STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	01

UPC #: 111396

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

WEST MAIN STREET SIDEWALK EXTENSION

LOUISA COUNTY / TOWN OF LOUISA

FROM: Intersection of W. Main and Cammack Sreet
TO: 440 W. Main Street

INDEX OF SHEETS

SHEET	NUMBER
COVER	01
ALIGNMENT & SURVEY DATA SHEET	02
RIGHT OF WAY DATA SHEET	03
TRAFFIC MANAGEMENT PLAN	04
GENERAL CONSTRUCTION NOTES	05
GENERAL CONSTRUCTION DETAILS	06 – 08
TYPICAL SECTIONS	09
EROSION AND SEDIMENT CONTROL PLANS	10 – 12
SOIL MAP	13
PLAN & PROFILE SHEETS	14 – 19
STORM SEWER PROFILES	20
CROSS SECTION SHEETS	21 – 78
LIGHTING PLAN SHEETS	79 – 80

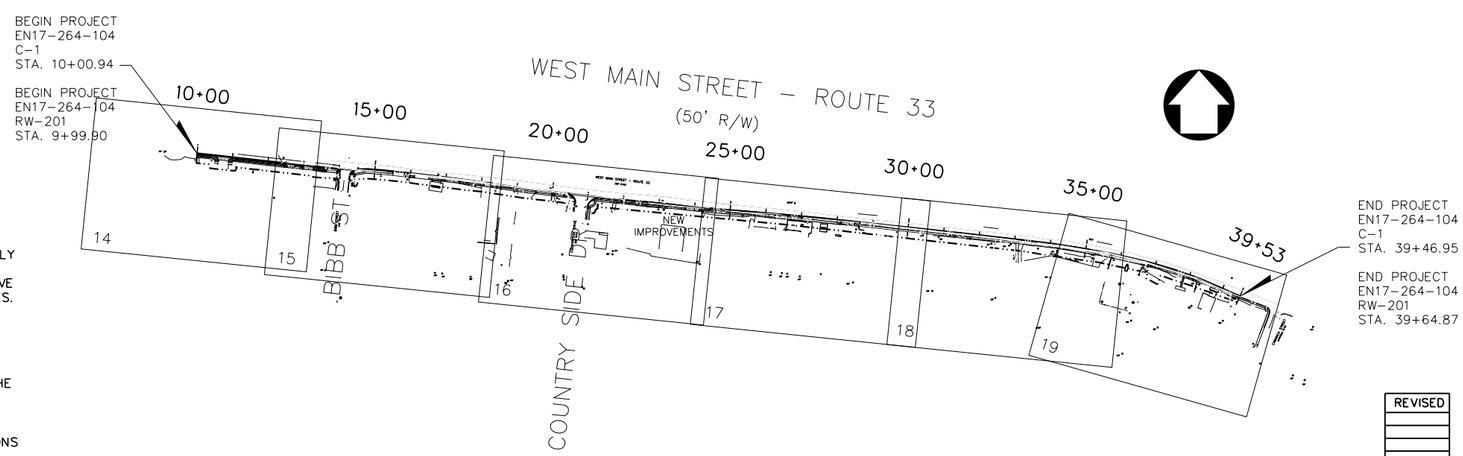
FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA	
RTE. 33 BUSINESS (WEST MAIN STREET) – URBAN – 35mph MIN. DESIGN SPEED	
2021	Fr: Intersection of W. Main And Cammack Street To: 440 W. Main Street
ADT(2019)	7,700
ADT(2039)	9256
DHV	586
D (%)	52.2%
T (%)	1%
V (MPH)	35

⊛ See Plan and Profile Sheets for horizontal and vertical curve design speed data

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
CITY,TOWN OR VILLAGE
RIGHT OF WAY LINE
FENCE LINE
UNFENCED PROPERTY LINE
FENCED PROPERTY LINE
WATER LINE
SANITARY SEWER LINE
GAS LINE
ELECTRIC UNDERGROUND CABLE
TRAVELED WAY
GUARD RAIL
RETAINING WALL
RAILROADS
BASE OR SURVEY LINE

LEVEE OR EMBANKMENT
BRIDGES
CULVERTS
DROP INLET
POWER POLES
TELEPHONE OR TELEGRAPH POLES
TELEPHONE OR TELEGRAPH LINES
HEDGE
TREES
HEAVY WOODS
GROUND ELEVATION
GRADE ELEVATION



SCALE
0 200' 400'

THE COMPLETE ELECTRONIC .TIF VERSION OF THE PLAN ASSEMBLY AS AWARDED, INCLUDING ALL SUBSEQUENT REVISIONS, WILL BE THE OFFICIAL CONSTRUCTION PLANS. FOR INFORMATION RELATIVE TO ELECTRONIC FILES AND LAYERED PLANS, SEE GENERAL NOTES.

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT'S 2016 ROAD AND BRIDGE SPECIFICATIONS, 2008 ROAD AND BRIDGE STANDARDS, 2009 MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY.

ALL CURVES ARE TO BE SUPERELVATED, TRANSITIONED AND WIDENED IN ACCORDANCE WITH STANDARD TC-5.01R, EXCEPT WHERE OTHERWISE NOTED.

THE ORIGINAL APPROVED TITLE SHEET(S), INCLUDING ORIGINAL SIGNATURES, IS FILED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY. ANY MISUSE OF ELECTRONIC FILES, INCLUDING SCANNED SIGNATURES, IS ILLEGAL AND ENFORCED TO THE FULL EXTENT OF THE LAW.

NOTICE RECUIRED

CONTRACTORS SHALL NOTIFY OPERATIONS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION

CONTACT "MISS UTILITY" AT
811 OR (800) 552-7001
FOR THESE UTILITIES

COMCAST/XFINITY	1-800-266-2278
COLUMBIA GAS	1-800-544-5606
DOMINION ENERGY	1-804-461-8642
TOWN OF LOUISA SEWER & WATER	1-540-967-1122
VERIZON	1-804-418-0981

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	UPC NO.	LENGTH FEET	LENGTH MILES	TYPE PROJECT	DESCRIPTION
EN17-254-104	–	TAP-5254(202)		111398	2953	0.559	SIDEWALK CONSTRUCTION	Fr: intersection of W. Main and Cammack Street To: 440 W. Main Street
EN17-254-104	–	TAP-5254(202)		111398	2953	0.559	RIGHT OF WAY	Fr: intersection of W. Main and Cammack Street To: 440 W. Main Street

NOTE: PROJECT LENGTHS BASED ON RTE. 33 (WEST MAIN STREET) CONSTRUCTION PROFILE

TIER 1 PROJECT

LOCALLY ADMINISTERED PROJECTS	
TOWN OF LOUISA NAME OF LOCALITY	
(SIGNATURE) LIZ NELSON	
RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION	
3/12/2021 DATE	TOWN MANAGER TITLE OF POSITION
(SIGNATURE) NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICAL (TYPED)	
RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
DATE	TOWN MANAGER TITLE OF POSITION

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION	
DATE	DISTRICT PLANNING AND INVESTMENT MANAGER
DATE	DISTRICT PROJECT DEVELOPMENT ENGINEER
APPROVED FOR RIGHT OF WAY ACQUISITION	
DATE	DISTRICT ENGINEER/ADMINISTRATOR

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
DATE	DISTRICT PLANNING AND INVESTMENT MANAGER
DATE	DISTRICT PROJECT DEVELOPMENT ENGINEER
APPROVED FOR CONSTRUCTION	
DATE	DISTRICT ENGINEER/ADMINISTRATOR

REVISED

Copyright 20 , Commonwealth of Virginia

PROJECT
FEDERAL: TAP-5254(202)
STATE: EN17-254-104
UPC: 111398

SHEET NO. 01

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER, (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP (304) 343-7601
DESIGNED BY THE THRASHER GROUP (304) 343-7601

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	02

WEST MAIN STREET

Horizontal Alignment Station and Curve Report

Tangent Data

Description	PT Station	Northing	Easting
Start:	10+00.00	3898421.27	11622114.1
End:	10+50.25	3898306.32	11623158.04

Tangent Data

Parameter	Value	Parameter	Value
Length:	50.25	Course:	S83°43'00"W

Circular Point Data

Description	PT Station	Northing	Easting
PC:	10+52.25	3898306.32	11623158.04
RP:		3914210.21	11624909.15
PT:	10+92.81	3898301.72	11623200.35

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	0°09'08.65"	Type	LEFT
Radius:	16,000		
Length:	42.56	Tangent:	21.28
Mid-Ord:	0.01	External:	0.01
Chord:	42.56	Course:	S83°47'34.53"W

Tangent Data

Description	PT Station	Northing	Easting
Start:	10+92.81	3898301.72	11623200.35
End:	22+27.90	3898180.49	11624328.95

Tangent Data

Parameter	Value	Parameter	Value
Length:	1135.08	Course:	S83°52'08.86"W

Circular Point Data

Description	PT Station	Northing	Easting
PC:	22+27.90	3898180.49	11624328.95
RP:		3890226.25	11623474.55
PT:	22+78.87	3898174.89	11624379.61

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	0°21'54.19"	Type	RIGHT
Radius:	8,000		
Length:	50.97	Tangent:	25.49
Mid-Ord:	0.04	External:	0.04
Chord:	50.97	Course:	S83°41'11.76"E

WEST MAIN STREET

Horizontal Alignment Station and Curve Report

Tangent Data

Description	PT Station	Northing	Easting
Start:	22+78.87	3898174.89	11624379.61
End:	24+85.49	3898151.51	11624584.91

Tangent Data

Parameter	Value	Parameter	Value
Length:	206.63	Course:	S83°30'14.66"E

Circular Point Data

Description	PT Station	Northing	Easting
PC:	24+85.49	3898151.51	11624584.91
RP:		3896313.39	11624375.61
PT:	29+61.56	3898037.72	11625045.83

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	3°05'49.45"	Type	RIGHT
Radius:	1,850		
Length:	476.07	Tangent:	239.36
Mid-Ord:	15.29	External:	15.29
Chord:	474.76	Course:	S76°07'55.10"E

Tangent Data

Description	PT Station	Northing	Easting
Start:	29+61.56	3898037.72	11625045.83
End:	31+26.84	3897977.84	11625199.88

Tangent Data

Parameter	Value	Parameter	Value
Length:	165.28	Course:	S68°45'35.53"E

COUNTRYSIDE DRIVE

Horizontal Alignment Station and Curve Report

Tangent Data

Description	PT Station	Northing	Easting
Start:	300+00.00	3898273.83	11623279.97
End:	300+68.66	3898205.65	11623271.84

Tangent Data

Parameter	Value	Parameter	Value
Length:	68.66	Course:	S6°47'46"W

BIBB STREET

Horizontal Alignment Station and Curve Report

Tangent Data

Description	PT Station	Northing	Easting
Start:	200+00.00	3898346.61	11622617.01
End:	200+64.02	3898282.99	11622609.81

Tangent Data

Parameter	Value	Parameter	Value
Length:	64.02	Course:	S6°27'41"W

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

ALIGNMENT AND SURVEY DATA SHEET

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		02

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	03

PARCEL NO.	LANDOWNER	SHEET NO.	AREA									
			TOTAL	FEE TAKING	PRESCRIPTIVE R/W	FEE REMAINDER	REMARK	EASEMENTS				
								PERMANENT UTILITY	PERMAMENT DRAINAGE	TEMP. CONSTRUCTION	TEMP. DETOUR ROUTE FOR EMER. VEHICLES	PROFFERS
			SQ. FEET	SQ. FEET	SQ. FEET	SQ. FEET		SQ. FEET	SQ. FEET	SQ. FEET	SQ. FEET	YES/NO
001	WILLIAM W. ROBERT	19	6006	98		5908	CALCULATED			489		
002	KRISTIN RENEEE HICKS & KIMBERLY R. BICKLEY	19	7962	24		7938	CALCULATED			1282		
003	CHRISTINE M. SOUTHARD	19	23358	0		23358	CALCULATED			1089		
004	406 WEST MAIN STREET, LLC	19	12173	0		12173	CALCULATED			201		
005	406 WEST MAIN STREET, LLC	19	12139	0		12139	CALCULATED			142		
006	MARGARET ANN ROSSON	19	12038	0		12038	CALCULATED			160		
007	MARGARET ANN ROSSON	18	9274	0		9274	CALCULATED			600		
008	SYLVIA LYNN RIGSBY & MARGARET ROSSON RIGSBY	18	31103	0		31103	CALCULATED			949		
009	VIRGINIA UNITED METHODIST & HOUSING DEVELOPMENT CORPORATION	18	29466	0		29466	CALCULATED			1501		
010	N/F LOFLIN-DOOLEY ENTERPRISES, INC.	18	521	0		521	CALCULATED			464		
011	WILLIAM C. HART, JR. & SHARON B. HART	17	32914	0		32914	CALCULATED			1675		
012	WILLIAM C. HART, JR. & SHARON B. HART	17	23112	0		23112	CALCULATED			1755		
013	WILLIAM C. HART, JR. & SHARON B. HART	17	12307	0		12307	CALCULATED			1034		
014	DIXON P. ELLIS, SR. & MARGARET T. ELLIS, TRUSTEES	17	15158	40		15118	CALCULATED			1389		
015	DIXON P. ELLIS, SR. & MARGARET T. ELLIS, TRUSTEES	17	5272	73		5199	CALCULATED			491		
016	DIXON P. ELLIS, SR. & MARGARET T. ELLIS, TRUSTEES	17	9777	224		9553	CALCULATED			913		
017	MILLER CUSTOM HOMES	16	36667	1328		35339	CALCULATED			3245		
018	D&T INVESTMENTS	16	9853	634		9219	CALCULATED			1138		
019	JERRY LEE CONLEY & TAMMY JO CONLEY	16	23215	0		23215	CALCULATED			2327		
020	COMMONWELTH OF VIRGINIA, DEPARTMENT OF CONERSATION, VIRGINIA DIVISION OF FORESTY	16	26908	0		26908	CALCULATED			1201		
021	MICHAEL W. GANOE & FREIDA D. GANOE	15	31295	0		31295	CALCULATED			1708		
022	DUKE OIL COMPANY, INCORPORATED	15	25204	46		25158	CALCULATED			1613		
023	GRIFFIN TOOL DISTRIBUTION, LLC	15	20195	794		19401	CALCULATED			1743		
024	JOHN E. THOMASSON, TRUSTEE	15	52659	343		52316	CALCULATED			701		
025	CTR PARTNERSHIP, L.P.	15	178725	2182		176543	CALCULATED			3746		

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

OWNERSHIP INDEX

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		03

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	04

TRANSPORTATION OPERATIONS PLAN

1. TRAFFIC CONTROL AND WORK ZONE SAFETY SHALL BE UTILIZED IN ACCORDANCE WITH THE 2011 REVISION 2 DATED SEPTEMBER 1, 2019 VIRGINIA WORK AREA PROTECTION MANUAL
2. THERE SHALL BE NO LANE CLOSURES ON ANY FEDERAL OR STATE HOLIDAY WITHOUT WRITTEN PERMISSION OF THE ENGINEER.
3. THE CONTRACTOR SHALL CONSULT WITH THE LOCAL AUTHORITIES TO DETERMINE IF THERE ARE OTHER LOCALHOLIDAYS OR EVENTS THAT WOULD PROHBIT LANE CLOSURES.
4. THE LANE CLOSURES SHALL BE LIMITED TO BETWEEN THE HOURS OF 9:00 A.M. AND 3:00 P.M. ON A DAILY BASIS.
5. THIS PROJECT SHALL UTILIZE TTC-23.2 OF THE VIRGINIA WORK AREA PROTECTION MANUAL WITH ADJUSTMENTS REQUIRED FOR URBAN AREAS AND SPECIFIC SITE CONDITIONS. ANY SIDE STREETS SHALL BE SIGNED AND HANDLED IN ACCORDANCE WITH TTC-67.1 OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
6. ON FRIDAY (OR A DAY TO BE DECIDED ON) OF EACH WEEK, THE PROJECT INSPECTOR SHALL NOTIFY VDOT TRAFFIC OPERATIONS CENTER (TOC) AND THE DESIGNATED PERSON FOR THE TOWN OF LOUISA OF THE PLANNED WEEK•S LANE CLOSURES. TOC TELEPHONE NUMBERS
   A.540-332-9500
   B.540-331-9600
7. EACH MORNING AT THE BEGINNING OF THE PROJECT SHIFT, THE PROJECT INSPECTOR SHALL NOTIFY TOC OF THE BEGINNING TIME FOR THE DAILY LANE CLOSURE AS WELL AS WHEN IT IS REMOVED.
8. THE CONTRACTOR SHALL DEVELOP A WRITTEN PLAN TO ASSURE THE RAPID ACCOMMODATION FOR EMERGENCY VEHICLES THAT APPROACH THE PROJECT. THIS PLAN SHALL BE COMMUNICATED WITH ALL FLAGGERS, FOREMEN, SUPERINTENDENTS AND INSPECTORS AND SHALL BE APPROVED IN WRITING BY THE OWNER•S REPRESENTATIVE FOR THE PROJECT.
9. THE USE OF "STEEL PLATES" SHALL BE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL SUPPLY DOCUMENTATION FROM AN ENGINEER REGARDING THE REQUIRED MINIMUM PLATE THICKNESS. STEEL PLATES LEFT IN PLACE LONGER THAN 72 HOURS SHALL BE ANCHORED AND EMBEDDED.

TRAFFIC MANAGEMENT PLAN

FOLLOWING ARE THE REQUIRED ELEMENTS OF IM-LD 241.6.

GENERAL NOTES:

1. THIS PROJECT IN THE TOWN OF LOUISA, VIRGINIA MEETS THE QUALITIES OF A CATEGORY A, TYPE I PROJECT AS DEFINED IN IM-LD 241.6 / TED 351.4.
2. THE WORK AREA LOCATION WILL MOVE THROUGHOUT THE PROJECT DURATION AND WILL BE CONTAINED BETWEEN ENGLISH MANOR DRIVE ON THE NORTH AND CAMMACK STREET ON THE SOUTH. THE WORK ZONE WILL BE APPROXIMATELY 1750 FEET NORTH OF ENGLISH MEADOWS DRIVE AND APPROXIMATELY 1750 FEET SOUTH OF CAMMACK STREET.
3. THE ACTUAL CONSTRUCTION IS APPROXIMATELY •MILE LONG BETWEEN THE TERM NOTED PREVIOUSLY AND WILL BE ABOUT 10 FEET IN WIDTH. THE REQUIRED SPACE FOR WORKING, MATERIALS AND EQUIPMENT WILL BE AN ADDITIONAL 12 FEET AND WILL TAKE UP THE ENTIRE SOUTHBOUND LANE DAILY.
4. THE SOUTHBOUND LANE OF ROUTE 33 WILL BE CLOSED ON A DAILY BASIS UTILIZING TTC-23.2.
5. THE LANE CLOSURES WILL BE IN EFFECT BETWEEN THE HOURS OF 9:00 A.M. AND 3:00 P.M. ON A DAILY BASIS.
6. THERE ARE SEVERAL LOCATIONS FOR THE CONTRACTOR TO STAGE HIS OPERATIONS. THE CONTRACTOR WILL HAVE TO NEGOTIATE WITH PRIVATE LAND OWNERS FOR SUCH AN AREA.
7. THIS PROJECT SHALL UTILIZE TTC-23.2 OF THE VIRGINIA WORK AREA PROTECTION MANUAL WITH ADJUSTMENTS REQUIRED FOR URBAN AREAS AND SPECIFIC SITE CONDITIONS. ANY SIDE STREETS WILL BE SIGNED AND HANDLED IN ACCORDANCE WITH TTC-67.1 OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
   A. SEPARATE TRAFFIC CONTROL MAY BE NECESSARY AT COMMERCIAL ENTRANCES UTILIZING FLAGGERS.
8. PEDESTRIANS OF ALL KINDS WILL BE AFFECTED ALONG THE ENTIRE ROUTE. THE DECISION TO ELIMINATE PEDESTRIAN TRAFFIC IS MADE INTENTIONALLY AS THERE ARE NO ALTERNATE SAFE ROUTES AVAILABLE. TYPE III BARRICADES WILL BE PLACED AT ENGLISH MANOR DRIVE AND CAMMACK STREET INDICATING THE SIDEWALK CLOSURE. THIS HAS BEEN APPROVED BY BOTH VDOT TRAFFIC ENGINEERING AND FHWA.
9. MOST OF THE TRAFFIC ALONG THIS SECTION OF ROUTE 33 IS LOCAL IN NATURE. THERE IS A SMALL AMOUNT OF COMMUTER TRAFFIC AND TRUCK TRAFFIC.
10. THE EASTBOUND LANE WILL HAVE TO BE NARROWED TO 9 FEET DURING NON-CONSTRUCTION HOURS. THIS IS DUE TO THE NECESSARY EXCAVATION, FORMING, PLACING CONCRETE, AND CURING CONCRETE. LANE NARROWS SIGN (W5-1) SHALL BE PLACED APPROXIMATELY 400 FEET WEST OF THE PROJECT LIMITS.
11. DUE TO LACK OF SPACE TYPE I CHANNELIZING DEVICES (CONES) POTENTIALLY COULD BE USED INSTED OF TYPE II CHANNELIZING DEVICES TO DELINEATE THE WORK AREA. WE WILL FIRST ATTEMPT TO UTILIZE TYPE II'S. IF WE CAN STABILIZE THEM PROPERLY, THEN WE WILL CONTINUE. OTHERWISE WE MAY RESORT TO TYPE I'S.
12. THIS PROJECT SHALL UTILIZE THE 2011 REVISION 2 VIRGINIA WORK AREA PROTECTION MANUAL DATED SEPTEMBER 1, 2019.
13. THE CONTRACTOR SHALL HAVE SOMEONE ON SITE 100% OF THE TIME THAT HAS THE INTERMEDIATE WORK ZONE SAFETY CERTIFICATION.
14. DELAYS TO THE PUBLIC DUE TO FLAGGING SHALL BE LIMITED TO 8 MINUTES.

PUBLIC COMMUNICATION

1. PRIOR TO THE START OF THE PROJECT, NOTICE WILL BE GIVEN TO THE PUBLIC REGARDING THE DETAILS OF THE PROJECT AND EXPECTED DELAYS. THIS WILL BE EXPRESSED TO THE VARIOUS MEDIA SOURCES AS DIRECTED BY THE TOWN OF LOUISA AND VDOT.
2. ON FRIDAY (OR A DAY TO BE DECIDED ON) OF EACH WEEK, THE PROJECT INSPECTOR SHALL NOTIFY VDOT TRAFFIC OPERATIONS CENTER (TOC) AND THE DESIGNATED PERSON FOR THE TOWN OF LOUISA OF THE PLANNED WEEK•S LANE CLOSURES. TOC TELEPHONE NUMBERS
   A. 540-332-9500
   B. 540-331-9600
2. EACH MORNING AT THE BEGINNING OF THE PROJECT SHIFT, THE PROJECT INSPECTOR SHALL NOTIFY TOC OF THE BEGINNING TIME FOR THE DAILY LANE CLOSURE AS WELL AS WHEN IT IS REMOVED.
3. IF THE WORK SHOULD CAUSE THE DELAY OF REMOVING THE LANE CLOSURE BEYOND THE STATED TIME LIMITS, THE PROJECT INSPECTOR SHALL NOTIFY TOC.
4. THE PROJECT DESIGN STAFF SHALL CREATE A WRITTEN LIST OF CONTACT NUMBERS FOR ALL UTILITIES IN THE AREA. ALL SUPERVISORS (BOTH CONTRACTOR AND INSPECTOR) SHALL HAVE SUCH A LIST. IF AT ANY TIME, ANY UTILITY IS DAMAGED DURING CONSTRUCTION, THE UTILITY IS TO BE IMMEDIATELY CONTACTED.
   A. TO BE COMPLIED BY DESIGN TEAM AND PLACED ON MOT PLANS
5. THE CONTRACTOR SHALL DEVELOP A WRITTEN PLAN TO ASSURE THE RAPID ACCOMMODATION FOR EMERGENCY VEHICLES THAT APPROACH THE PROJECT. THIS PLAN SHALL BE COMMUNICATED WITH ALL FLAGGERS, FOREMEN, SUPERINTENDENTS AND INSPECTORS AND SHALL BE APPROVED IN WRITING BY THE OWNER•S REPRESENTATIVE FOR THE PROJECT.
6. THE PROJECT STAFF SHALL CONTACT THE APPROPRIATE OFFICIALS AT ENGLISH MEADOWS FOR SPECIAL CONDITIONS OR SPECIAL EVENTS THAT THEY MIGHT NEED RE INGRESS OR EGRESS DURING THE PROJECT.

TRANSPORTATION OPERATIONS PLAN

SEE COMMENTS IN PUBLIC COMMUNICATIONS PLAN.

SHOULD THERE BE AN ACCIDENT OR INCIDENT THAT EFFECTS EITHER THE PROJECT OR PASSAGEWAY OF THE PROJECT: THE PROJECT STAFF AND TOWN SHALL REVIEW THE EVENT TO DETERMINE IF THERE SHOULD BE CHANGES TO THE EMERGENCY RESPONSE PLAN NOTED IN FIVE (5) ABOVE.

THERE IS SOME CONCERN THAT THE PUBLIC MAY TRY TO UTILIZE WEST STREET AS AN ALTERNATIVE ROUTE. THE TOWN CONCIL ADVISES THAT THIS TRAVEL WAY MAY NOT SUPPORT HEAVY LOADS. WE MAY NEED TO PLACE A "ROAD CLOSED - LOCAL TRAFFIC ONLY" (R11-3A) AT THE TERMINI OF WEST STREET.

TYPICAL TRAFFIC CONTROL LANE CLOSURE ON A TWO-LANE RAODWAY USING FALGGERS (FIGURE TTC-23.2)

NOTES

GUIDANCE

1. SIGN SPACING DISTANCE SHOULD BE 350'-500' WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, AND 500'-800' WHERE THE POSTED SPEED LIMIT IS GREATER THAN 45 MPS.
2. CARE SHOULD BE EXERCISED WHEN ESTABLISHING THE LIMITS OF THE WORK ZONE TO INSURE MAXIMUM POSSIBLE SIGHT DISTANCE IN ADVANCE OF THE FLAGGER STATION AND TRANSITION, BASED ON THE POSTED SPEED LIMIT AND AT LEAST EQUAL TO OR GREATER THAN VALUES IN TABLE 6H-3. GENERALLY SPEAKING, MOTORISTS SHOULD HAVE A CLEAR LINE OF SIGHT FROM THE GRAPHIC FLAGGER SYMBOL SIGN TO THE FLAGGER.
3. TO MAINTAIN EFFICIENT TRAFFIC FLOW IN A FLAGGING OPERATION ON A TWO-LANE ROADWAY, THE MAXIMUM TIME MOTIRSTS SHOULD BE STOPPED AT A FLAGGER STATION IS 8 MINUTES FOR HIGH VOLUME ROADWAYS (AVERAGE DAILY TRAFFIC OF 500 OR MORE VEHICLES PER DAY) TO A MAXIMUM OF 12 MINUTES FOR LOW VOLUME ROADWAYS (LESS THAN 500 VEHICLES PER DAY). FOR ADDITIONAL INFORMATION SEE SECTION 6E.07.

STANDARD:

4. PORTABLE TEMPORARY RUMBLE STRIPS (PTRS) SHALL BE USED AS NOTED IN SECTION 6F.99.
5. FLAGGING STATIONS SHALL BE LOCATED FAR ENOUGH IN ADVANCE OF THE WORK SPACE TO PERMIT APPROACHING TRAFFIC TO REDUCE SPEED AND/OR STOP BEFORE PASSING THE WORK SPACE AND ALLOW SUFFICIENT DISTANCE FOR DEPARTING TRAFFIC IN THE LEFT LANE TO RETURN TO THE RIGHT LANE BEFORE REACHING OPPOSING TRAFFIC (SEE TABLE 6H-3 ON 6H-5).
6. ALL FLAGGERS SHALL BE STATE CERTIFIED AND HAVE THEIR CERTIFICATION CARD IN THEIR POSSESSION WHEN PERFORMING FLAGGING DUTIES (SEE SECTION 6E.01, QUALIFICATIONS FOR FLAGGERS).
7. CONE SPACING SHALL BE BASED ON THE POSTED SPEED AND VALUES IN TABLE 6H-4 AND PAGE 6H-6.
8. A SHADOW VEHICLE WITH AT LEAST ONE HIGH INTENSITY AMBER ROTATING, FLASHING, OR OSCILLATING LIGHT SHALL BE PARKED 80'-120' IN ADVANCE OF THE FIRST WORK CREW.

OPTION:

8. A SLOW (W21-V10) SIGN MAY BE REQUIRED IN THIS AREA TO GIVE ADVANCE WARNING OF THE OPERATION AHEAD BY SLOWING APPROACHING TRAFFIC PRIOR TO REACHING THE FLAGGER STATION OR QUEUED TRAFFIC.

GUIDANCE:

9. IF THE QUEUE OF TRAFFIC REACHED THE "BE PREPARED TO STOP" (W3-4) SIGN THEN THE SIGNS, AND IF USED THE PORTABLE TEMPORARY RUMBLE STRIPS (PTRS), SHOULD BE READJUSTED AT GREATER DISTANCES.
10. WHEN A HIGHWAY-RAIL CROSSING EXISTS WITHIN OR UPSTREAM OF THE TRANSITION AREA AND IT IS ANTICIPATED THAT QUEUES RESULTING FROM THE LANE CLOSURE MIGHT EXTEND THROUGH THE HIGHWAY-RAIL GRADE CROSSING, THE TEMPORARY TRAFFIC CONTROL ZONE SHOULD BE EXTENDED SO THAT THE TRANSITION AREA PRECEDES THE HIGHWAY-RAIL CROSSING (SEE FIGURE TTC-56 FOR ADDITIONAL INFORMATION ON HIGHWAY-RAIL CROSSINGS).

