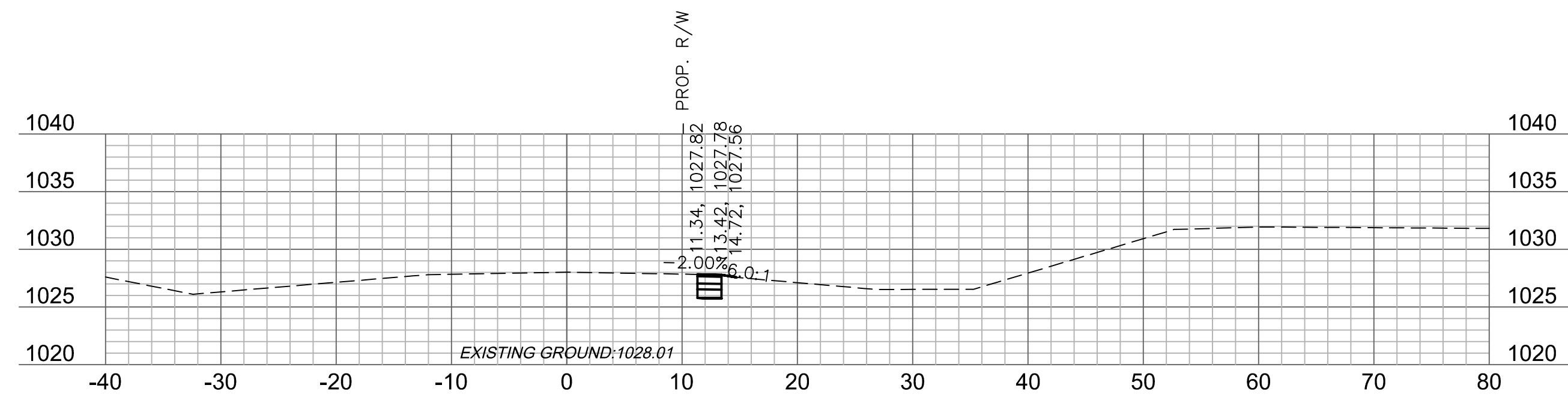
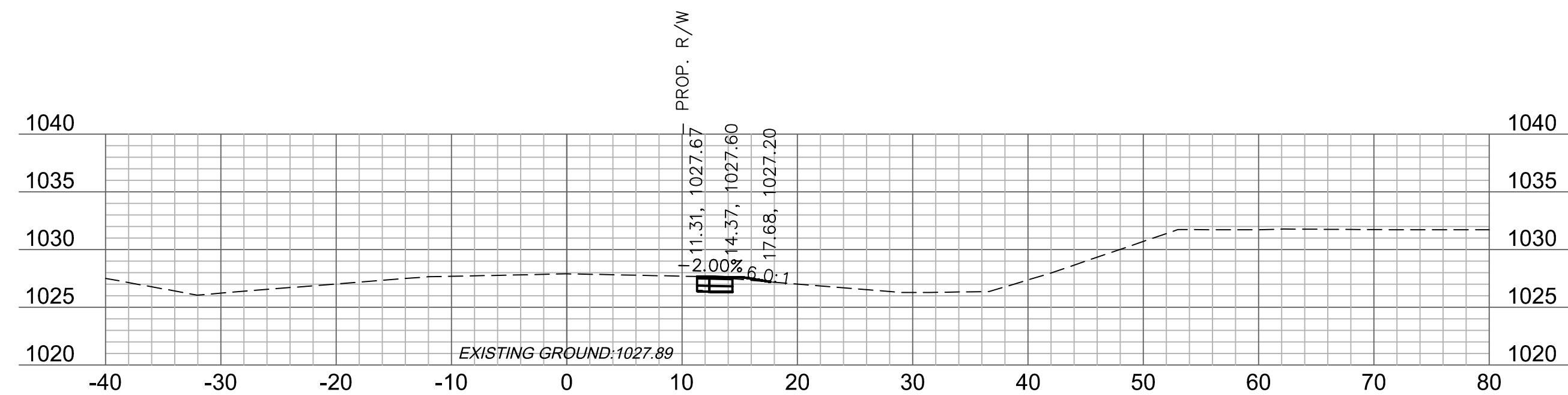
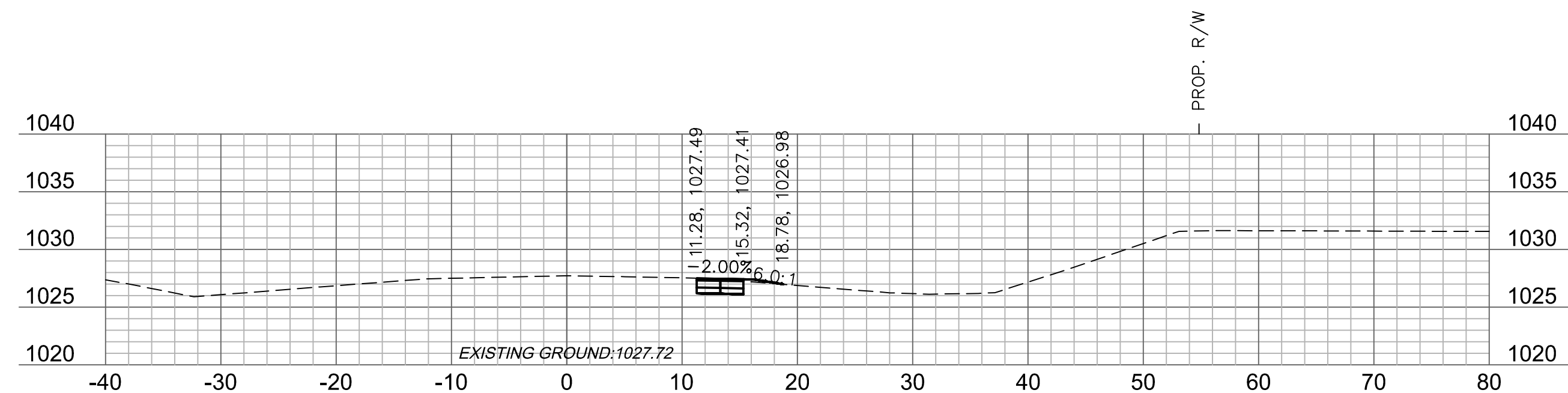
26+25



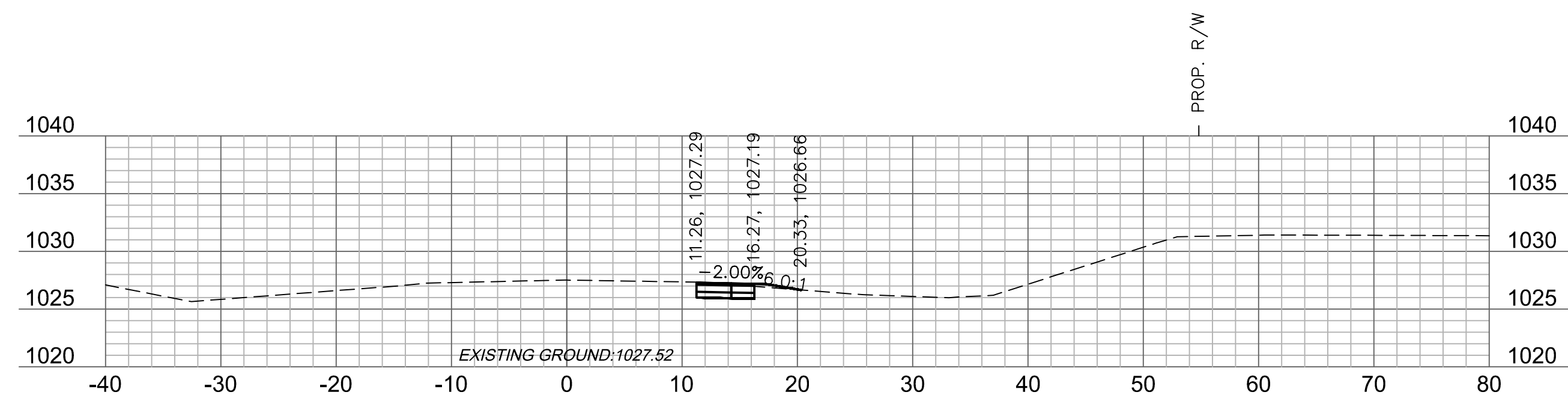
26+00



25+75

 $27+50$  $27+25$ 

27+00



26+75

GRADING (BY OTHERS)

DWG: F:\2018\1001-1500\018-1450-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
XREFS: v_xbdu_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450
DATE: Jul 25, 2019 9:35am USER: asacavedra T_PTBLK_81450

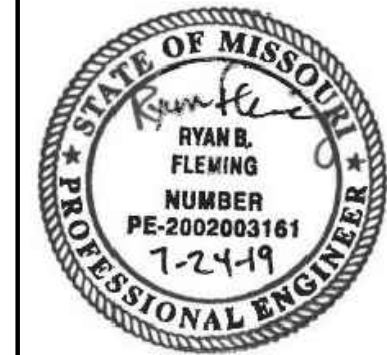
USER: asaavedra
C_PBASE_8145

I:\Plans\Xref\T_PCORR_81450.dwg
W_TOPO_81450 T_PBASE_81450

DWG:
DATE:

Olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

[illegible]

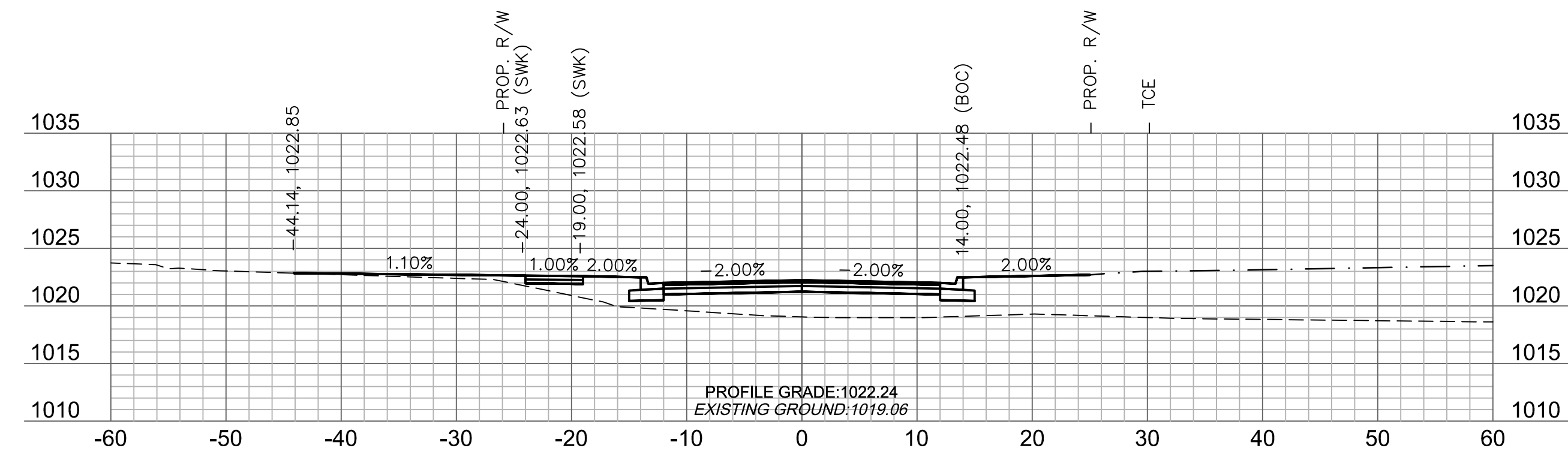
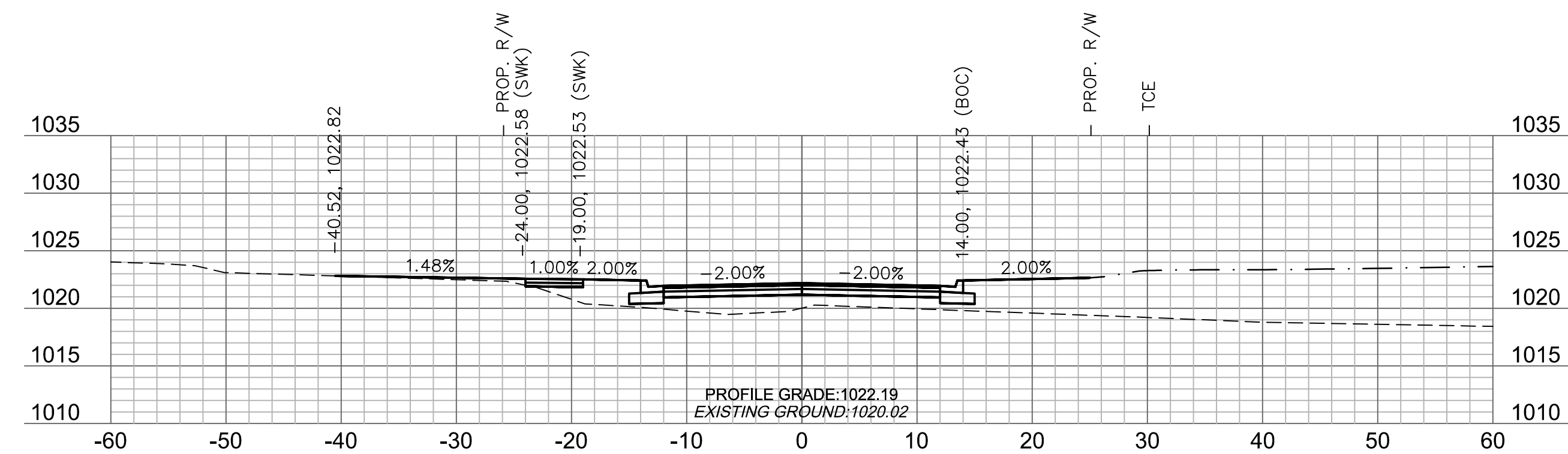
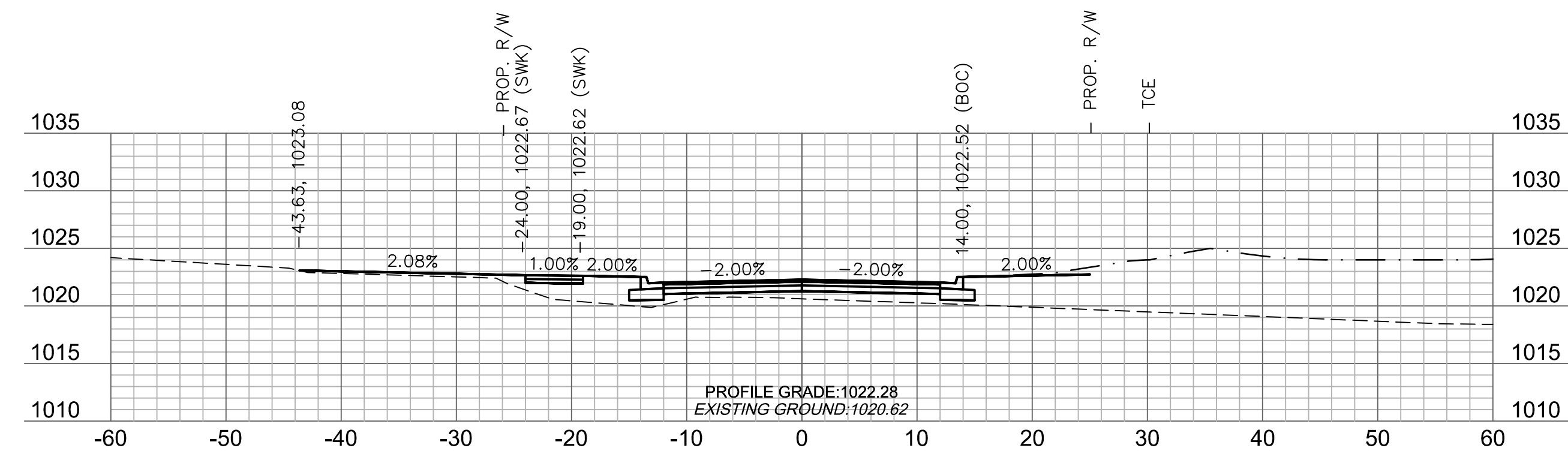
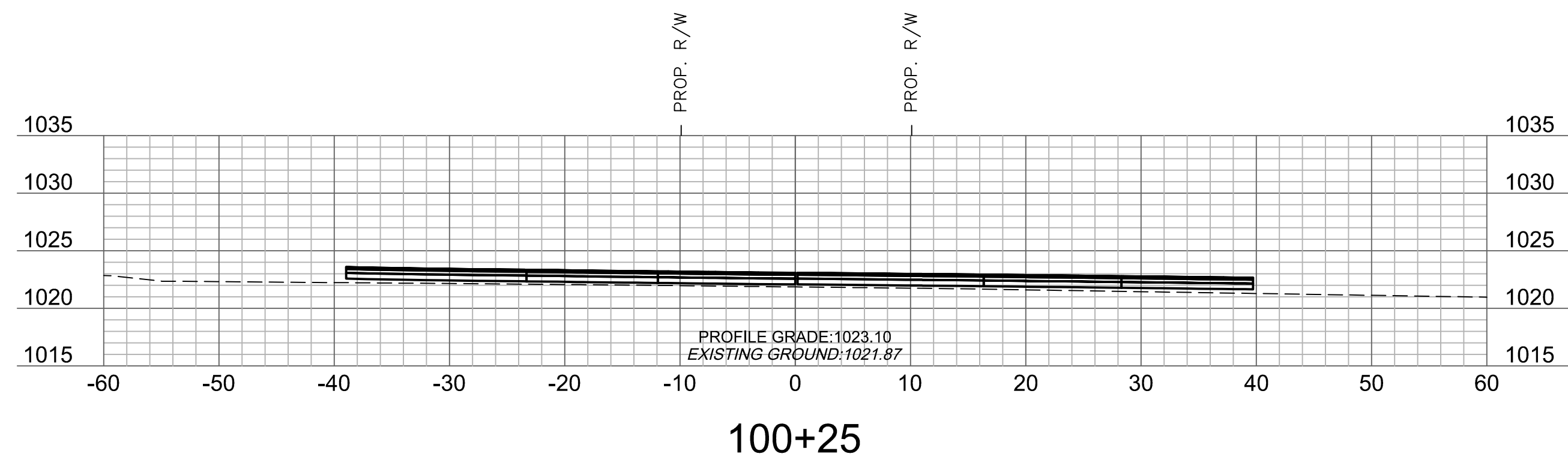
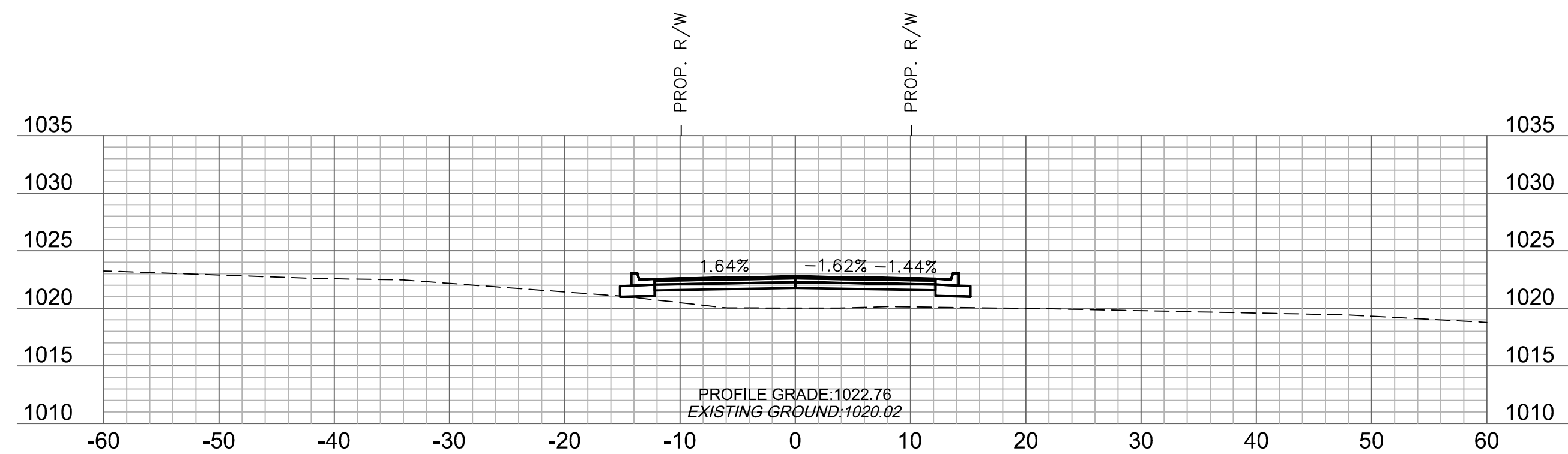
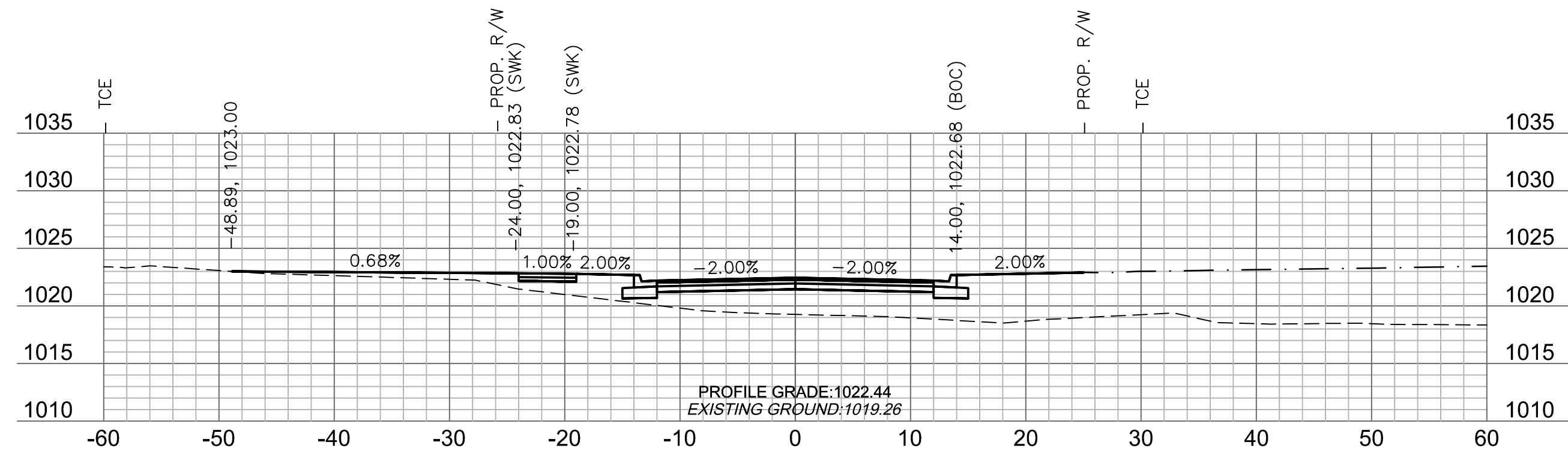
OLDHAM PARKWAY CROSS SECTIONS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