STANDARD

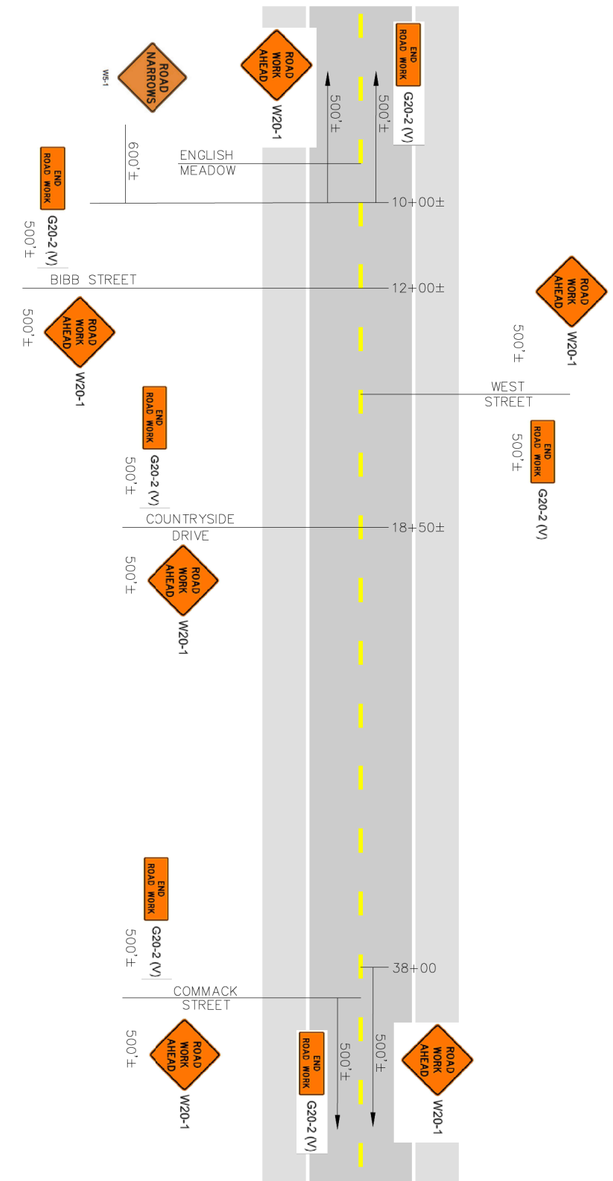
11. AT NIGHT, FLAGGER STATIONS SHALL BE ILLUMINATED, EXCEPT IN EMERGENCIES (SEE SECTION 6E.08).

OPTION:

12. CONES MAY BE ELIMINATED WHEN USING A PILOT VEHICLE OPERATION OR WHEN THE TOTAL ROADWAY WIDTH IS 20 FEET OR LESS.
13. FOR LOW-VOLUME SITUATIONS WITH SHORT WORK ZONES ON STRAIGHT ROADWAYS WHERE THE FLAGGER IS VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, A SINGLE FLAGGER, POSITIONED TO BE VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, MAY BE USED (SEE CHAPTER 6E)

STANDARD:

14. WHEN USED, THREE PORTABLE TEMPORARY RUMBLE (PTRS) STRIPS SHALL BE INSTALLED ACROSS THE ENTIRE TRAVEL LANE ADJACENT TO THE "BE PREPARED TO STOP" (W3-4) SIGN. THE PORTABLE TEMPORARY RUMBLE STRIPS SHALL BE MONITORED AND ADJUSTED AS NECESSARY DURING THE WORK SHIFT TO ENSURE PROPER PLACEMENT ON THE ROADWAY. WHEN THE PTRS ARE INSTALLED, THE "RUMBLE STRIPS AHEAD" (W20-V26) SIGN SHALL ALSO BE UTILIZED.



THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499 FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

TRAFFIC MANAGEMENT PLAN

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		04

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	05

GENERAL NOTES

1. ALL UTILITY CLEARANCES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE OBTAINED PRIOR TO CONSTRUCTION. EXCAVATION WITHIN 1.5' OF GAS OR ELECTRIC LINES SHALL BE PERFORMED BY HAND.
2. THE CONTRACTOR SHALL ADEQUATELY SUPPORT, AND BE RESPONSIBLE FOR, ALL UTILITY LINE EXPOSED AS A RESULT OF CONSTRUCTION ACTIVITY SHOWN ON THE PLANS.
3. ALL PERMANENT STOP BARS, CROSS WALKS, ARROWS, MESSAGES, AND LANES SHALL BE THERMOPLASTIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING PAVEMENT MARKINGS INCLUDING STOP BARS AND SOLID LINES ON ALL APPROACHES. MARKINGS SHALL BE LOCATED IN THE FIELD AS DIRECTED BY THE ENGINEER. EXISTING MARKINGS SHALL BE ERADICATED AS REQUIRED BY SPECIFICATIONS.
4. THE CONTRACTOR SHALL NOTIFY THE TOWN OF LOUISA AT LEAST 48 HOURS PRIOR TO ANY ACTIVITIES WHICH MAY DISTURB THE LOCATION OR THE STABILITY OF ANY RIGH-OF-WAY CORNERSTONE OR MARKERS. THE CONTRACTOR WILL BE RESPONSIBLE FOR REIMBURSING THE CITY FOR ANY COSTS ASSOCIATED WITH REPLACING ANY R/W CORNERSTONES OR MARKERS THAT ARE DISTURBED WITHOUT GIVING PROPER NOTIFICATION.
5. ALL CONSTRUCTION AND MATERIALS TO CONFORM WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE SPECIFICATIONS DATED JULY 2016, AND ROAD AND BRIDE STANDARDS, DATED JULY 2016, AND AMENDED BY CONTRACT PROVISIONS AND THESE PLANS.
6. IF THE ELEVATION SHOWN ON THESE PLANS ARE FOUND TO BE DIFFERENT THAN FIELD CONDITIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
7. THE CONTRACTOR SHALL ACQUIRE ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION, UNLESS OTHERWISE STATED. CONTRACTOR TO PAY ALL PERMIT FEES,UNLESS OTHERWISE STATED.

DRAINAGE NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE SPECIFICATIONS DATED JULY 2016, AND ROAD AND BRIDGE STANDARDS, DATED JULY 2016, AS AMENDED BY CONTRACT PROVISIONS AND THESE PLANS.

CONSTRUCTION NOTES

1. ALL WORK IS SUBJECT TO INSPECTION BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S AND THE TOWN OF LOUISA'S INSPECTORS. NOTIFY APPROPRIATE CITY OFFICIALS 72 HOURS PRIOR TO START OF WORK.
2. CALL "MISS UTILITY" OF CENTRAL VIRGINIA 811 (TOLL FREE) PRIOR TO CONSTRUCTION. VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANTS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLAN, IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS.
3. TAKE ALL NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN UNINTERRUPTED UTILITY SERVICE AT ALL TIMES DURING CONSTRUCTION, AND DAMAGE TO EXISTING STRUCTURES SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE CITY UTILITY INSPECTOR, AT THE CONTRACTOR'S EXPENSE.
4. DEVELOP A UTILITIES RELOCATION PLAN AS NECESSARY. SEQUENCE RELOCATION FOR THE MOST EFFICIENT CONSTRUCTION AND TO AVOID DELAYS. DECIDE IF RELOCATION SHOULD TAKE PLACE PRIOR TO, DURING, OR AFTER COMPLETION OF STORM SEWER AND PROCEED ACCORDINGLY.
5. MAINTAIN SAFE VEHICULAR AND PEDESTRIAN ACCESS TO ALL PROPERTIES THROUGHOUT CONSTRUCTION AND PREPARE A TRAFFIC MAINTENANCE PLAN IF REQUIRED BY THE TOWN. ANY DEVIATIONS FROM THIS PLAN SHALL BE APPROVED BY THE TOWN TRAFFIC ENGINEER PRIOR TO IMPLEMENTATION.
6. REMOVE UNSUITABLE MATERIAL IF ENCOUNTERED AND REPLACE WITH SUITABLE MATERIAL TO THE SPECIFICATION OF TOWN INSPECTOR.
7. IF TREES DESIGNATED "TO REMAIN" ARE LOCATED WITHIN 10' OF CONSTRUCTION LIMITS, CONTACT DPW URBAN FORESTRY 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
8. PROVIDE TEMPORARY DRAINAGE WITHIN THE PROJECT LIMITS DURING CONSTRUCTION OR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS OR IMPEDE TRAFFIC.
9. CLEAN ALL DRAINAGE PIPES AND STRUCTURES OF DEBRIS AND ERODED MATERIAL AT ALL STAGES OF CONSTRUCTIONS TO THE SATISFACTION OF THE TOWN OF LOUISA.
10. FINAL ACCEPTANCE BY THE TOWN SHALL NOT BE MADE UNTIL ALL WORK SHOWN ON THE APPROVED PLAN IS COMPLETE.

EROSION AND SEDIMENT CONTROL NOTES

INSTALLATION OF SEDIMENT AND EROSION CONTROL MEASURES MEASURES WILL BE THE FIRST CONSTRUCTION ACTIVITIES TO OCCUR AND ALL EROSIION AND SEDIMENT CONTROL MEASURES ARE TO BE IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY.

1. SEDIMENT FENCE AND INLET PROTECTION SHALL BE INSTALLED PRIOR TO THE START OF EARTHWORK ACTIVITIES.
2. ALL E&S CONTROLS SHALL BE INSPECTED IMMEDIATLEY FOLLOWING INITITAL INSTALLATION TO VERIFY THAT THEY ARE INSTALLED CORRECTLY.
3. E&S MEASURES SHALL BE INSPECTED AT A MINIMUM, ONCE EVERY FIVE DAYS, WITHIN 24 HOURS FOLLOWING ANY RUNOFF PRODUCING STORM EVENT.
4. TEMPORARY SEEDING SHALL BE INSTALLED ON ALL AREAS WHERE WORK IS COMPLETE OR CONSTURCTION ACTIVITIES HAVE CEASED FOR A PERIOD OF 14 DAYS.
5. TEMPORARY SEEDING SHALL FOLLOW SECTION 3.31 OF THE VIRGINIA EROSION AND SEDIMET CONTROL HANDBOOK.
6. PERMANT SEEDING SHALL FOLLOW SECTION 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

CONSTRUCTION SEQUENCE OF EVENTS

1. LOCATE ALL EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY MISS UTILITY OF VIRGINIA AT 1-800-552-7001 A MINIMUM OF (2) DAYS PRIOR TO ANY EXCAVATION OR CONSTRUCTION.
2. INSTALL ALL PERIMETER AND EROSION AND SEDIMENT CONTROLS.
3. INSTALL DRAINAGE FACILITIES AND ALL OTHER UTILITIES.
4. INSTALL CONCRETE CURB AND SIDEWALKS.
5. COMPLETE ASPHALT PAVING AND PAVEMENT MARKINGS.
6. SEED AND MULCH DISTURBED AREAS.
7. AFTER COMPLETE STABILIZATION OF THE DRAINAGE ARAE, REMOVE EROSION AND SEDIMENT CONTROL STUCTURESS AND DRESS AND STABILIZE AS REQUIRED.
8. FINAL PROJECT CLEANUP AND DEMOBILIZATION.

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

GENERAL CONSTRUCTION NOTES

Designed: .....
Drawn: .....
Checked: .....

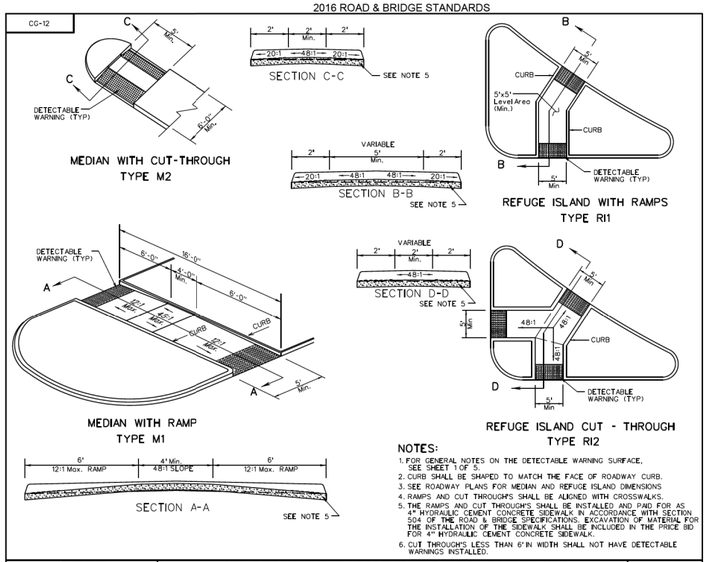
Date	Plan No.	Sheet No.
		05

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	06

2016 ROAD & BRIDGE STANDARDS

CG-12



NOTES:

1. FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 5.
2. CURB SHALL BE SHAPED TO MATCH THE FACE OF ROADWAY CURB.
3. SEE ROADWAY PLANS FOR MEDIAN AND REFUGE ISLAND DIMENSIONS
4. RAMPS AND CUT THROUGHS SHALL BE ALIGNED WITH CROSSWALKS.
5. THE RAMPS AND CUT THROUGHS SHALL BE INSTALLED AND PAID FOR AS 4" HYDRAULIC CEMENT CONCRETE SIDEWALK IN ACCORDANCE WITH SECTION 504 OF THE ROAD & BRIDGE SPECIFICATIONS. EXCAVATION OF MATERIAL FOR THE INSTALLATION OF THE SIDEWALK SHALL BE INCLUDED IN THE PRICE BID FOR 4" HYDRAULIC CEMENT CONCRETE SIDEWALK.
6. CUT THROUGHS LESS THAN 6' IN WIDTH SHALL NOT HAVE DETECTABLE WARNINGS INSTALLED.

VDOT ROAD AND BRIDGE STANDARDS
SHEET 5 OF 5 | REVISION DATE 04/19 | 204.05

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

CG-12 DETECTABLE WARNING SURFACE
MEDIAN AND REFUGE ISLAND APPLICATIONS
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 105 502

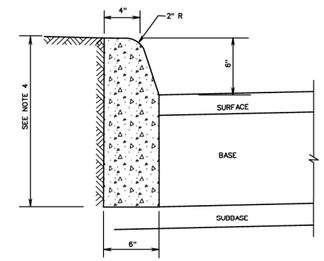
2016 ROAD & BRIDGE STANDARDS

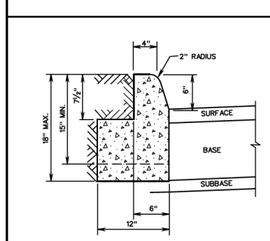
2016 ROAD & BRIDGE STANDARDS

CG-2

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (15" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE, THE DEPTH IS TO BE 18" AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.





ACCEPTABLE ALTERNATIVE IF CURB IS EXTRUDED

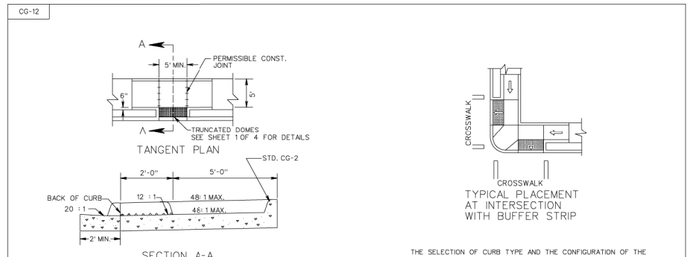
SPECIFICATION REFERENCE 105 502

STANDARD 6" CURB
VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT ROAD AND BRIDGE STANDARDS
REVISION DATE | SHEET 1 OF 1 | 201.01

2016 ROAD & BRIDGE STANDARDS

CG-12



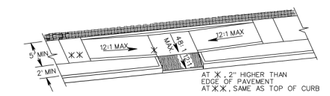
NOTE: FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 4.

THE SELECTION OF CURB TYPE AND THE CONFIGURATION OF THE UTILITY STRIP MAY VARY TO MEET EXISTING FIELD CONDITIONS AND ROADWAY GEOMETRICS PROVIDING THE DIMINSIONS AND SLOPES ARE AS NOTED.

TYPE C
PARALLEL & PERPENDICULAR APPLICATION

ROADWAY GRADE IN PERCENT	MINIMUM RAMP LENGTH IN FEET 4" CURB	6" CURB
0	2	4
1	2	5
2	3	5
3	3	6
4	4	8
5	5	10
6	7	14
7	13	15
8	15	15

NOTE:
THE REQUIRED LENGTH OF A PARALLEL RAMP IS LIMITED TO 15 FEET, REGARDLESS OF THE SLOPE.



THIS COMBINED (PARALLEL & PERPENDICULAR) DESIGN FOR ALTERATIONS CAN BE USED WITH ADJOINING BUFFER STRIP. LANDING AT BOTTOM OF TWO SLOPING SIDES WITH 60" X 60" MIN. DIMENSIONS. THE SHORT PERPENDICULAR RUN TO THE STREET CAN BE PROTECTED BY A LANDSCAPED SETBACK OR CONNECTED TO THE SIDEWALK WITH A WARPED SURFACE.

SHEET 4 OF 4

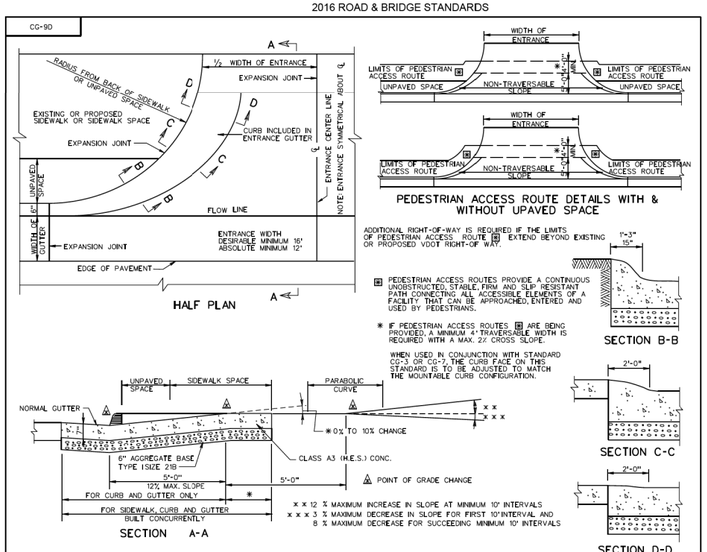
REV. 7/05
203.07

CG-12 DETECTABLE WARNING SURFACE
TYPE C (PARALLEL & PERPENDICULAR) APPLICATION
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 105 502

2016 ROAD & BRIDGE STANDARDS

CG-90



ADDITIONAL RIGHT-OF-WAY IS REQUIRED IF THE LIMITS OF PEDESTRIAN ACCESS ROUTE ⊞ EXTEND BEYOND EXISTING OR PROPOSED VDOT RIGHT-OF WAY.

⊞ PEDESTRIAN ACCESS ROUTES PROVIDE A CONTINUOUS UNOBSTRUCTED, STABILE, FIRM AND SLIP RESISTANT PATH CONNECTING ALL ACCESSIBLE ELEMENTS OF A FACILITY THAT CAN BE APPROACHED, ENTERED AND USED BY PEDESTRIANS.

✱ IF PEDESTRIAN ACCESS ROUTES ⊞ ARE BEING PROVIDED, A MINIMUM 4' TRAVERSABLE WIDTH IS REQUIRED WITH A MAX. 2% CROSS SLOPE.

WHEN USED IN CONJUNCTION WITH STANDARD CG-3 OR CG-7, THE CURB FACE ON THIS STANDARD IS TO BE ADJUSTED TO MATCH THE MOUNTABLE CURB CONFIGURATION.

✱ 0% TO 10% CHANGE

x x 12 % MAXIMUM INCREASE IN SLOPE AT MINIMUM 10' INTERVALS
x x x 3 % MAXIMUM DECREASE IN SLOPE FOR FIRST 10' INTERVAL AND 8 % MAXIMUM DECREASE FOR SUCCEEDING MINIMUM 10' INTERVALS

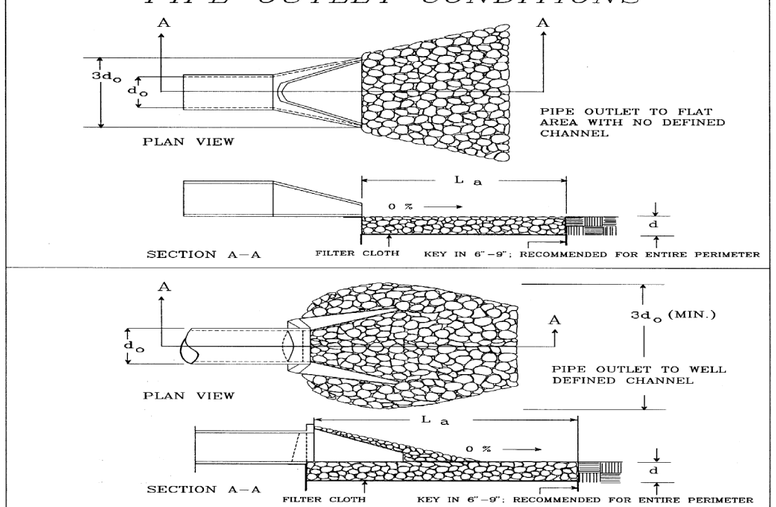
VDOT ROAD AND BRIDGE STANDARDS
SHEET 1 OF 1 | REVISION DATE 07/15 | 203.03

STANDARD ENTRANCE GUTTER
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 502

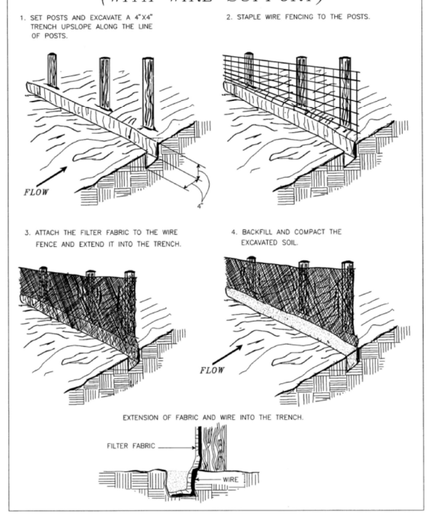
2016 ROAD & BRIDGE STANDARDS

PIPE OUTLET CONDITIONS



NOTES:
1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18-3 AND 3.18-4.
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

CONSTRUCTION OF A SILT FENCE
(WITH WIRE SUPPORT)



Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

Plate 3.05-1

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

GENERAL CONSTRUCTION DETAILS

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		06

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

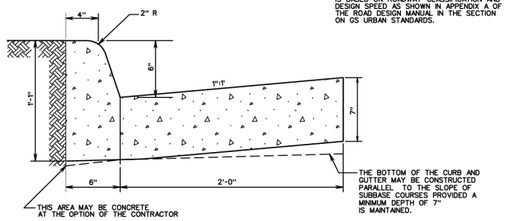
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	07

2016 ROAD & BRIDGE STANDARDS

CG-6

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL IN THE SECTION ON GS URBAN STANDARDS.

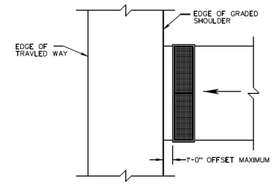


SPECIFICATION REFERENCE	COMBINATION 6" CURB AND GUTTER	VDOT ROAD AND BRIDGE STANDARDS
105 502	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: 201.03 — SHEET 1 OF 1

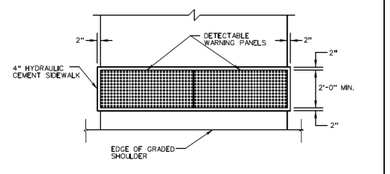
2016 ROAD & BRIDGE STANDARDS

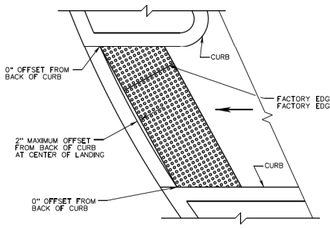
2016 ROAD & BRIDGE STANDARDS

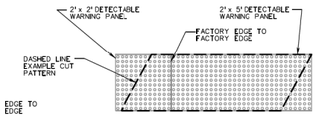
CG-12-INS



TYPICAL INSTALLATION FOR SHARED-USE PATH WITH SHOULDER







NOTES

1. THE OFFSET OF THE DETECTABLE WARNING PANEL AT THE LANDING CENTER IS 2" MAXIMUM WITH A 0" OFFSET AT EACH END. OFFSETS GREATER THAN 2" ARE NOT PERMITTED AND REQUIRE THE DETECTABLE WARNINGS PANELS TO BE CUT TO MATCH THE BACK OF CURB RADIUS.
2. JOINTS BETWEEN DETECTABLE WARNING PANELS SHALL BE FACTORY EDGES. CUT SIDES OF PANELS ARE NOT PERMITTED TO ABUT ADJACENT PANELS.
3. ALIGNMENT OF DOMES ON ADJACENT PANELS THAT WILL BE MODIFIED TO FIT A RADIUS SHALL BE MAINTAINED WHEN FIELD MODIFYING DETECTABLE WARNING PANELS.
4. PARTIAL DETECTABLE WARNING DOMES THAT ARE THE RESULT OF CUTTING PANELS SHOULD BE GROUND FLUSH WITH THE PANEL SURFACE.
5. GAPS BETWEEN ADJACENT DETECTABLE WARNING PANELS ARE NOT PERMITTED.
6. SEE PLANS FOR CROSSWALK MARKINGS, TURNING AREAS, ROUTE WIDTHS, GRADE CHANGES AND RAMP CONFIGURATIONS.

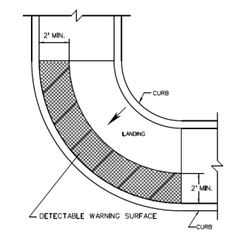
TYPICAL INSTALLATION ON RADIUS (SIDEWALKS OR SHARED USE PATHS)

SPECIFICATION REFERENCE	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. CG-12 DETECTABLE WARNING SURFACE DETECTABLE WARNING INSTALLATION VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS
105 502 504		REVISION DATE NEW 04/19 — SHEET 1 OF 2 — 204.06

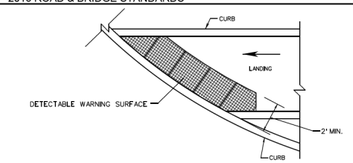
2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

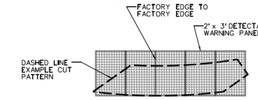
CG-12-INS

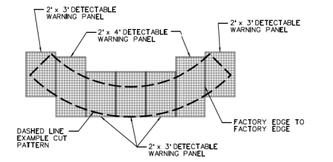


EXAMPLE BLENDED TRANSITION
(NOT FOR USE IN NEW CONSTRUCTION FOR RETROFIT OR ALTERATIONS ONLY)



EXAMPLE RADIAL INSTALLATION





NOTES

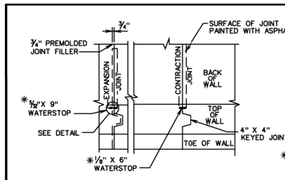
1. LOCATIONS WHERE THE DETECTABLE WARNING CANNOT BE INSTALLED WITH A MAXIMUM 2" OFFSET FROM THE BACK OF CURB SHALL HAVE A RADIUS TO MATCH RADIUS OF THE CURB. DETECTABLE WARNING PANELS SHALL HAVE A FACTORY RADIUS OR IF APPROVED BY THE ENGINEER MAY BE FIELD MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB.
2. JOINTS BETWEEN DETECTABLE WARNING PANELS SHALL BE FACTORY EDGES. CUT SIDES OF PANELS ARE NOT PERMITTED TO ABUT ADJACENT PANELS.
3. ALIGNMENT OF DOMES ON ADJACENT PANELS THAT WILL BE MODIFIED TO FIT A RADIUS SHALL BE MAINTAINED WHEN FIELD MODIFYING DETECTABLE WARNING PANELS.
4. DETECTABLE WARNING PANEL SIZES SHOWN ARE FOR EXAMPLE PURPOSES. OTHER PANEL SIZES MAY BE USED IN ORDER TO MAINTAIN CONSISTENT ALIGNMENT OF THE DOMES FOR EACH CURB RAMP LOCATION.
5. BLENDED TRANSITION CURB RAMPS ARE FOR ALTERATION SITUATIONS WHERE STANDARD DIRECTIONAL CURB RAMPS ARE NOT FEASIBLE DUE TO SITE CONSTRAINTS. BLENDED TRANSITION CURB RAMPS ARE NOT PERMITTED FOR NEW CONSTRUCTION.
6. PARTIAL DETECTABLE WARNING DOMES THAT ARE THE RESULT OF CUTTING PANELS SHOULD BE GROUND FLUSH WITH THE PANEL SURFACE.
7. GAPS BETWEEN ADJACENT DETECTABLE WARNING PANELS ARE NOT PERMITTED.
8. SEE PLANS FOR CROSSWALK MARKINGS, TURNING AREAS, ROUTE WIDTHS, GRADE CHANGES, AND RAMP CONFIGURATIONS.

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. CG-12 DETECTABLE WARNING SURFACE METHOD OF INSTALLING DETECTABLE WARNINGS ON A RADIUS VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 2 OF 2 — 204.07 — REVISION DATE 04/19		105 502 504

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

RW-2



WATERSTOP DETAIL

* WATER STOPS TO BE ELASTOMERIC OR OTHER APPROVED MATERIAL. DIMENSIONS SHOWN ARE ABSOLUTE MINIMUM.

EXPANSION JOINTS AT INTERVALS NOT EXCEEDING 90'.

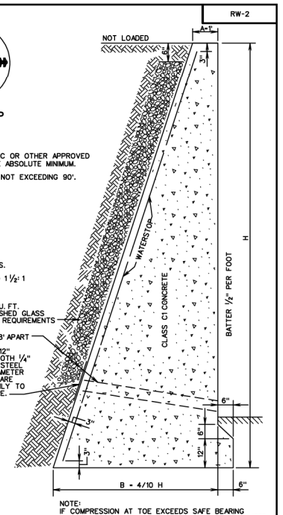
HEIGHT OF WALL "H" IN FEET	THICKNESS AT TOP "A" IN FEET	THICKNESS AT BASE B=.4H	COMPRESSION AT TOE LBS. PER SQ. FT.	AREA OF SECTION SQ. FT.
2	1'-0"	1'-0"	627	2.83
3	"	1'-2 3/8"	1009	3.93
4	"	1'-7 1/4"	1369	5.83
5	"	2'-0"	1709	8.13
6	"	2'-4 3/4"	2049	10.83
7	"	2'-9 5/8"	2385	13.93
8	"	3'-2 5/8"	2720	17.43
9	"	3'-7 1/4"	3054	21.33
10	"	4'-0"	3386	25.63
11	"	4'-4 3/4"	3718	30.33
12	"	4'-9 5/8"	4050	35.43
13	"	5'-2 5/8"	4381	40.93
14	"	5'-7 1/4"	4712	46.83
15	"	6'-0"	5043	53.13

H = HEIGHT IN FT.
A = 1'
BASE = 4/10 H
EARTH = 100 LBS.
CONCRETE = 150 LBS.
ANGLE OF REPOSE = 1 1/2 : 1

POROUS BACKFILL @ 100 LBS./CU. FT. #78 OR #8 AGGREGATE OR CRUSHED GLASS MEETING #78 OR #8 GRADATION REQUIREMENTS

3" DRAIN PIPE 8' APART

WEEP HOLE WITH 12"X12" PLASTIC HARDWARE CLOTH 1/4" MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.03", #4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO OUTSIDE OF STRUCTURE.



NOTE:
IF COMPRESSION AT TOE EXCEEDS SAFE BEARING CAPACITY OF SOIL, A SPECIAL FOOTING IS TO BE USED.
DEPTH OF WALL IN GROUND DETERMINED BY CONDITIONS. TO BE NOT LESS THAN 1'-6".