2019

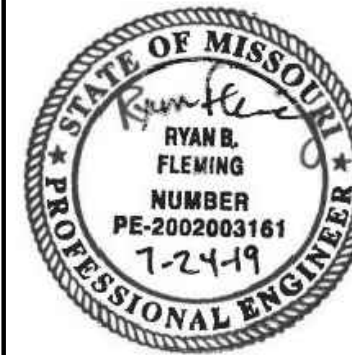
C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR 81450
DATE: 07.19.19

SHEET
T44 OF 70



	GRADING (BY OTHERS)
A	90-100
B	80-89
C	70-79
D	60-69
F	50-59
G	40-49
H	30-39
I	20-29
J	10-19
K	0-9

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final_Plans\Xref\T_PCORR_81450.dwg
XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
DATE: Jul 25, 2019 9:33am USER: ascavedra



Olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

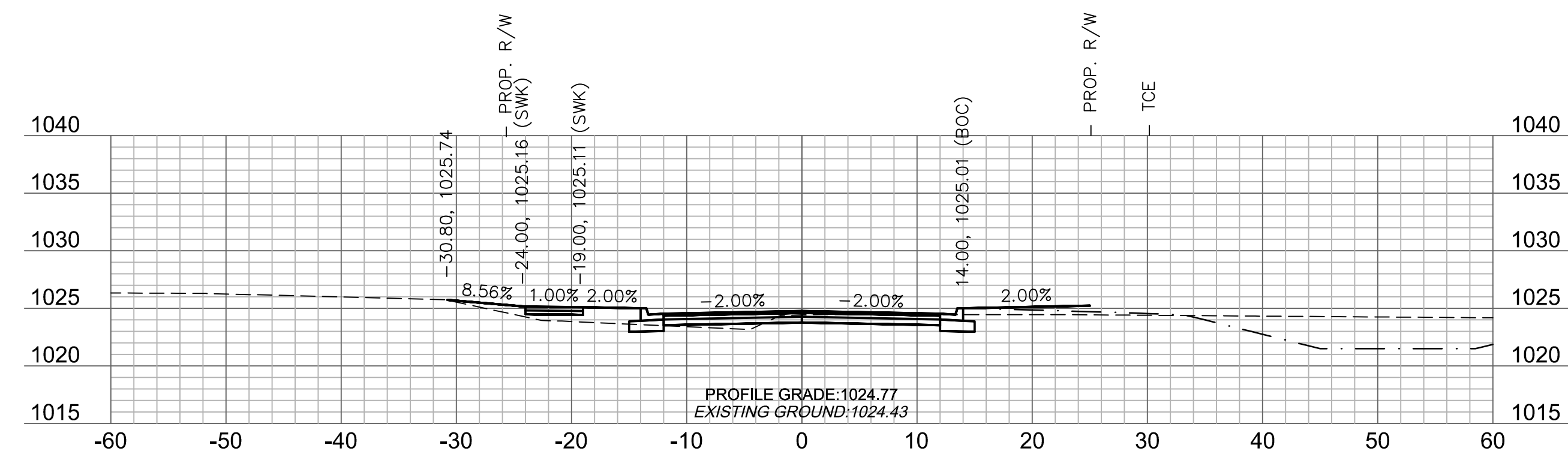
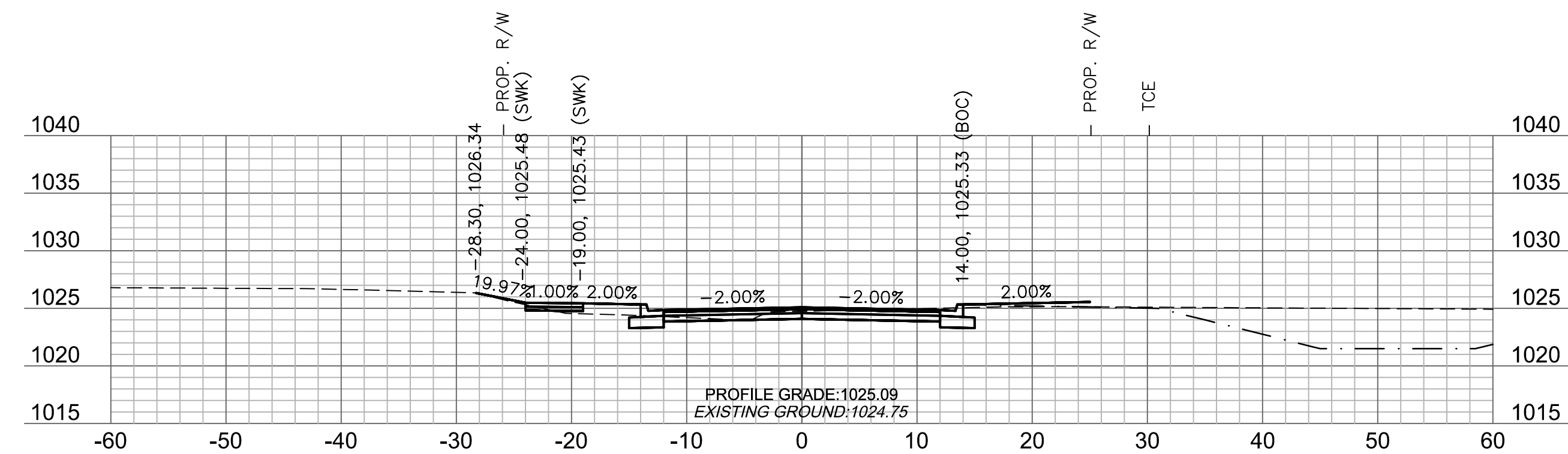
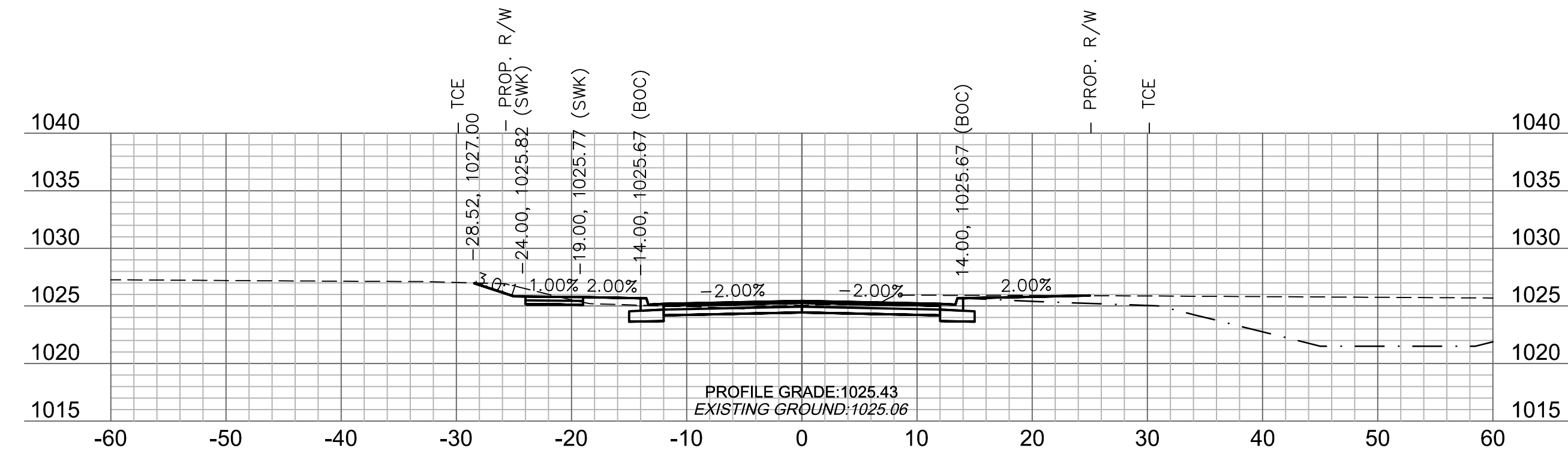
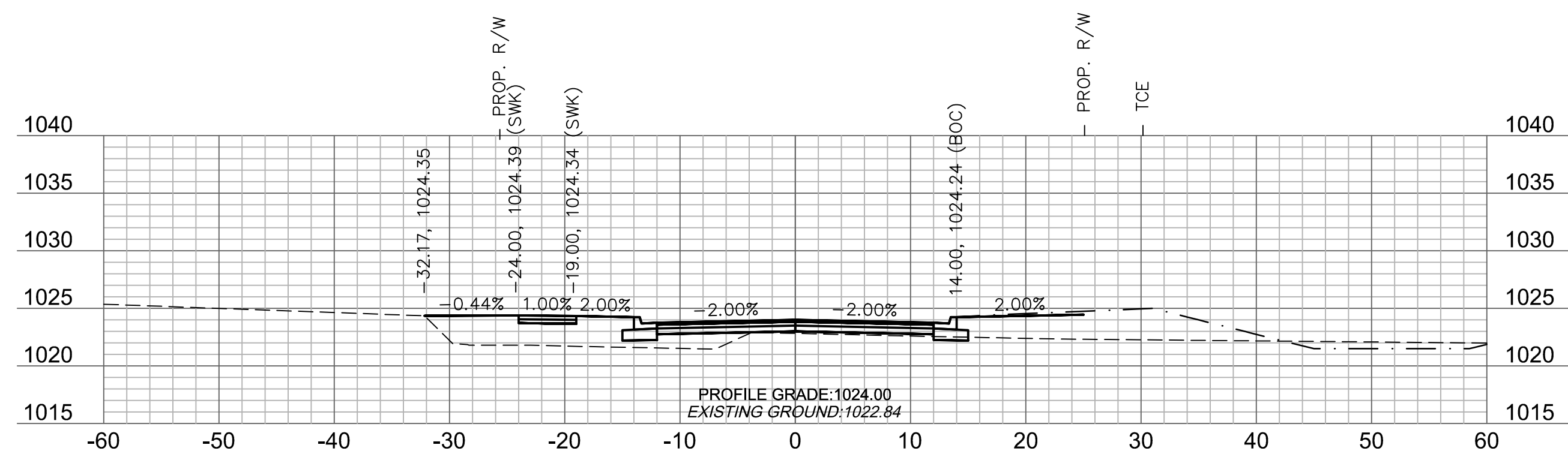
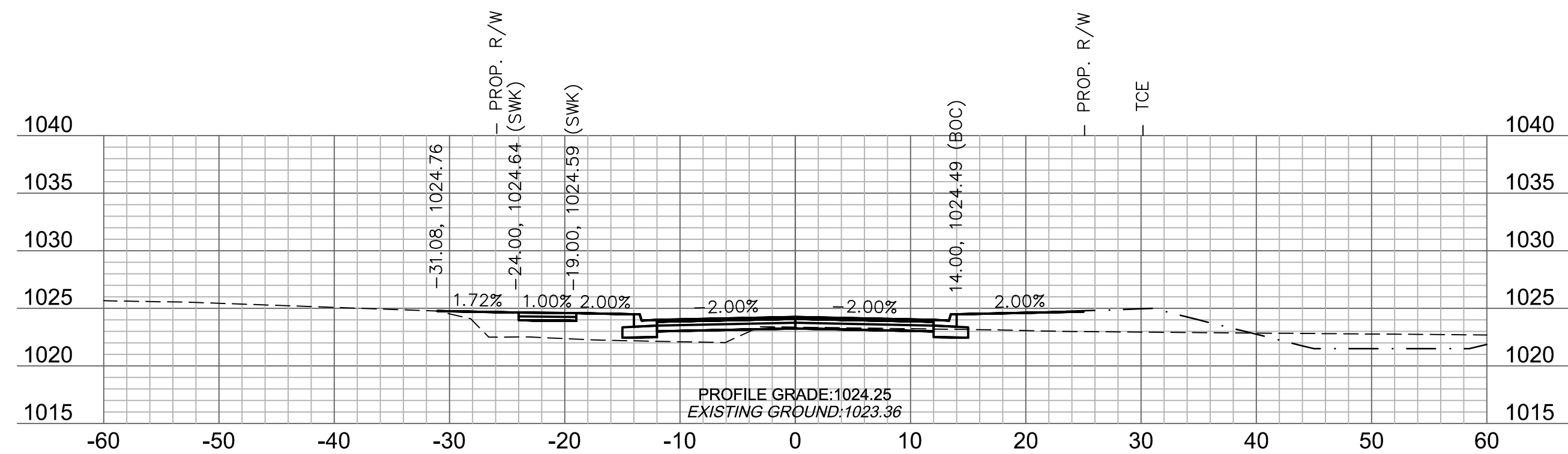
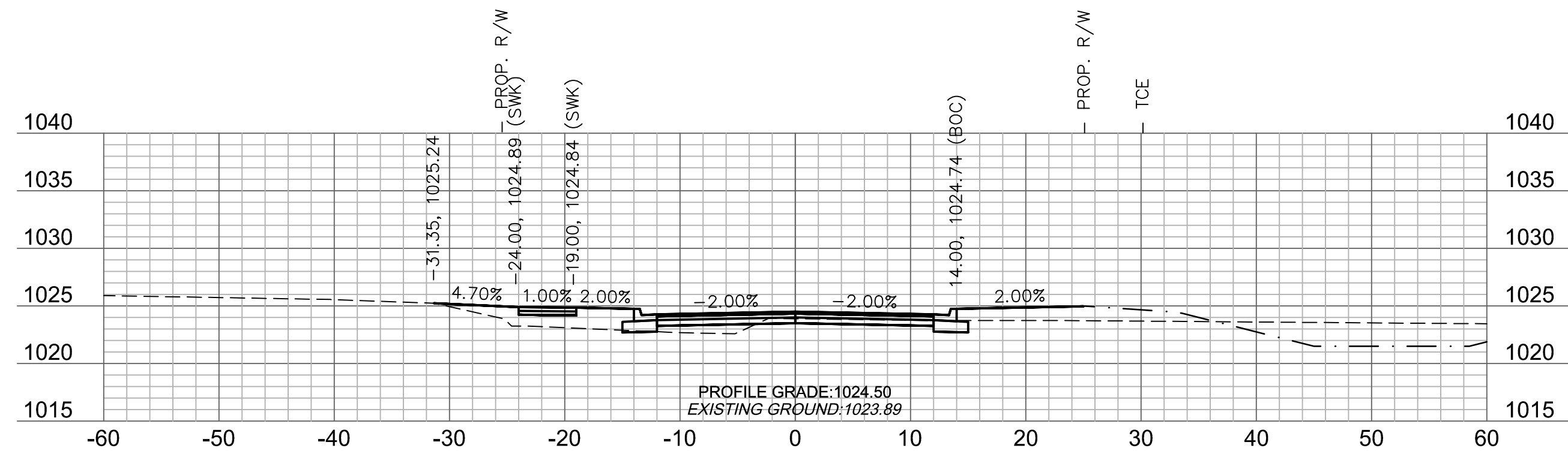
[illegible]PRINCETON DRIVE
CROSS SECTIONS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR 81450
DATE: 07.19.19

SHEET
T45 OF 70



GRADING (BY OTHERS)

DWG: F:\2018\1001-1500\018-1450-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
XREFS: v_xbdu_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450
DATE: Jul 25, 2019 9:35am USER: asacavedra T_PTBLK_81450

DWG: F:\2018\1001-1500\018-1450-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
DATE: Jul 25, 2019 9:38am XREFS: v_xbou_81450 v_TOPO_81450 T_PBASE_81450

USER: asaavedra
C_PBASE_8145

T_PTBLK_81450

Olsson

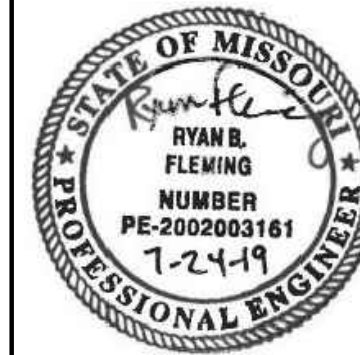
Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

Olsson Engineering - MO State Ce

Certificate of Authorship

minority #001

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

[illegible]

REVISIONS DESCRIPTION

REV.	DATE
------	------

REV.

REVISIONS

PRINCETON DRIVE
CROSS SECTIONS

CROSS SECTIONS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
101 DHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

OREILLY DEVELOPMENT SENIOR LIVING FACILITY
101 DHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS

LEE'S SUMMIT, MISSOURI

2019

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

DRAWN BY: AS

CHECKED BY: JKL
APPROVED BY: RRE

APPROVED BY: _____ RBF
QA/QC BY: _____ JKL/RBF

PROJECT NO.: 018-1450

DWG NO.: T_PCORR_81450
DATE: 07.19.19

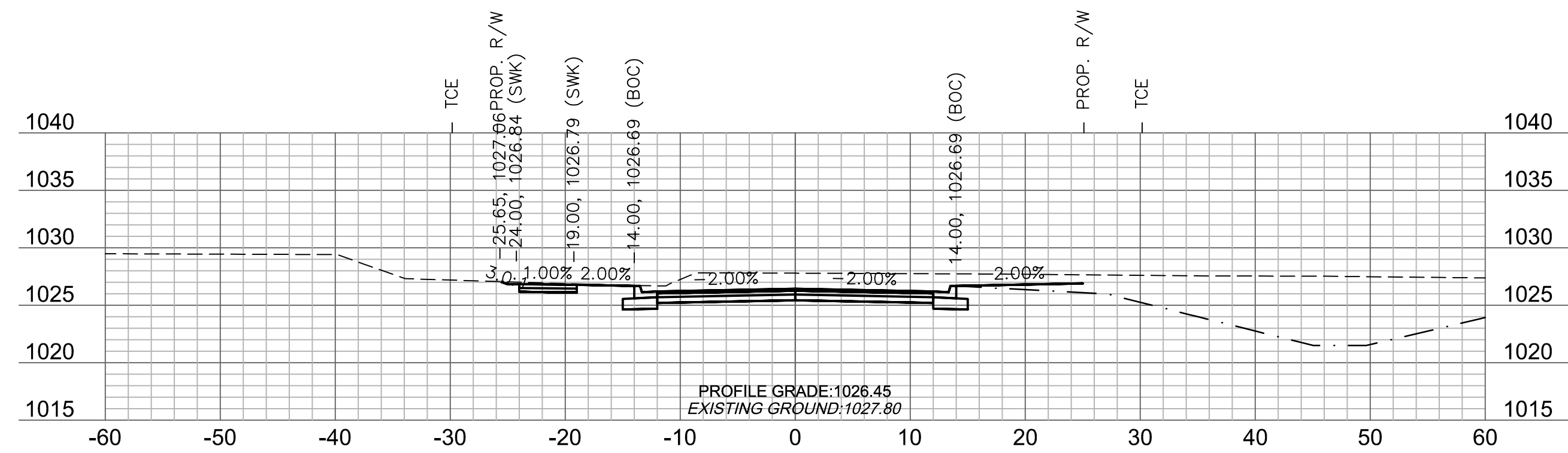
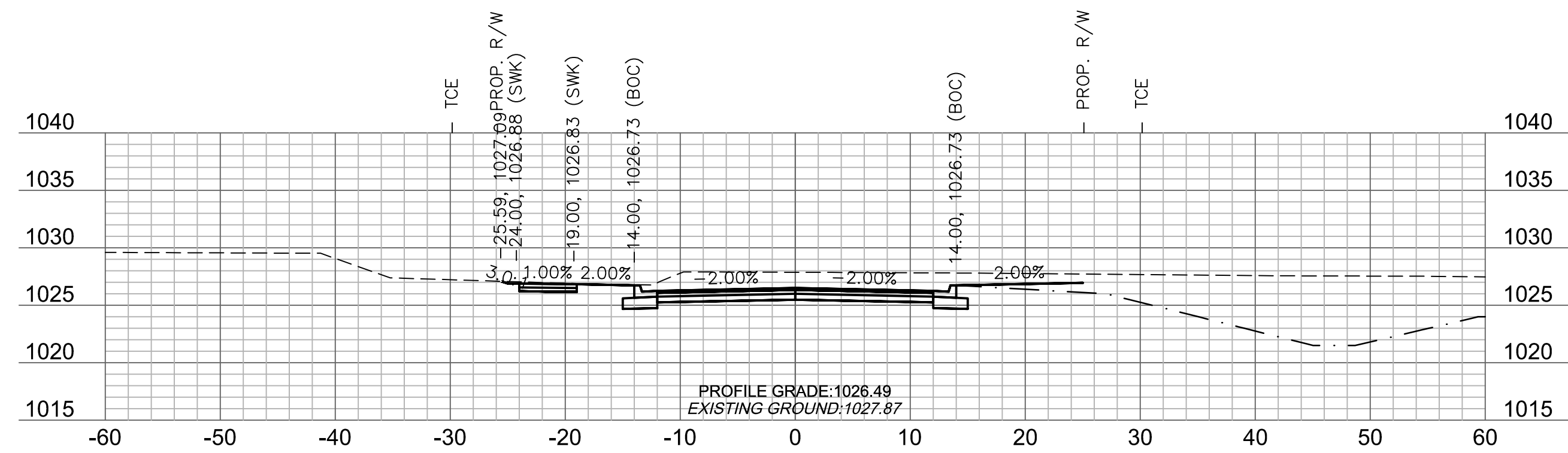
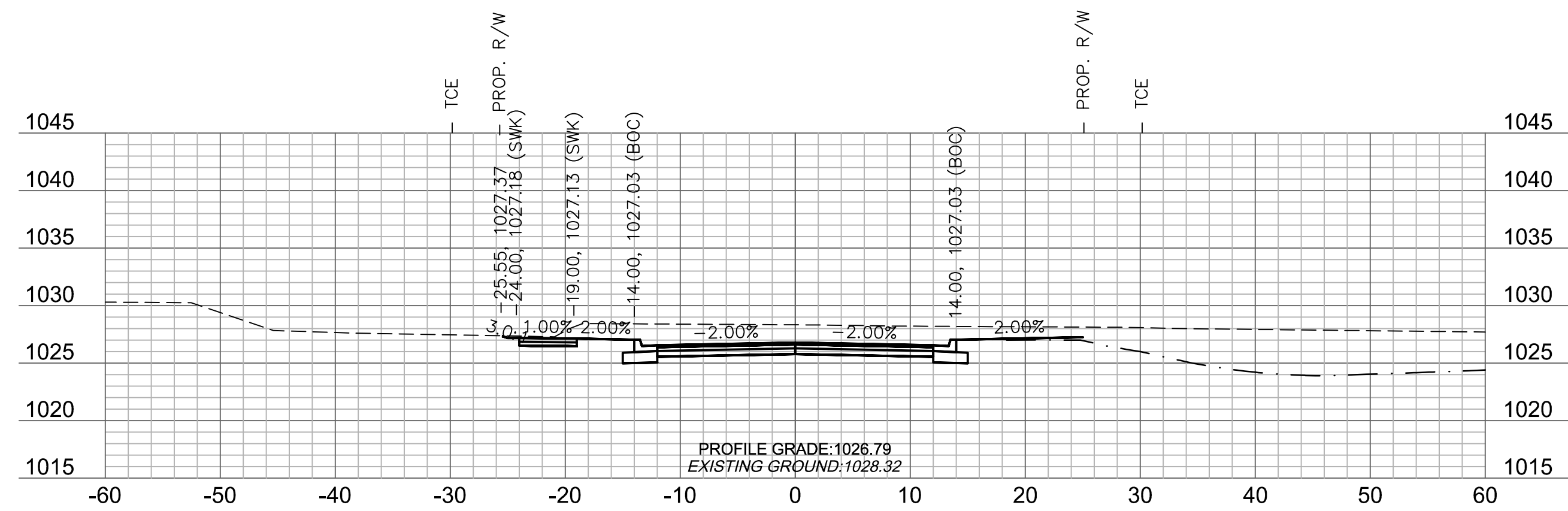
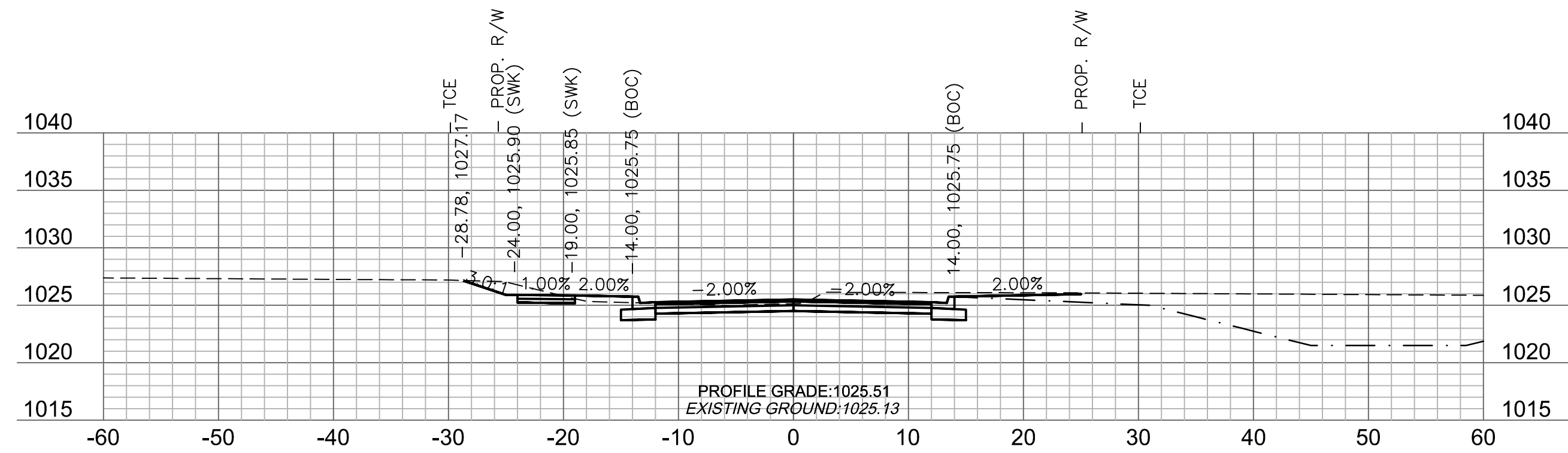
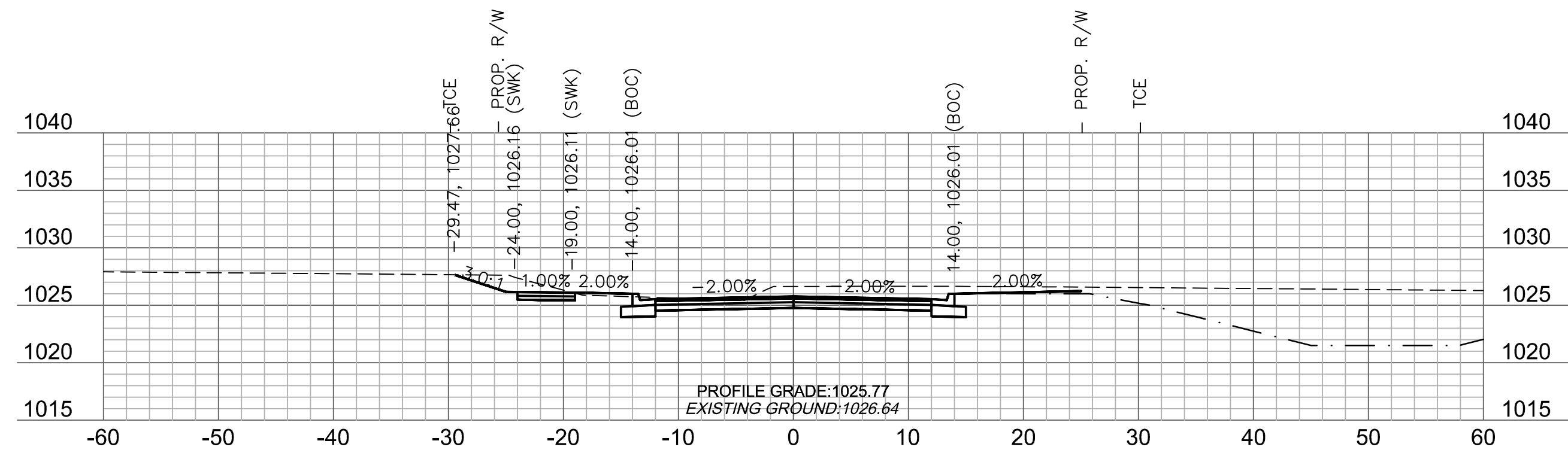
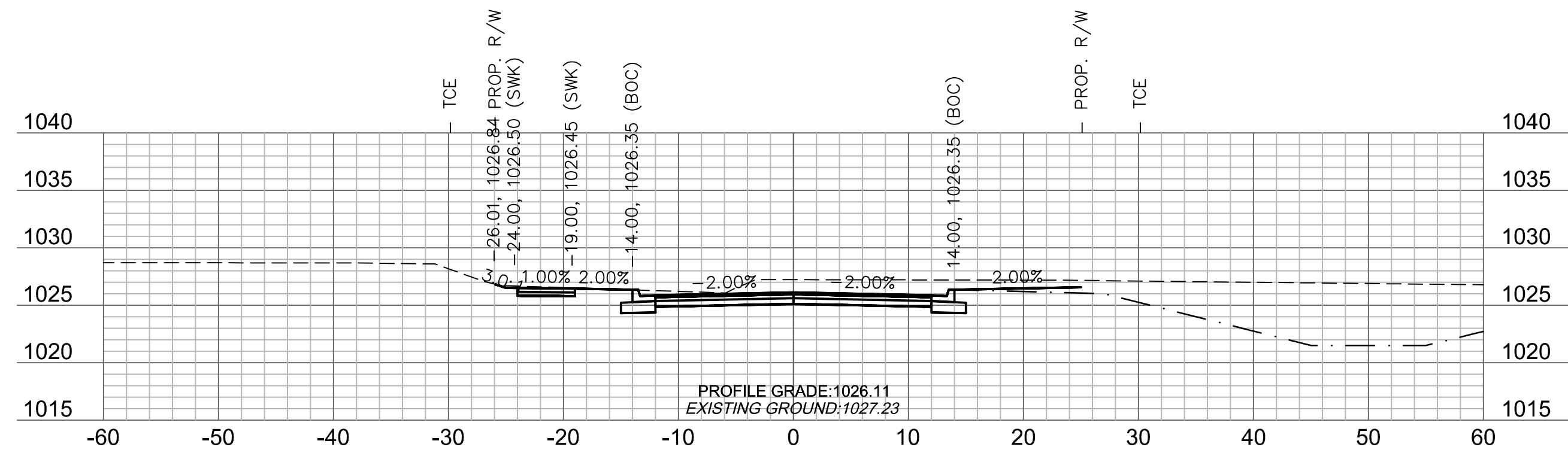
DATE: 07.19.19

SHEET

SHEET
T47 OF 70

SHEET
T47 OF 70

T47 OF 70



	GRADING (BY OTHERS)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	



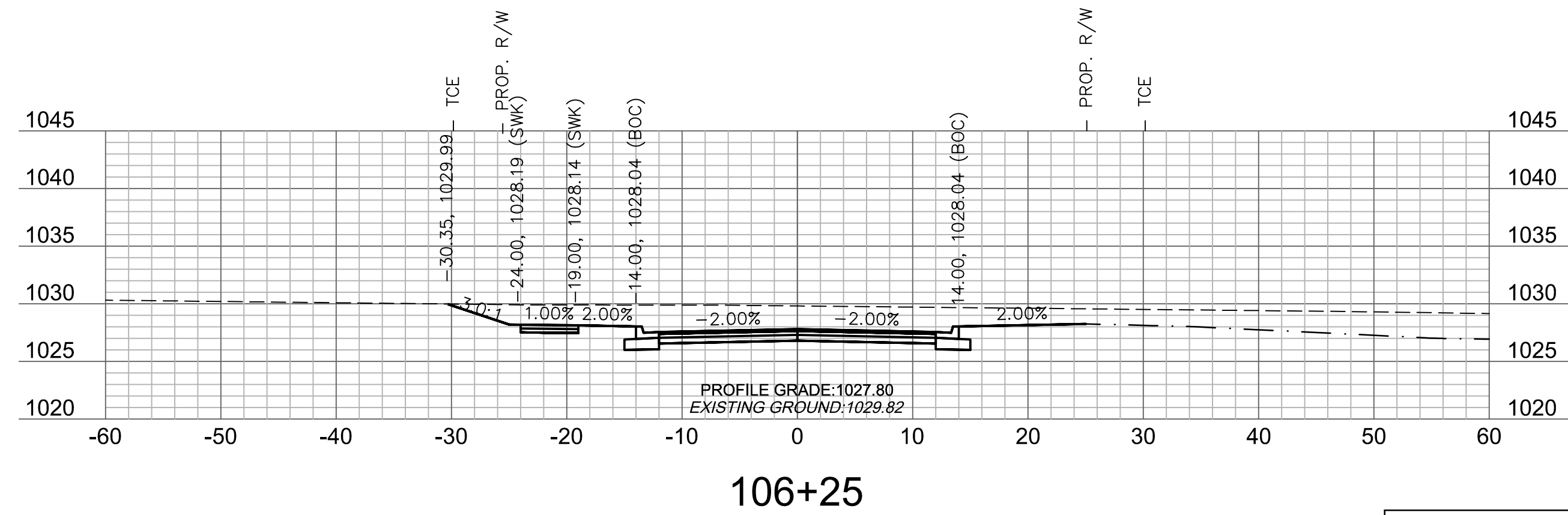
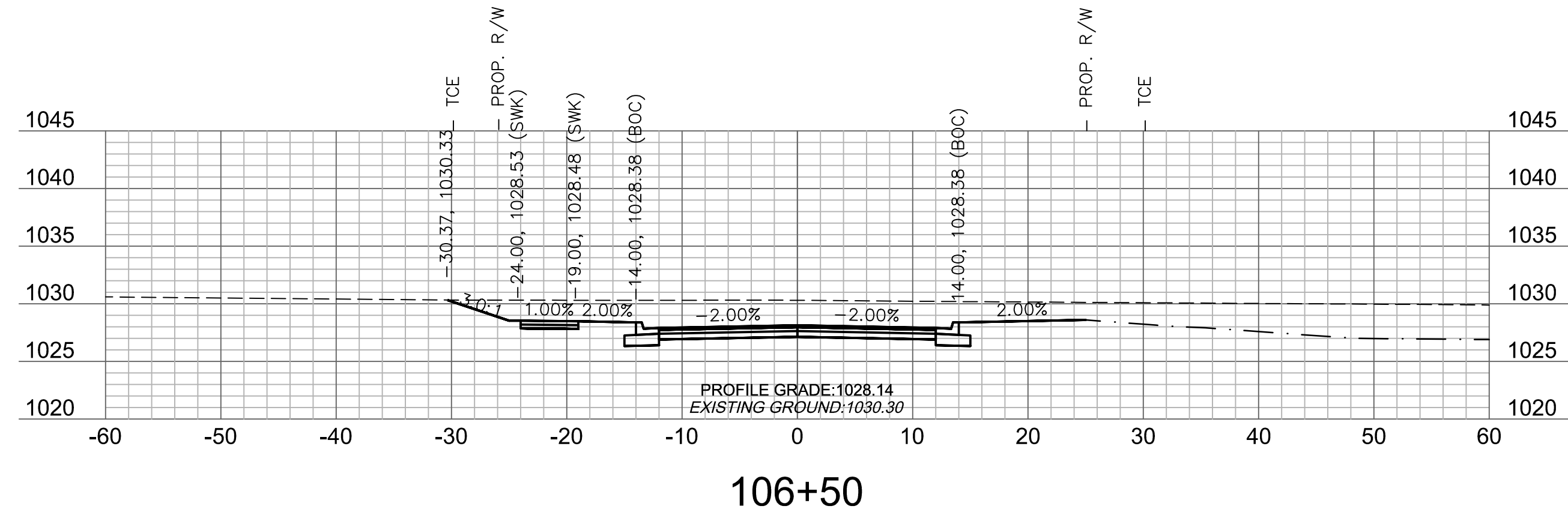
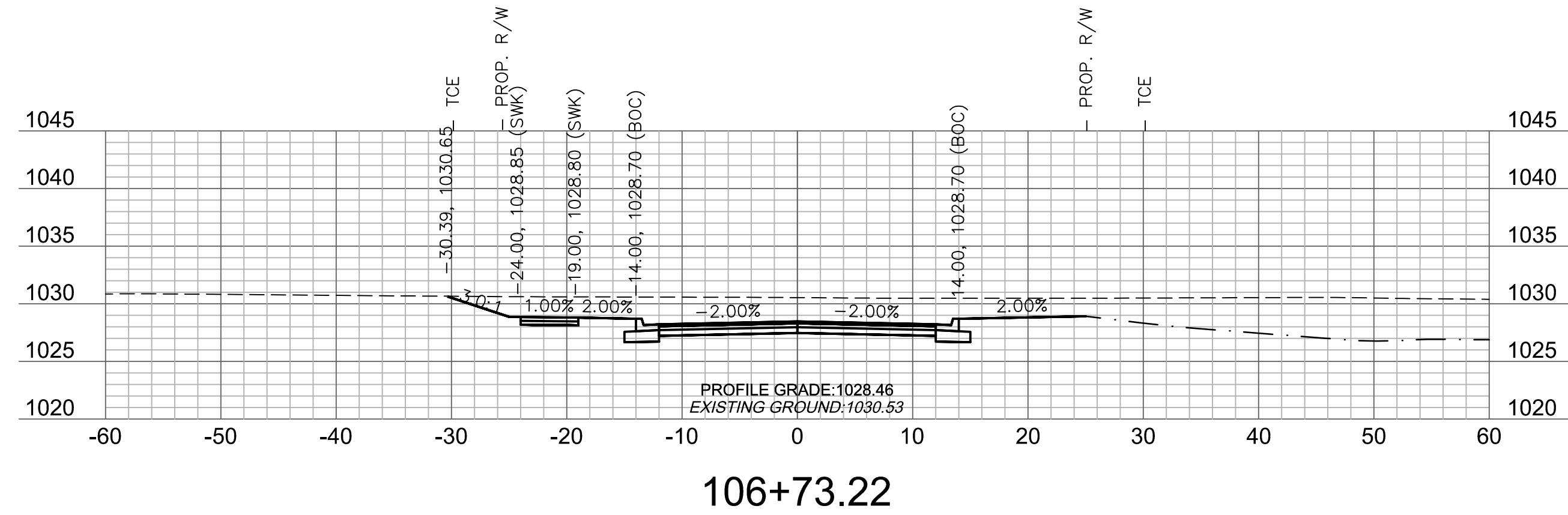
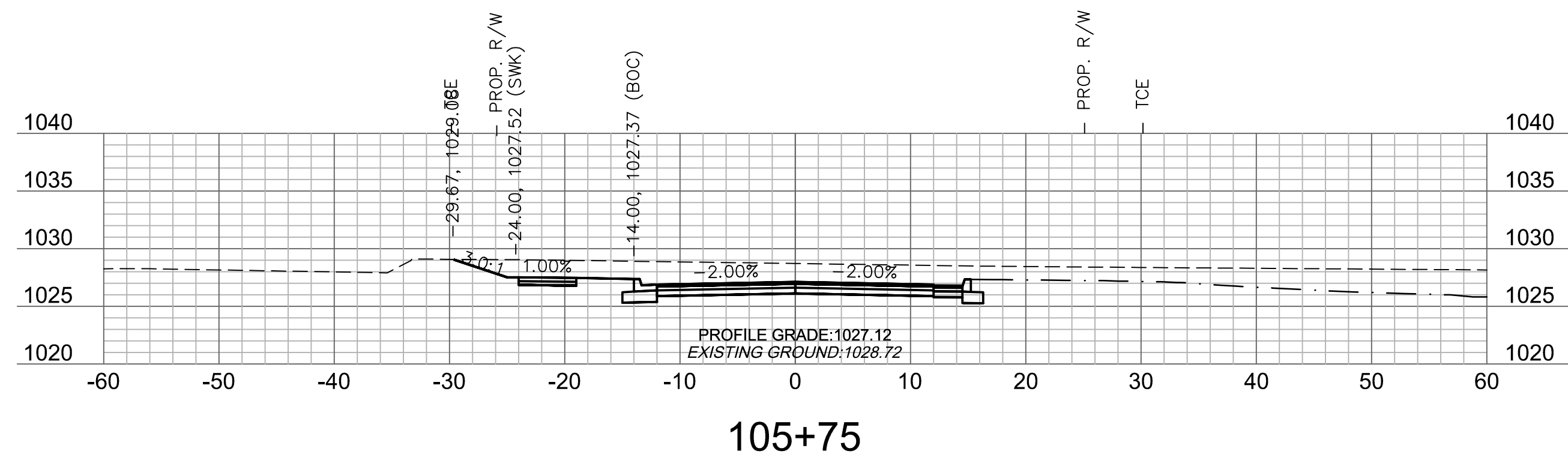
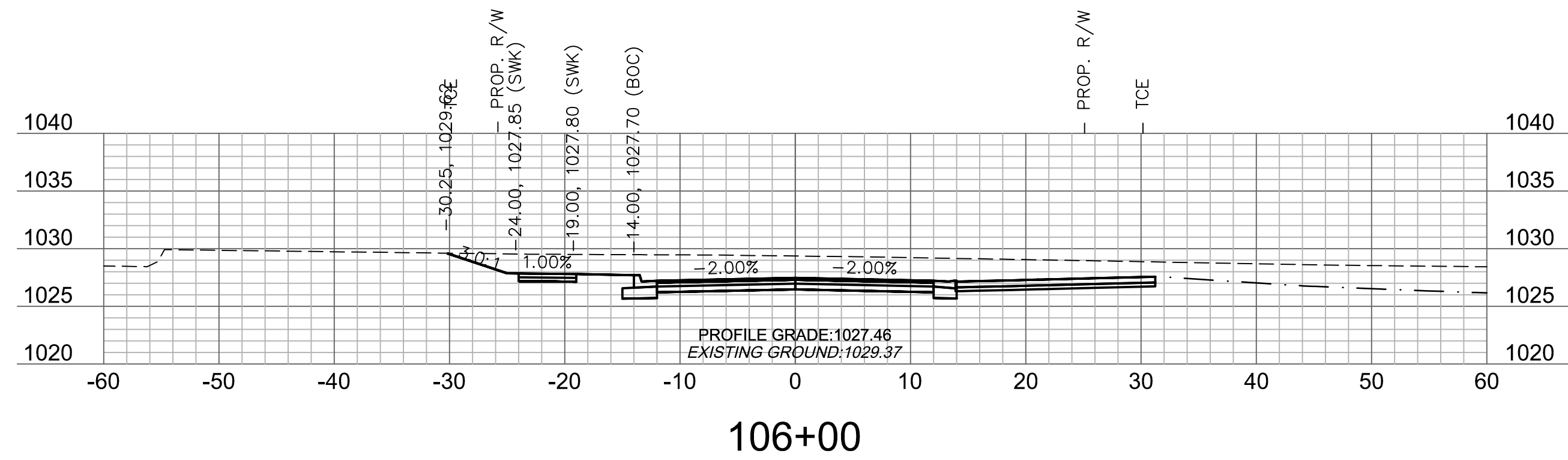
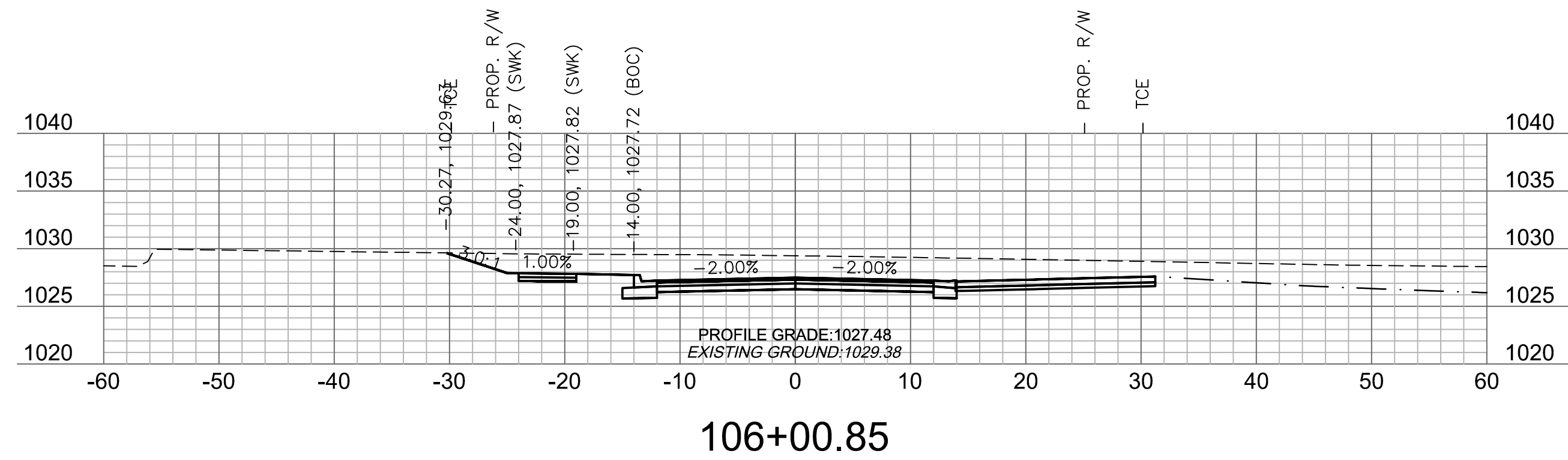
olsson

Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

[illegible]

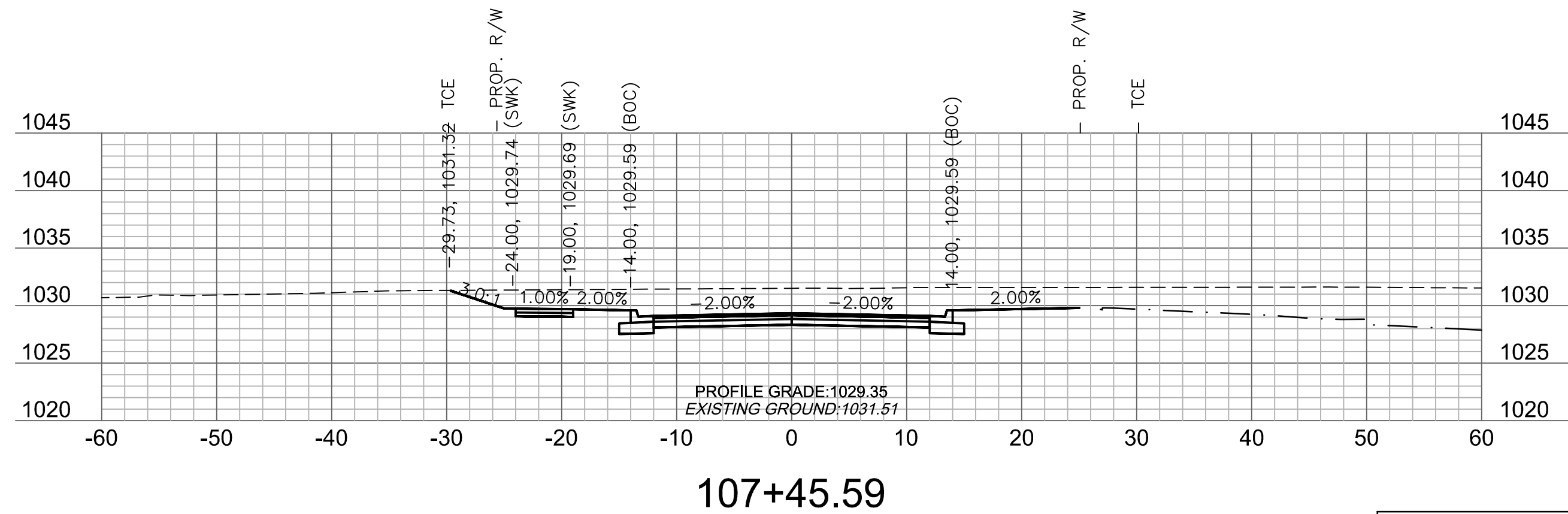
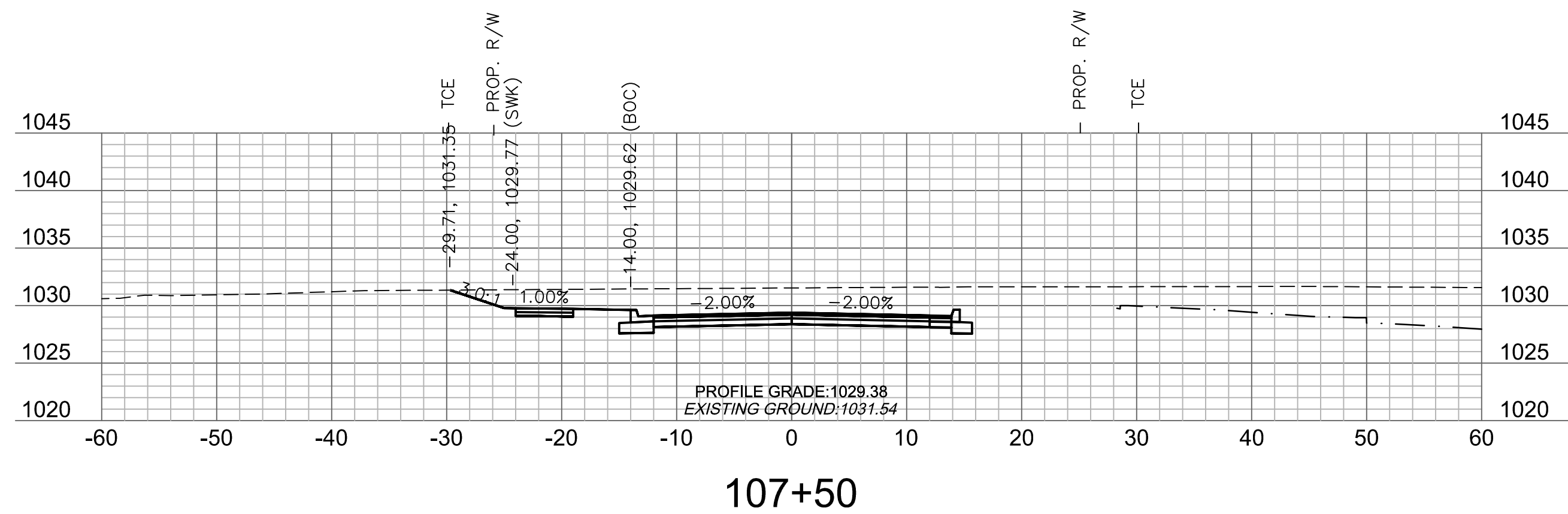
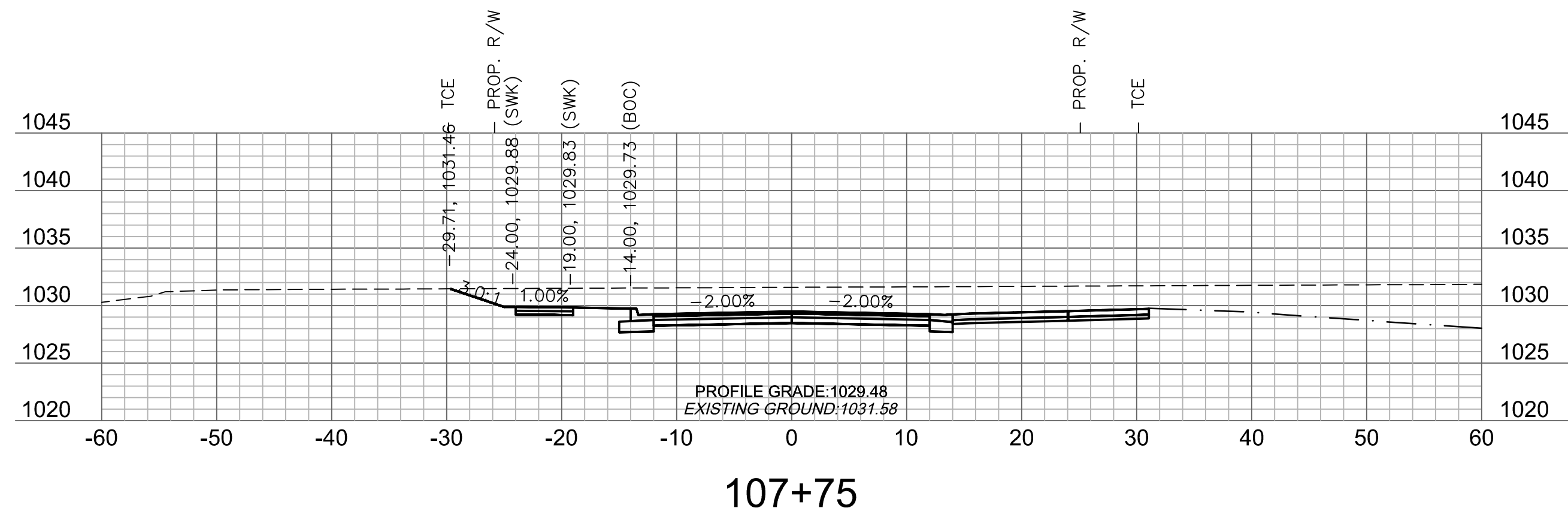
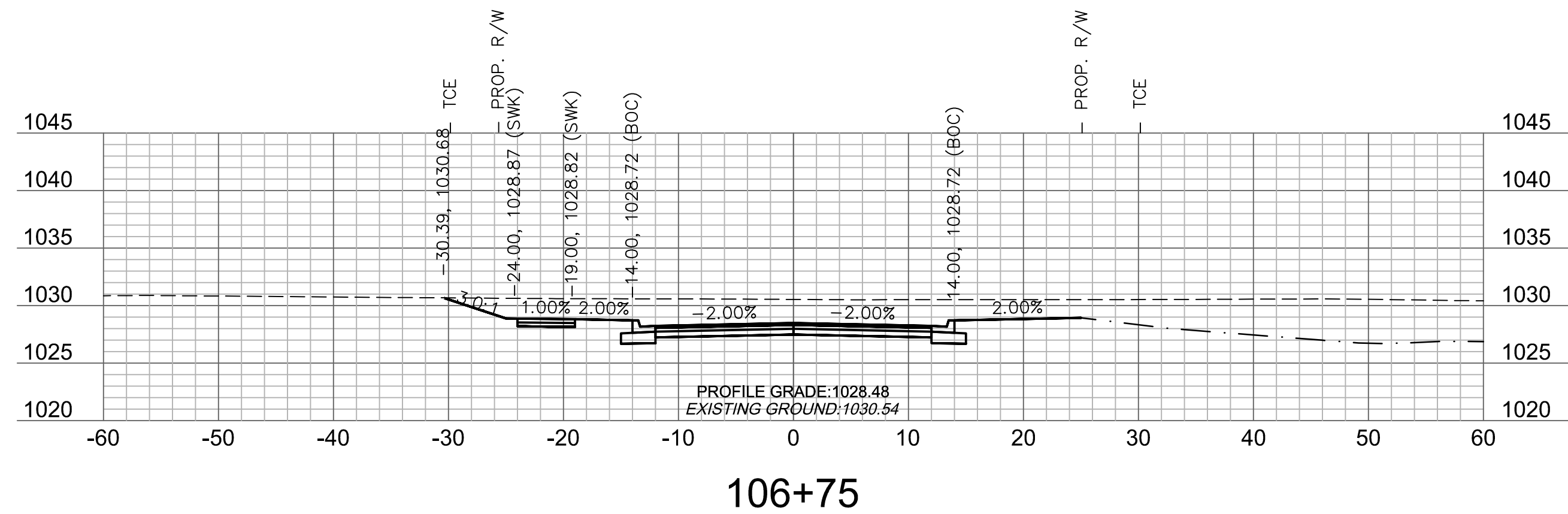
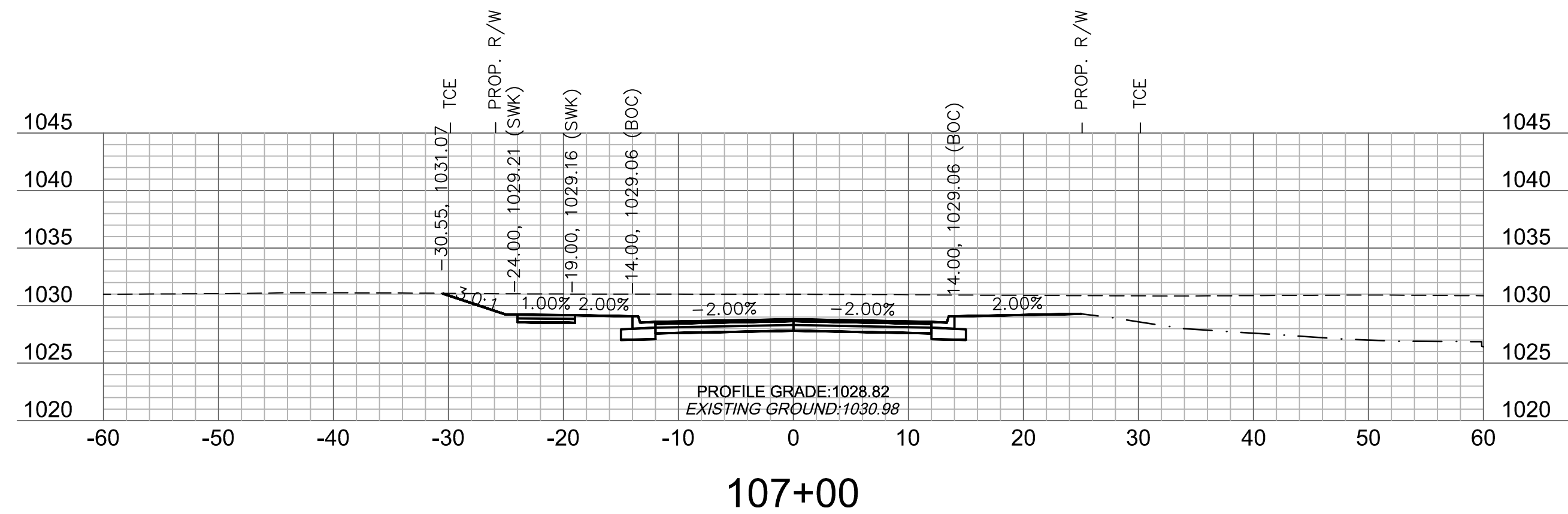
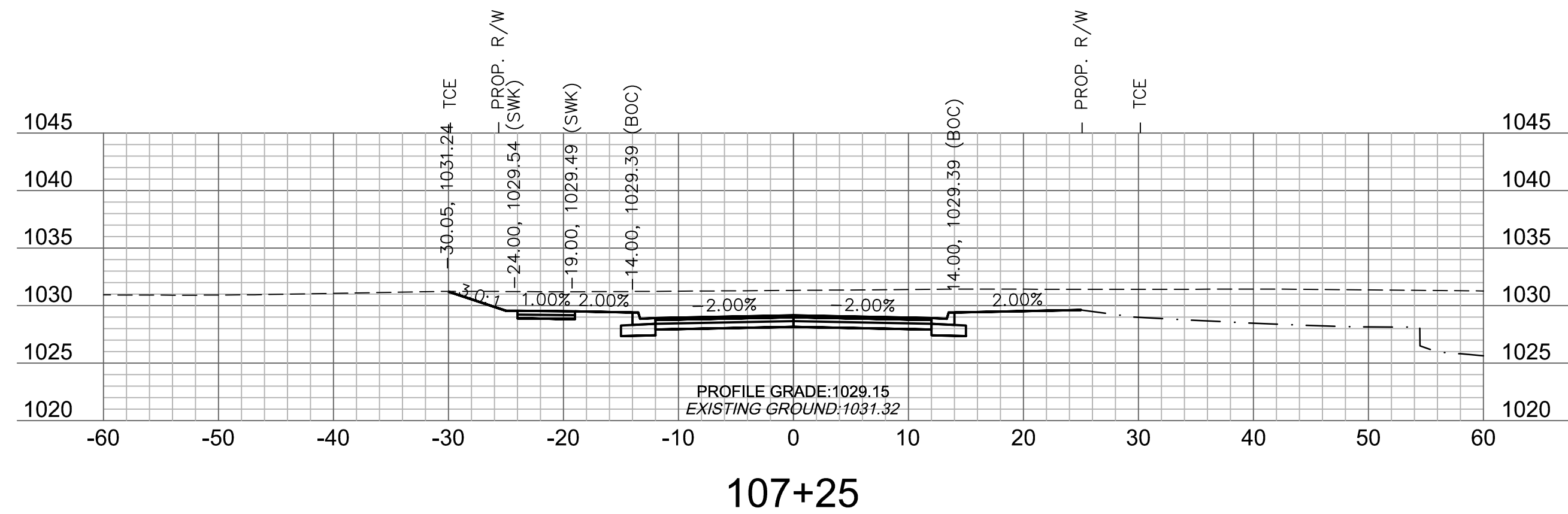
PRINCETON DRIVE CROSS SECTIONS	
O'REILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	
LEE'S SUMMIT, MISSOURI	2019

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR 81450
DATE: 07.19.19



GRADING (BY OTHERS)

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBULK_81450
DATE: Jul 25, 2019 9:33am USER: ascavedra