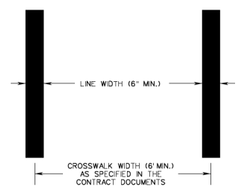
SAFE BEARING CAPACITY OF SOIL

ROCK MINIMUM	10,000 - 20,000 LBS. PER SQ. FT.
GRAVEL AND COARSE SAND, WELL CEMENTED	16,000 - 20,000 LBS. PER SQ. FT.
CLAY IN THICK BEDS, ALWAYS DRY	12,000 - 16,000 LBS. PER SQ. FT.
CLAY IN THICK BEDS, MODERATELY DRY	8,000 - 12,000 LBS. PER SQ. FT.
CLAY, SOFT	2,000 - 4,000 LBS. PER SQ. FT.
SAND, DRY, COMPACT, AND WELL CEMENTED	8,000 - 12,000 LBS. PER SQ. FT.
SAND, CLEAN, DRY	4,000 - 8,000 LBS. PER SQ. FT.
ALLUVIAL SOILS, ETC	1,000 - 2,000 LBS. PER SQ. FT.

SPECIFICATION REFERENCE	CONCRETE GRAVITY RETAINING WALL - LEVEL BACKFILL	VDOT ROAD AND BRIDGE STANDARDS
506	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE — SHEET 1 OF 1 — 401.01

2016 ROAD & BRIDGE STANDARDS

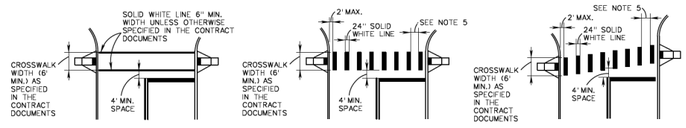
PM-3



CROSSWALK WIDTH (TRANSVERSE LINES)

NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THESE STANDARDS, THE MUTCD AND THE VIRGINIA SUPPLEMENT TO THE MUTCD, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
2. THE LOCATION, WIDTH, AND TYPE OF THE PAVEMENT MARKINGS SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. CROSSWALKS SHALL ALIGN WITH CURB RAMPS IN ACCORDANCE WITH STANDARD CG-12. THE CROSSWALK SHALL BE AT LEAST AS WIDE AS THE LEVEL LANDING AREA OF THE CURB RAMP.
4. WHEN LONGITUDINAL LINES ARE SPECIFIED FOR THE CROSSWALK, THE LONGITUDINAL LINES SHALL BE PARALLEL TO THE PATH OF THRU TRAFFIC.
5. GAPS BETWEEN LONGITUDINAL LINES SHALL BE BETWEEN 2 - 5 FEET. GAP SPACING MAY VARY IN ORDER TO ALIGN LINES SUCH THAT THEY ARE OUTSIDE THE WHEEL PATHS OF THRU TRAFFIC. THE FIRST AND LAST LINES SHALL BE 2' MAXIMUM FROM EDGE OF SHOULDER OR EDGE OF GUTTER PAN.

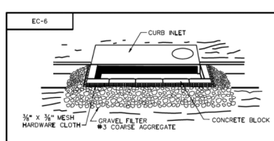


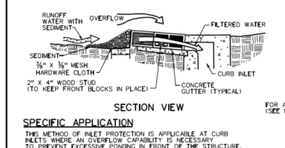
TRANSVERSE LINES — LONGITUDINAL LINES — LONGITUDINAL LINES AT SKEWED INTERSECTIONS (SEE NOTE 4)

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. TYPICAL PAVEMENT MARKING CROSSWALK MARKINGS VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 4 OF 4 — 1330.33 — REVISION DATE NEW 01/15		704

2016 ROAD & BRIDGE STANDARDS

EC-6





SECTION VIEW

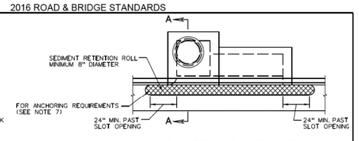
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

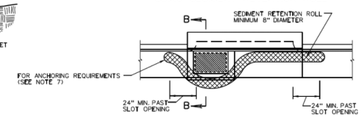
INLET PROTECTION (TYPE B)

NOTES:

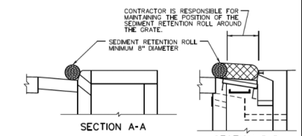
1. INLET PROTECTION USING SEDIMENT RETENTION ROLLS SHALL BE CONSTRUCTED WITH COMPOST FILTER SOCKS OR SEDIMENT TUBES.
2. ONLY SEDIMENT RETENTION ROLL PRODUCTS WITH A MINIMUM 8" DIAMETER LISTED ON THE VDOT APPROVED PRODUCTS LIST MAY BE USED FOR TYPE B INLET PROTECTION.
3. SEDIMENT SHALL BE REMOVED FROM INLET PROTECTION WHEN IT HAS ACCUMULATED TO ONE- HALF THE EXPOSED HEIGHT OF THE STRUCTURE AND PAID FOR AS SEDIMENT REMOVAL PER CUBIC YARD.
4. STACKING SEDIMENT RETENTION ROLLS TO MEET THE REQUIRED INLET PROTECTION HEIGHT IS NOT PERMITTED.
5. SEDIMENT RETENTION ROLLS AND STAKES USED FOR INLET PROTECTION APPLICATIONS SHALL BE REMOVED AFTER STABILIZATION IS COMPLETE.
6. GEOTEXTILE PRODUCTS DESIGNED TO BE INSERTED INTO OR ANCHORED TO GRATES OR SLOTS OF CURB INLETS, AND ARE FOUND ON VDOT'S EC-6 APPROVED PRODUCTS LIST, MAY BE SUBSTITUTED FOR THE DROP INLET PROTECTION DEVICES DETAILED IN THIS STANDARD.
7. SEDIMENT RETENTION ROLL WILL BE ANCHORED WITH A 50 POUND SANDBAG ON EACH END OR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.



CURB INLETS WITHOUT GRATE USING SEDIMENT RETENTION ROLL



CURB INLETS WITH GRATE USING SEDIMENT RETENTION ROLL



SECTION A-A — SECTION B-B

INLET PROTECTION (TYPE B)
CURB INLETS USING SEDIMENT RETENTION ROLL

INLET PROTECTION (TYPE B), ITEM CODE 27461 EACH

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. INLET PROTECTION (TYPE B) VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 2 OF 3 — 113.10 — REVISION DATE 04/19		107 242 244 503

2016 ROAD & BRIDGE STANDARDS

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

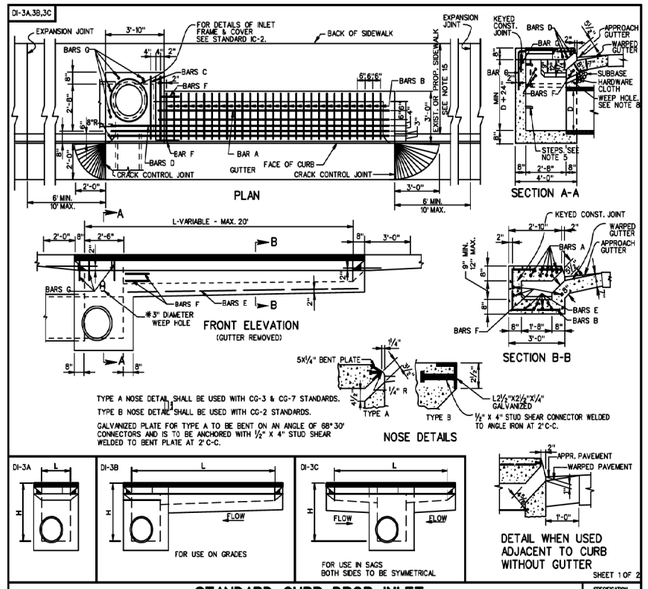
GENERAL CONSTRUCTION DETAILS

Designed: .....
Drawn: .....
Checked: .....

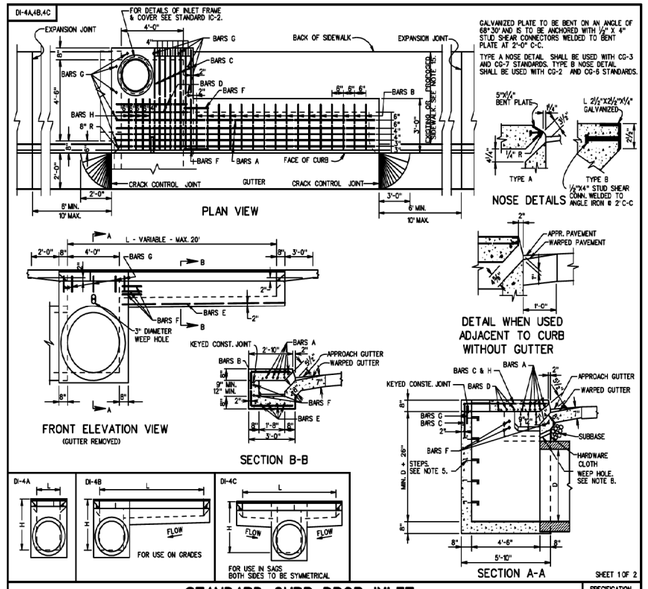
Date	Plan No.	Sheet No.
		07

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

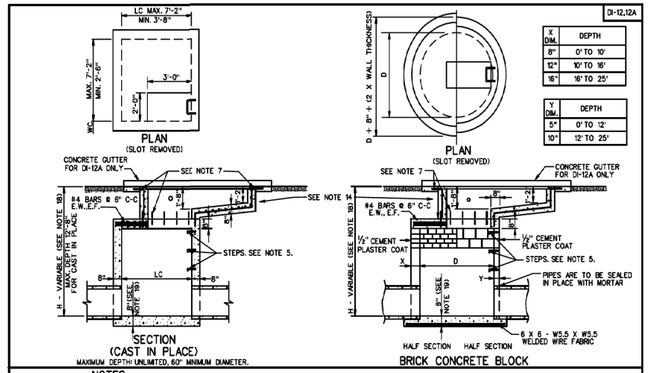
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	08



STANDARD CURB DROP INLET
12" - 30" PIPE: MAXIMUM DEPTH (H) = 8'
VIRGINIA DEPARTMENT OF TRANSPORTATION
104.09 | SPECIFICATION REFERENCE 233 302



STANDARD CURB DROP INLET
36" - 48" PIPE: MAXIMUM DEPTH (H) = 8'
VIRGINIA DEPARTMENT OF TRANSPORTATION
104.15 | SPECIFICATION REFERENCE 233 302



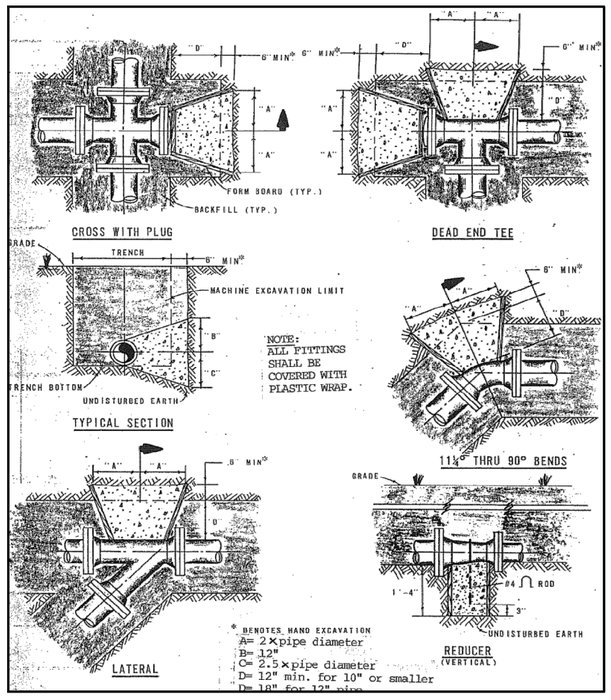
NOTES

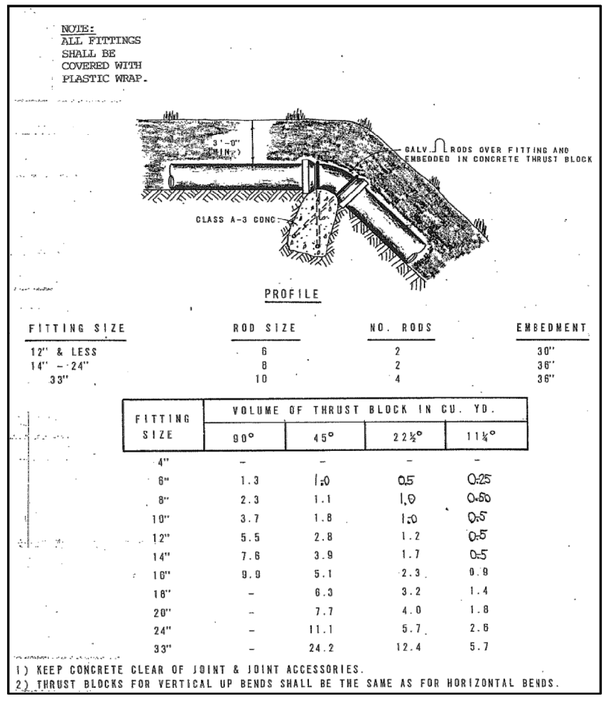
1. USE OF INLET RESTRICTED TO NON-VEHICULAR LOCATIONS.
2. DEPTH OF INLET (H) AND LENGTH (L) TO BE SHOWN ON PLANS.
3. THE "H" DIMENSION SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF THE OUTFALL PIPE TO THE TOP OF THE STRUCTURE.
4. WHEN SPECIFIED ON THE PLANS THE INVERT IS TO BE SHAPED IN ACCORDANCE WITH STANDARD S-1. THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO THE SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
5. IN THE EVENT THE INVERT OF THE OUTFALL PIPE IS HIGHER THAN THE BOTTOM OF THE STRUCTURE, THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR TO PREVENT STANDING OR PONDING OF WATER IN THE STRUCTURE. THE COST OF FURNISHING AND PLACING ALL MATERIALS INCIDENTAL TO THE SHAPING IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
6. STEPS ARE TO BE PROVIDED WHEN H IS 4'-0" OR GREATER. FOR DETAILS SEE STANDARD ST-1.
7. CHAMBER MAY BE PRECAST. SEE STANDARD 103.10 FOR DETAILS.
8. ⊕ 4 DOWELS 12" LONG SPACED AT 12" C-C ALL SIDES.
9. FOOTING MAY BE ROUND OR SQUARE IN SHAPE. KEY IS TO BE 1" DEEP X WALL THICKNESS + 1".
10. ALL REINFORCING STEEL SHALL HAVE A MIN. COVER OF 2".
11. ALL REINFORCING STEEL TO BE CUT CLEAR OF ALL OPENINGS BY 2".
12. CAST-IN PLACE CONCRETE IS TO BE CLASS A3 (3000 PSI). PRECAST CONCRETE IS TO BE 4000 PSI.
13. ALL REINFORCING BARS TO BE #4.
14. GRATE BARS TO BE INSTALLED SO THEY WILL BE ALIGNED PARALLEL TO DITCH FLOW.
15. FOR DETAILS OF CONCRETE SLOT, COLLAR AND GRATE, AND METHOD OF PLACING APPROACH GUTTER SEE SHEET 2 OF 3.
16. PAVED DITCHES ARE TO BE TRANSITIONED TO MEET INLET GUTTER AS SHOWN IN STD. PG-2A.
17. QUANTITIES SHOWN ARE FOR INLETS WITHOUT PIPES. PIPE DISPLACEMENTS MUST BE DEDUCTED TO OBTAIN TRUE QUANTITIES. SEE SHEET 3 OF 3 FOR QUANTITIES.
18. PROVIDE SAFETY SLABS WHEN SPECIFIED ON THE PLANS.
19. SEE TABULATION CHART ON SHEET 3 OF 3 FOR FOR MINIMUM DEPTH (H).
20. 10" THICK SLAB FOR PIPE SIZES 60" TO 72" IN DIAMETER.
21. THE TYPE OF INLET DETAILED HEREON TO BE CONSTRUCTED WILL BE AT THE OPTION OF THE CONTRACTOR.
22. DI-12 NO GUTTER.
DI-12A PERIPHERAL GUTTER.

SHEET 1 OF 3

SPECIFICATION REFERENCE 233 302

MULTIGRATE DROP INLET
FOR PIPE SIZES 12" TO 72"
VIRGINIA DEPARTMENT OF TRANSPORTATION
104.30

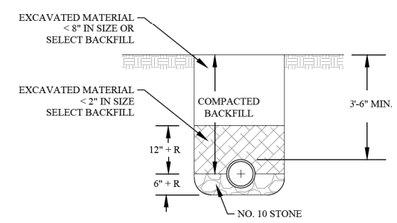




FITTING SIZE	ROD SIZE	NO. RODS	EMBEDMENT
12" & LESS	6	2	30"
14" - 24"	8	2	36"
33"	10	4	36"

FITTING SIZE	VOLUME OF THRUST BLOCK IN CU. YD. 90°	45°	22½°	11¼°
4"	–	–	–	–
6"	1.3	1.0	0.5	0.25
8"	2.3	1.1	1.0	0.50
10"	3.7	1.8	1.0	0.5
12"	5.5	2.8	1.2	0.5
14"	7.6	3.9	1.7	0.5
16"	9.9	5.1	2.3	0.8
18"	–	6.3	3.2	1.4
20"	–	7.7	4.0	1.8
24"	–	11.1	5.7	2.6
33"	–	24.2	12.4	5.7

1) KEEP CONCRETE CLEAR OF JOINT & JOINT ACCESSORIES.
2) THRUST BLOCKS FOR VERTICAL UP BENDS SHALL BE THE SAME AS FOR HORIZONTAL BENDS.



BEDDING FOR WATER PIPE

NOTES:
1. PROVIDE NYLON PULL STRINGS AND CAPS IN EACH CONDUIT.
2. INSTALL PER INDIVIDUAL UTILITY SPECIFICATIONS.
3. MAINTAIN MINIMUM SEPARATION AS REQUIRED BY EACH UTILITY AND BY CODE.
4. PIPE SHALL NOT BE INSTALLED DIRECTLY ON BEDROCK.
5. WATERLINE SHALL BE INSTALLED WITH MINIMUM 4' SEPARATION FROM OTHER UTILITY LINES (ELECTRIC, GAS, COMMUNICATIONS). WATERLINE AND SEWER SHALL BE SEPARATED 10' HORIZONTALLY AND 18" VERTICALLY.

TYPICAL CROSS SECTIONS OF TRENCHES
NOT TO SCALE

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

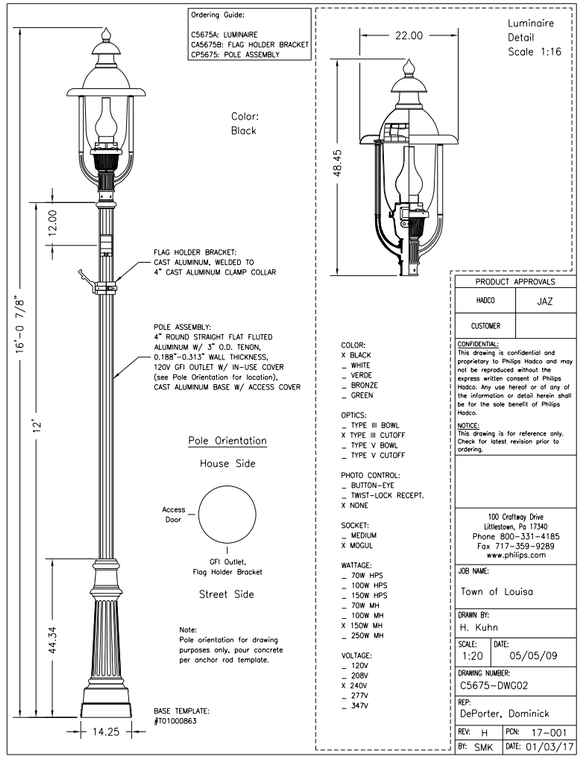
GENERAL CONSTRUCTION DETAILS

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		08

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	



Ordering Guide:

C5675A: LUMINAIRE
CA5675B: FLAG HOLDER BRACKET
CP5675: POLE ASSEMBLY

Color: Black

Note: Pole orientation for drawing purposes only, pour concrete per anchor rod template.

COLOR:
X BLACK
_ WHITE
_ VERDE
_ BRONZE
_ GREEN

OPTICS:
_ TYPE III BOWL
X TYPE III CUTOFF
_ TYPE V BOWL
_ TYPE V CUTOFF

PHOTO CONTROL:
_ BUTTON-EYE
_ TWIST-LOCK RECEPT.
X NONE

SOCKET:
_ MEDIUM
X MOGUL

WATTAGE:
_ 70W HPS
_ 100W HPS
_ 150W HPS
_ 70W MH
_ 100W MH
X 150W MH
_ 250W MH

VOLTAGE:
_ 120V
_ 208V
X 240V
_ 277V
_ 347V

PRODUCT APPROVALS	
HADCO	JAZ
CUSTOMER	

CONFIDENTIAL:
This drawing is confidential and proprietary to Philips Hadco and may not be reproduced without the express written consent of Philips Hadco. Any use hereof or of any of the information or detail herein shall be for the sole benefit of Philips Hadco.

NOTICE:
This drawing is for reference only. Check for latest revision prior to ordering.

100 Craftway Drive
Littlestown, Pa 17340
Phone 800-331-4185
Fax 717-359-9289
www.philips.com

JOB NAME: Town of Louisa
DRAWN BY: H. Kuhn
SCALE: 1:20 DATE: 05/05/09
DRAWING NUMBER: C5675-DWG02
REP: DePorter, Dominick
REV: H PCN: 17-001
BY: SMK DATE: 01/03/17

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

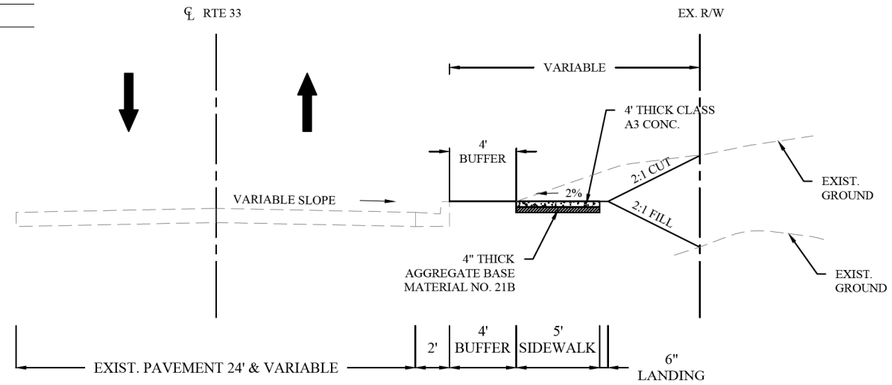
LIGHTING DETAIL

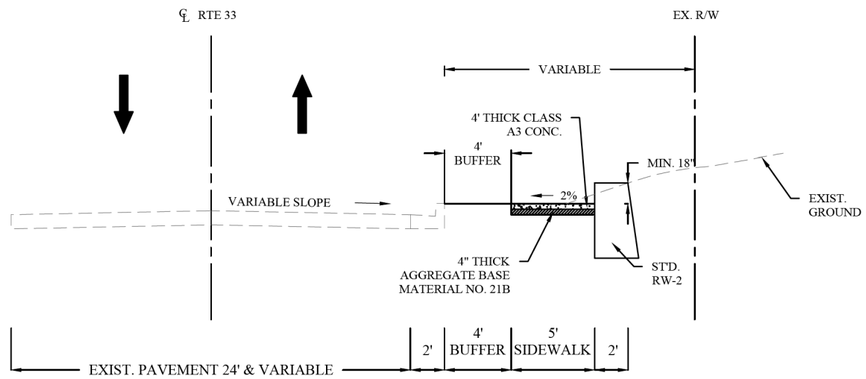
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		08A

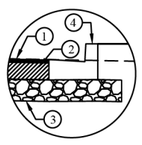
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	09



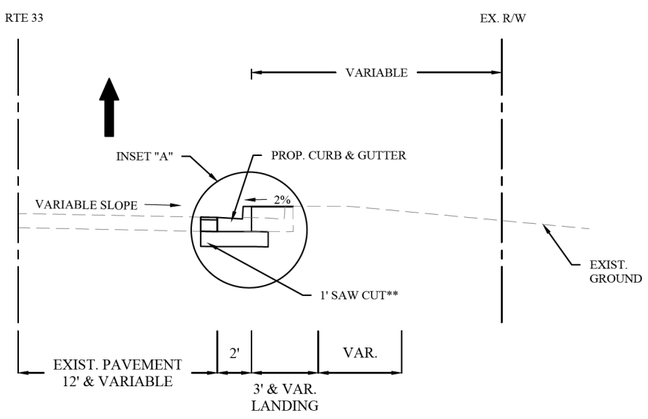


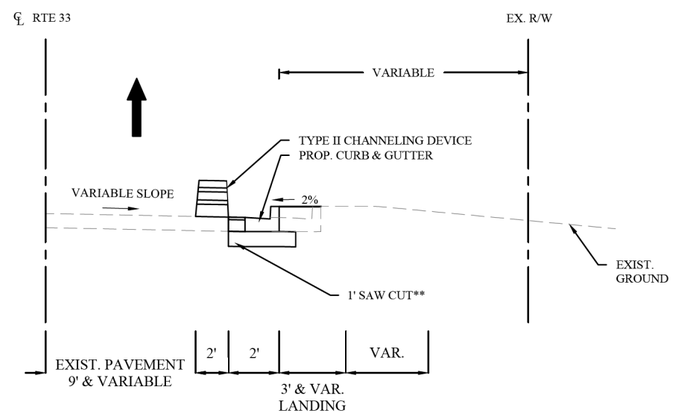
INSET "A"



1. 2.0" ASPHALT CONCRETE SURFACE COURSE (SM-12.5D)
2. CAR. DEPTH ASPHALT CONCRETE BASE COURSE (BM-25.0A)
3. 6.0" AGGREGATE BASE MATERIAL (CDOT TYPE 1, NO. 21B)
4. PROP. CITY OF LOUISA CURB & GUTTER

** SAW CUT 1' INTO EXISTING PAVEMENT TO CONSTRUCTION OF NEW CURB AND GUTTER. REPLACE WITH PAVEMENT SECTION (INSET "A") TO MATCH EXISTING PAVEMENT SECTION.





THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

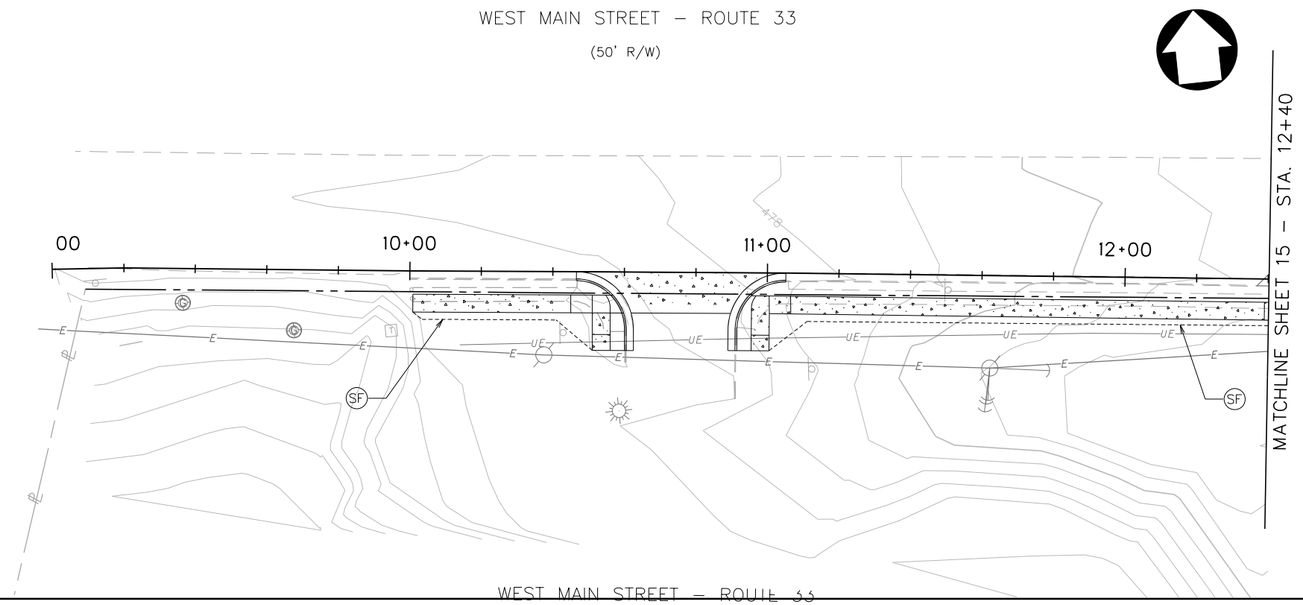
TYPICAL SECTIONS

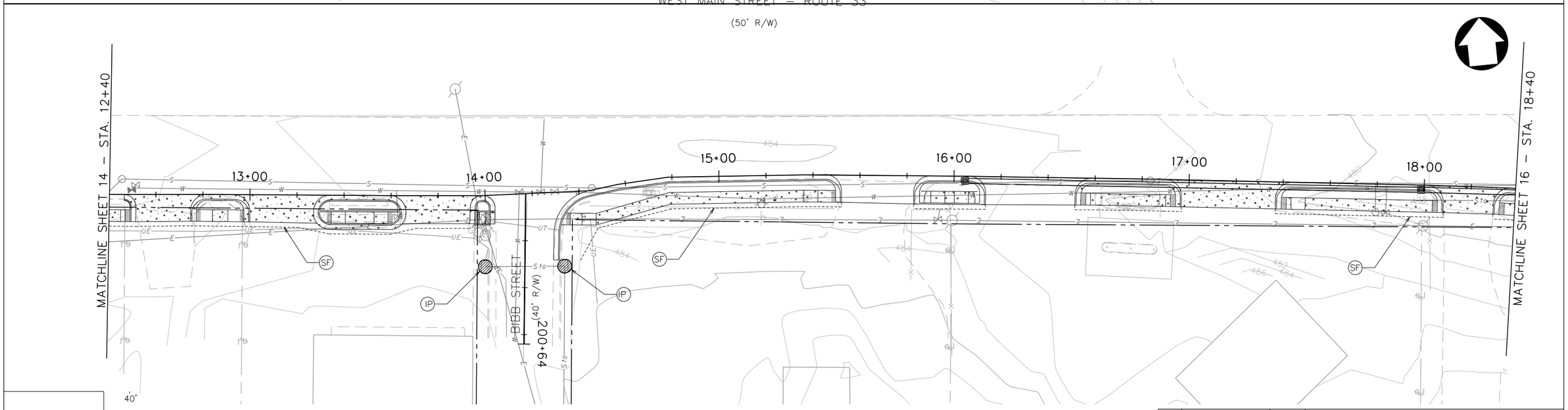
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		09

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	10





EROSION AND SEDIMENT CONTROL LEGEND

LABEL	SYMBOL	STD. NAME	SPEC. #
SF	----------	SILT FENCE TYPE A	3.05
IP		INLET PROTECTION	3.07

SCALE
1" = 20'
0' 20' 40'

SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

EROSION AND SEDIMENT CONTROL PLAN

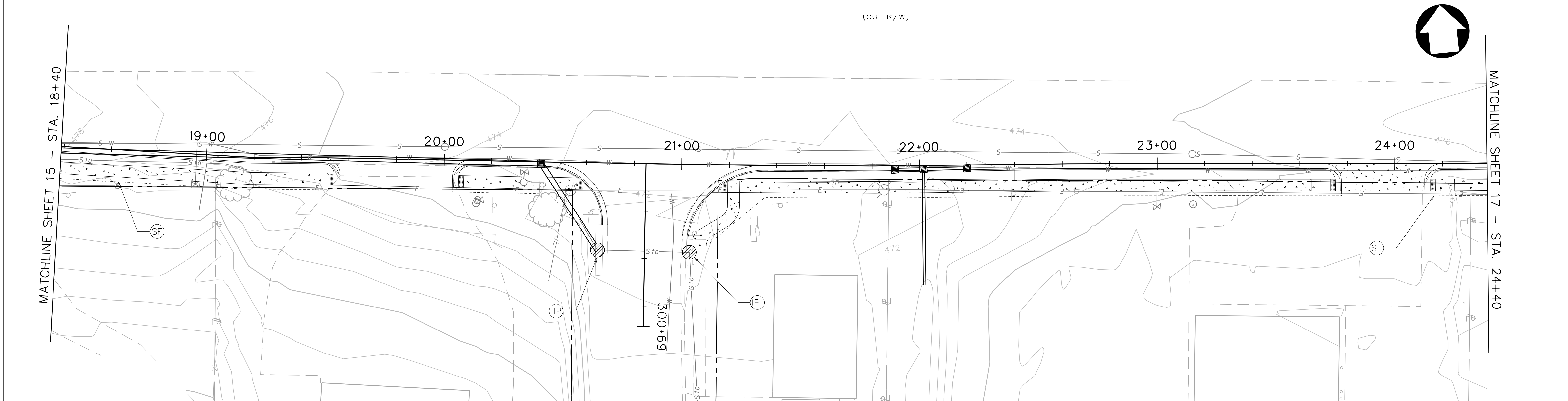
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		10

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

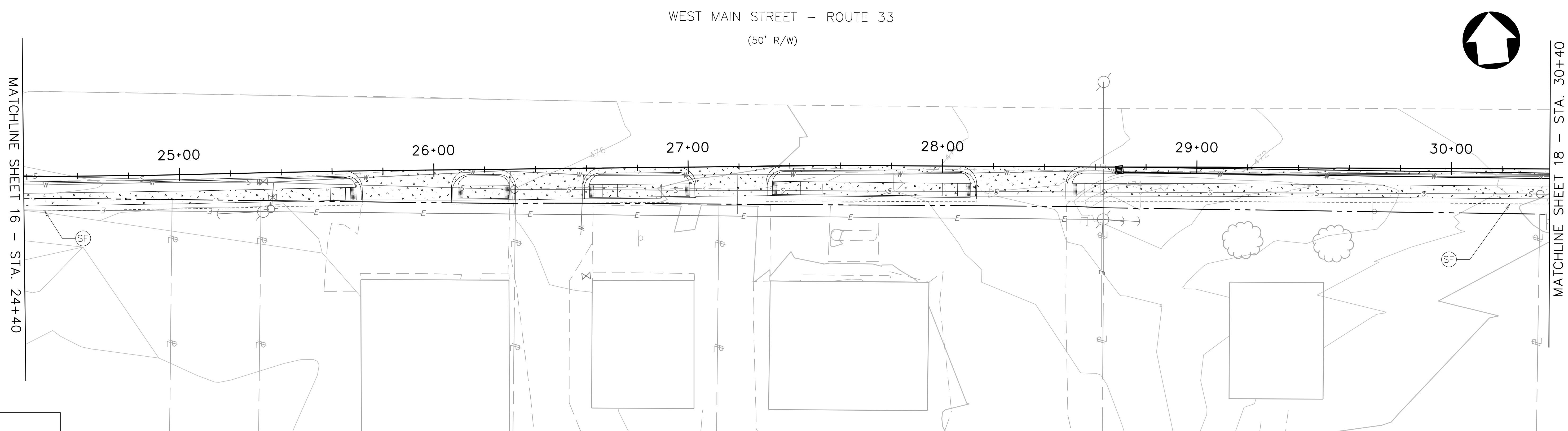
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC * ROUTE	UPC * PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	11

(50' R/W)



WEST MAIN STREET - ROUTE 33

(50' R/W)



EROSION AND SEDIMENT CONTROL LEGEND

LABEL	SYMBOL	STD. NAME	SPEC. *
SF	---------------	SILT FENCE TYPE A	3.05
IP	(hatched circle)	INLET PROTECTION	3.07

SCALE
1" = 20'
0' 20' 40'

SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

EROSION AND SEDIMENT CONTROL PLAN

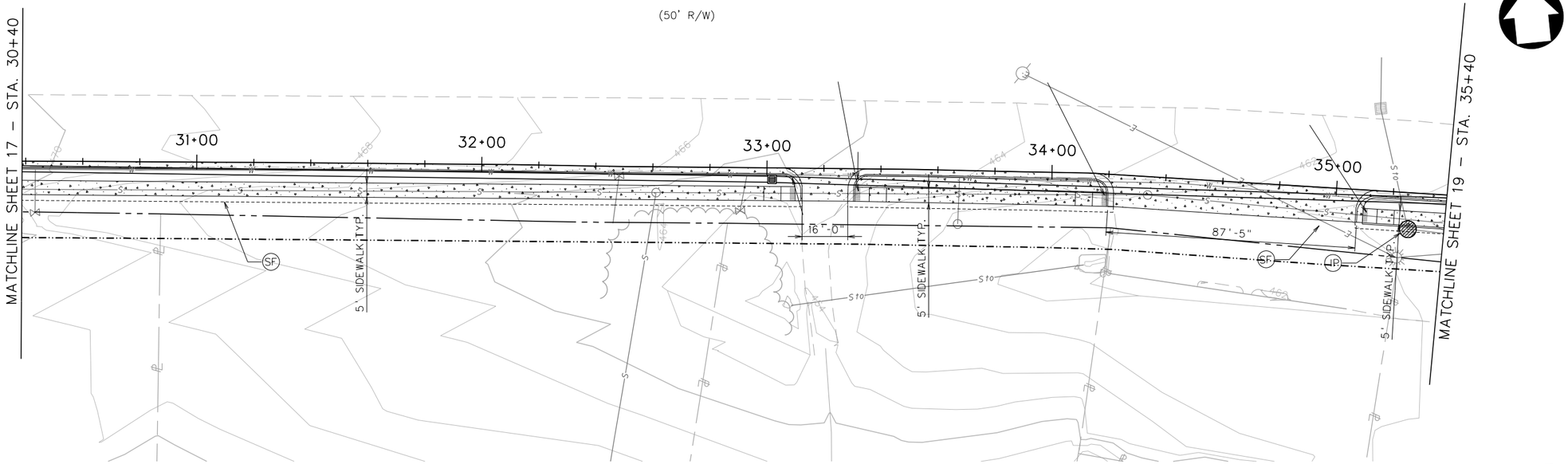
Designed: .... Drawn: .... Checked:	Date	Plan No.	Sheet No.
			11

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	12

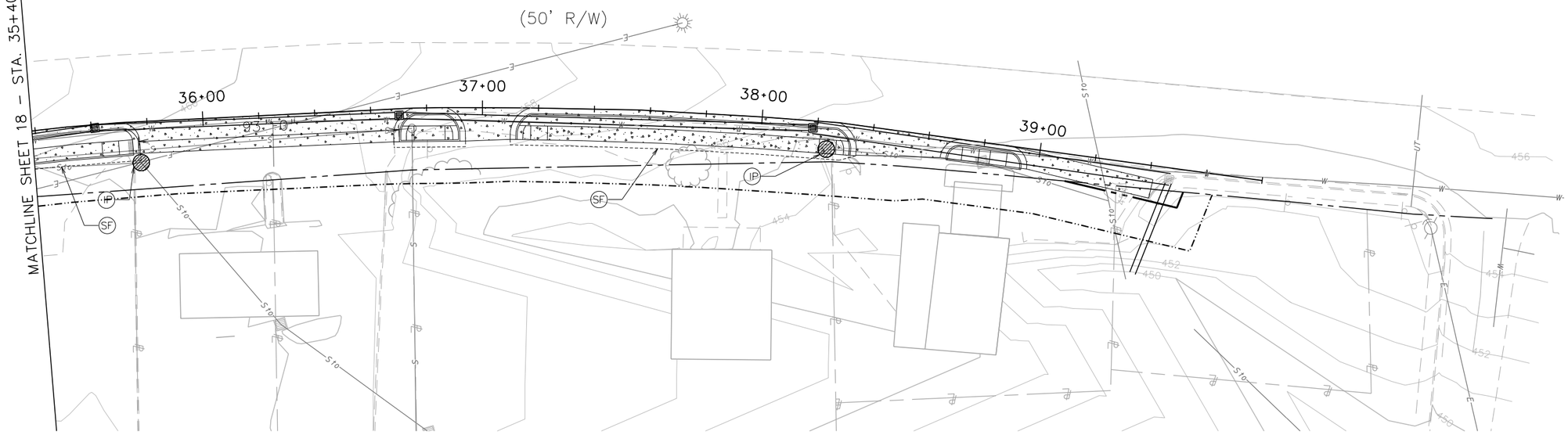
WEST MAIN STREET – ROUTE 33

(50' R/W)



WEST MAIN STREET – ROUTE 33

(50' R/W)



SCALE
1" = 20'
20' 40'

EROSION AND SEDIMENT CONTROL LEGEND

LABEL	SYMBOL	STD. NAME	SPEC. #
SF	----------	SILT FENCE TYPE A	3.05
IP		INLET PROTECTION	3.07

SCALE
1" = 20'
0' 20' 40'

SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

EROSION AND SEDIMENT CONTROL PLAN

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		12

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	13

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

SOILS MAP

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		13

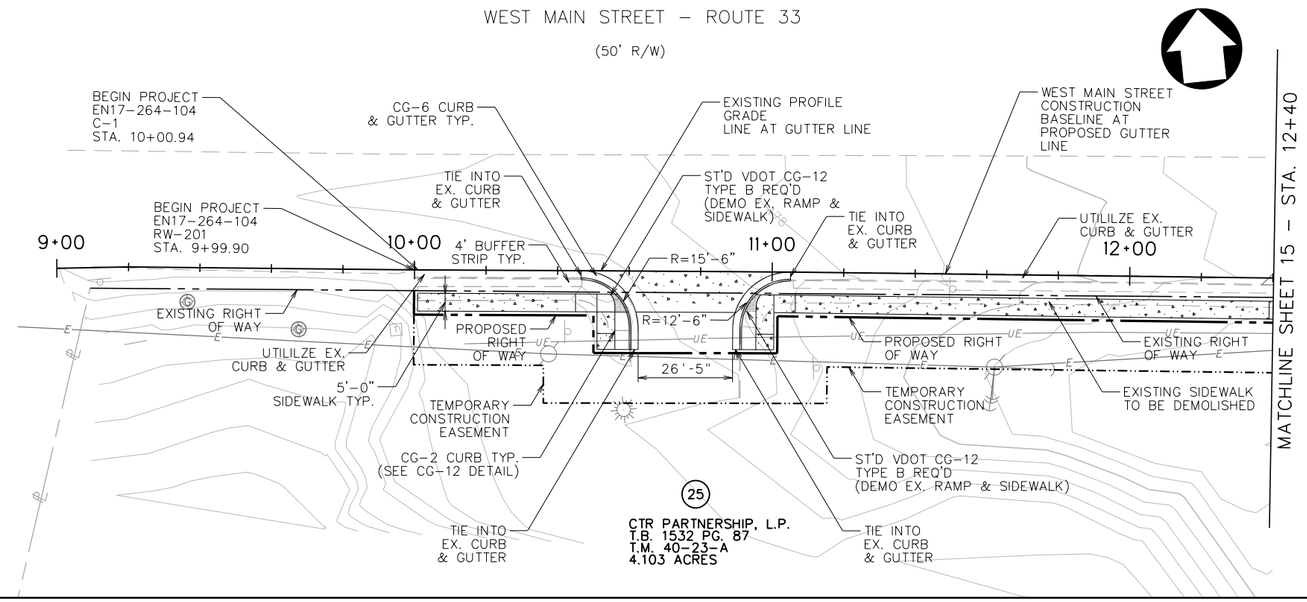
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	14

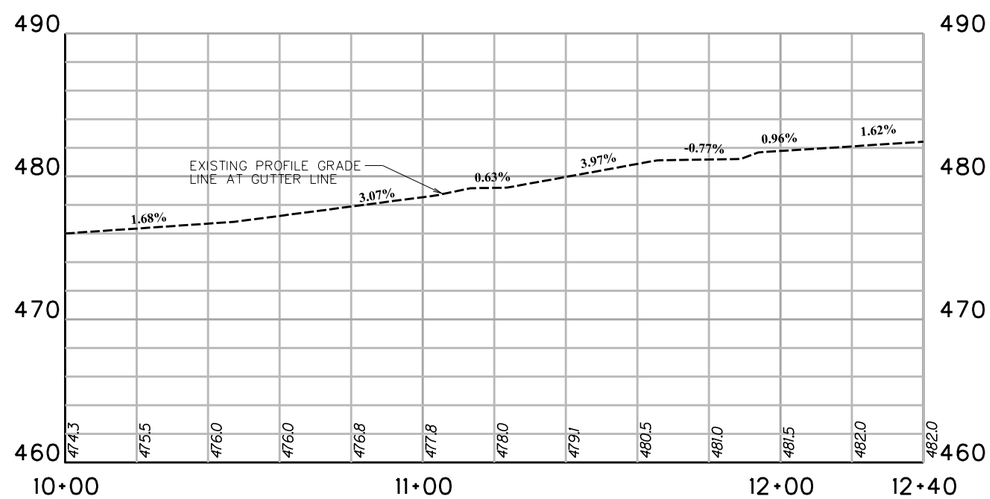
EXISTING UTILITIES:
COLUMBIA GAS 1-800-266-2278
DOMINION ENERGY 1-800-544-5606
TOWN OF LOUISA SEWER & WATER 1-804-461-8642
VERIZON 1-540-967-1122
1-804-418-0981

WEST MAIN STREET – ROUTE 33

(50' R/W)



SCALE
1" = 20'
0' 20' 40'



SCALE
1" = 20'
0' 20' 40'
10'
5'
SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

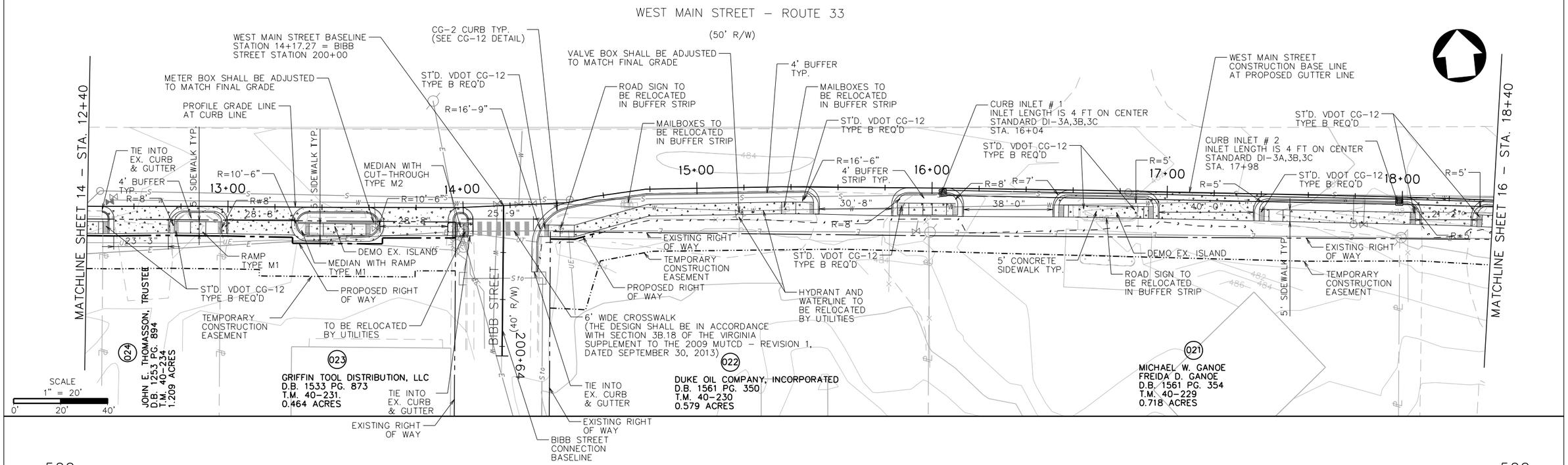
PLAN & PROFILE SHEET

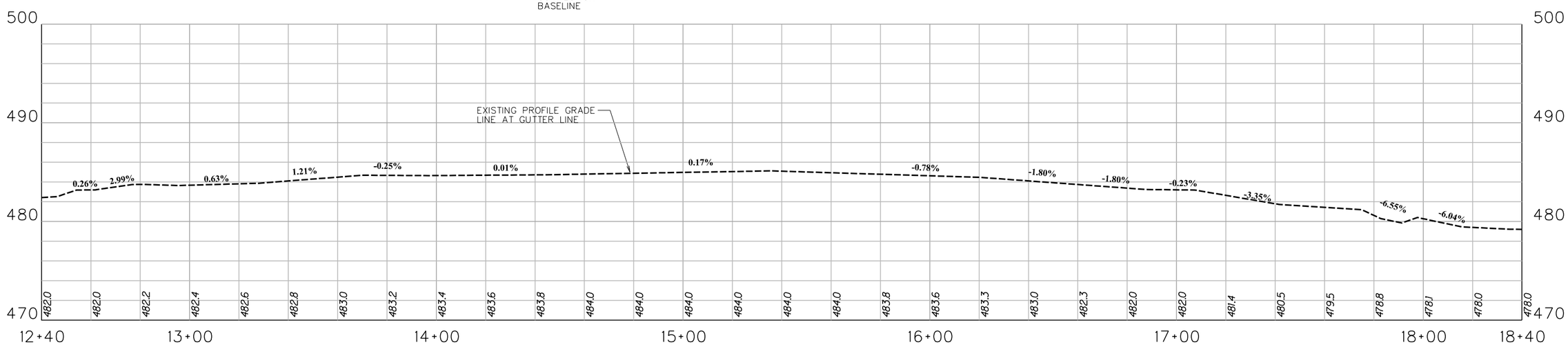
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		14

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	15





SCALE 1" = 20'
0' 20' 40'
10' 5'
SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

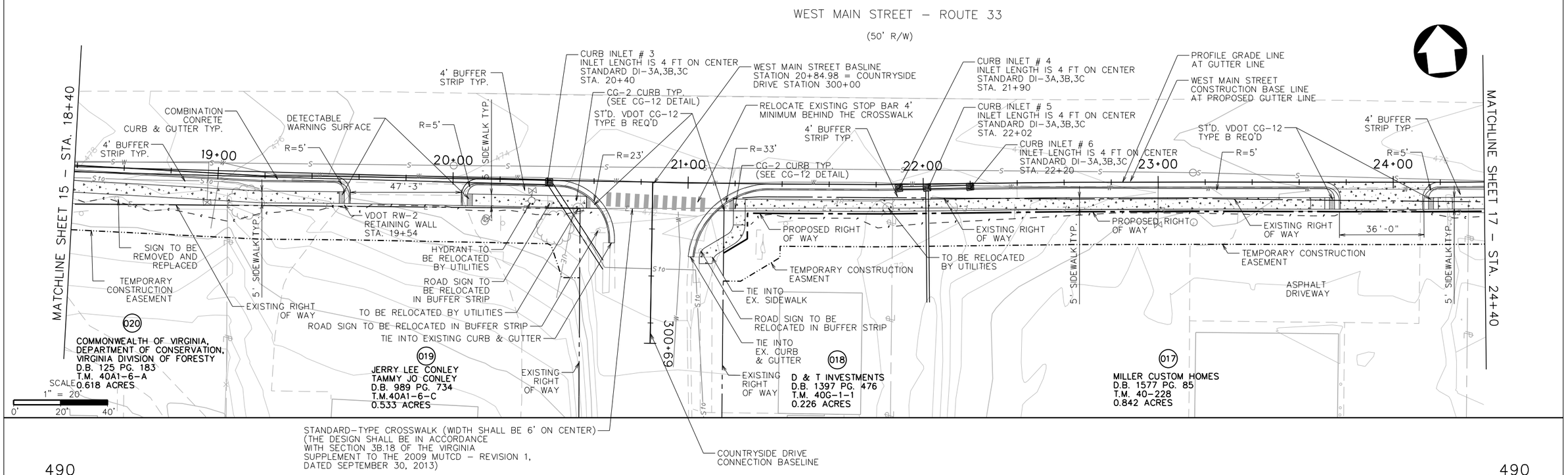
PLAN & PROFILE SHEET

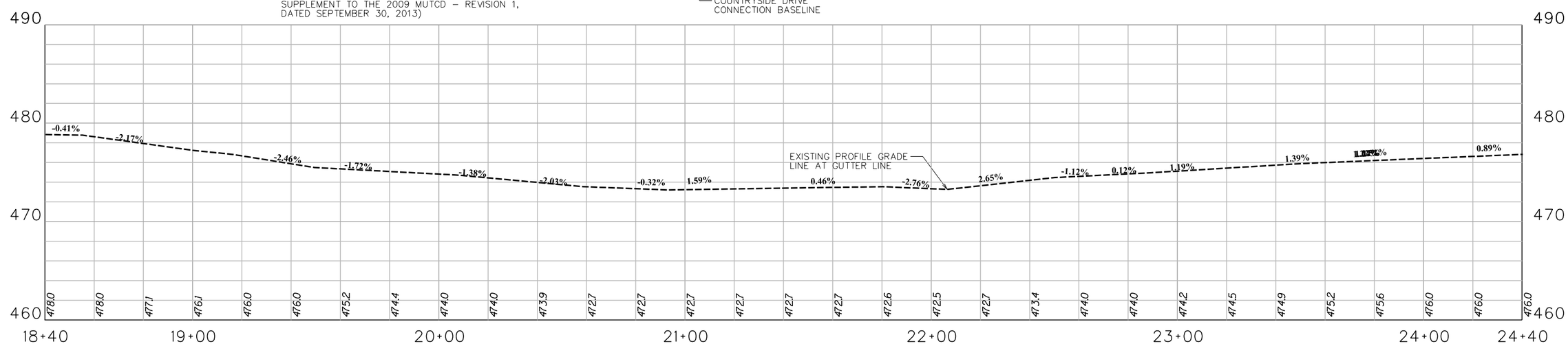
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		15

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	16





SCALE
1" = 20'
0' 20' 40'
10'
5'
SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

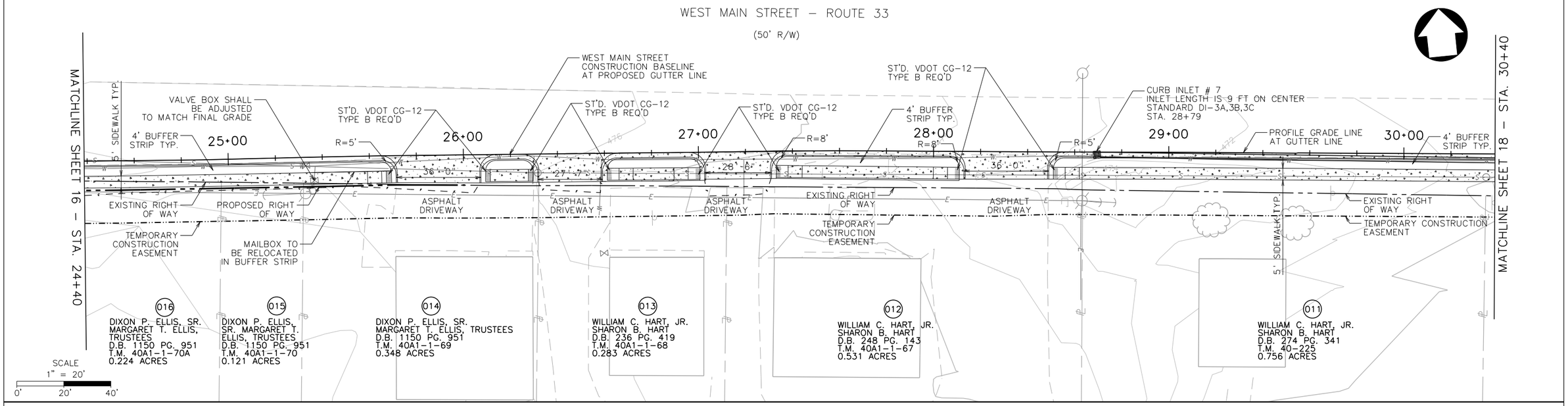
PLAN & PROFILE SHEET

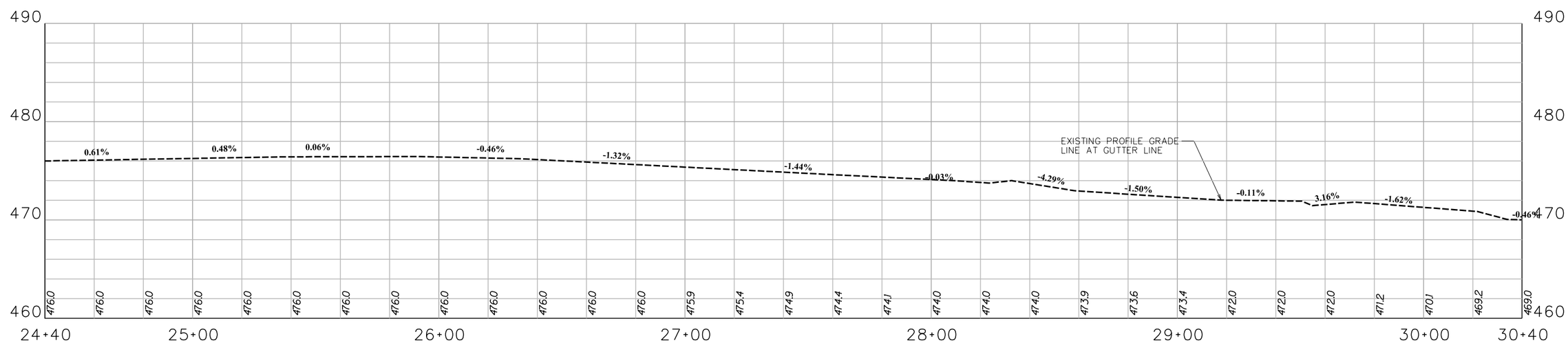
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		16

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	17





SCALE
1" = 20'
0' 20' 40'
10' 5'
SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

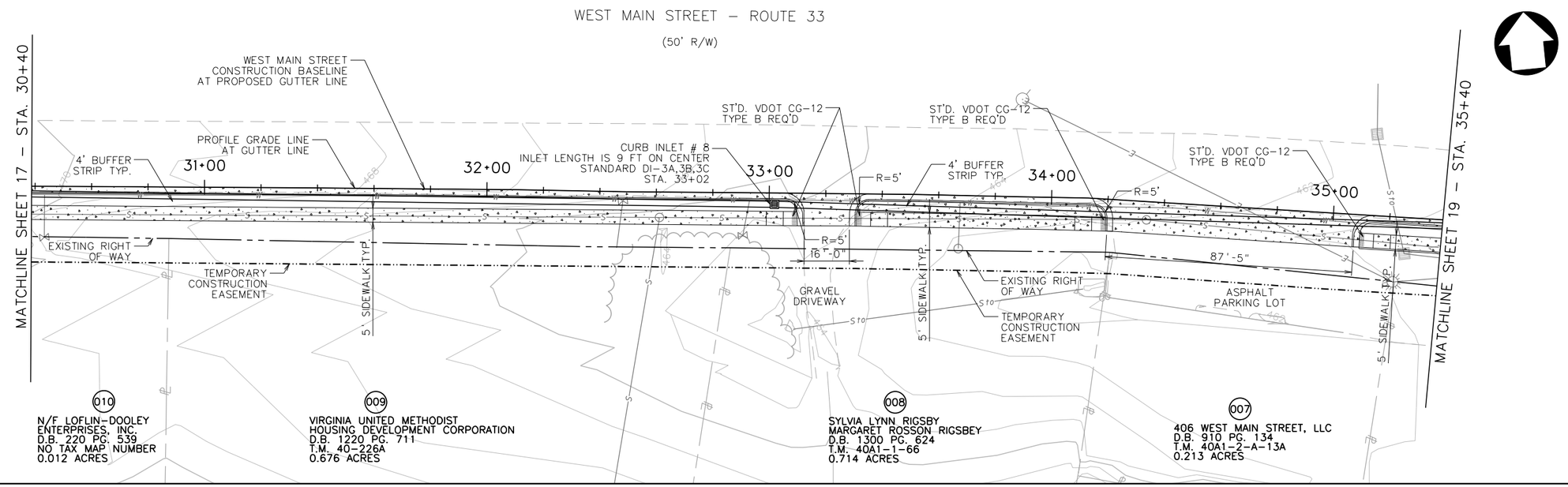
PLAN & PROFILE SHEET

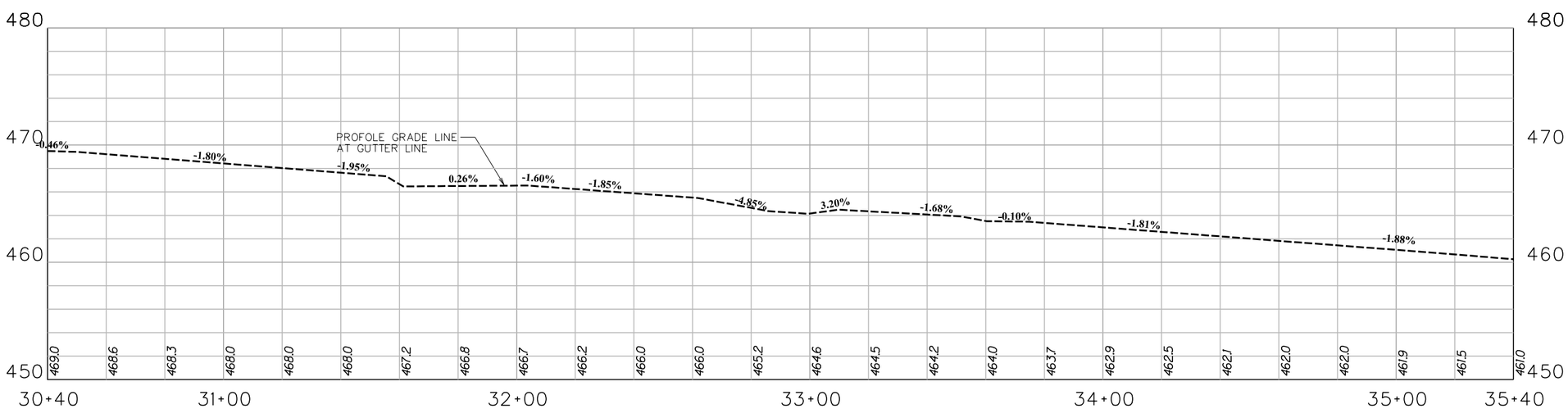
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		17

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	18





SCALE
1" = 20'
0' 20' 40'
10' 5'
SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

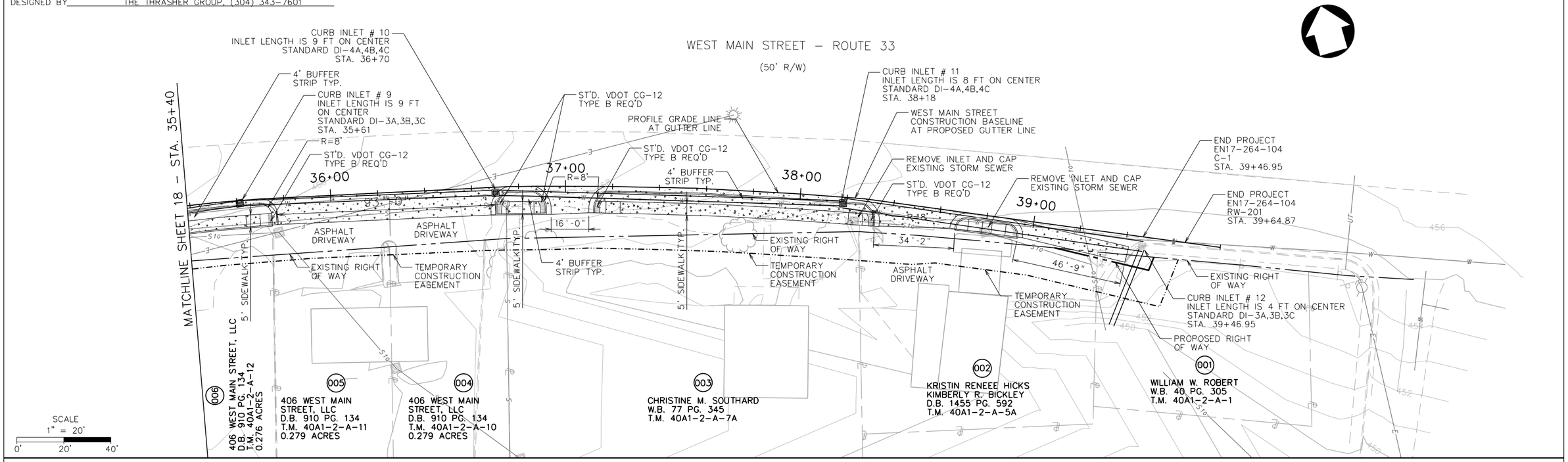
PLAN & PROFILE SHEET

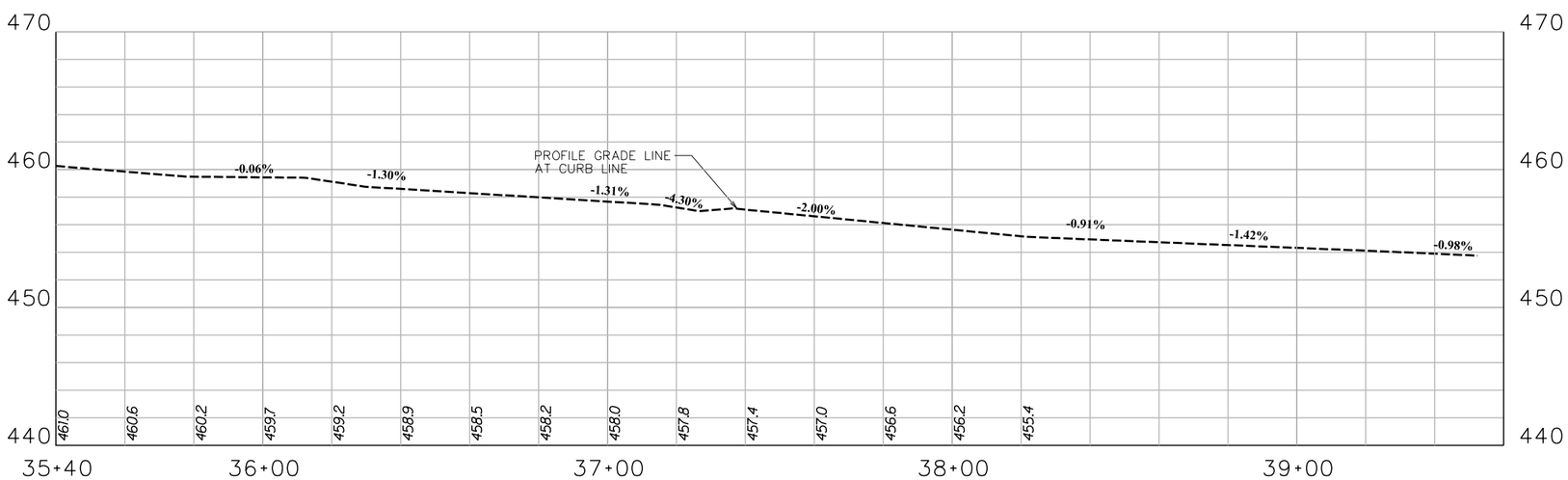
Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		18

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	19





SCALE
1" = 20'
0' 20' 40'
10'
5'
SIDEWALK

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

PLAN & PROFILE SHEET

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		19

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

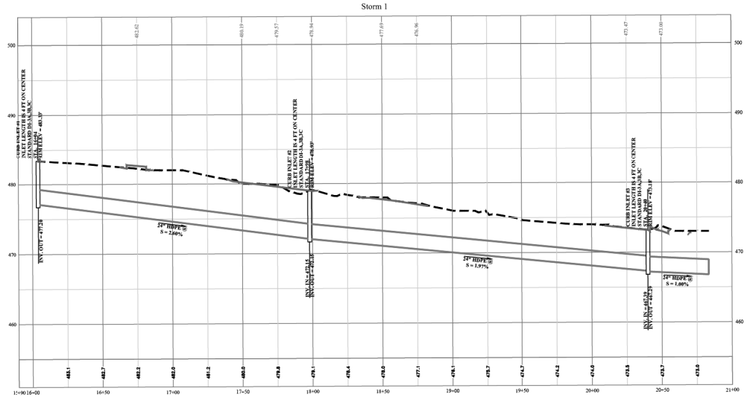
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	20

LEGEND

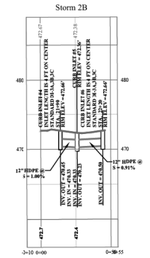
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.

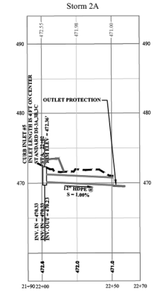
Storm 1



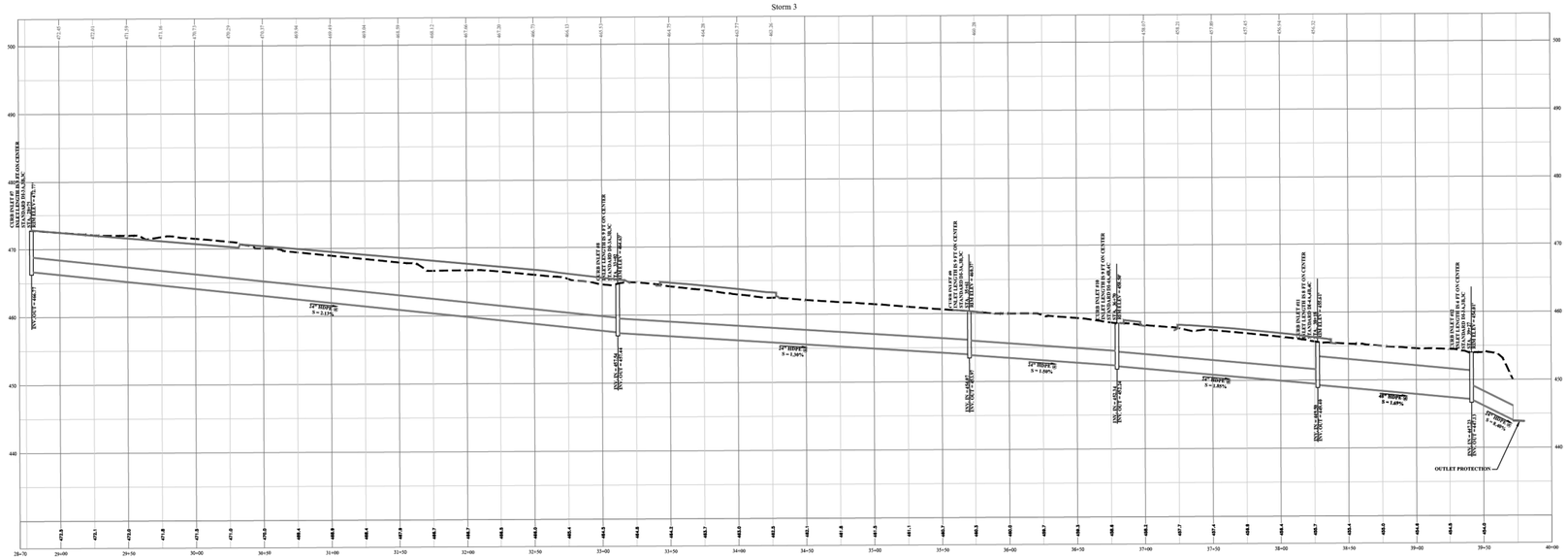
Storm 2B



Storm 2A



Storm 3



X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

STORM SEWER PROFILES

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		20

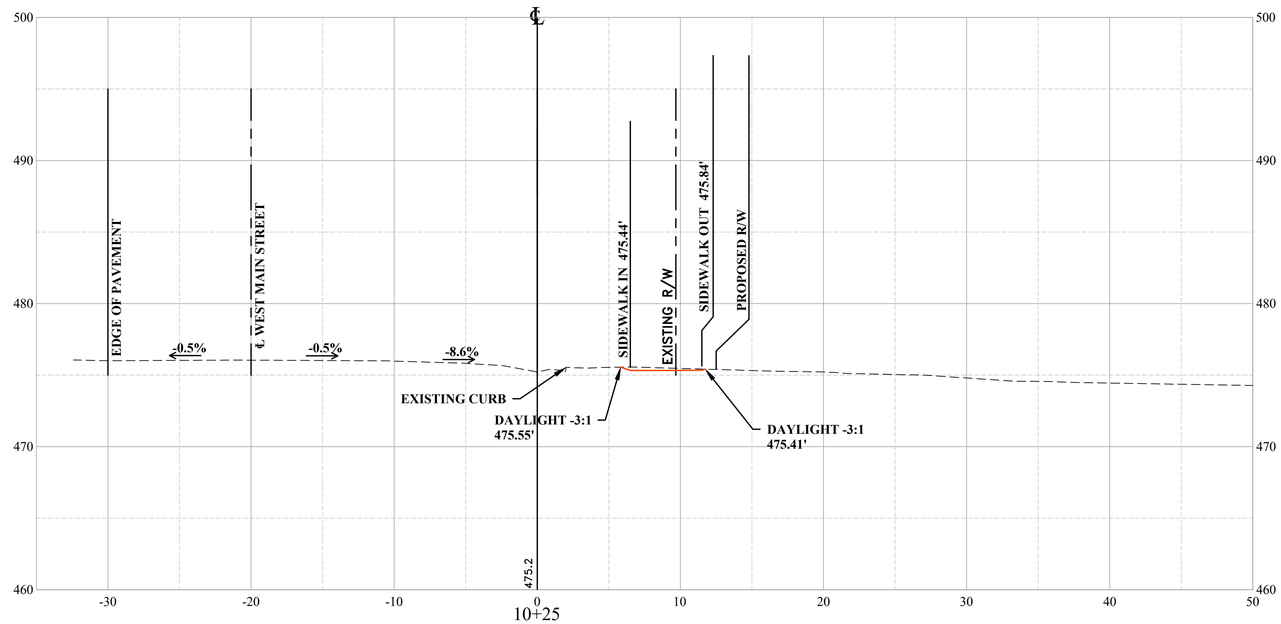
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

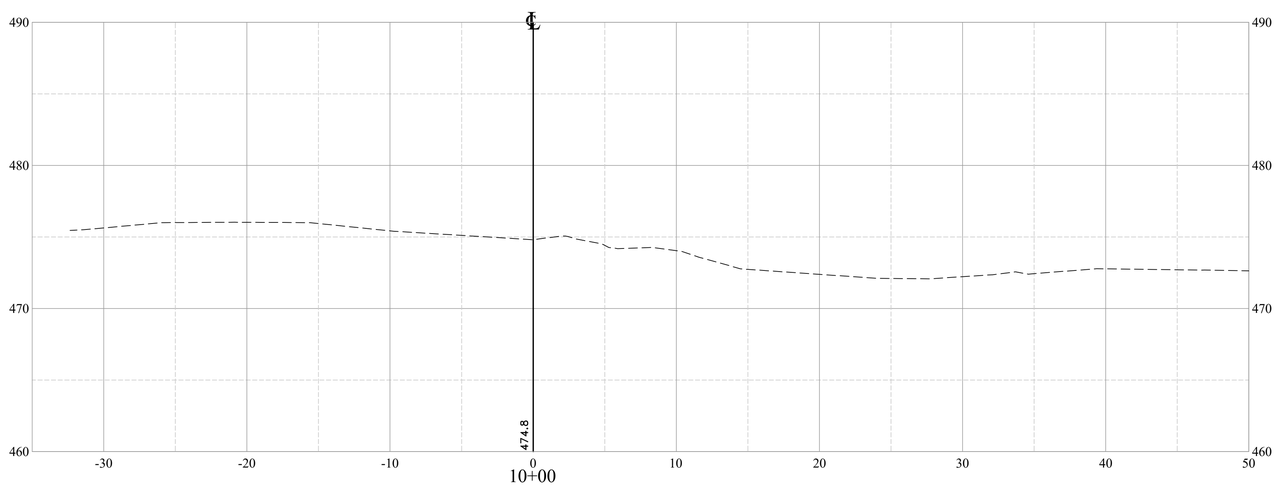
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	21

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

10+00 TO 10+25

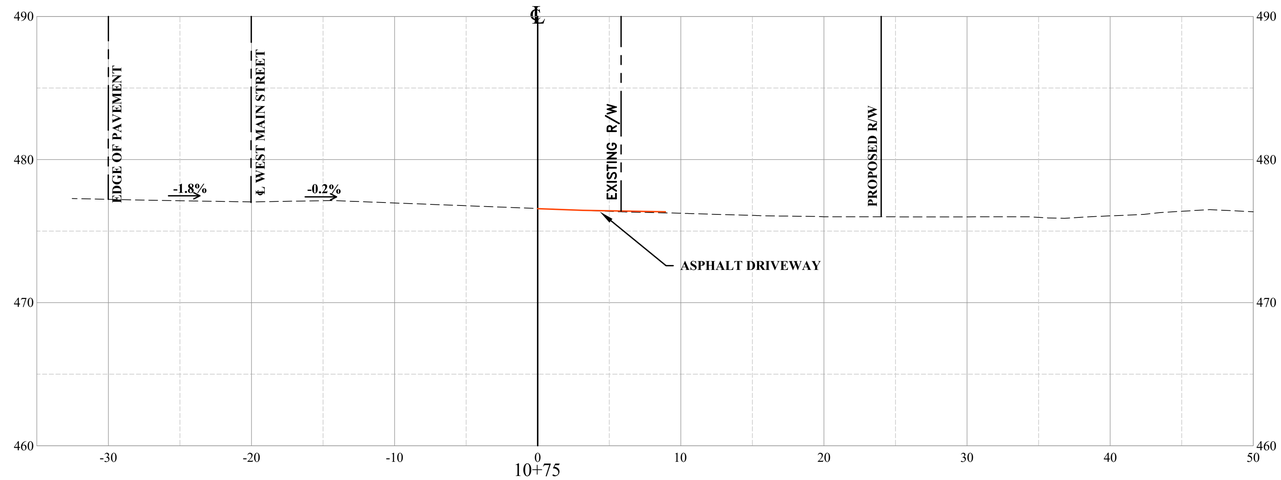
Designed: ..... Drawn: ..... Checked:	Date	Plan No.	Sheet No.
			21

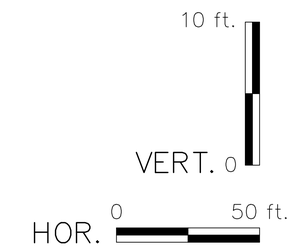
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

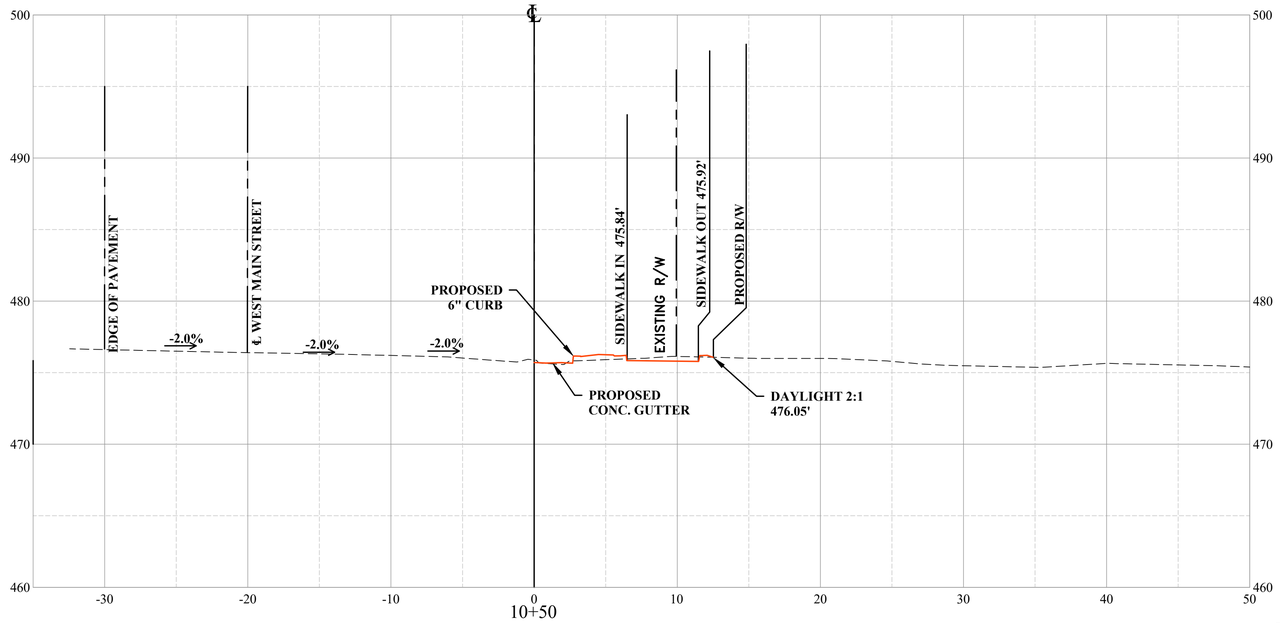
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	22

LEGEND

- - - - - - - - - EXISTING GRADE
——————— PROPOSED GRADE







X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

10+50 TO 10+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		22

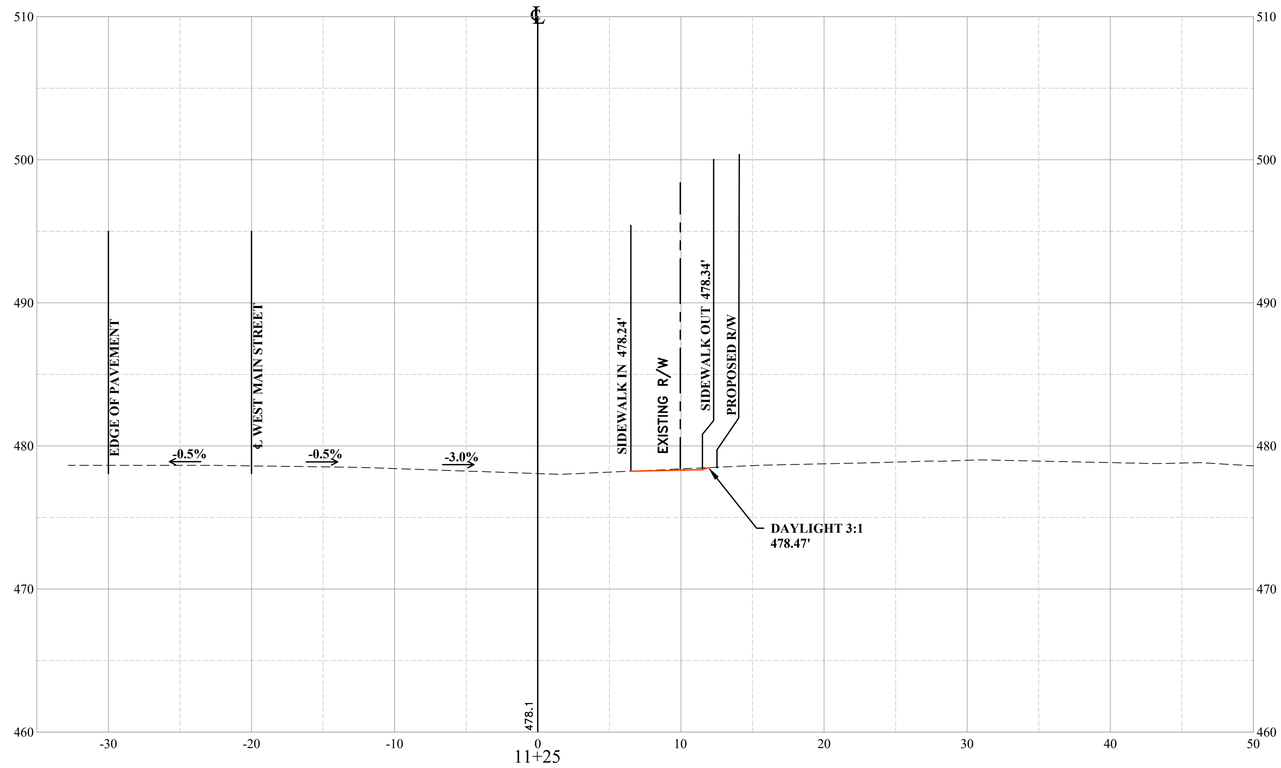
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	23

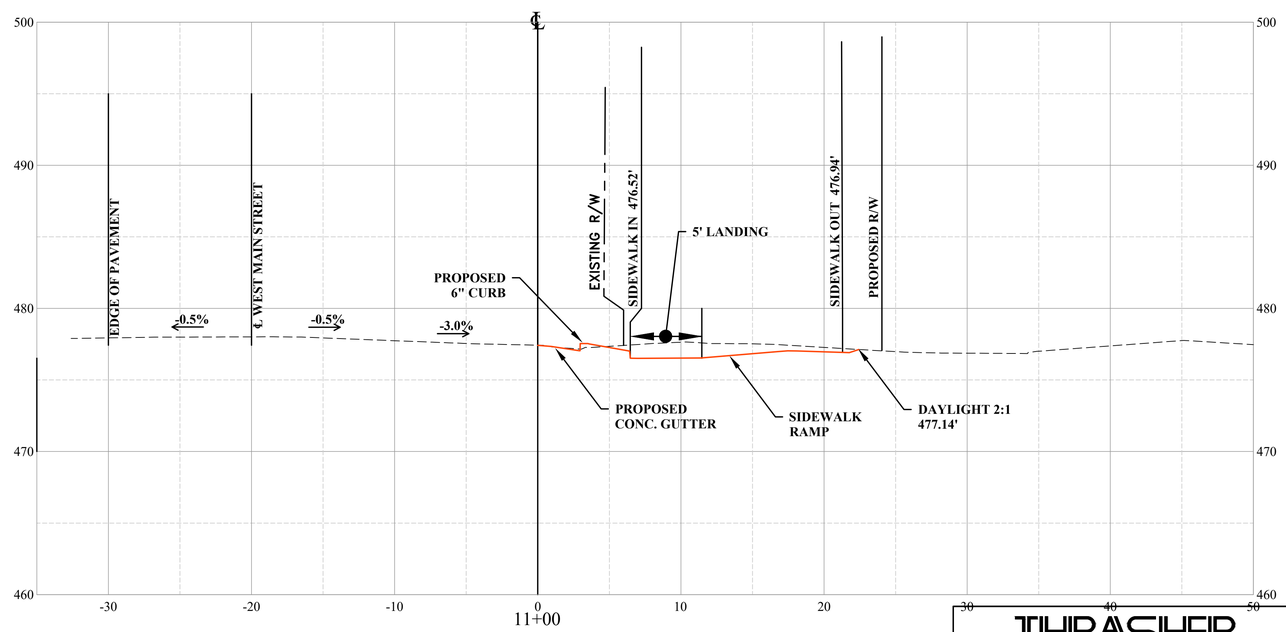
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.



11+25



11+00

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

11+00 TO 11+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		23

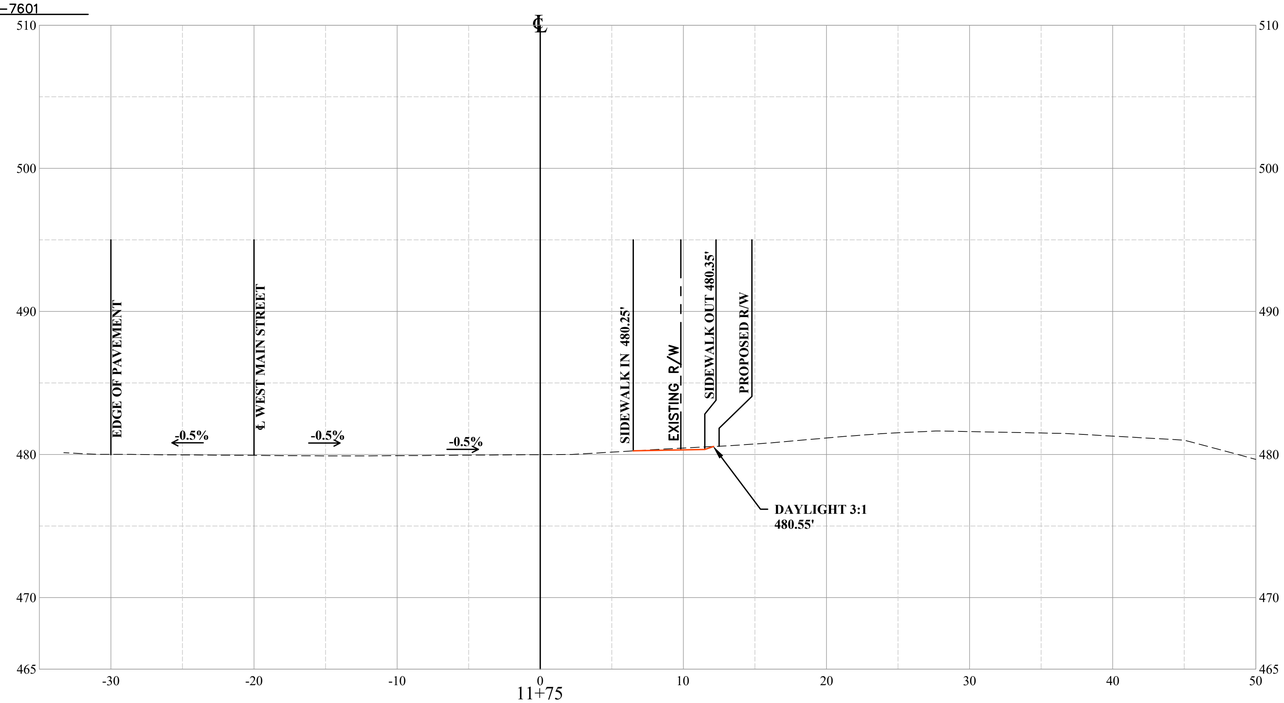
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	24

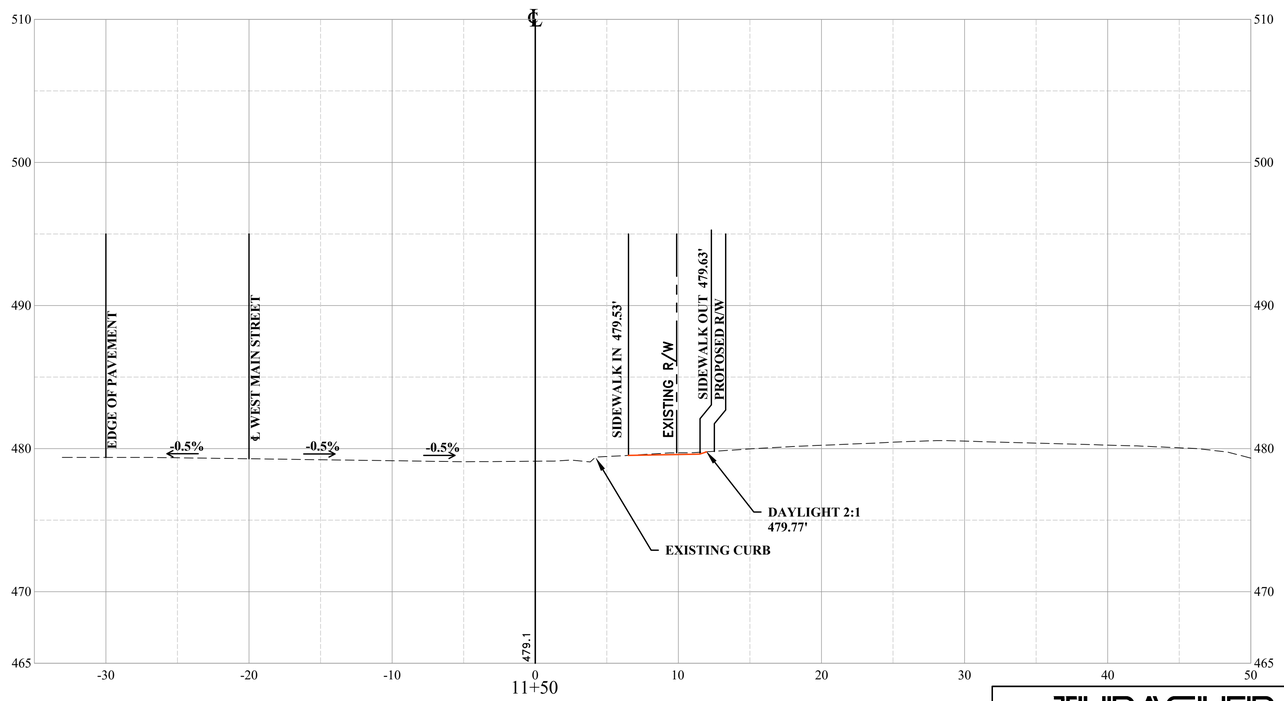
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.