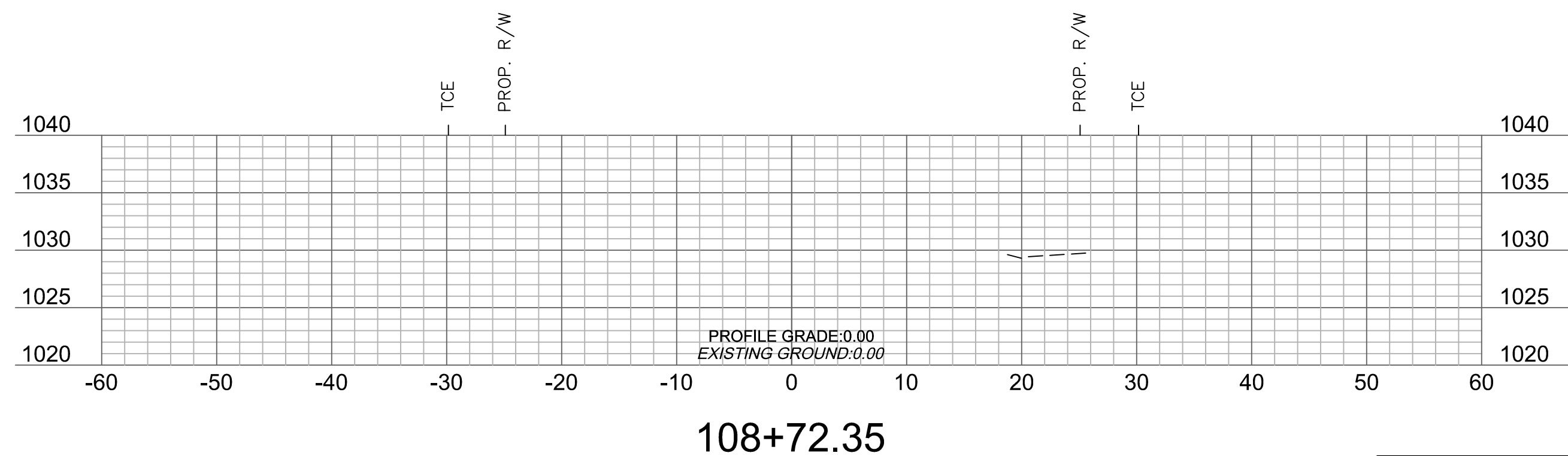
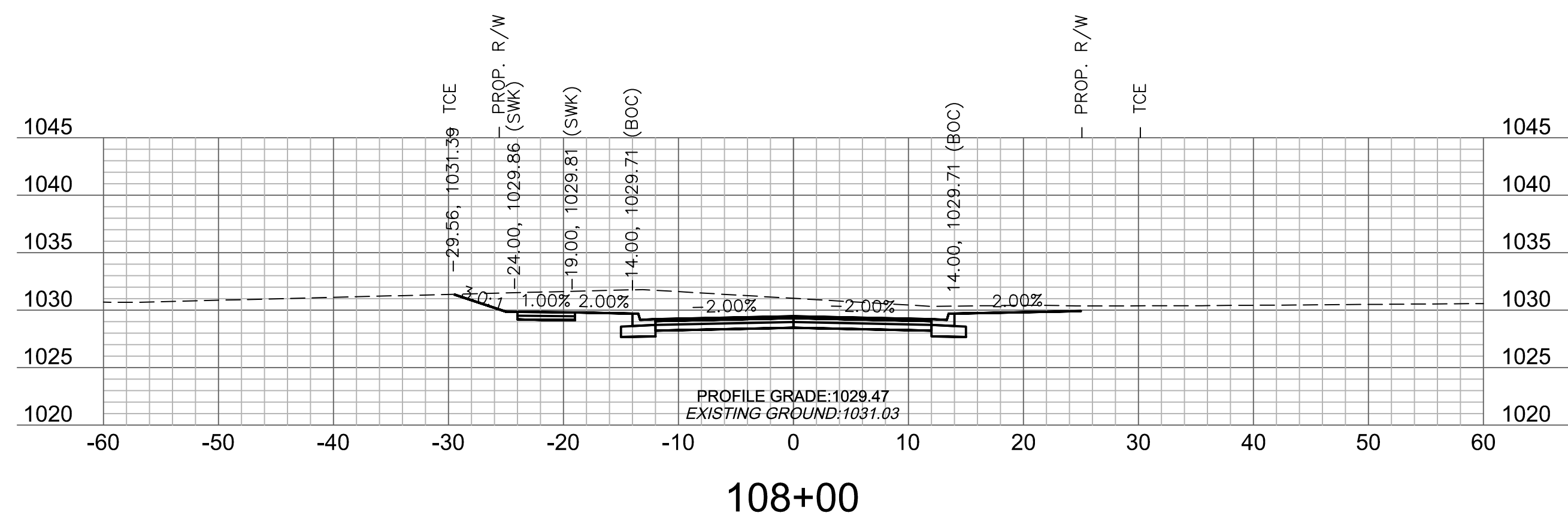
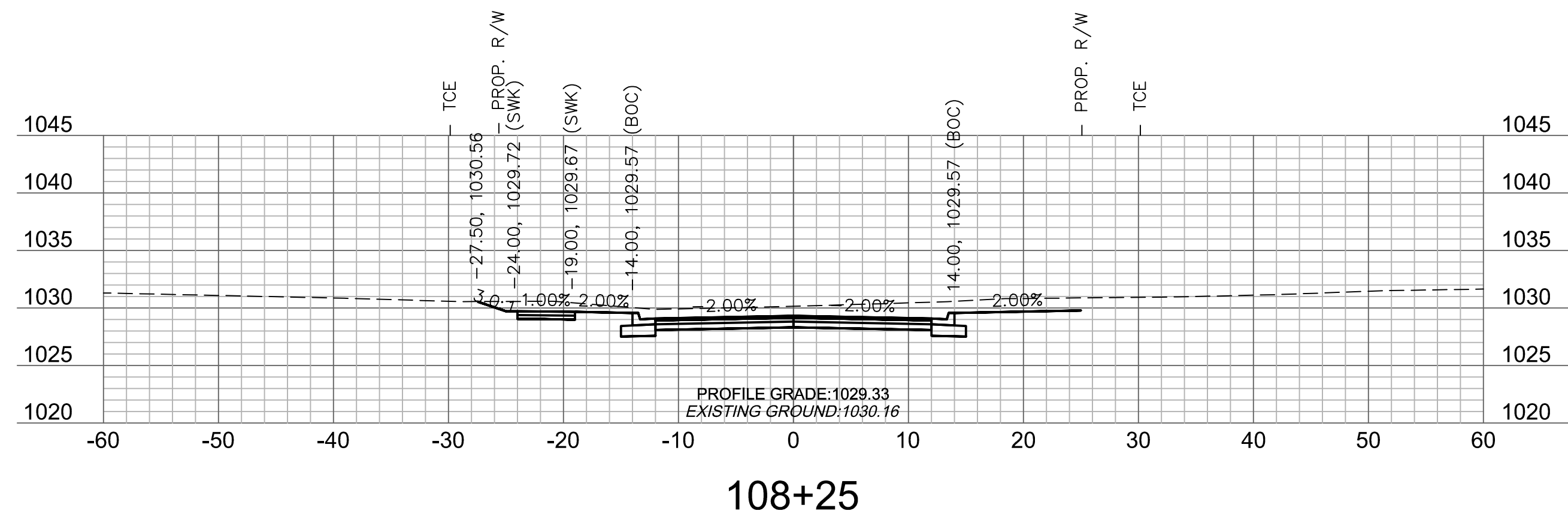
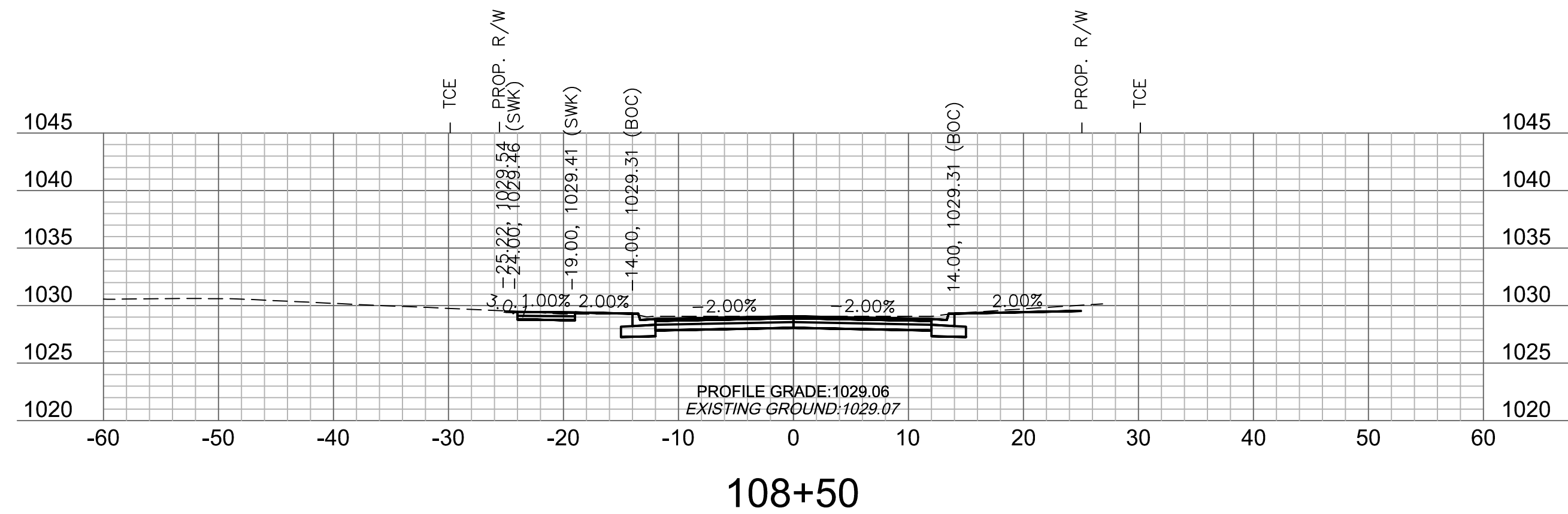
GRADING (BY OTHERS)

[illegible]

PRINCETON DRIVE CROSS SECTIONS	
OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	
LEE'S SUMMIT, MISSOURI	2019

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Xref\T_PCORR_81450.dwg
DATE: Jul 25, 2019 9:38am XREFS: v_xbou_81450 V_TOPO_81450 T_PBASE_81450 C_PBASE_81450 T_PTBK_81450
USER: asoaavedra



GRADING (BY OTHERS)

olson



Olsson Engineering - MO State Certificate of Authority #001592
7301 West 133rd Street, Suite 200 TEL 913.381.1170
Overland Park, KS 66213-4750 FAX 913.381.1174 www.olsson.com

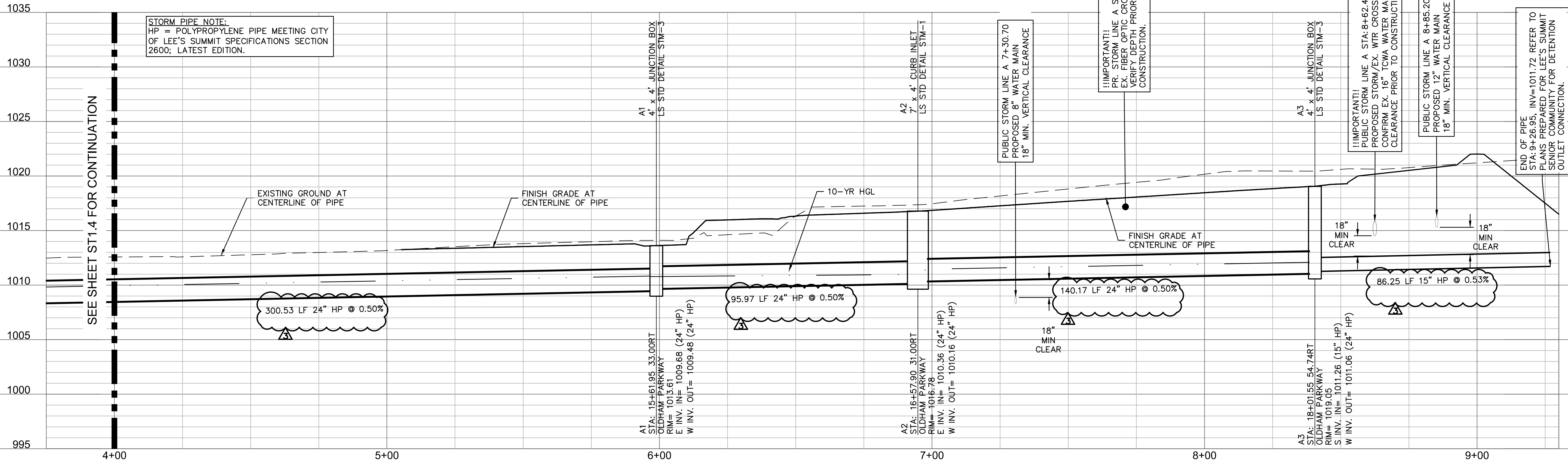
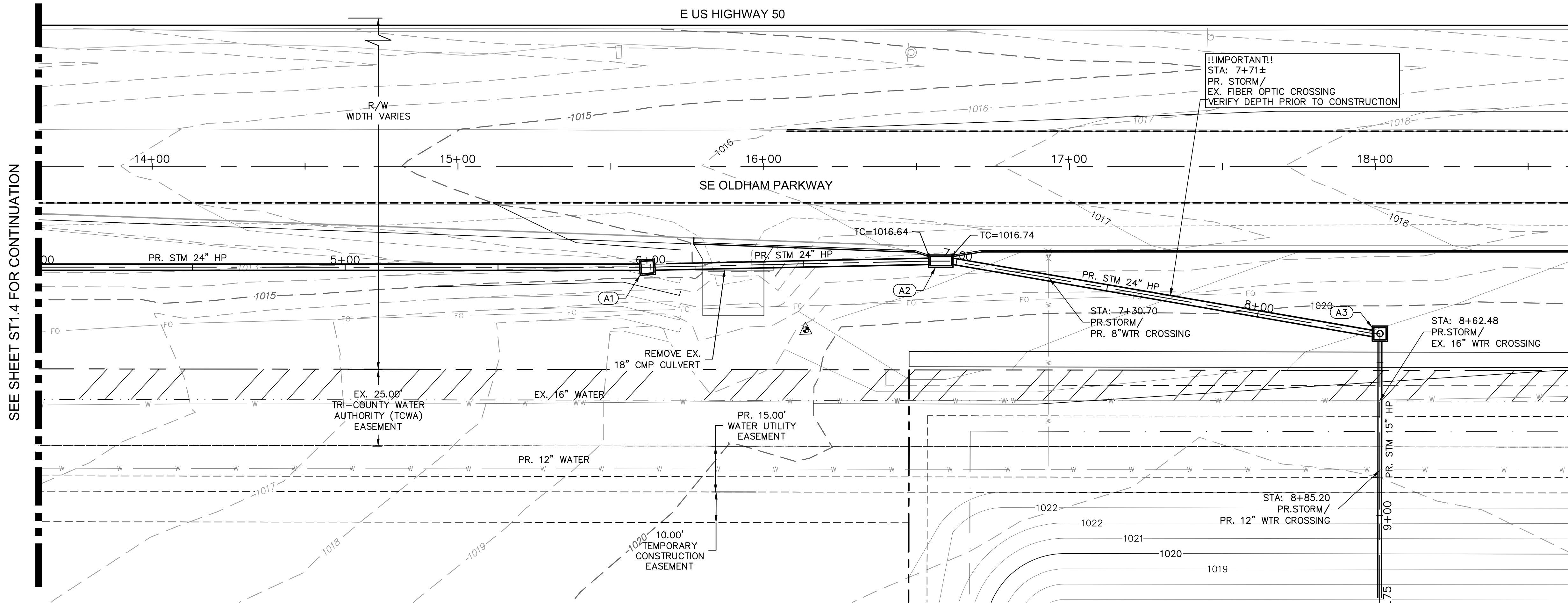
[illegible]

PRINCETON DRIVE CROSS SECTIONS	OREILLY DEVELOPMENT SENIOR LIVING FACILITY OLDHAM PARKWAY & PRINCETON DRIVE IMPROVEMENTS	201
LEE'S SUMMIT, MISSOURI		

C.O.A. NO.: 001592
DRAWN BY: AS
CHECKED BY: JKL
APPROVED BY: RBF
QA/QC BY: JKL/RBF
PROJECT NO.: 018-1450
DWG NO.: T_PCORR_81450
DATE: 07.19.19

SHEET
T51 OF 70

DWG: F:\2018\1001-1500\018-1450-40-Design\AutoCAD\Final_Plans\Sheets\GNCV\PUBLIC_STORM\C_STM_PROF_81450.DWG
DATE: Jul 24, 2019 2:50pm XREFS: V_X80U_81450 C_PBASE_81450 T_PBASE_81450 USER: rjeppson C_TBLK_22x34_81450



MISSOURI
ONE CALL SYSTEM
1-800-DIG-RITE or 811
www.mo1call.com

olsson

Olsson Engineering MO State Certificate of Authority #001592
Olsson Landscape Architecture MO State Cert. of Authority #20500265
550 St. Louis St.
Springfield, MO 65806
TEL 417.890.8802
www.olsson.com

STATE OF MISSOURI
RYAN V. JEPPESSON
PROFESSIONAL ENGINEER
NUMBER
PE-2012024241
RYAN V. JEPPESSON
PROFESSIONAL ENGINEER
MO# PE-2012024241

07/19/2019

ENGR. REVIEW COMMENTS

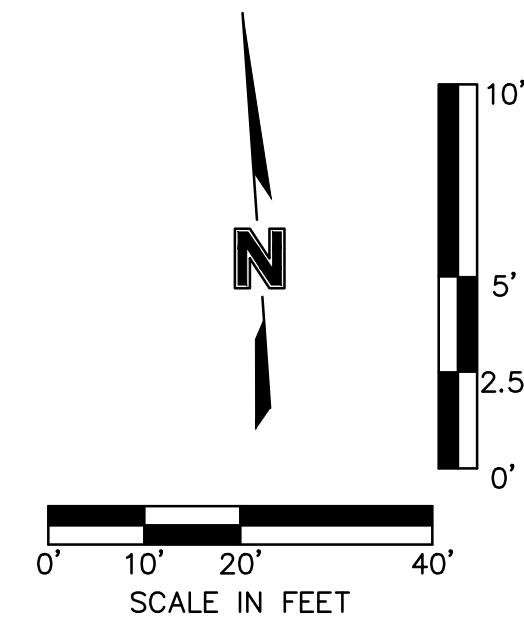
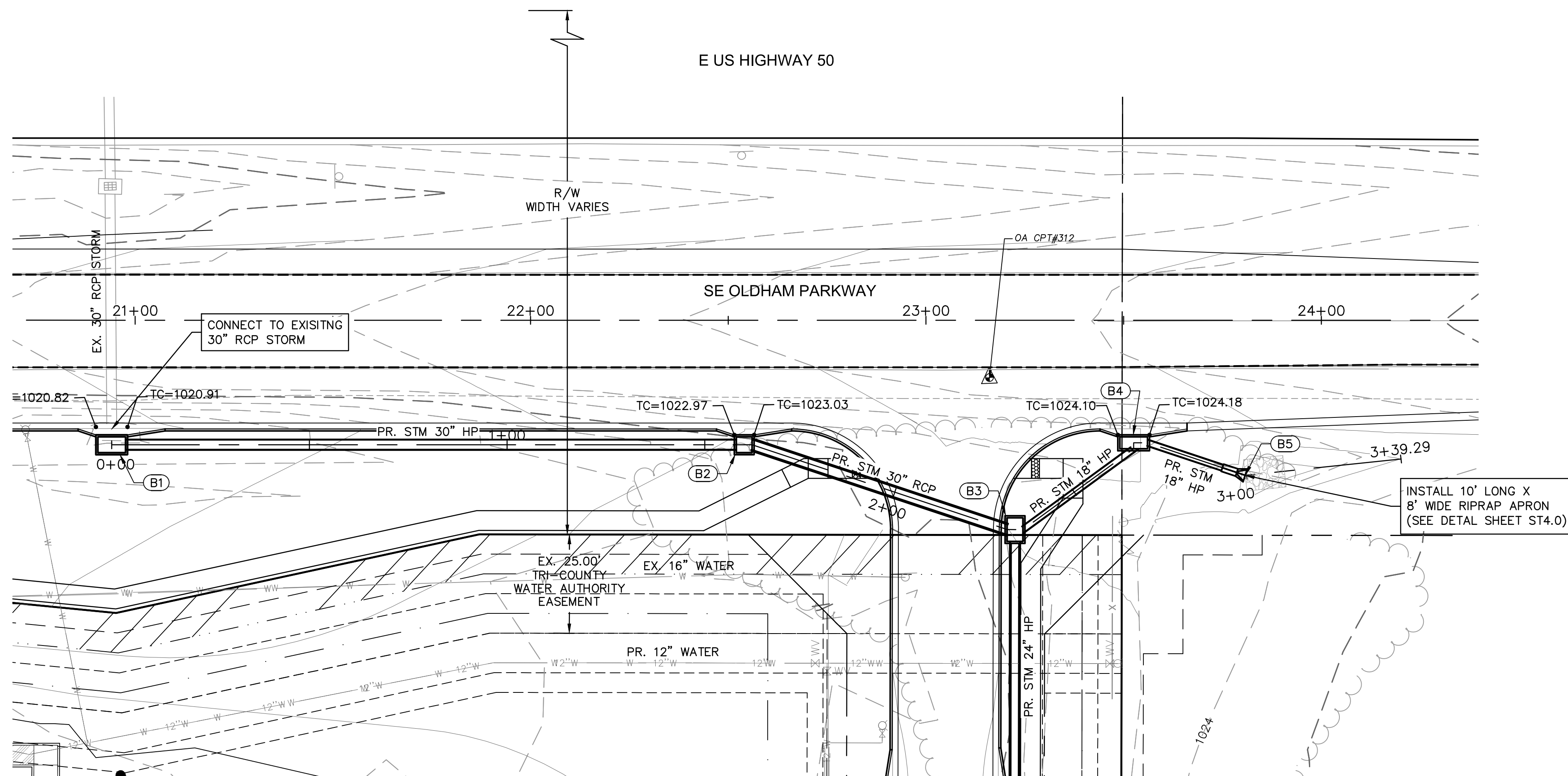
SE OLDHAM PARKWAY
PUBLIC STORM LINE A PLAN & PROFILE
THE PRINCETON SENIOR LIVING
SE OLDHAM PARKWAY
LEE'S SUMMIT, MISSOURI

2019

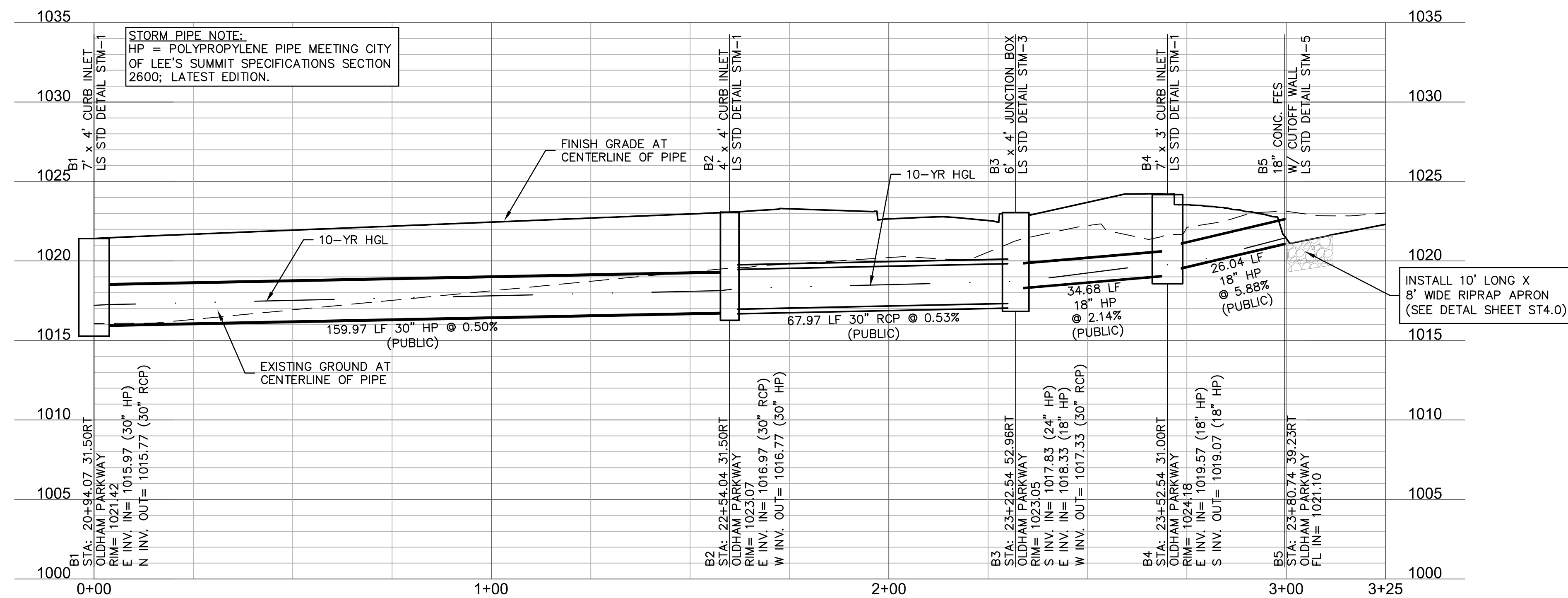
REVISIONS

drawn by: RPL
designed by: RVL
checked by: JLR
project no.: 018-1450
drawing no.: C_STM_PROF_81450
date: 07.19.19