11+75



11+50

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

11+50 TO 11+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		24

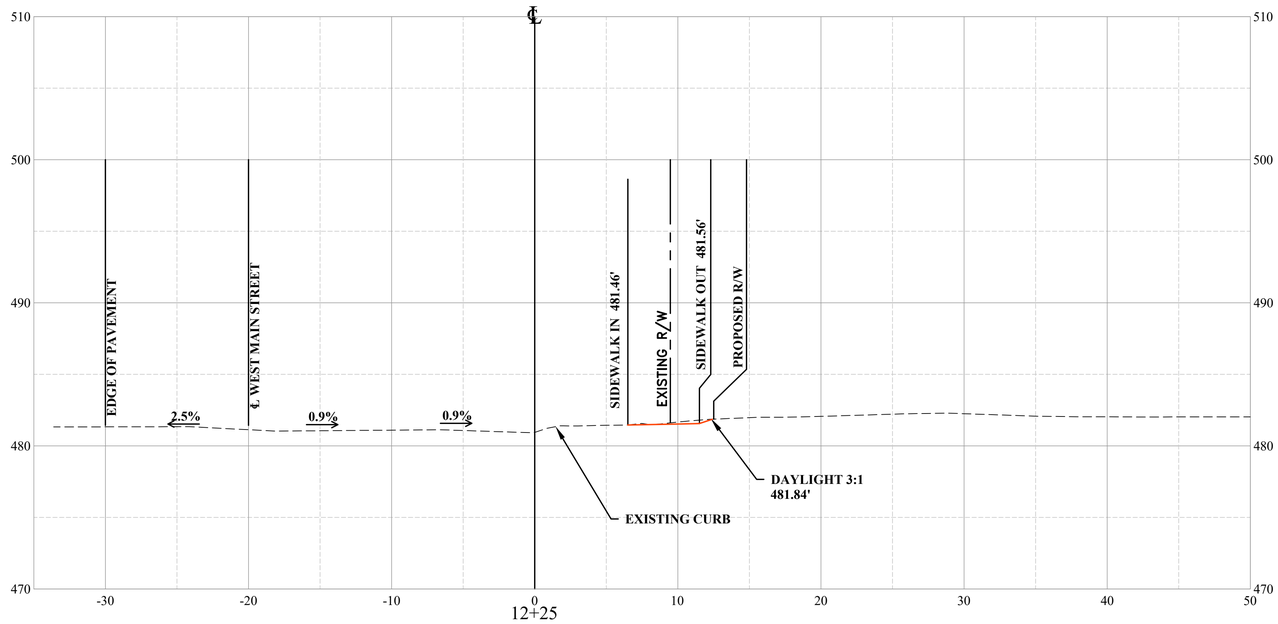
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

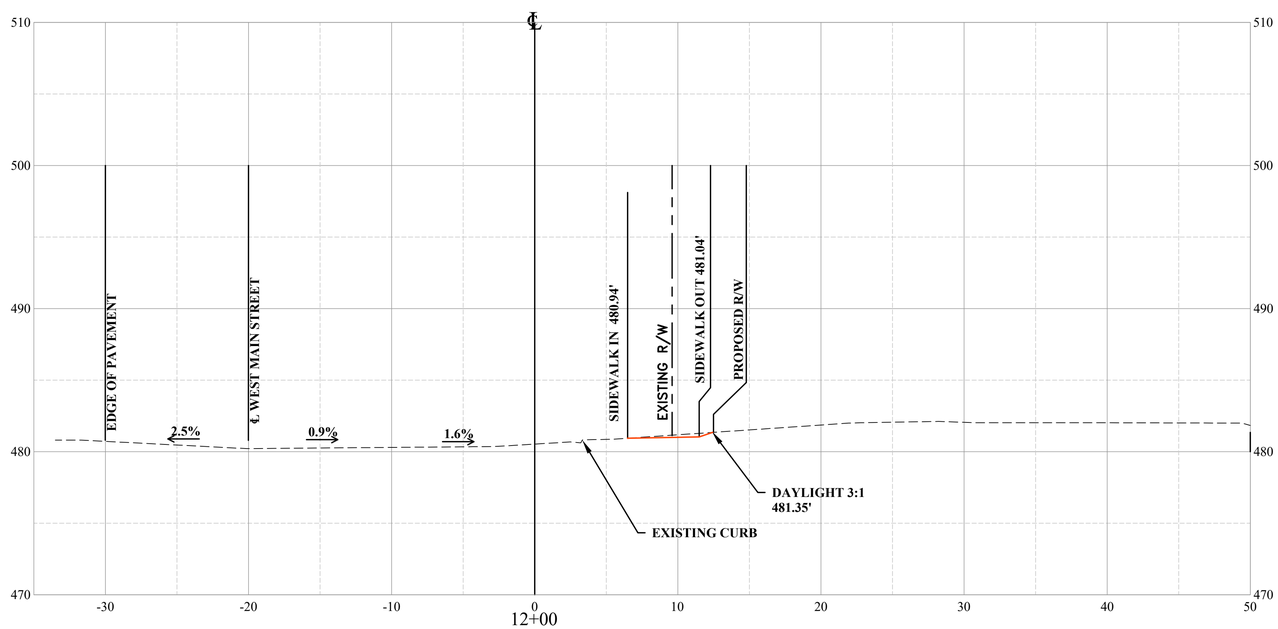
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	25

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

12+00 TO 12+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		25

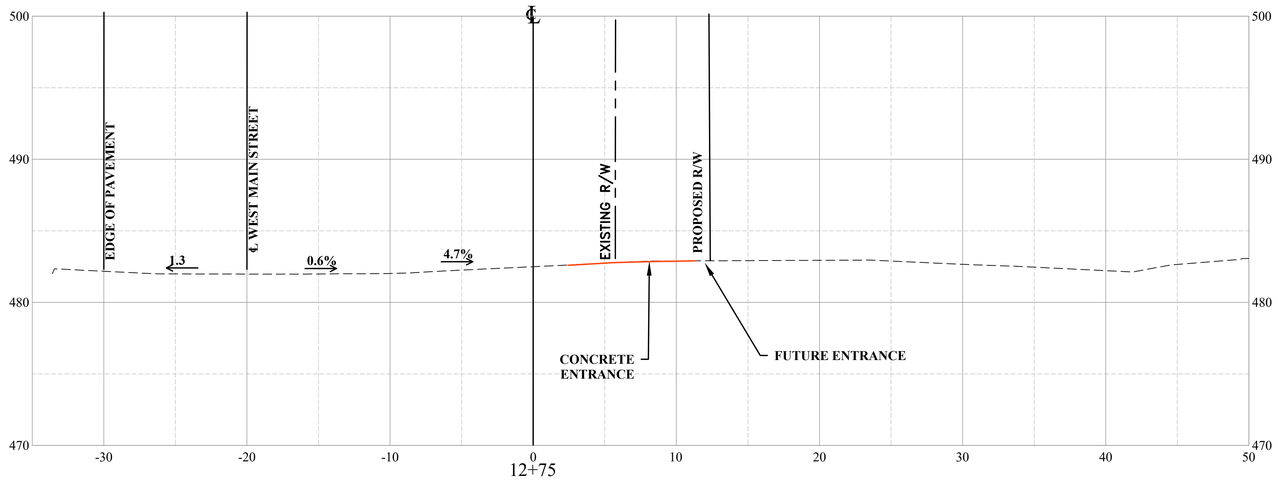
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

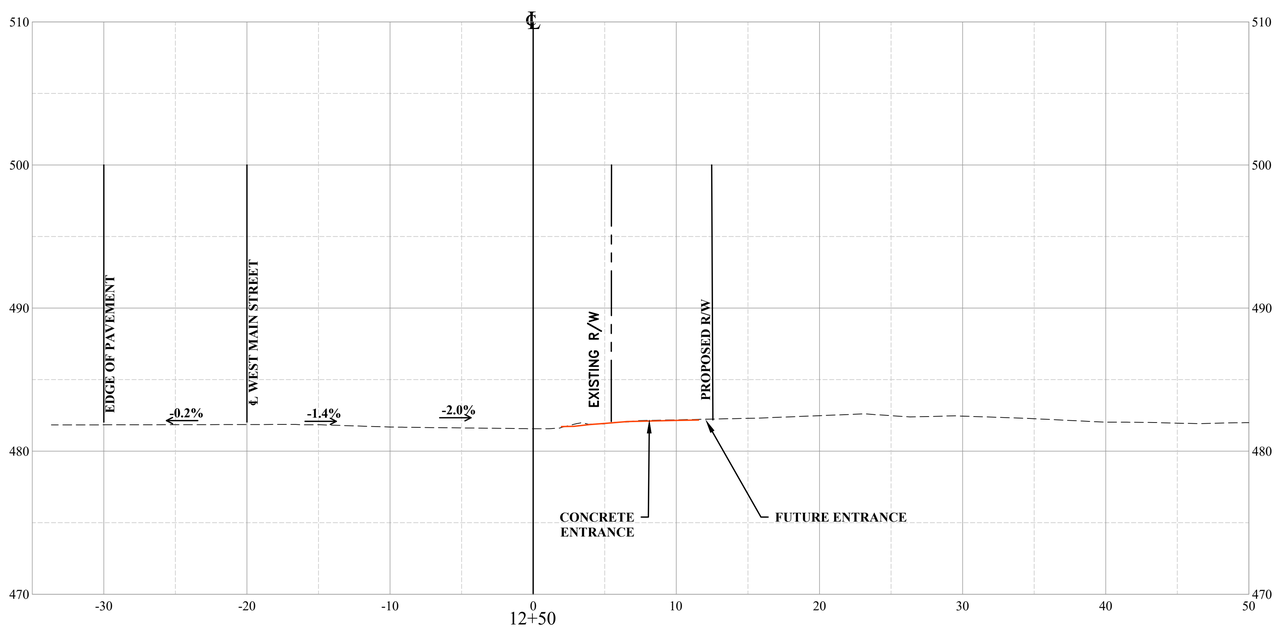
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	26

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
0 50 ft.
HOR.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

12+50 TO 12+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		26

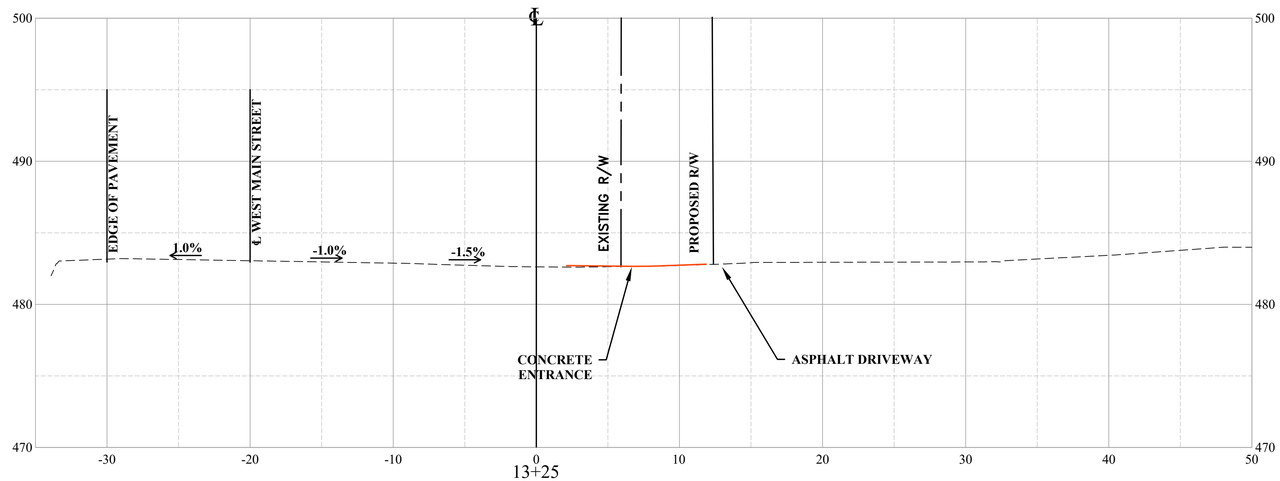
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

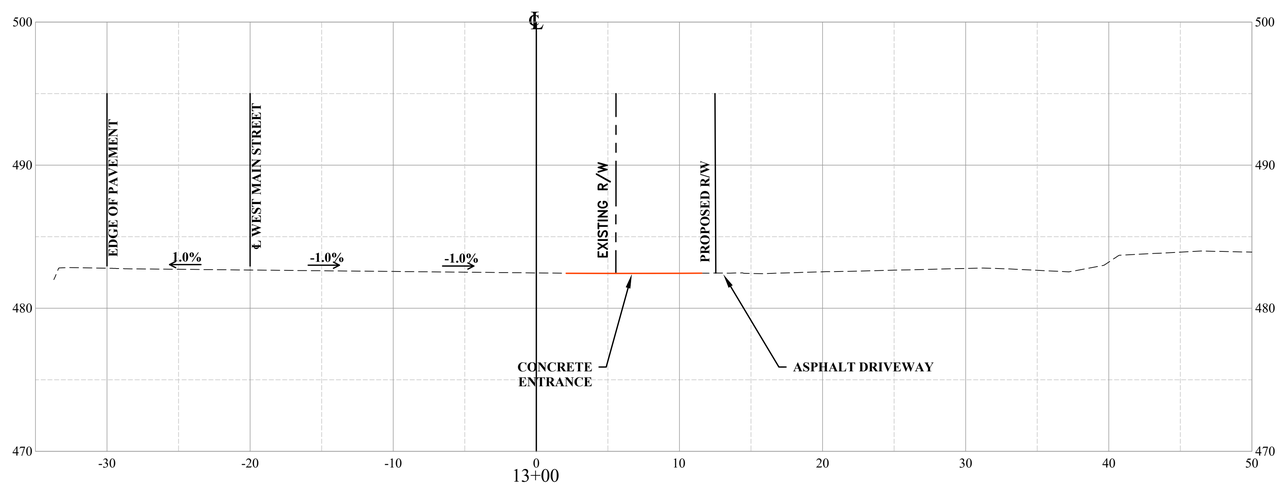
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	27

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

13+00 TO 13+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		27

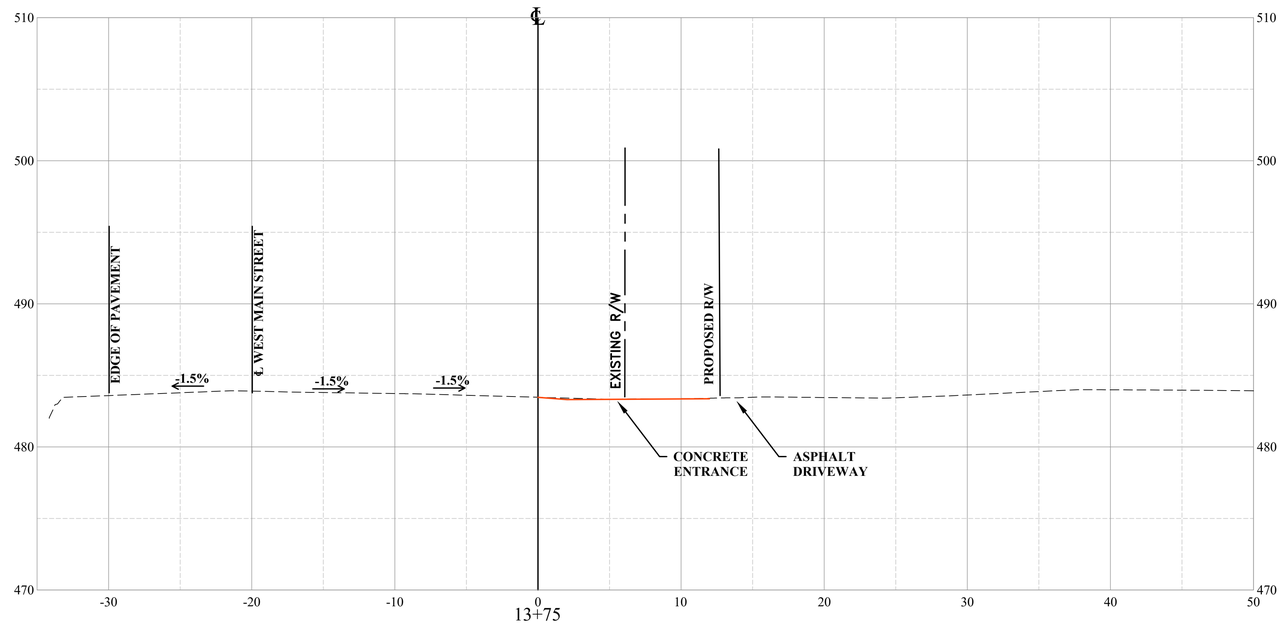
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

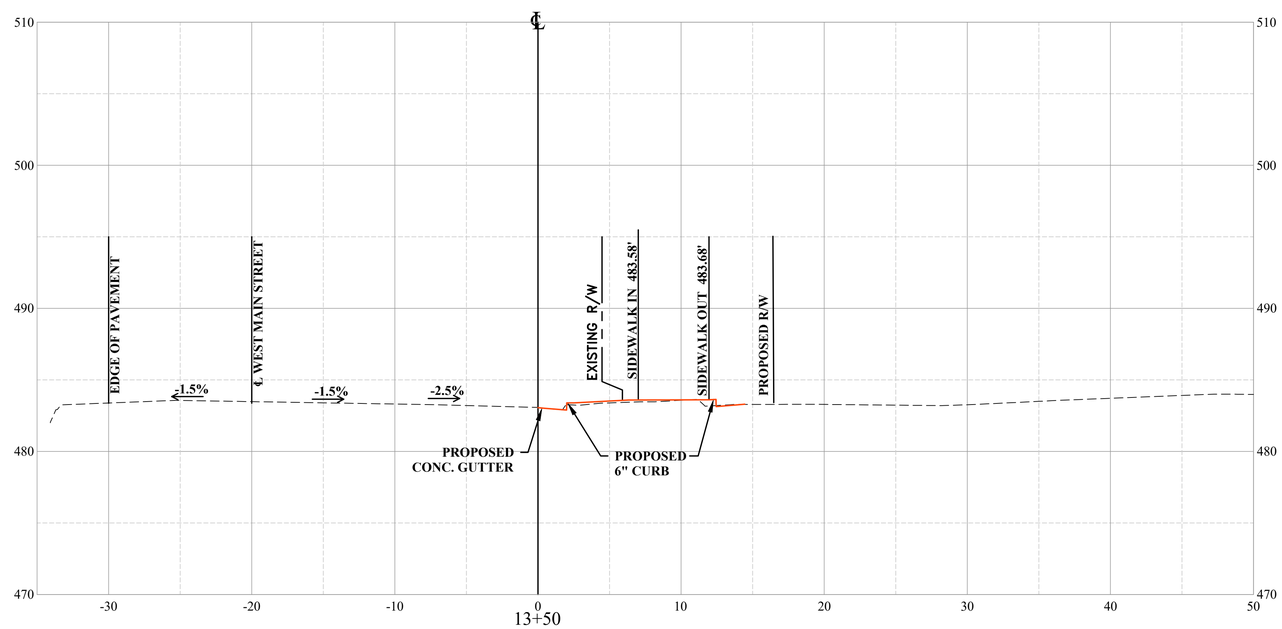
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	28

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

13+50 TO 13+75

Designed: .....
Drawn: .....
Checked: .....

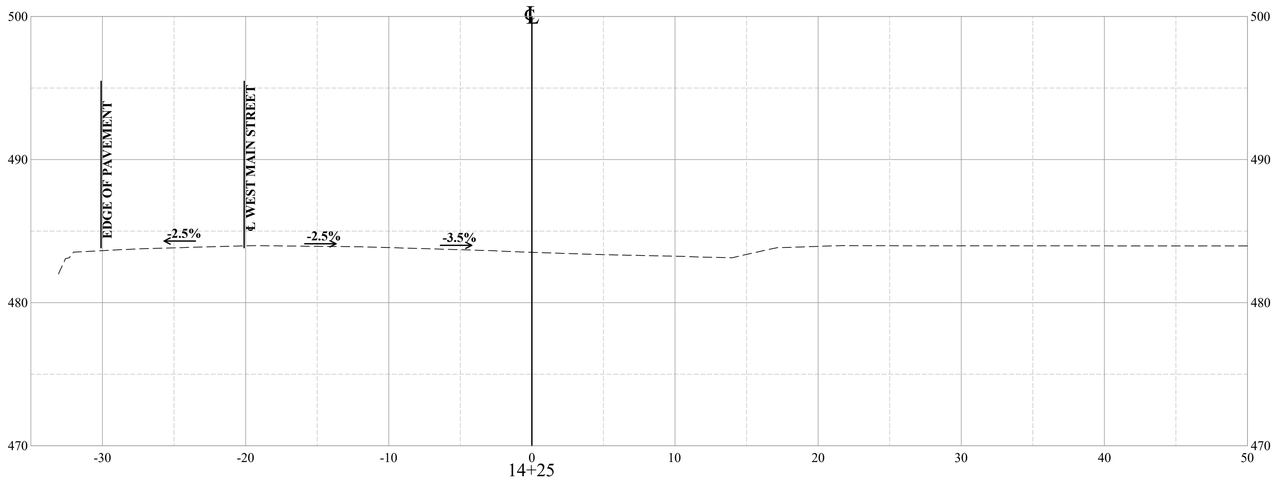
Date	Plan No.	Sheet No.
		28

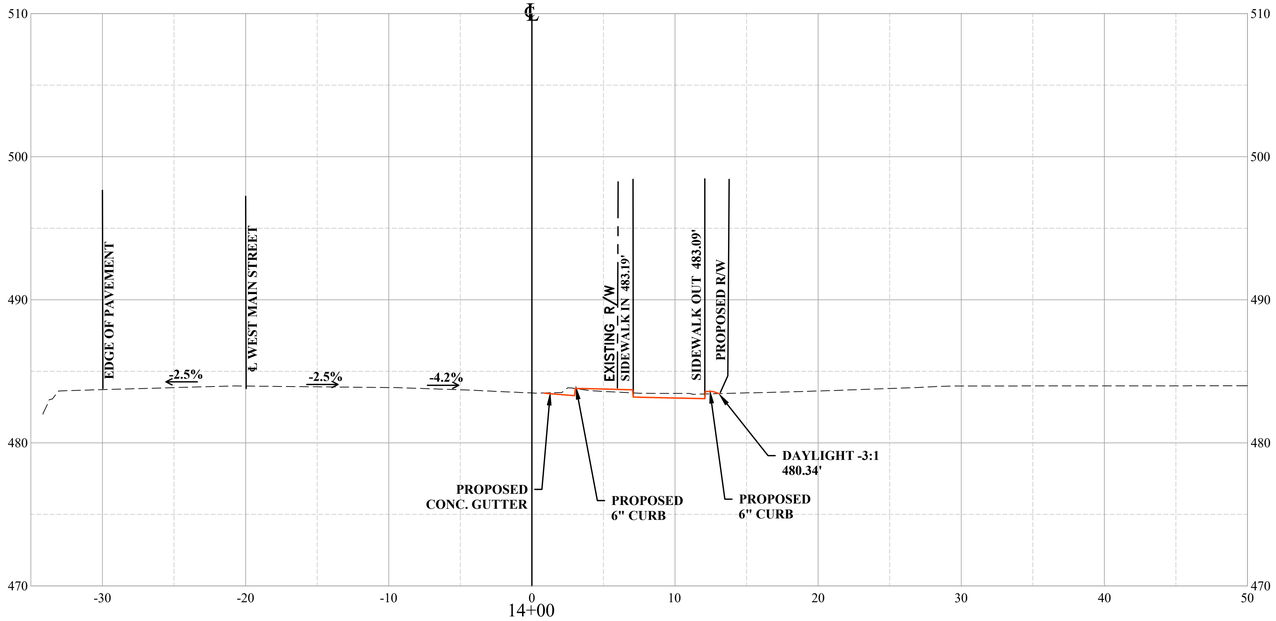
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	29

LEGEND
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
14+00 TO 14+25

Designed: .....
Drawn: .....
Checked: .....

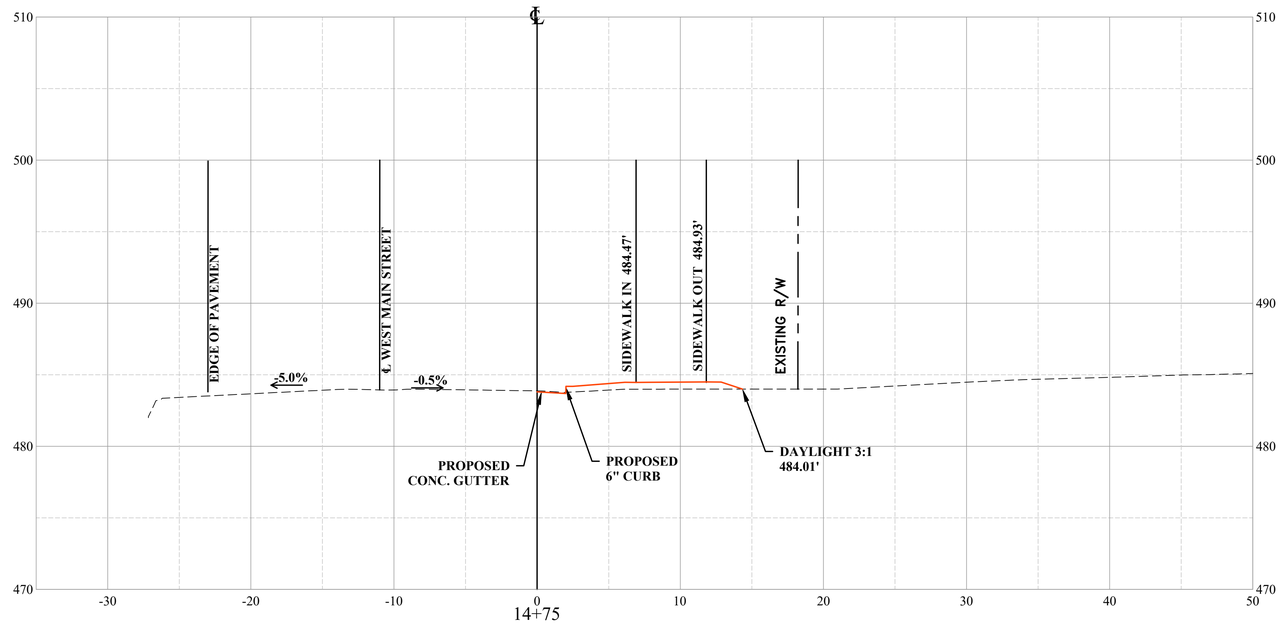
Date	Plan No.	Sheet No.
		29

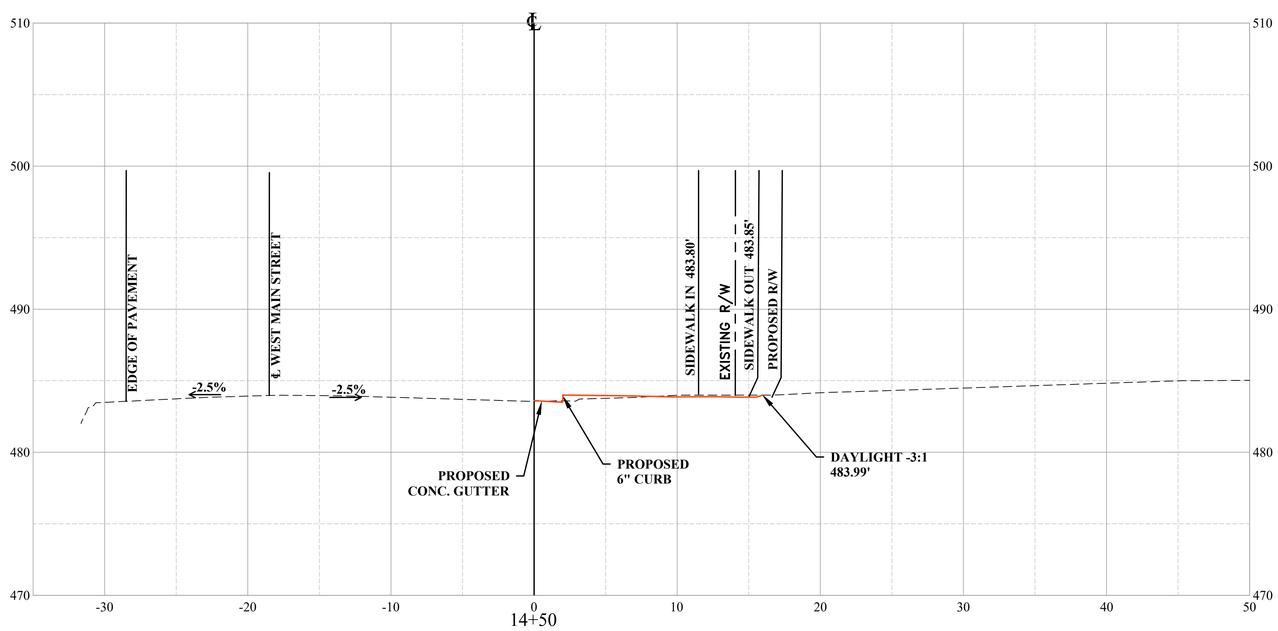
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	30

LEGEND
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
14+50 TO 14+75

Designed:	Date	Plan No.	Sheet No.
Drawn:			30
Checked:			

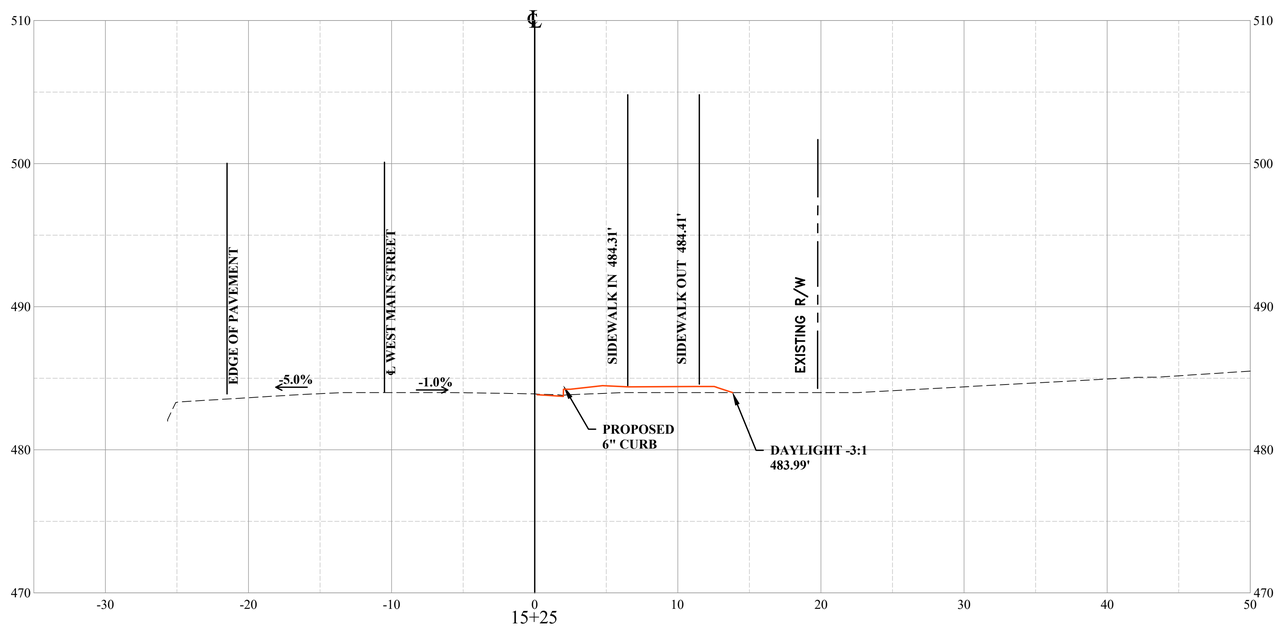
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