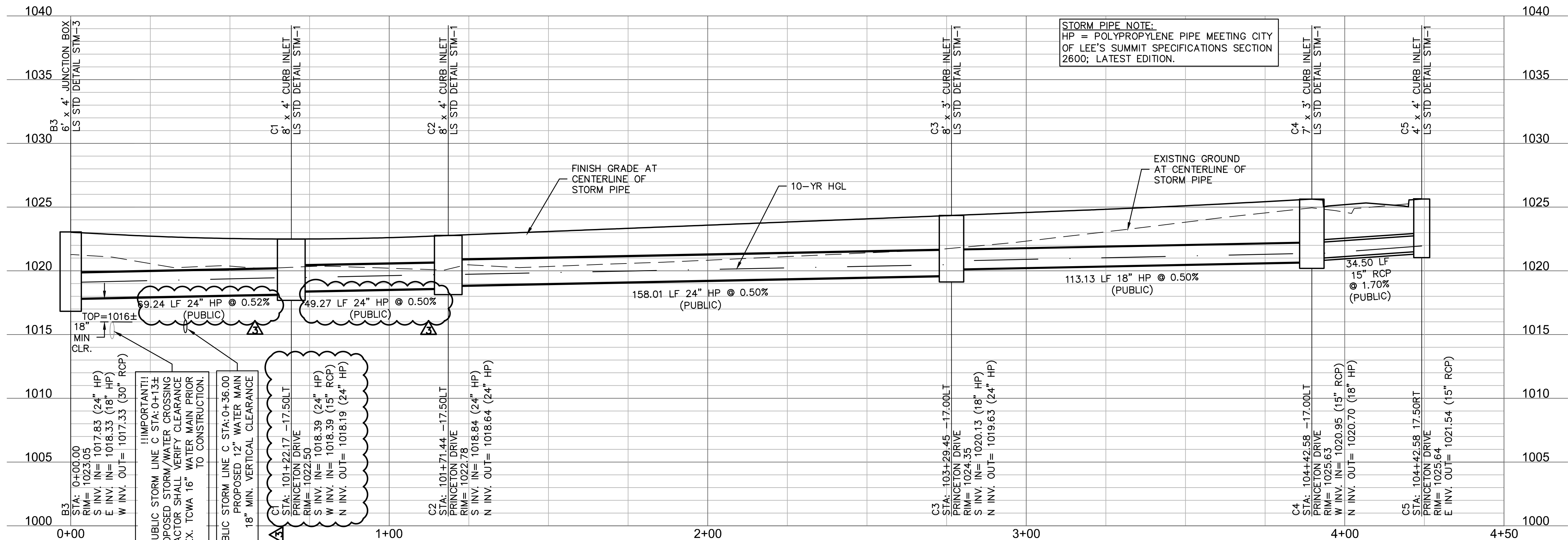
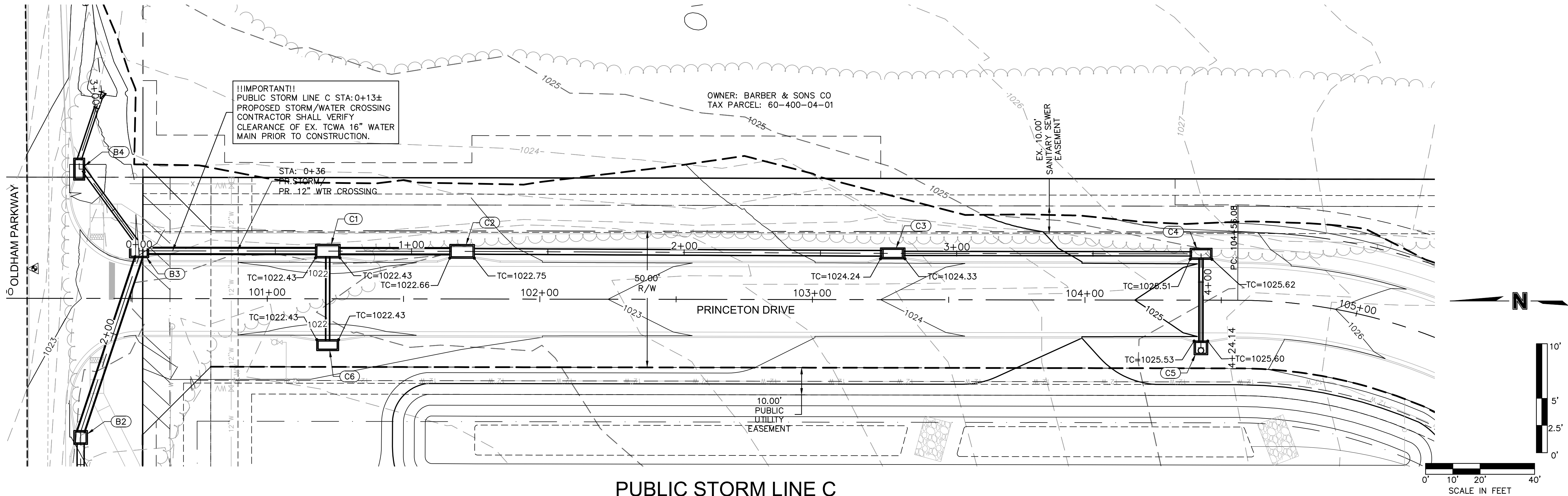
SHEET
ST1.0



PUBLIC STORM LINE B



DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final_Plans\Sheets\GNCV\PUBLIC_STORM\C_STM02_PROF_81450.DWG USER: rjeppson
DATE: Jul 24, 2019 3:24pm XREFS: V_XB0U_81450 C_PBASE_81450 T_PBASE_81450 C_TBLK_22x34_81450



MISSOURI
DIG-ALL SYSTEM
1-800-DIG-RITE or 811
www.motcall.com

olsson

Olsson Engineering MO State Certificate of Authority #001592
Olsson Landscape Architecture MO State Cert. of Authority #200500285
550 St. Louis St.
Springfield, MO 65806
TEL 417.890.8802
www.olson.com

STATE OF MISSOURI

RYAN V. JEPSON
NUMBER
PE-2012024241
PROFESSIONAL ENGINEER
RYAN V. JEPSON
PROFESSIONAL ENGINEER
MO# PE-2012024241

07/19/2019

ENGR. REVIEW COMMENTS

SE PRINCETON DRIVE
PUBLIC STORM LINE C PLAN & PROFILE
THE PRINCETON SENIOR LIVING
SE OLDHAM PARKWAY
LEE'S SUMMIT, MISSOURI

2019

drawn by: RPL
designed by: RVL
checked by: JLR
project no.: 018-1450
drawing no.: C_STM_PROF_81450
date: 07.19.19

SHEET
ST1.2

REVISIONS DESCRIPTION

DATE

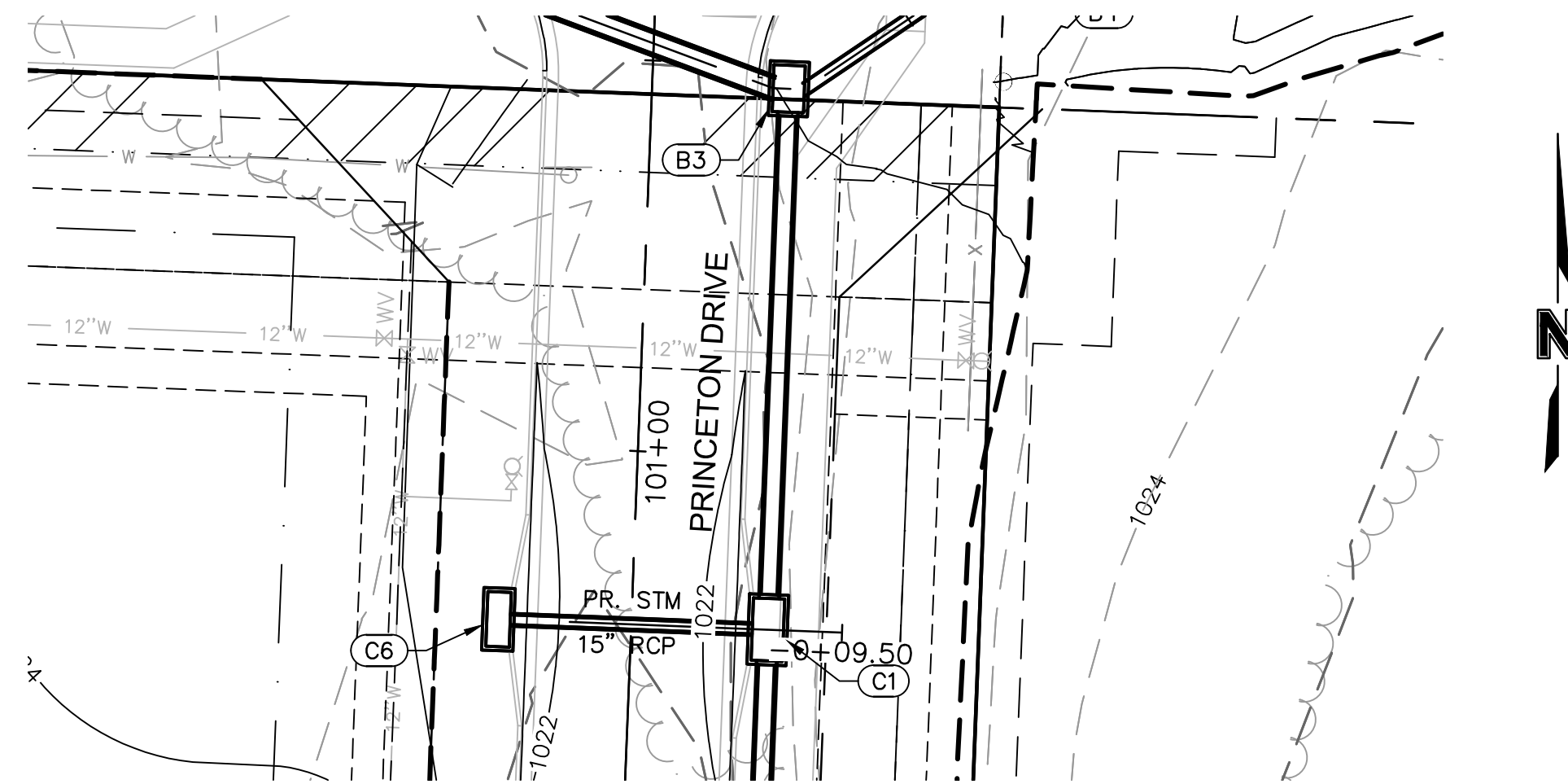
REV. NO.

07/19/2019

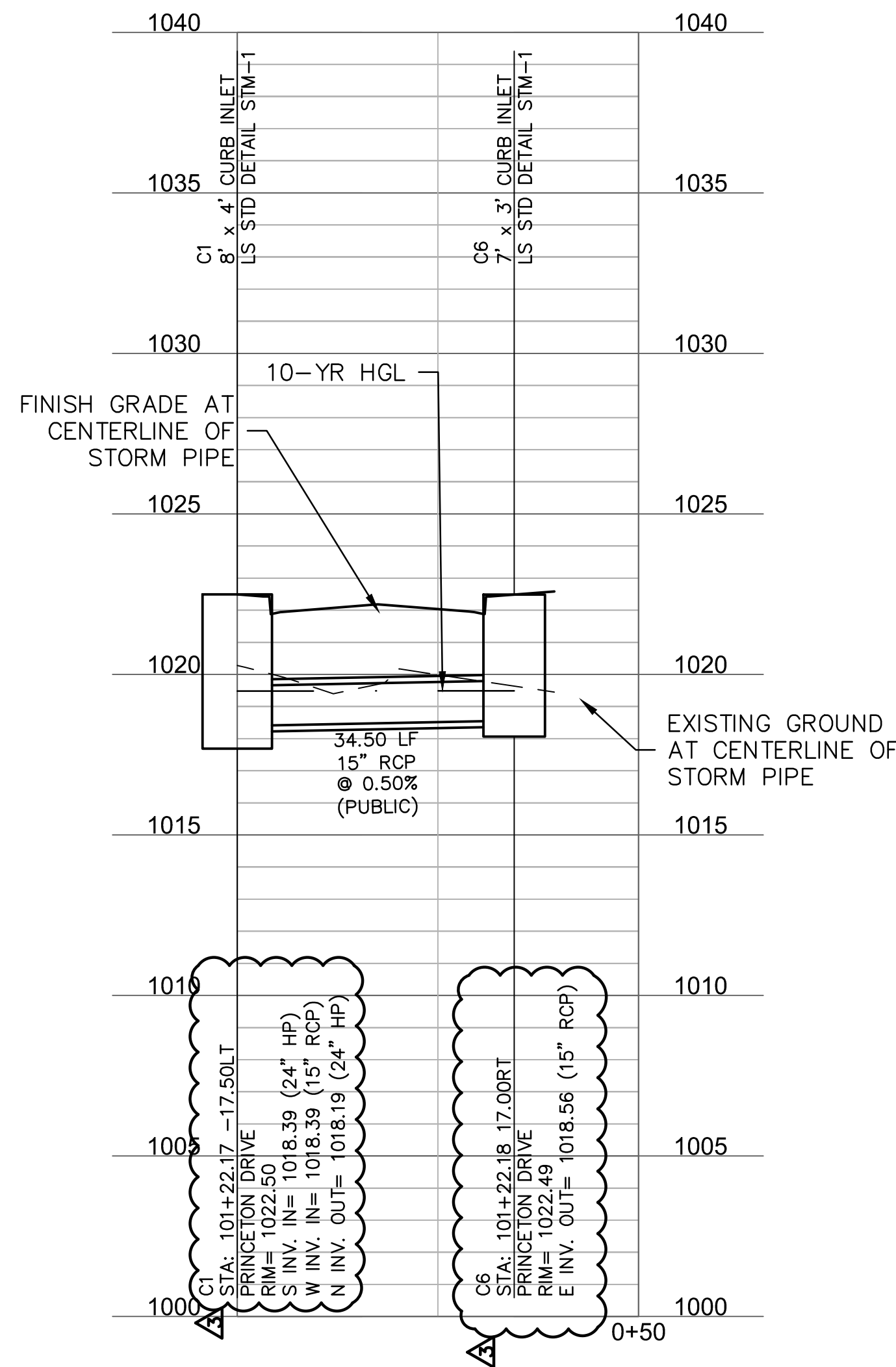
ENGR. REVIEW COMMENTS

REVISIONS

DWG: F:\2018\1001-1500\018-1450-40-Design\AutoCAD\Final Plans\Sheets\GNCV\PUBLIC_STORM\C_STM02_PROF_81450.DWG
DATE: Jul 24, 2019 3:00pm XREFS: V_XB0U_81450 V_TOPO_81450 C_PBASE_81450 T_PRASE_81450 C_TBLK_K22343_81450 USER: rjeppson



PUBLIC STORM LINE C6

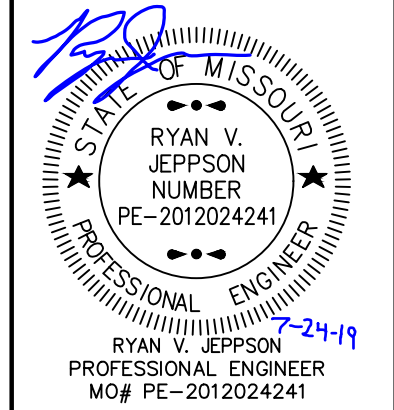


STORM PIPE NOTE:
HP = POLYPROPYLENE PIPE MEETING CITY
OF LEE'S SUMMIT SPECIFICATIONS SECTION
2600; LATEST EDITION.



SHEET
ST1.3

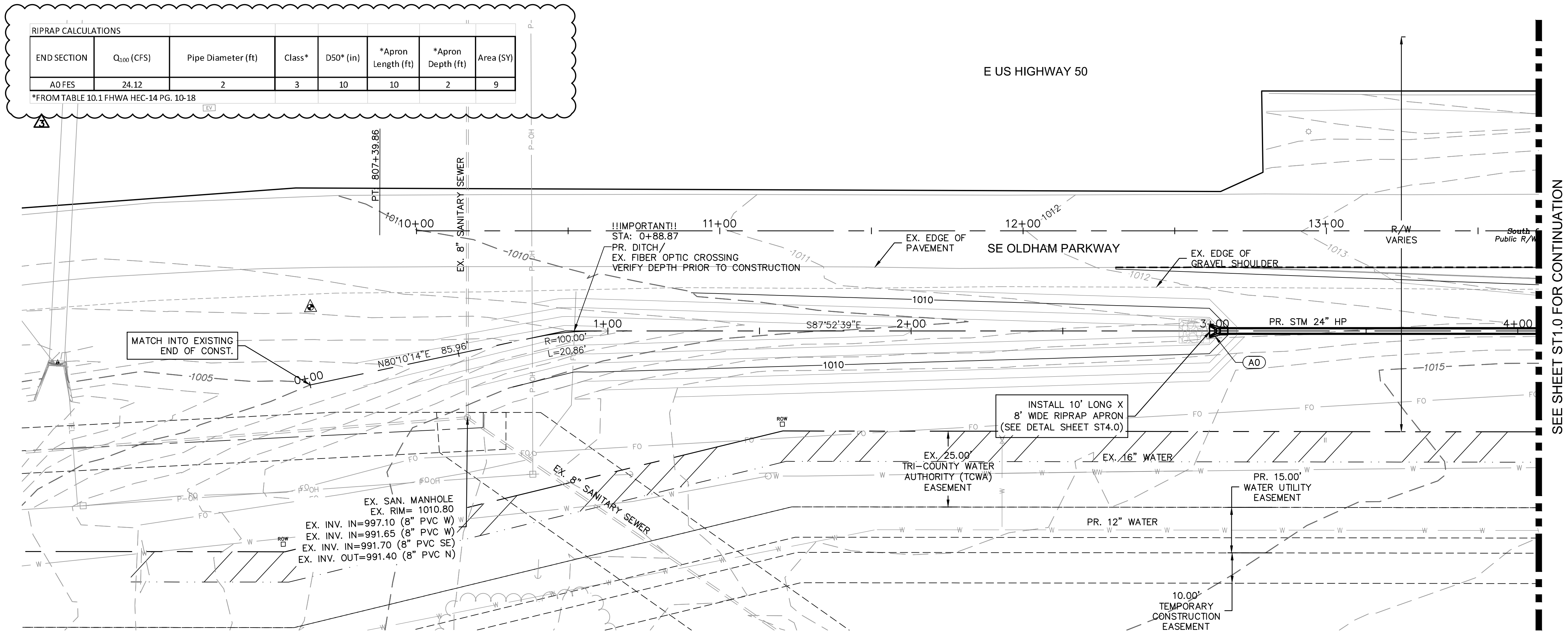
SE PRINCETON DRIVE PUBLIC STORM LINE C6	
THE PRINCETON SENIOR LIVING SE OLDHAM PARKWAY	
LEE'S SUMMIT, MISSOURI	2019

[illegible]

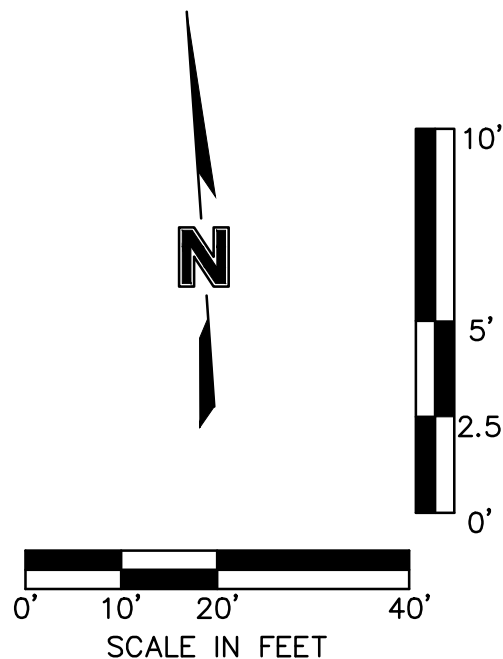
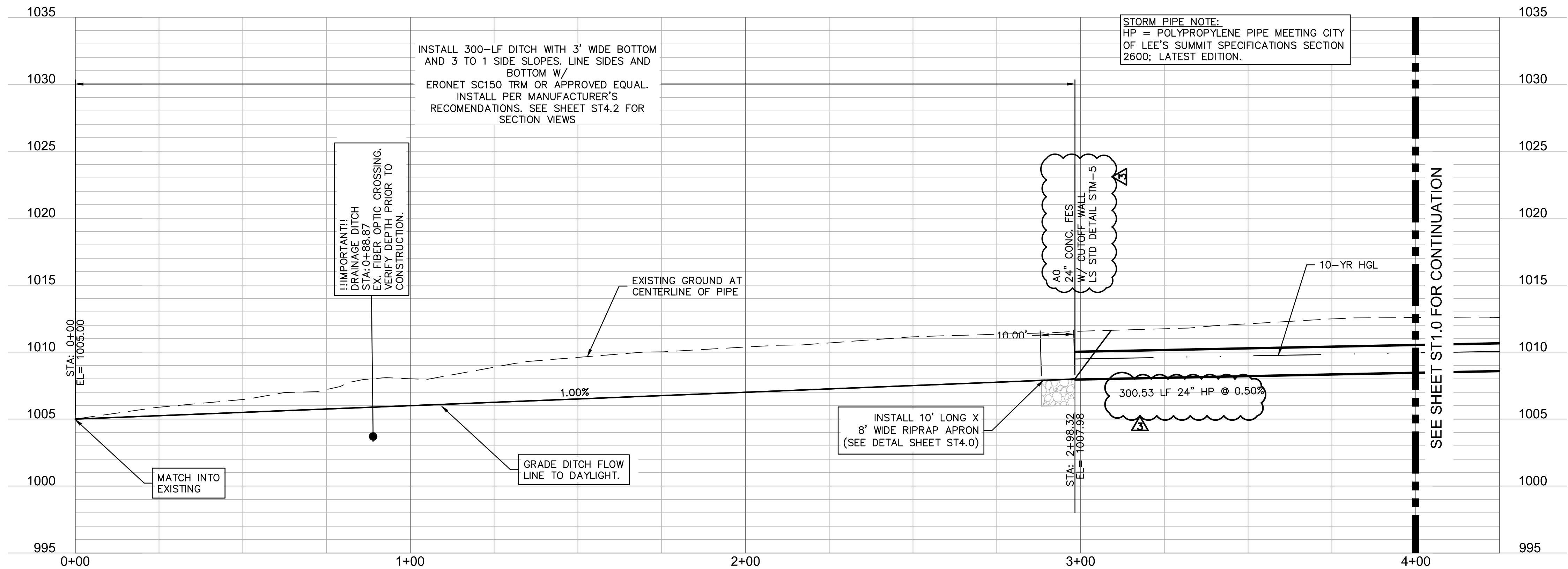
olsson