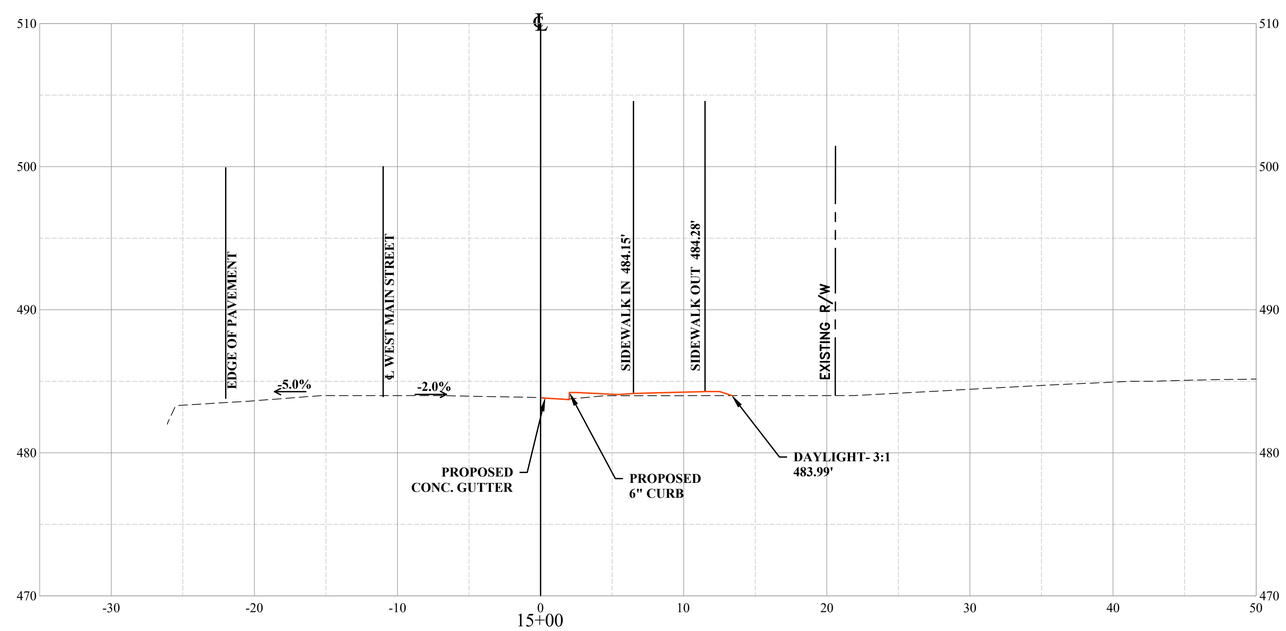
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	31

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

15+00 TO 15+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		31

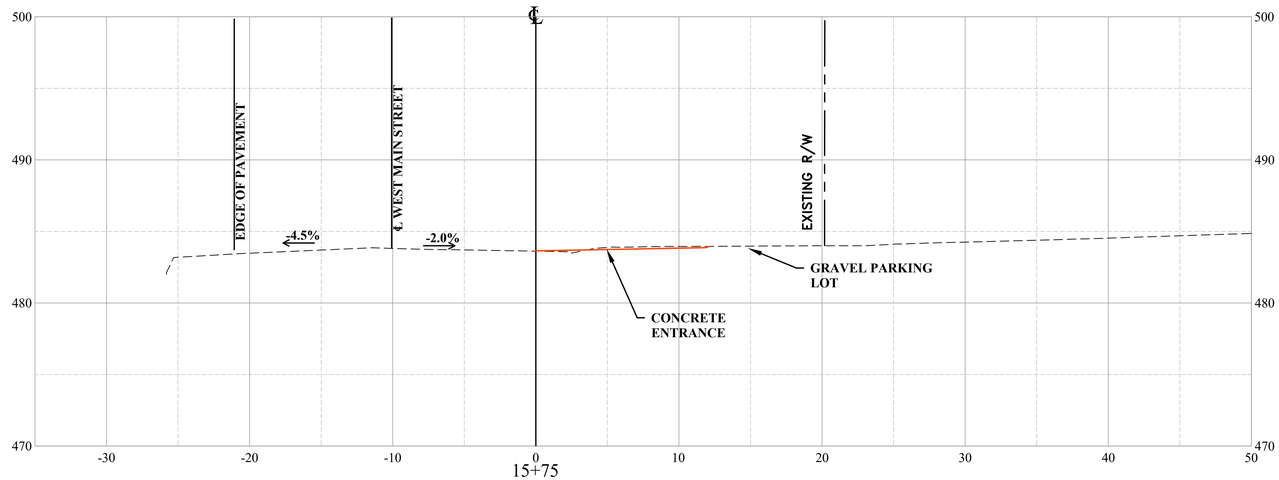
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

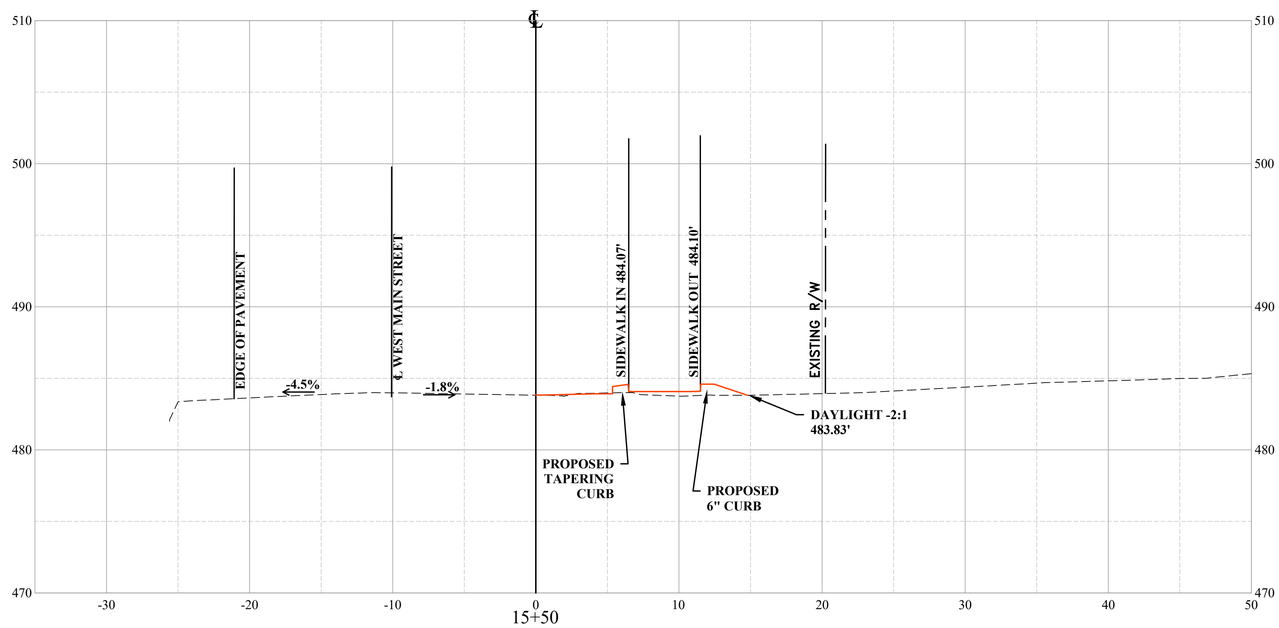
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	32

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

15+50 TO 15+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		32

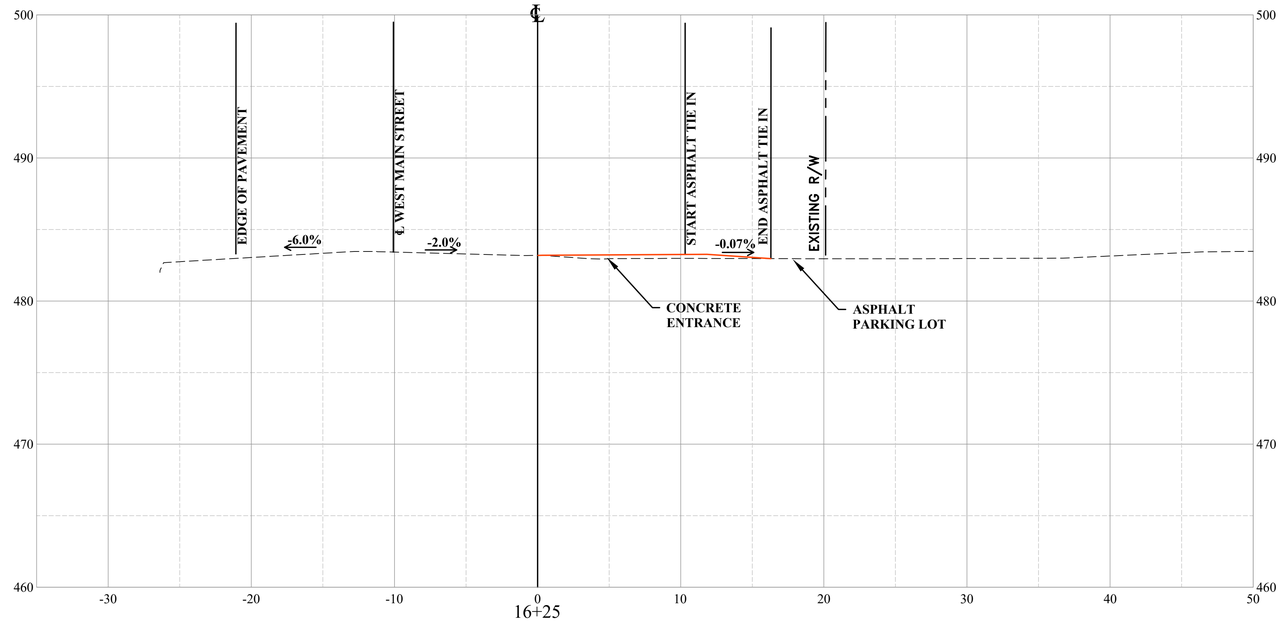
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

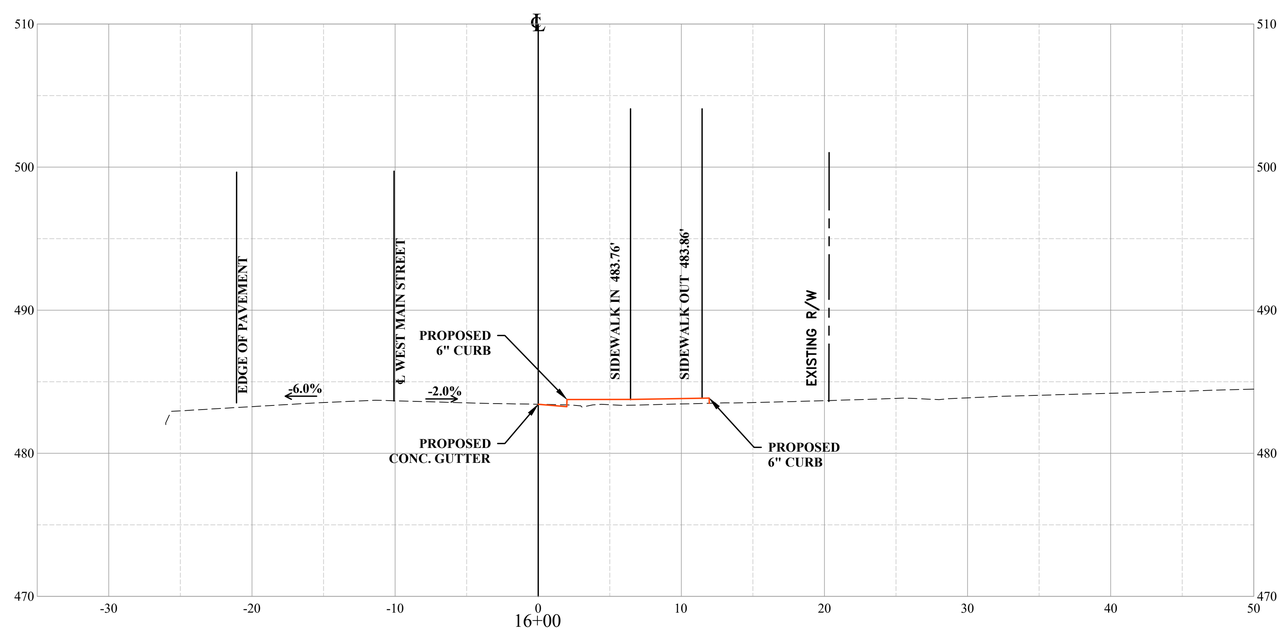
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	33

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

16+00 TO 16+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		33

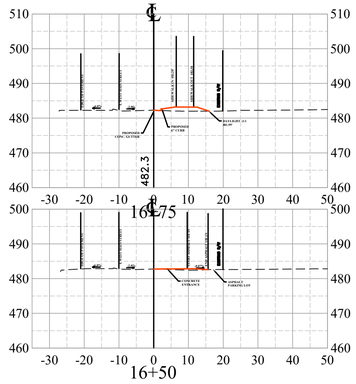
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

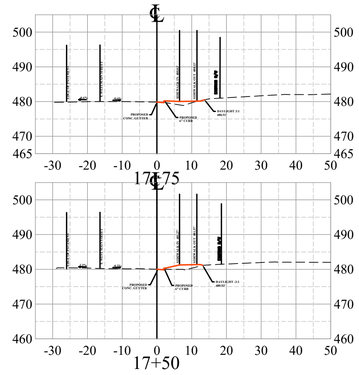
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	34

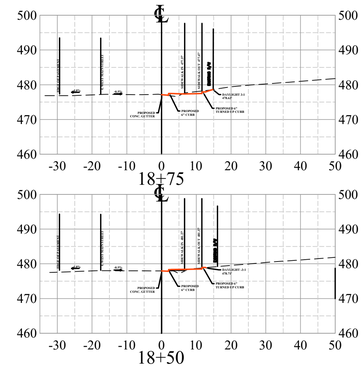
LEGEND

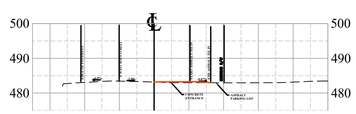
EXISTING GRADE
PROPOSED GRADE

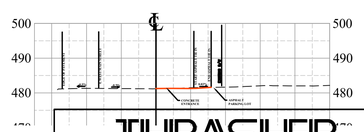
10 ft.
VERT. 0
HOR. 0 50 ft.











X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
16+50 TO 16+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		34

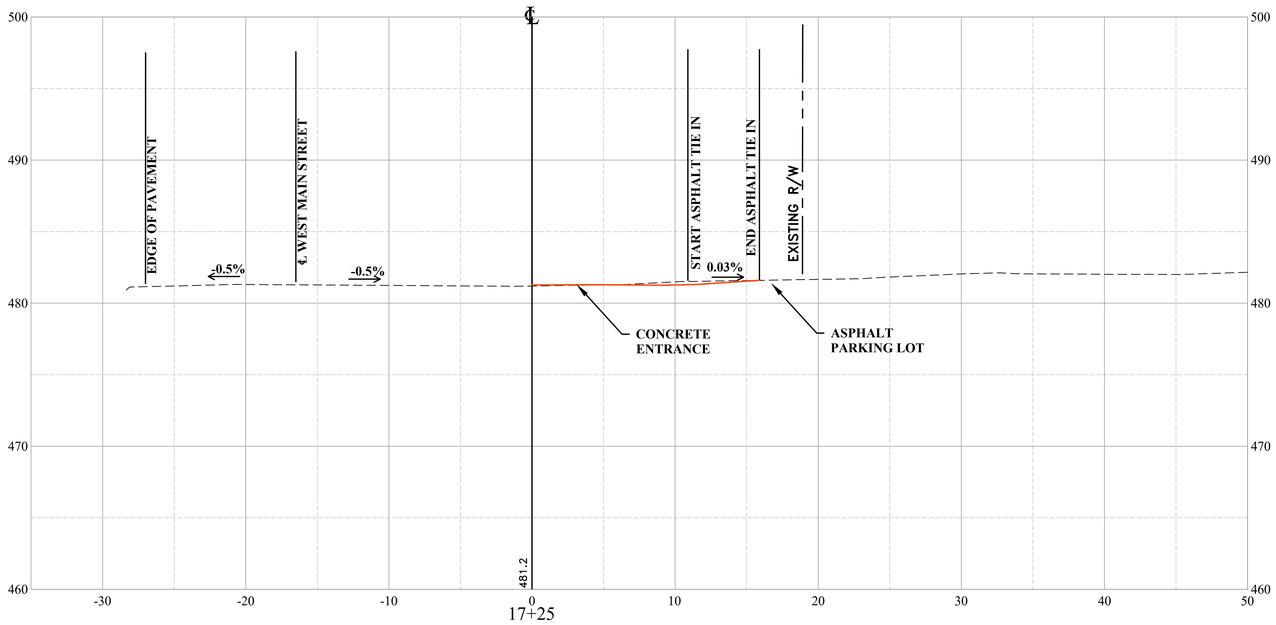
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

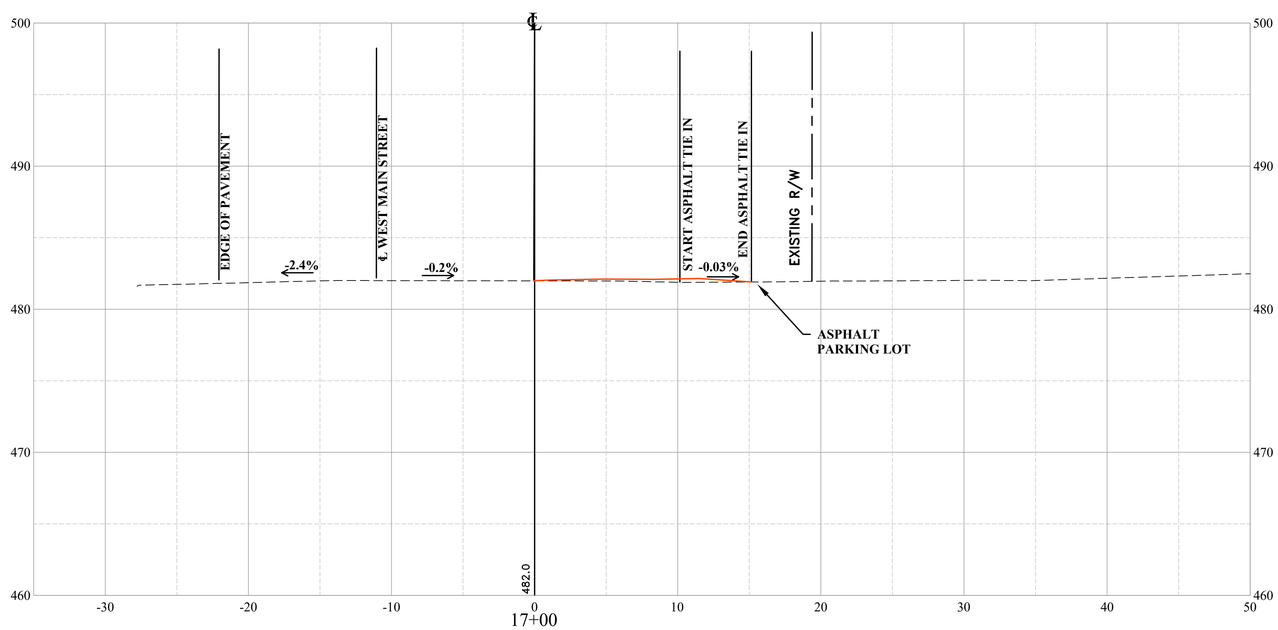
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	35

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

17+00 TO 17+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		35

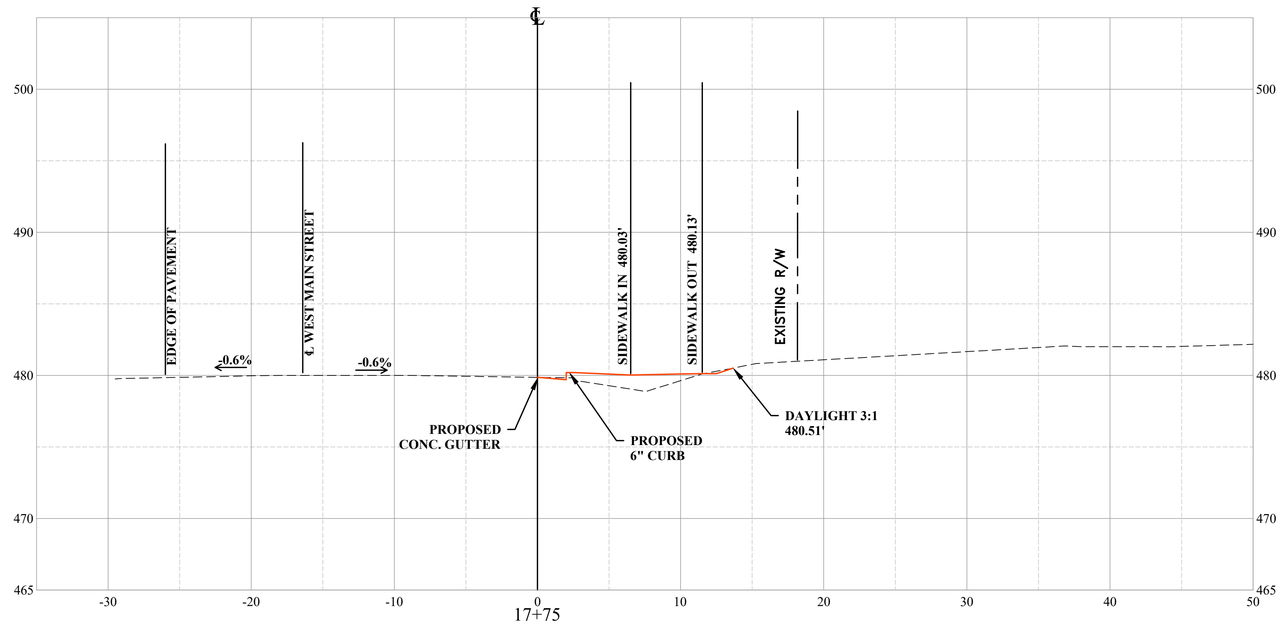
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

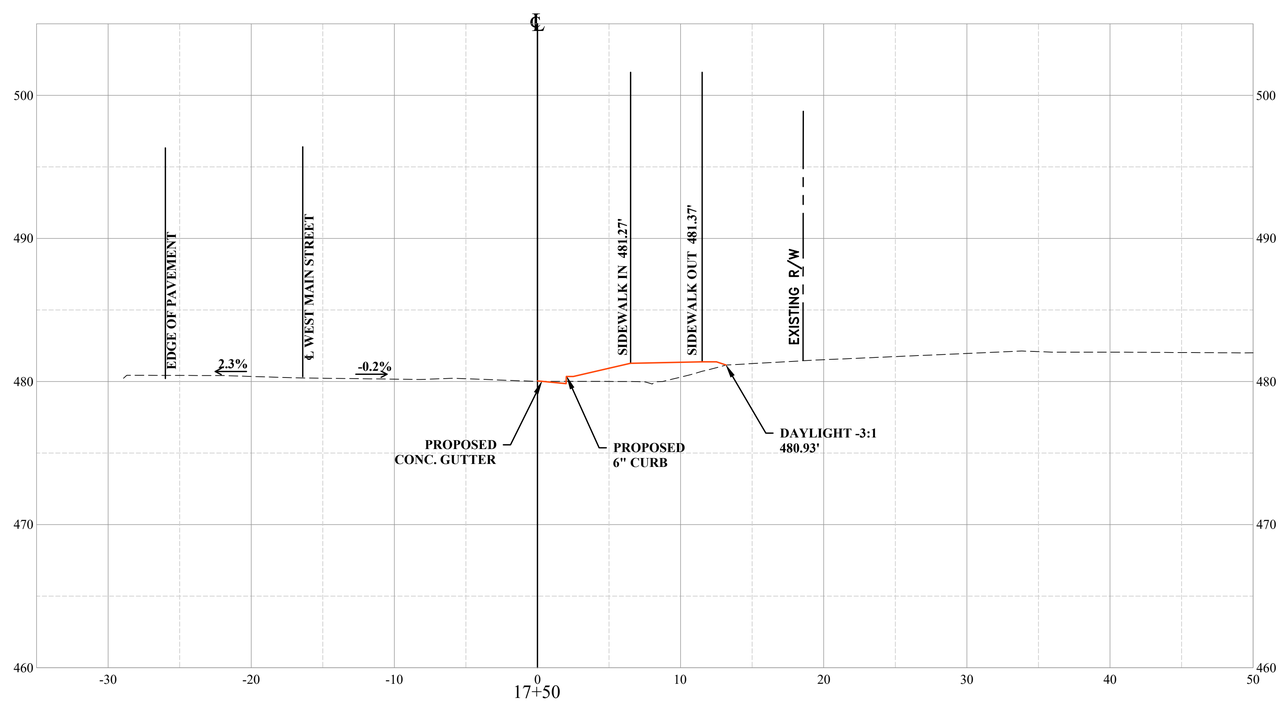
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	36

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

17+50 TO 17+75

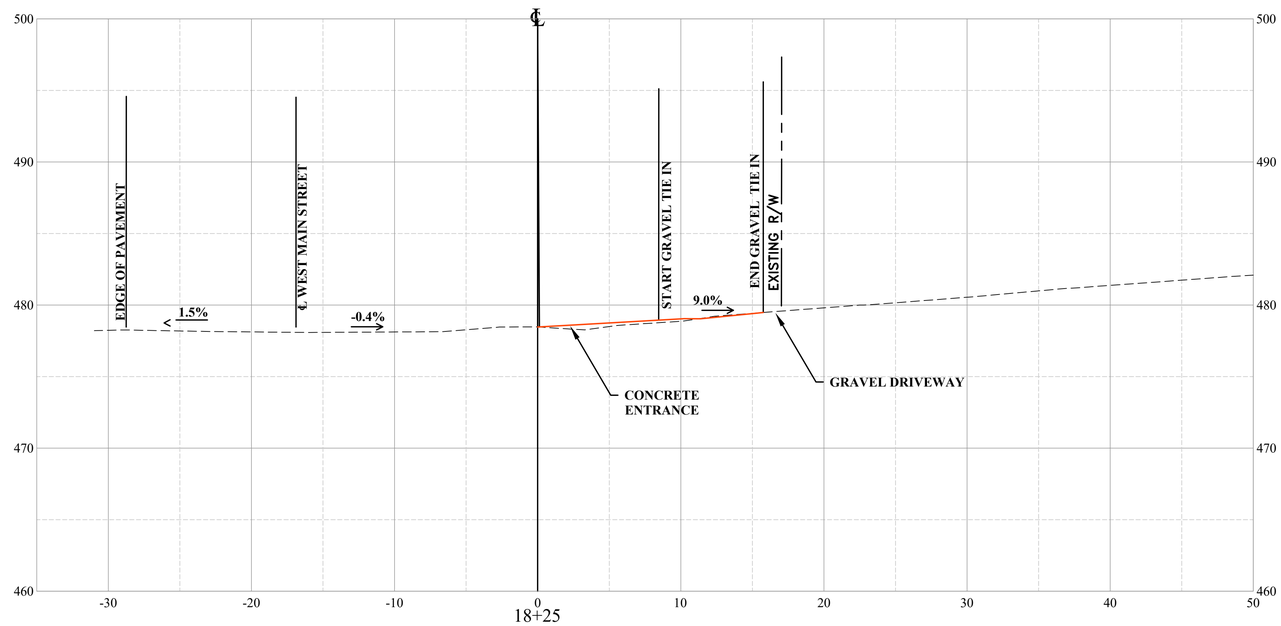
Designed:	Date	Plan No.	Sheet No.
Drawn:			36
Checked:			

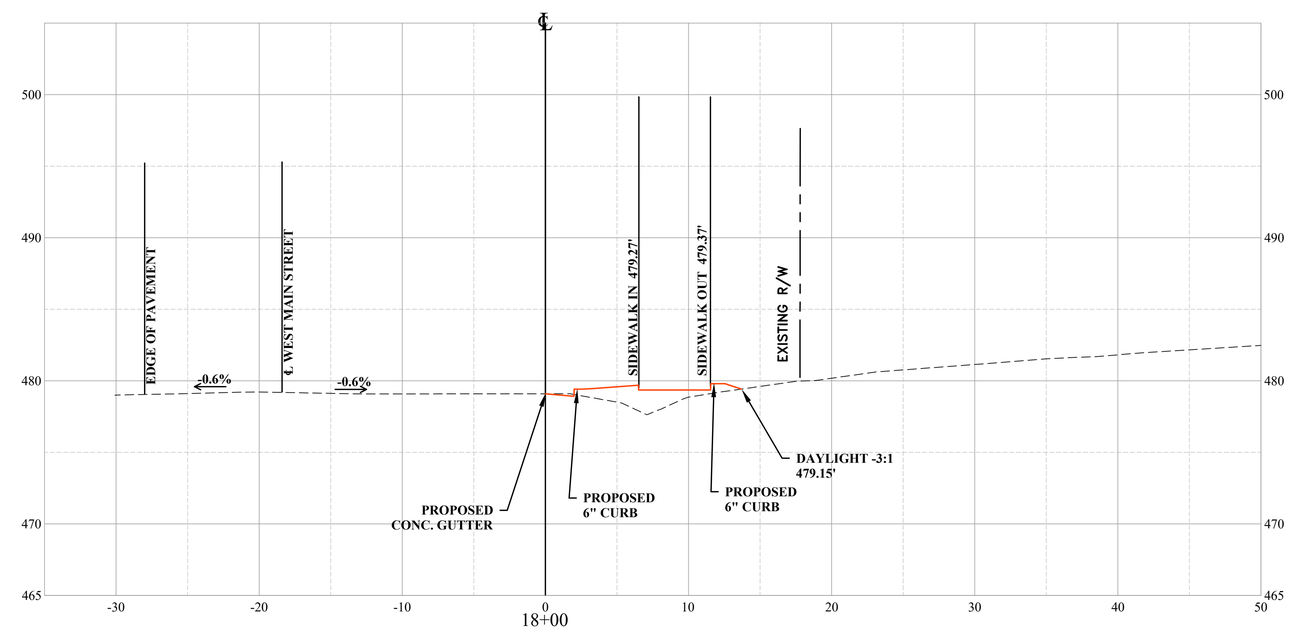
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	37

LEGEND
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
18+00 TO 18+25

Designed: .....
Drawn: .....
Checked: .....