Olsson Engineering MO State Certificate of Authority #001592
Olsson Landscape Architecture MO State Cert. of Authority #2005000285
550 St. Louis St.
Springfield, MO 65806
TEL 417.590.8602 www.olsson.com

DWG: F:\2018\1001-1500\018-1450-40-Design\AutoCAD\Final_Plans\Sheets\GNCV\PUBLIC_STORM\C_STM_PROF_81450.DWG
DATE: Jul 24, 2019 2:57pm
XREFS: V_X80U_81450 C_PBASE_81450 T_PBASE_81450
USER: rjeppson
C_TBLK_22x34_81450



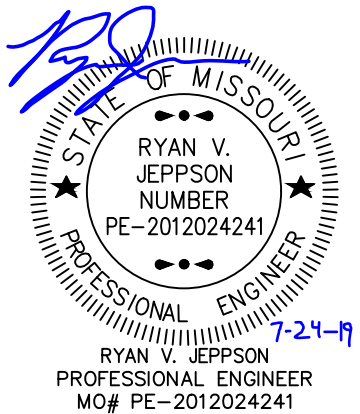
DRIANAGE DITCH AND PUBLIC STORM LINE A



1-800-DIG-RITE or 811
www.mo1call.com

olsson

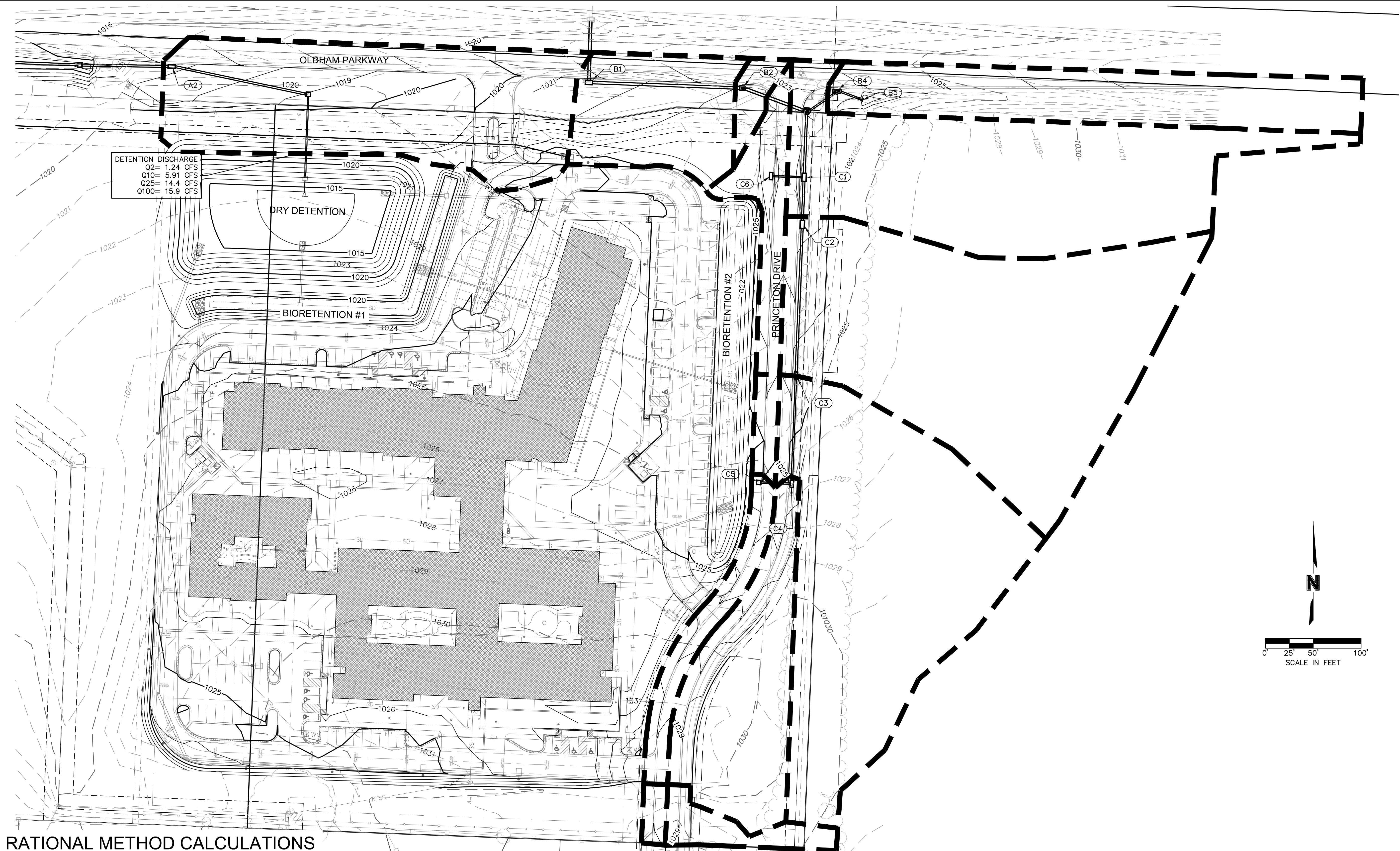
Olsson Engineering MO State Certificate of Authority #001592
Olsson Landscape Architecture MO State Cert. of Authority #200500285
550 St. Louis St.
Springfield, MO 65806
TEL 417.890.8802
www.olsson.com



REV. NO.	DATE	REVISIONS DESCRIPTION
1	07/19/2019	ENGR. REVIEW COMMENTS

SE OLDHAM PARKWAY DRAINAGE DITCH PLAN & PROFILE	2019
THE PRINCETON SENIOR LIVING SE OLDHAM PARKWAY	
LEE'S SUMMIT, MISSOURI	
drawn by: RPL designed by: RVL checked by: JLR project no.: 018-1450 drawing no.: C_STM_PROF_81450 date: 07.19.19	
SHEET ST1.4	

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Sheets\GNCV\PUBLIC STORM\C_DRN_81450.DWG USER: rjeppson
DATE: Jul 24, 2019 3:05pm XREFS: C:\BLK_22x34_81450 t_pbase_81450 t_pstickmap_70830 v_topo_81450 C_PBASE_81450



DETENTION DISCHARGE
Q2= 1.24 CFS
Q10= 5.91 CFS
Q25= 14.4 CFS
Q100= 15.9 CFS

DRY DETENTION

BIORETENTION #1

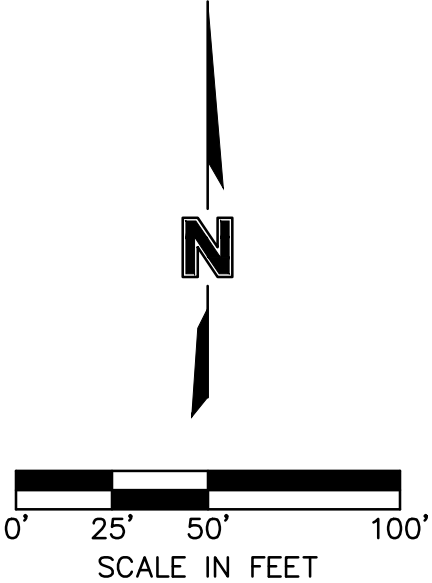
BIORETENTION #2

PRINCETON DRIVE

OLDHAM PARKWAY

RATIONAL METHOD CALCULATIONS

INLET	DRAINAGE AREA (AC)	Pavement Area (AC) C=0.90	Open Space Area (AC) C=0.30	RUNOFF COEFFICIENT "C2" & "C10"	RUNOFF COEFFICIENT "C25" (1.1)	RUNOFF COEFFICIENT "C50" (1.20)	RUNOFF COEFFICIENT "C100" (1.25)	Time of Concentration "Tc" (min)	2-YEAR INTENSITY	10-YEAR INTENSITY	25-YEAR INTENSITY	50-YEAR INTENSITY	100-YEAR INTENSITY	Q2year (CFS)	Q10year (CFS)	Q25year (CFS)	Q50year (CFS)	Q100year (CFS)
A2 CURB INLET	1.21	0.43	0.78	0.51	0.56	0.62	0.64	5.00	5.41	7.35	8.53	9.40	10.32	3.36	4.57	5.83	7.00	8.02
B1 CURB INLET	0.47	0.12	0.35	0.45	0.49	0.54	0.56	5.00	5.41	7.35	8.53	9.40	10.32	1.14	1.55	1.97	2.37	2.71
B2 CURB INLET	0.08	0.03	0.05	0.54	0.59	0.65	0.68	5.00	5.41	7.35	8.53	9.40	10.32	0.23	0.32	0.41	0.49	0.56
B4 CURB INLET	0.52	0.29	0.23	0.64	0.70	0.77	0.80	5.00	5.41	7.35	8.53	9.40	10.32	1.80	2.44	3.11	3.74	4.28
B5 FES	0.19	0.10	0.09	0.63	0.69	0.75	0.78	5.00	5.41	7.35	8.53	9.40	10.32	0.64	0.87	1.11	1.34	1.53
C1 CURB INLET	1.42	0.09	1.33	0.34	0.37	0.41	0.42	15.00	3.72	5.18	6.01	6.70	7.36	1.79	2.49	3.18	3.87	4.43
C2 CURB INLET	1.93	0.07	1.86	0.32	0.36	0.39	0.40	15.00	3.72	5.18	6.01	6.70	7.36	2.32	3.23	4.12	5.01	5.73
C3 CURB INLET	1.67	0.05	1.62	0.32	0.35	0.38	0.40	15.00	3.72	5.18	6.01	6.70	7.36	1.97	2.74	3.50	4.26	4.87
C4 CURB INLET	0.66	0.15	0.51	0.44	0.48	0.53	0.55	5.00	5.41	7.35	8.53	9.40	10.32	1.57	2.13	2.72	3.27	3.74
C5 CURB INLET	0.23	0.13	0.10	0.63	0.69	0.76	0.79	5.00	5.41	7.35	8.53	9.40	10.32	0.78	1.07	1.36	1.64	1.87
C6 CURB INLET	0.26	0.14	0.12	0.62	0.68	0.75	0.78	5.00	5.41	7.35	8.53	9.40	10.32	0.88	1.19	1.52	1.82	2.09



MISSOURI ONE CALL SYSTEM
1-800-DIG-RITE or 811
www.mo1call.com

SE OLDHAM PARKWAY & PRINCETON DRIVE
DRAINAGE AREA MAP

THE PRINCETON SENIOR LIVING
SE OLDHAM PARKWAY

LEE'S SUMMIT, MISSOURI

2019

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION



olsson
Olsson Engineering MO State Certificate of Authority #001592
Olsson Landscape Architecture MO State Cert. of Authority #205000285
550 St. Louis St.
Springfield, MO 65806
TEL 417.890.8802
www.olsson.com

SHEET
ST3.0

drawn by: RPL
designed by: RVL
checked by: JLR
project no.: 018-1450
drawing no.: C_DRN_81450
date: 07.19.19

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final_Plans\Sheets\GNCV\PUBLIC_STORM\C_CALC_81450.DWG
DATE: Jul 24, 2019 3:07pm
USER: rjeppson

100-YEAR PUBLIC STORM SEWER HYDRAULIC CALCULATIONS

MyReport

Line No.	Line ID	Line Length	Line Size	n-val Pipe	Invert Dn	Invert Up	Line Slope	Gnd/Rim El Dn	Gnd/Rim El Up	HGL Dn	HGL Up	Vel Ave	Defl Ang	J-Loss Coeff	Minor Loss	Energy Loss	Known Q	Flow Rate	
		(ft)	(in)		(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(Deg)		(ft)	(ft)	(cfs)	(cfs)	
1	EX 30-IN. RCP	61.411	30	0.013	1014.45	1015.77	2.15	0.00	1021.42	1015.74	1017.69	10.14	91.614	1.50 z	1.44	0.000	2.71	31.81	
2	P-B2	159.969	30	0.012	1015.97	1016.77	0.50	1021.42	1023.07	1017.87	1018.67	7.26	-89.493	0.52	0.43	0.799	0.56	29.10	
3	P-B3	67.970	30	0.013	1016.97	1017.33	0.53	1023.07	1023.05	1019.10	1019.37	6.53	17.292	0.96	0.66	0.321	0.00	28.54	
4	P-C1	69.240	24	0.012	1017.83	1018.19	0.52	1023.05	1022.50	1020.03	1020.63	7.24	72.806	1.50	1.22	0.596	4.43	22.73	
5	P-C2	49.270	24	0.012	1018.39	1018.64	0.51	1022.50	1022.78	1021.85	1022.06	5.16	0.524	0.50	0.21	0.216	5.73	16.21	
6	C3	158.010	24	0.012	1018.84	1019.63	0.50	1022.78	1024.35	1022.27	1022.56	3.34	-0.523	0.50	0.09	0.289	4.87	10.48	
7	P-C4	113.126	18	0.012	1020.13	1020.70	0.50	1024.35	1025.63	1022.65	1022.92	3.17	0.000	1.50	0.24	0.275	3.74	5.61	
8	P-C5	34.500	15	0.013	1020.95	1021.54	1.71	1025.63	1025.64	1023.16	1023.19	1.52	90.000	1.00	0.04	0.029	1.87	1.87	
9	P-B4	34.680	18	0.012	1018.33	1019.07	2.13	1023.05	1024.18	1020.03	1020.00 j	4.17	-53.320	1.09 z	n/a	0.136	4.28	5.81	
10	P-B5	26.040	18	0.012	1019.57	1021.10	5.88	1024.18	1022.70	1020.00	1021.56	3.48	43.121	1.00 z	0.17	0.000	1.53	1.53	
11	C6	34.500	15	0.013	1018.39	1018.56	0.49	1022.50	1022.49	1021.85	1021.88	1.70	90.004	1.00	0.05	0.036	2.09	2.09	
12	P-A1	300.530	24	0.012	1007.98	1009.48	0.50	1010.98	1013.61	1009.98	1012.85	7.61	2.122	0.15	0.14	2.885	0.00	23.92	
13	P-A2	95.970	24	0.012	1009.68	1010.16	0.50	1013.61	1016.78	1012.98	1013.90	7.61	0.000	0.63	0.57	0.915	8.02	23.92	
14	P-A3	140.170	24	0.012	1010.36	1011.06	0.50	1016.78	1019.05	1014.46	1015.05	5.06	21.462	0.94	0.37	0.590	0.00	15.90	
Project File: PUBLIC STORM 100-YR.stm											Number of lines: 14				Date: 7/24/2019				
NOTES: ** Critical depth																			

Storm Sewers

100-YEAR PUBLIC STORM SEWER INLET CALCULATIONS

Inlet Report

Line No	Inlet ID	Q = CIA	Q carry	Q capt	Q Byp	Junc Type	Curb Inlet		Grate Inlet		Gutter								Inlet			Byp Line No
		(cfs)	(cfs)	(cfs)	(cfs)		Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	B1	2.71*	0.00	2.70	0.01	Curb	0.5	7.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.22	9.55	0.82	0.78	9.5	13	
2	B2	0.56*	0.00	0.56	0.00	Curb	0.5	4.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.13	5.11	0.79	0.00	9.5	1	
3	B3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.0	Off	
4	C1	4.43*	1.35	5.78	0.00	Curb	0.5	6.40	0.00	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.46	21.67	1.25	21.67	9.5	Off
5	C2	5.73*	0.49	5.30	0.92	Curb	0.5	8.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.29	13.13	0.94	6.24	9.5	4	
6	C3	4.87*	0.32	4.71	0.49	Curb	0.5	8.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.27	12.26	0.91	4.82	9.5	5	
7	C4	3.74*	0.00	3.42	0.32	Curb	0.5	7.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.23	10.28	0.89	3.83	9.5	6	
8	C5	1.87*	0.00	1.59	0.28	Curb	0.5	4.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.18	7.86	0.89	3.59	9.5	11	
9	B4	4.28*	0.00	3.85	0.43	Curb	0.5	7.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.25	11.38	0.91	4.57	9.5	4	
10	B5	1.53*	0.00	1.53	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.0	Off	
11	C6	2.09*	0.28	2.37	0.00	Curb	0.5	5.60	0.00	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.28	12.76	1.07	12.76	9.5	Off
12	A1	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.0	Off	
13	A2	8.02*	0.01	5.64	2.39	Curb	0.5	7.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.31	14.47	1.00	9.10	9.5	Off	
14	A3	0.00	15.90	0.00	15.90	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.0	Off	
Project File: PUBLIC STORM 100-YR.stm													Number of lines: 14					Run Date: 7/24/2019				
NOTES: Inlet N-Values = 0.016; Known Qs only; * Indicates Known Q added. All curb inlets are throat.																						

Storm Sewers v12.09

10-YEAR PUBLIC STORM SEWER HYDRAULIC CALCULATIONS

MyReport

Line No.	Line ID	Line Length	Line Size	n-val Pipe	Invert Dn	Invert Up	Line Slope	Gnd/Rim El Dn	Gnd/Rim El Up	HGL Dn	HGL Up	Vel Ave	Defl Ang	J-Loss Coeff	Minor Loss	Energy Loss	Known Q	Flow Rate
		(ft)	(in)		(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(Deg)		(ft)	(ft)	(cfs)	(cfs)
1	EX 30-IN. RCP	61.411	30	0.013	1014.45	1015.77	2.15	0.00	1021.42	1015.39	1017.21	8.43	91.614	1.50 z	0.89	0.000	1.55	18.03
2	P-B2	159.969	30	0.012	1015.97	1016.77	0.50	1021.42	1023.07	1017.26	1018.14	6.23	-89.493	0.52 z	0.29	0.000	0.32	16.48
3	P-B3	67.970	30	0.013	1016.97	1017.33	0.53	1023.07	1023.05	1018.28	1018.69	6.07	17.292	0.96 z	n/a	0.000	0.00	16.16
4	P-C1	69.240	24	0.012	1017.83	1018.19	0.52	1023.05	1022.50	1019.10	1019.48	6.07	72.806	1.50 z	0.84	0.000	2.49	12.85
5	P-C2	49.270	24	0.012	1018.39	1018.64	0.51	1022.50	1022.78	1019.48	1019.72 j	5.27	0.524	0.50 z	n/a	0.000	3.23	9.17
6	C3	158.010	24	0.012	1018.84	1019.63	0.50	1022.78	1024.35	1019.72	1020.49 j	4.52	-0.523	0.50 z	n/a	0.000	2.74	5.94
7	P-C4	113.126	18	0.012	1020.13	1020.70	0.50	1024.35	1025.63	1020.79	1021.38	4.20	0.000	1.50 z	n/a	0.000	2.13	3.20
8	P-C5	34.500	15	0.013	1020.95	1021.54	1.71	1025.63	1025.64	1021.38	1021.95 j	2.97	90.000	1.00 z	n/a	0.000	1.07	1.07
9	P-B4	34.680	18	0.012	1018.33	1019.07	2.13	1023.05	1024.18	1018.78	1019.76	5.74	-53.320	1.09 z	n/a	0.000	2.44	3.31
10	P-B5	26.040	18	0.012	1019.57	1021.10	5.88	1024.18	1022.70	1019.76	1021.45	4.68	43.121	1.00 z	n/a	0.000	0.87	0.87
11	C6	34.500	15	0.013	1018.39	1018.56	0.49	1022.50	1022.49	1019.48	1019.49	1.14	90.004	1.00	0.02	0.013	1.19	1.19
12	P-A1	300.530	24	0.012	1007.98	1008.48	0.50	1010.98	1013.61	1009.27	1010.64 j	5.22	2.122	0.15 z	n/a	0.000	0.00	10.48
13	P-A2	95.970	24	0.012	1009.68	1010.16	0.50	1013.61	1016.78	1010.80	1011.32	5.66	0.000	0.63 z	0.30	0.000	4.57	10.48
14	P-A3	140.170	24	0.012	1010.36	1011.06	0.50	1016.78	1019.05	1011.32	1011.92 j	4.28	21.462	0.94 z	n/a	0.000	0.00	5.91
Project File: PUBLIC STORM 10-YR.stm											Number of lines: 14				Date: 7/24/2019			
NOTES: ** Critical depth																		

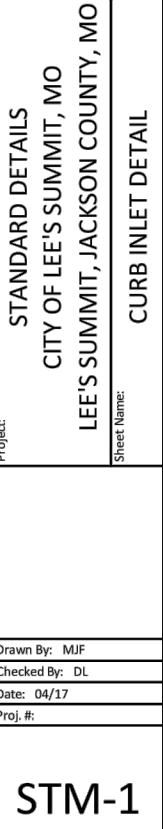
Storm Sewers

10-YEAR PUBLIC STORM SEWER INLET CALCULATIONS

Inlet Report

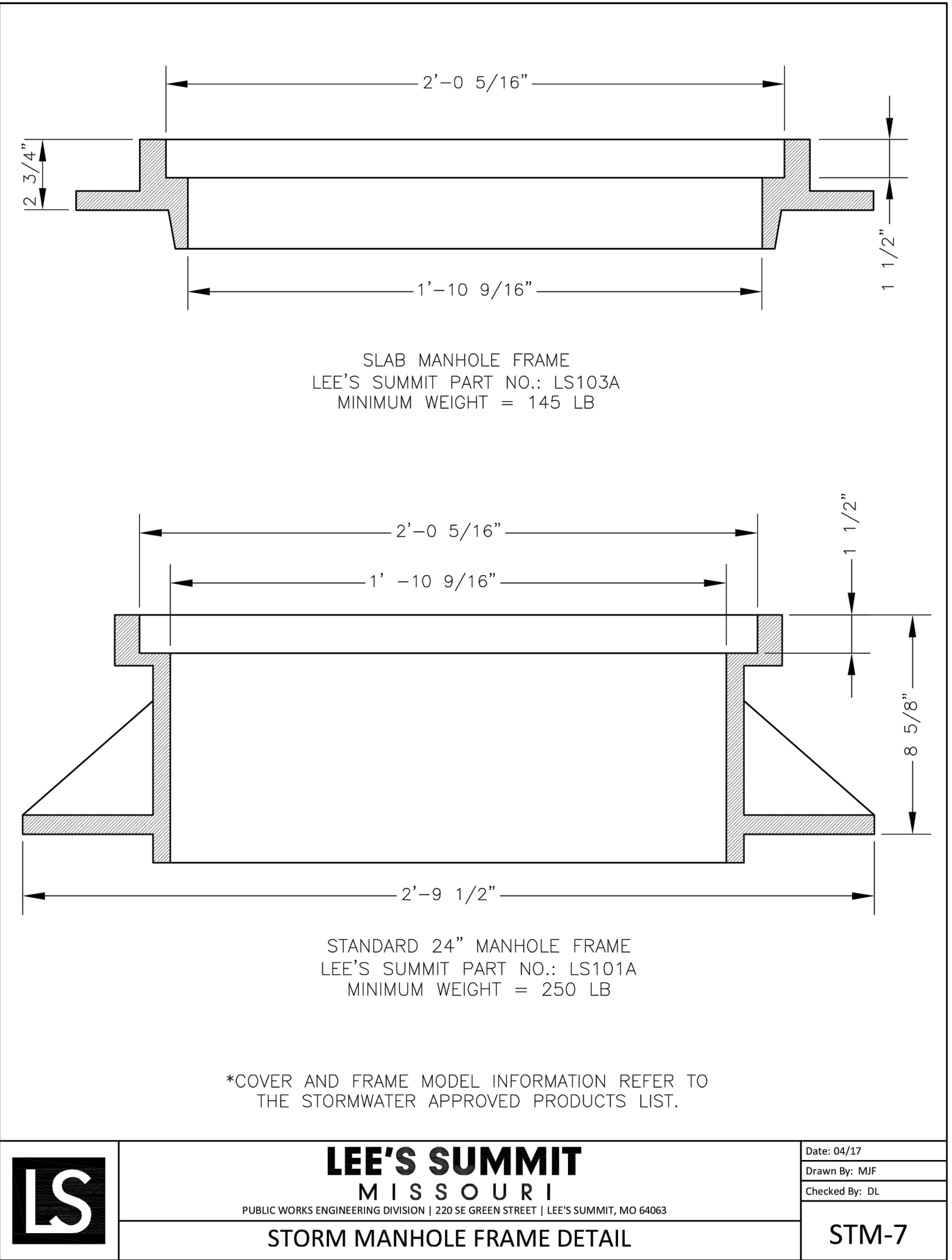
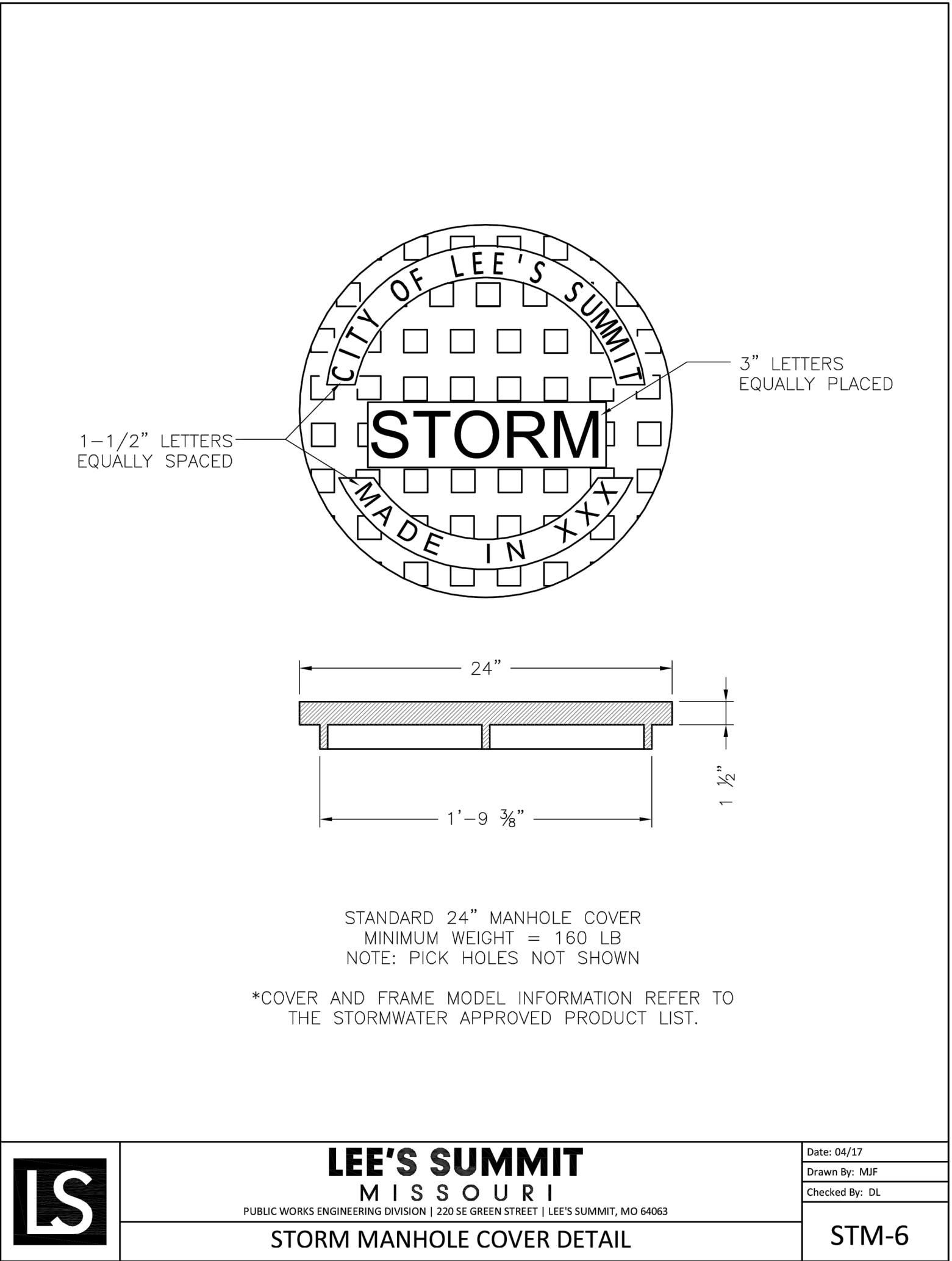
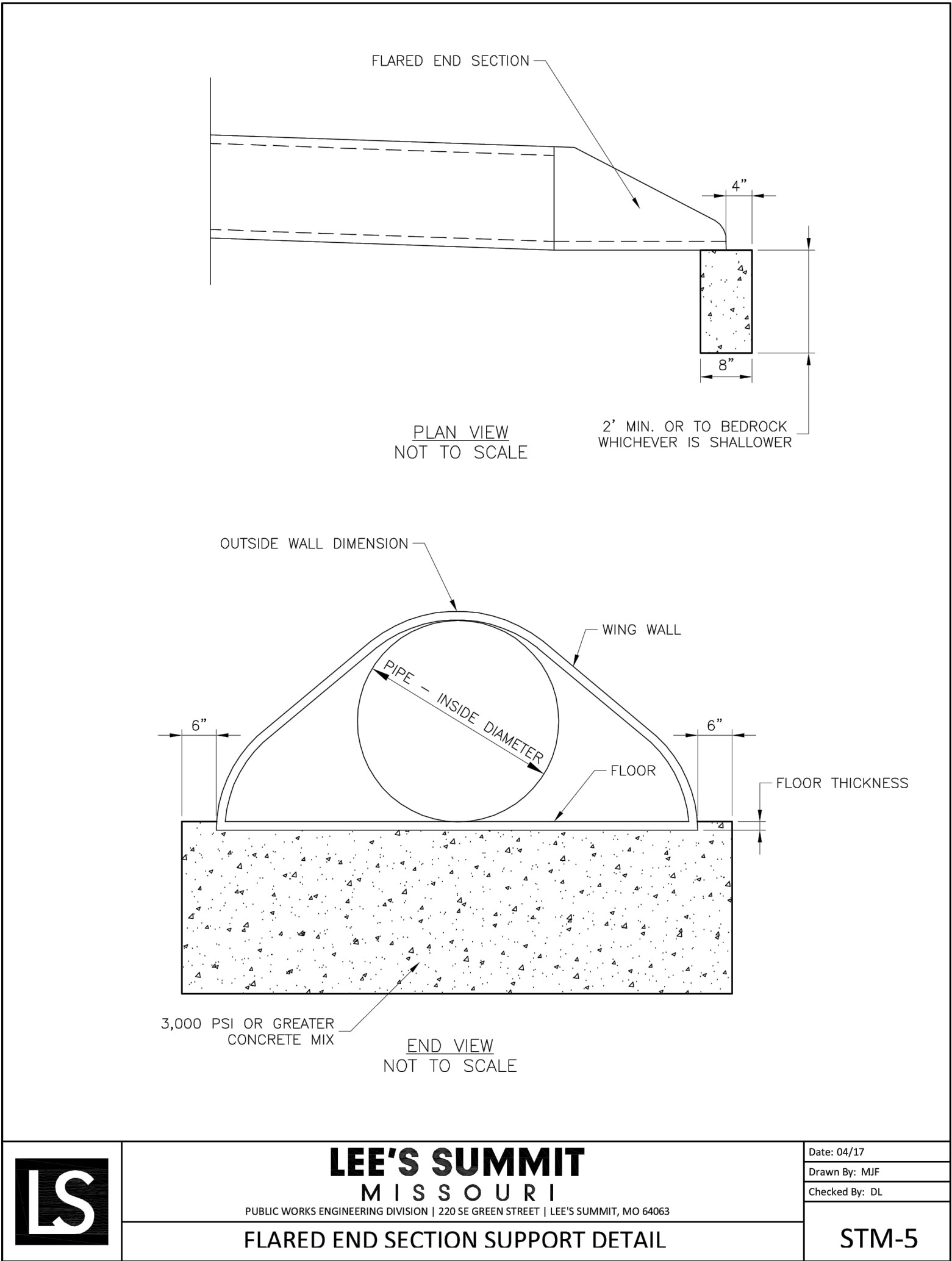
Line No	Inlet ID	Q = CIA	Q carry	Q capt	Q Byp	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No	
		(cfs)	(cfs)	(cfs)	(cfs)		Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)		
1	B1	1.55*	0.00	1.55	0.00	Curb	0.5	7.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.18	7.68	0.79	0.00	9.5	13	
2	B2	0.32*	0.00	0.32	0.00	Curb	0.5	4.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.11	4.03	0.79	0.00	9.5	1	
3	B3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off	
4	C1	2.49*	0.00	2.49	0.00	Curb	0.5	6.40	0.00	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.27	12.37	1.06	12.37	9.5	Off	
5	C2	3.23*	0.00	3.23	0.00	Curb	0.5	8.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.23	10.22	0.81	0.49	9.5	4	
6	C3	2.74*	0.00	2.74	0.00	Curb	0.5	8.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.22	9.59	0.79	0.00	9.5	5	
7	C4	2.13*	0.00	2.13	0.00	Curb	0.5	7.00	0.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.19	8.27	0.79	0.00	9.5	6	
8	C5	1.07*	0.00	1.06	0.01	Curb	0.5	4.00	0.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.15	6.30	0.82	0.81	9.5	11	
9	B4	2.44*	0.00	2.44	0.00	Curb	0.5	7.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.21	9.17	0.79	0.00	9.5	4	
10	B5	0.87*	0.00	0.87	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off	
11	C6	1.19*	0.01	1.20	0.00	Curb	0.5	5.60	0.00	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.19	8.11	0.98	8.11	9.5	Off	
12	A1	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off	
13	A2	4.57*	0.00	4.02	0.55	Curb	0.5	7.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.26	11.67	0.92	5.06	9.5	Off	
14	A3	0.00	0.91	0.00	5.91	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off	
Project File: PUBLIC STORM 10-YR.stm														Number of lines: 14					Run Date: 7/24/2019				
NOTES: Inlet N-Values = 0.016; Known Qs only; * Indicates Known Q added. All curb inlets are throat.																							

USER: rjeppson



- NOTES:**
1. RIPRAP SHALL BE PLACED IN SUCH A MANNER AS TO AVOID SEGREGATION OF VARIOUS SIZES OF ROCK, AND DISTRIBUTED SO THAT THERE WILL BE NO LARGE ACCUMULATION OF EITHER THE LARGER OR SMALLER SIZES OF STONE.
 2. INDIVIDUAL ROCKS SHALL BE PLACED IN TIGHT CONTACT WITH ONE ANOTHER IN SUCH A WAY TO PRODUCE THE LEAST AMOUNT OF VOID SPACES.
 3. RIPRAP SHALL BE SOLID, UNFRACTURED ROCK OR CONCRETE, BULKY IN SHAPE WITH SHARP, ANGULAR EDGES.
 4. GRANULAR BEDDING SHALL CONSIST OF 1" CLEAN, FRACTURED LIMESTONE.
 5. INSTALL FILTER FABRIC ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

*D₅₀ = MEAN PARTICLE SIZE (INTERMEDIATE DIMENSION)



olsson

Olsson Engineering MO State Certificate of Authority #001592
Olsson Landscape Architecture MO State Cert. of Authority #205000265
550 St. Louis St.
Springfield, MO 65806
TEL 417.890.8802
www.olsson.com

Professional Engineer
STATE OF MISSOURI
RYAN V. JEPSON
NUMBER
PE-2012024241
PROFESSIONAL ENGINEER
RYAN V. JEPSON
PROFESSIONAL ENGINEER
MO# PE-2012024241

2019

SE OLDHAM PARKWAY & SE PRINCETON DRIVE
STORM WATER DETAILS

THE PRINCETON SENIOR LIVING
SE OLDHAM PARKWAY

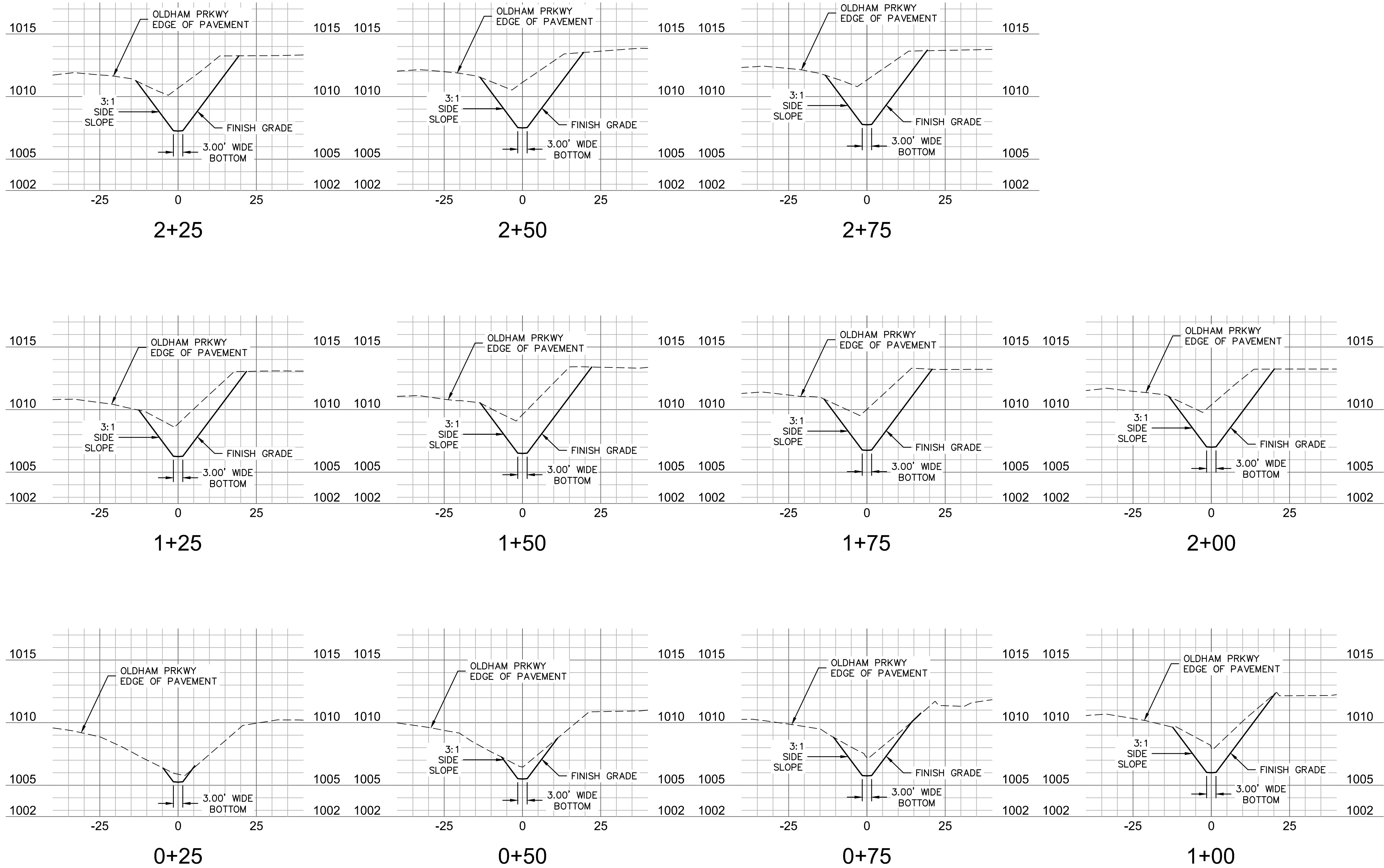
LEE'S SUMMIT, MISSOURI

2019

drawn by: RPL
designed by: RVL
checked by: JLR
project no.: 018-1450
drawing no.: C_STM_DTLS_81450
date: 07.19.19

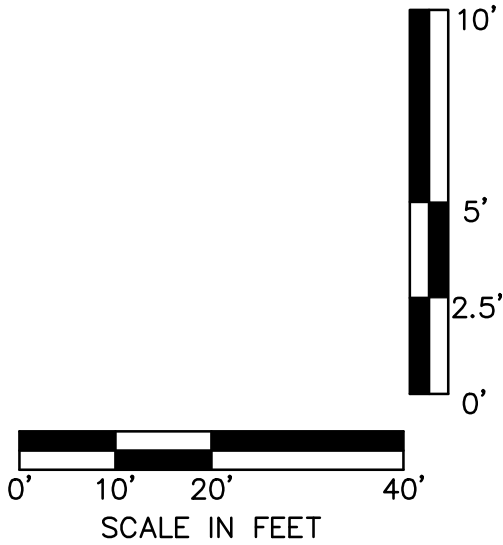
SHEET
ST4.1

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final Plans\Sheets\GNC\Public STORM\C_STM_DTLS_81450.DWG
DATE: Jul 24, 2019 3:10pm
XREFS: C:\BULK_22x34_81450_C_PBASE_81450
USER: rjeppson



OLDHAM PARKWAY DRAINAGE DITCH SECTION VIEWS

HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



SE OLDHAM PARKWAY & SE PRINCETON DRIVE
DRAINAGE DITCH CROSS SECTIONS

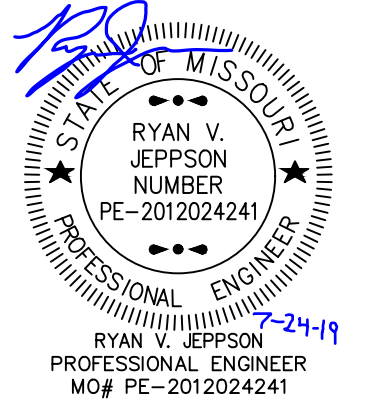
THE PRINCETON SENIOR LIVING
SE OLDHAM PARKWAY

LEE'S SUMMIT, MISSOURI

2019

REV. NO.	DATE	REVISIONS DESCRIPTION

REVISIONS



olsson

Olsson Engineering MO State Certificate of Authority #001592
Olsson Landscape Architecture MO State Cert. of Authority #200500285
550 St. Louis St.
Springfield, MO 65806
TEL 417.890.8802
www.olsson.com

drawn by: RPL
designed by: RVL
checked by: JLR
project no.: 018-1450
drawing no.: C_STM_DTLS_81450
date: 07.19.19

SHEET
ST4.2