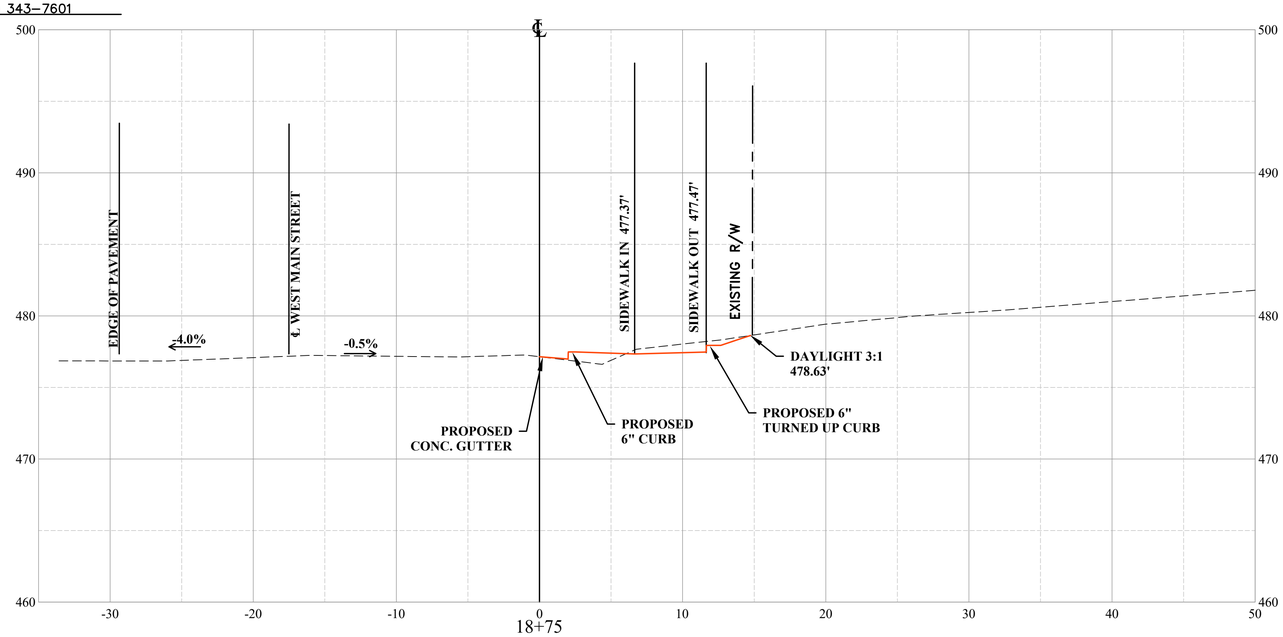
Date	Plan No.	Sheet No.
		37

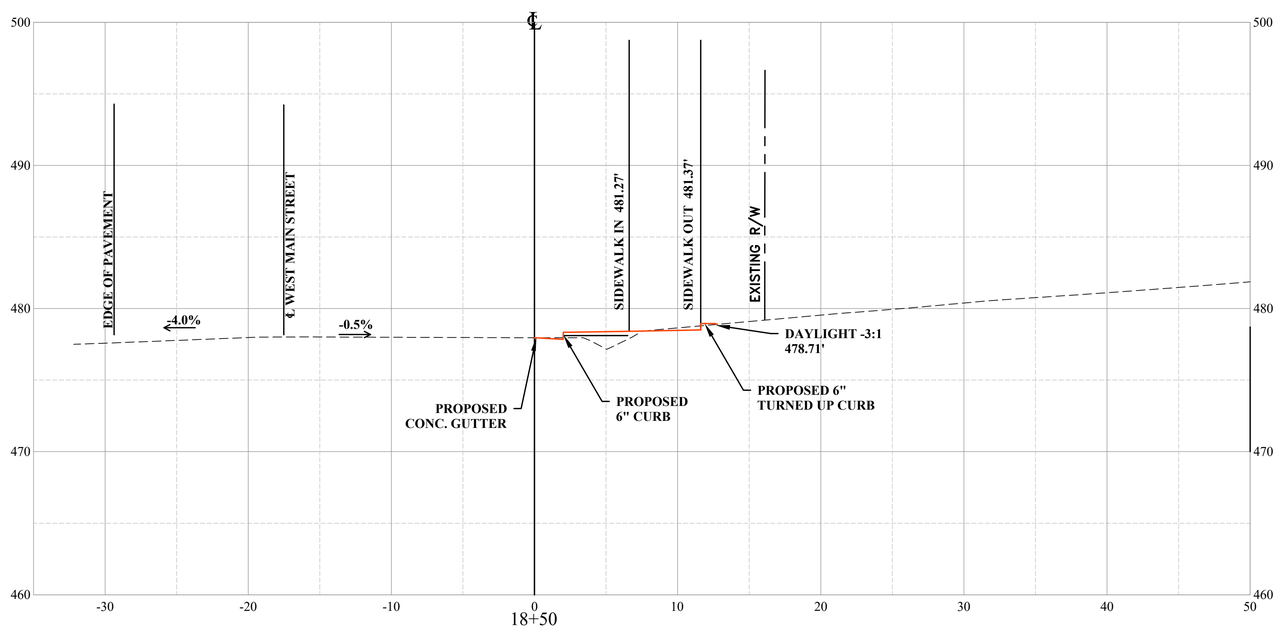
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	38

LEGEND
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
18+50 TO 18+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		38

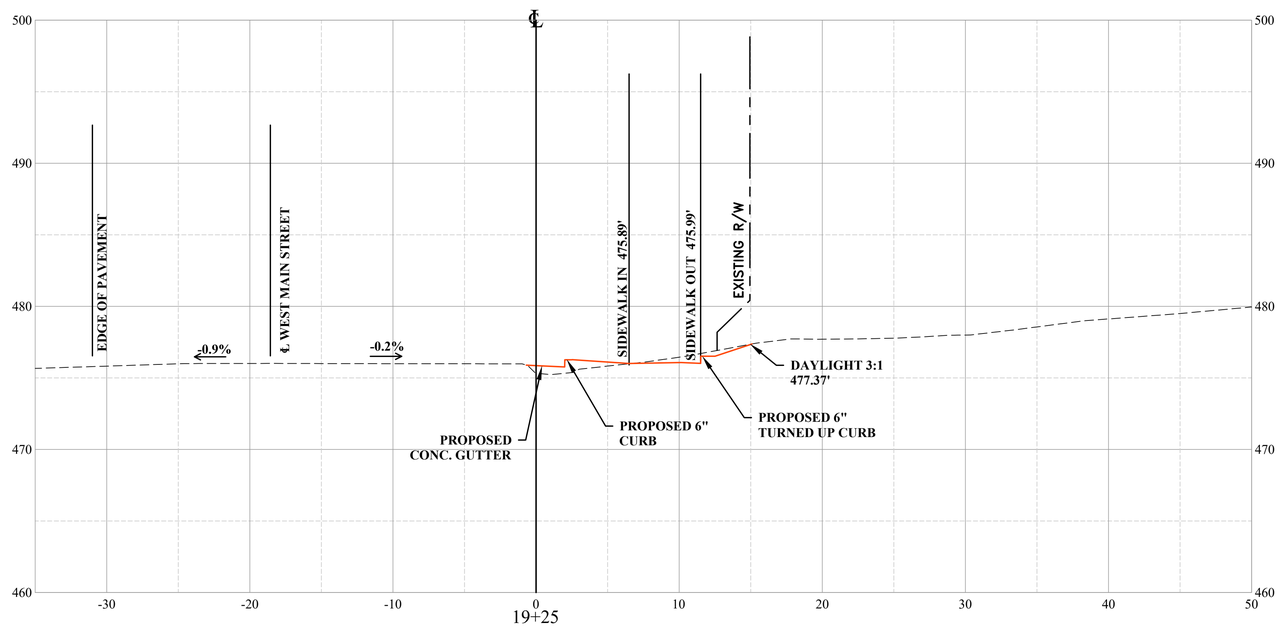
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	39

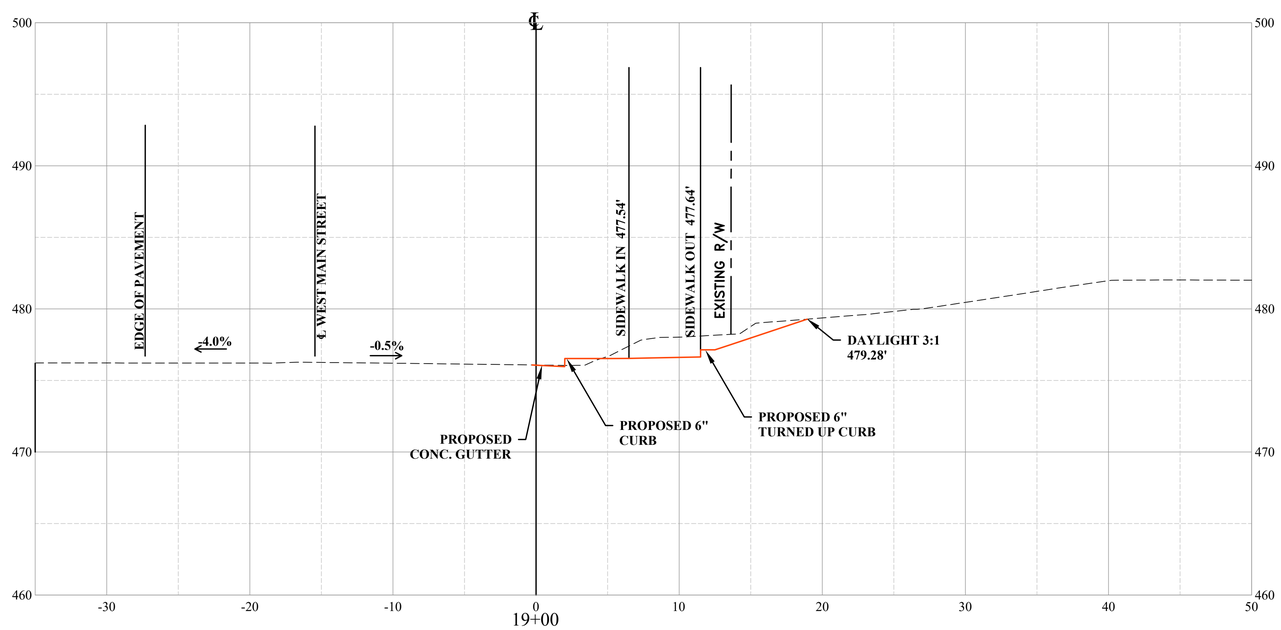
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.



19+25



19+00

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

19+00 TO 19+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		39

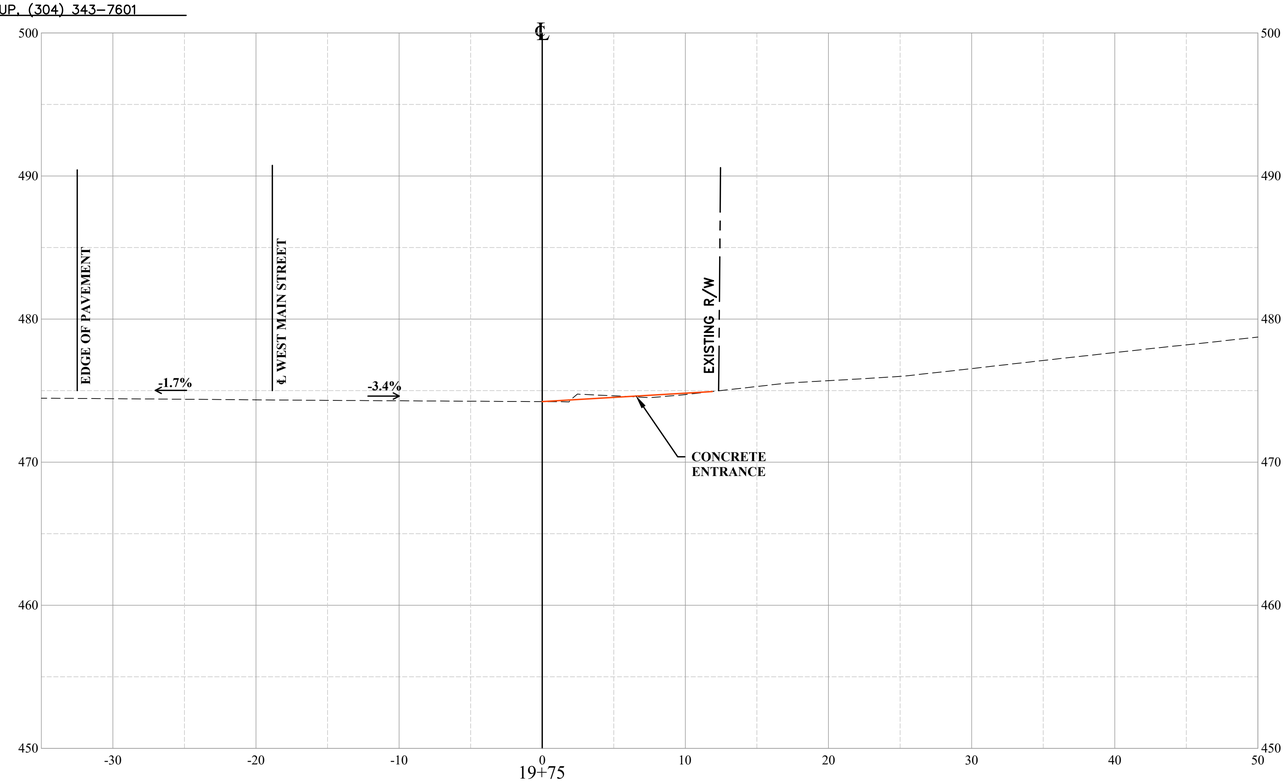
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

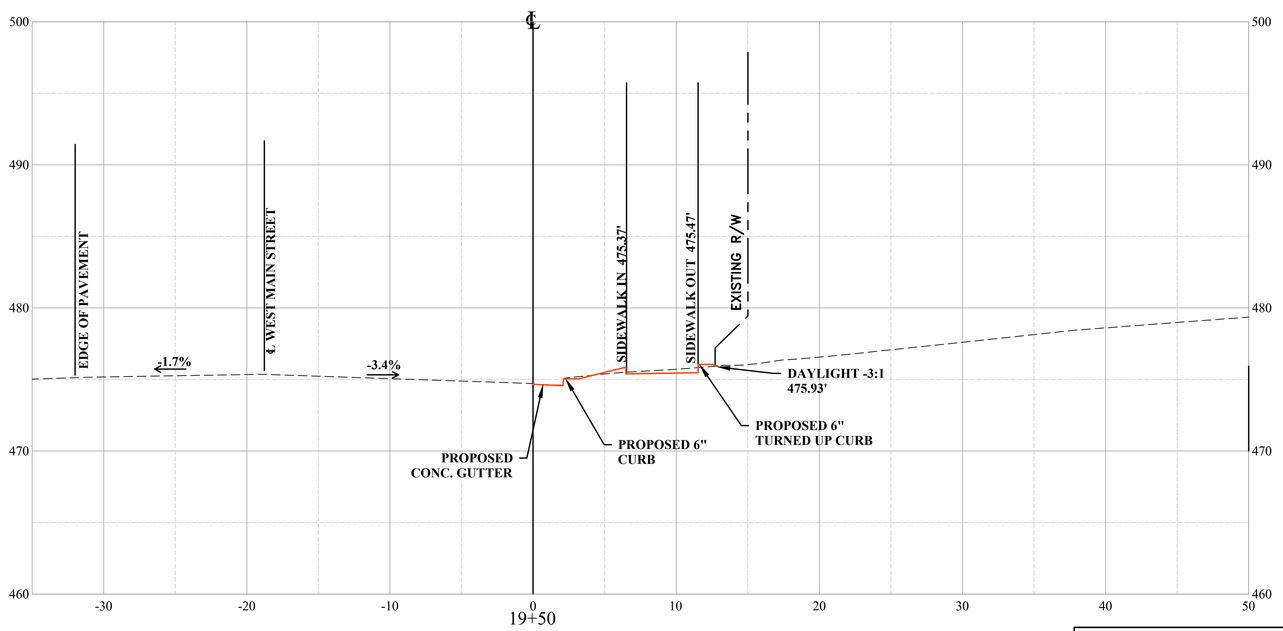
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	40

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

19+50 TO 19+75

Designed: .....
Drawn: .....
Checked: .....

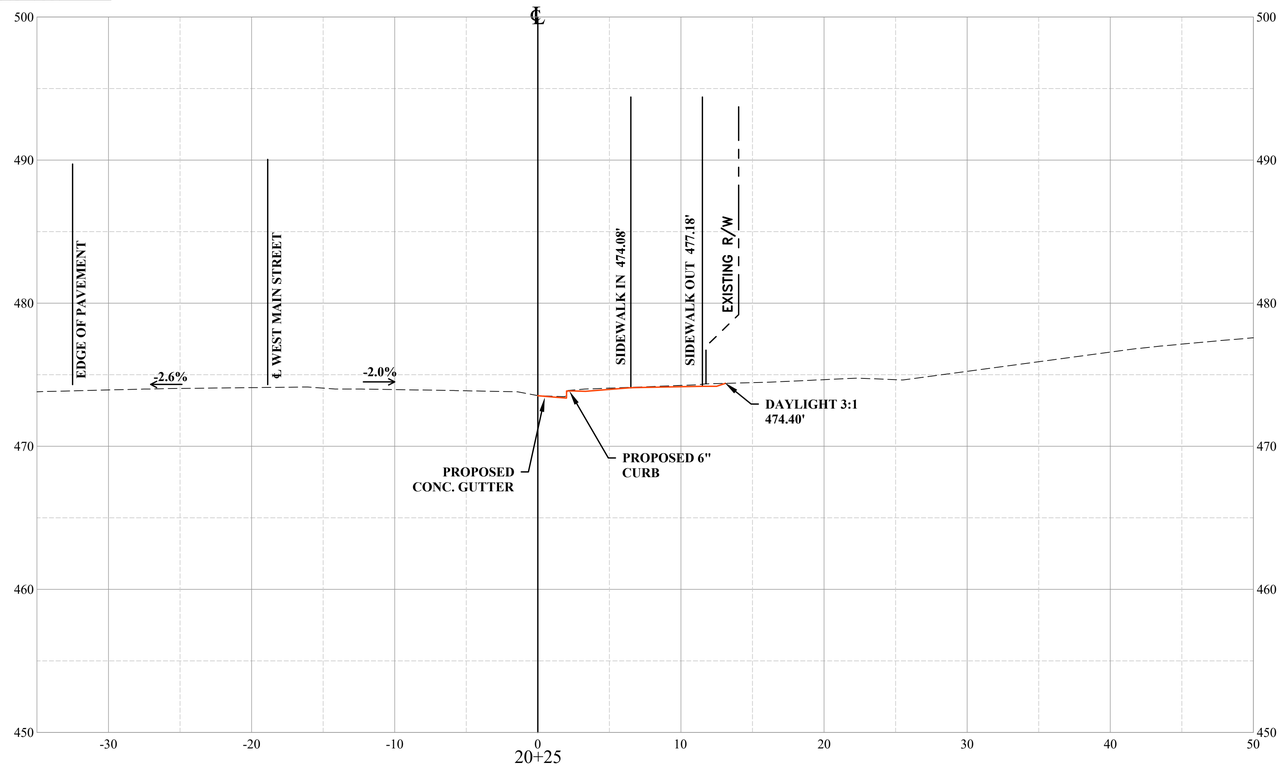
Date	Plan No.	Sheet No.
		40

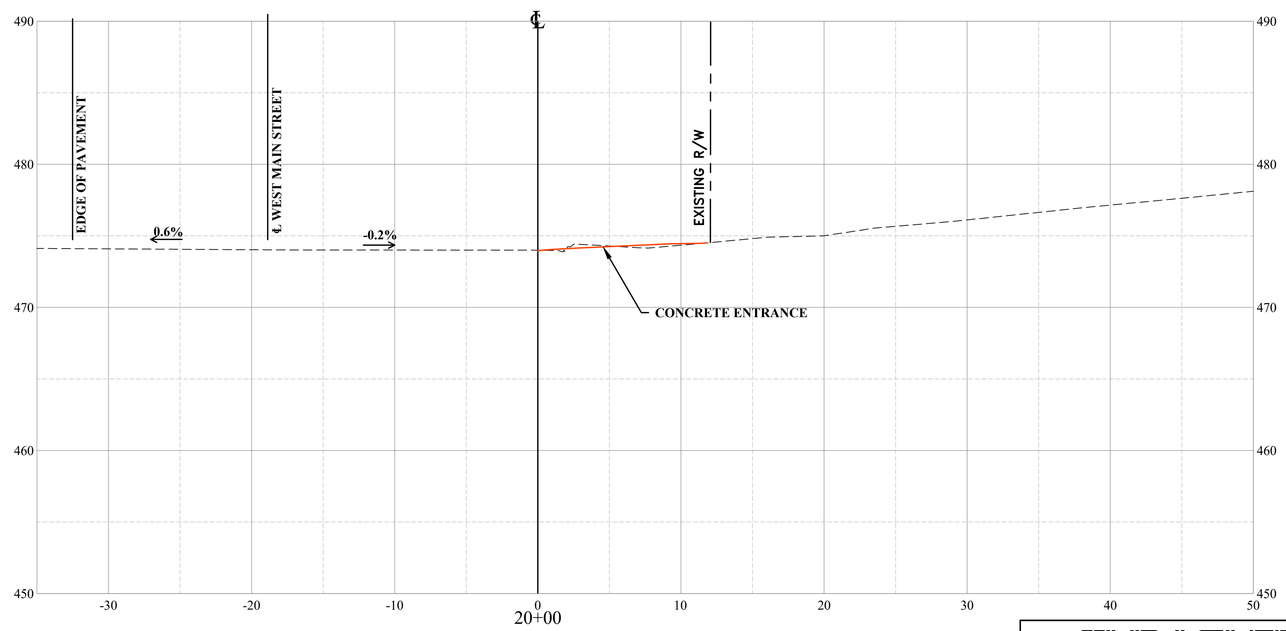
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	41

LEGEND
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
20+00 TO 20+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		41

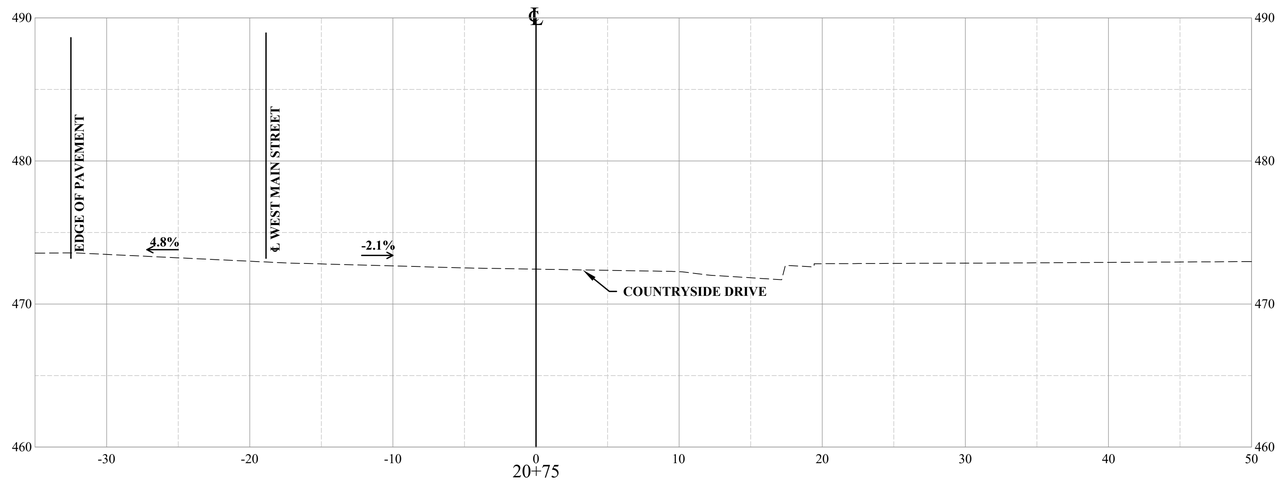
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

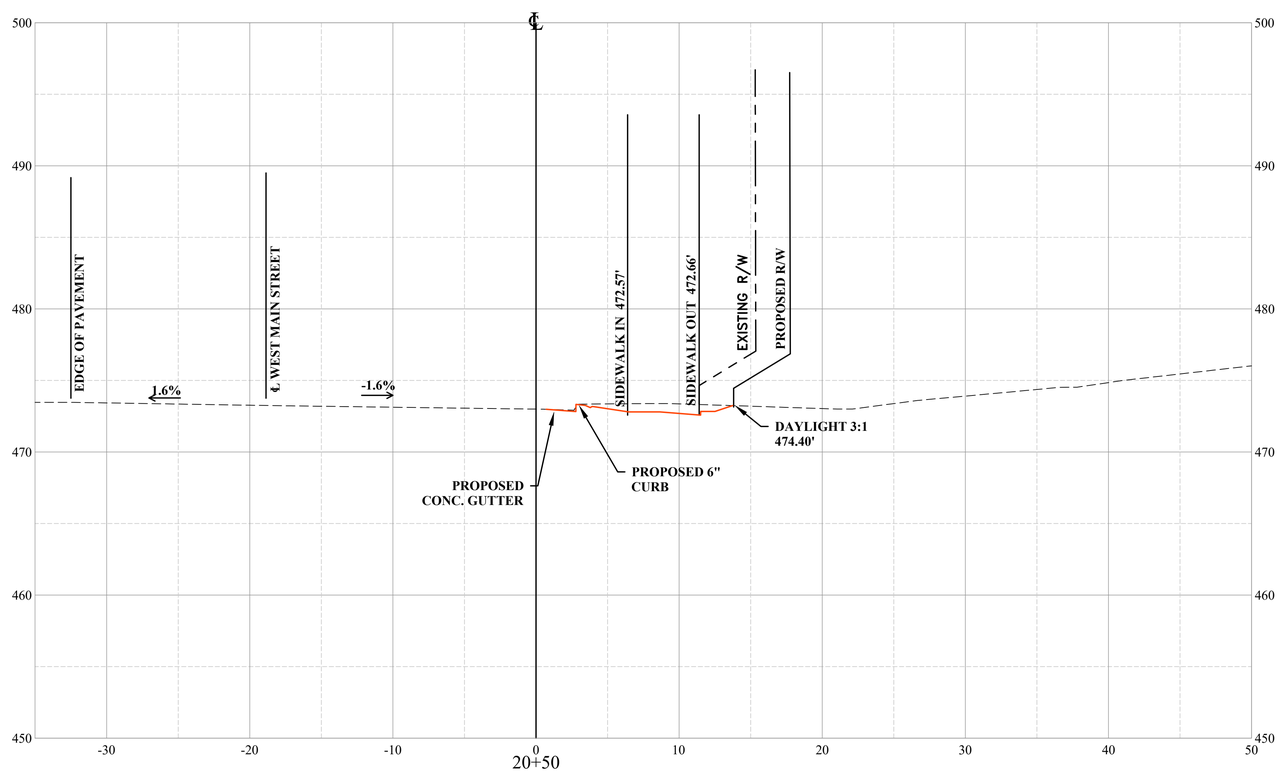
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	42

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

20+50 TO 20+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		42

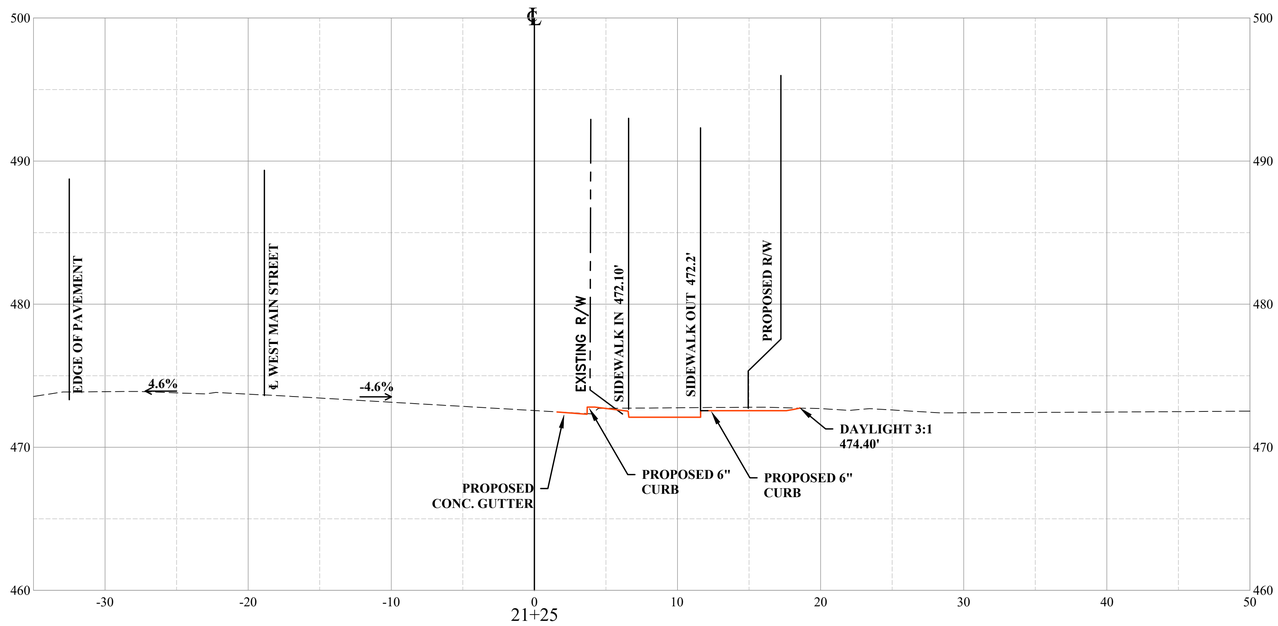
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

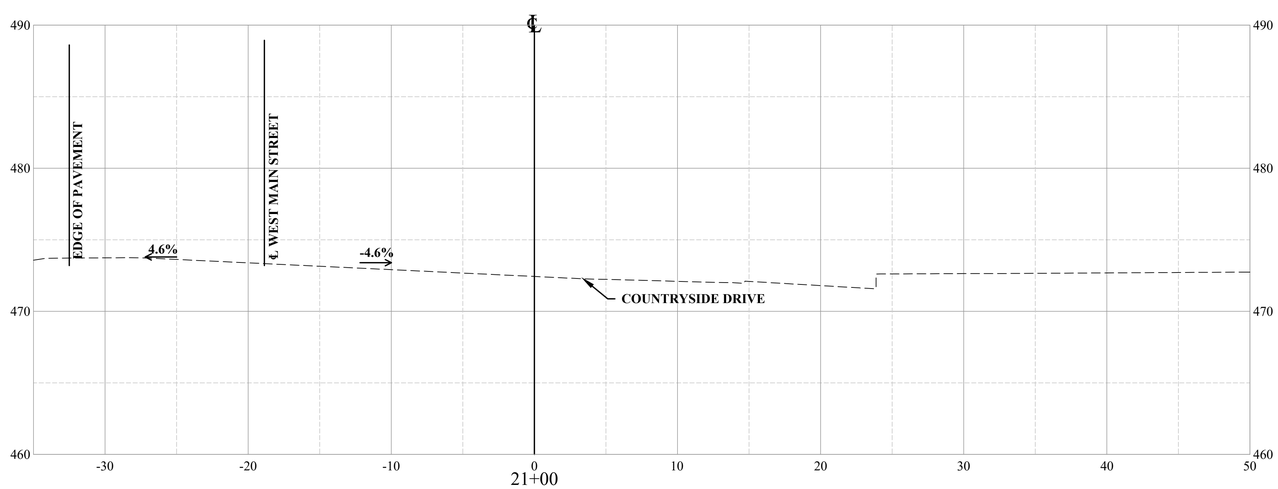
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	43

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
0 50 ft.
HOR.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
21+00 TO 21+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		43

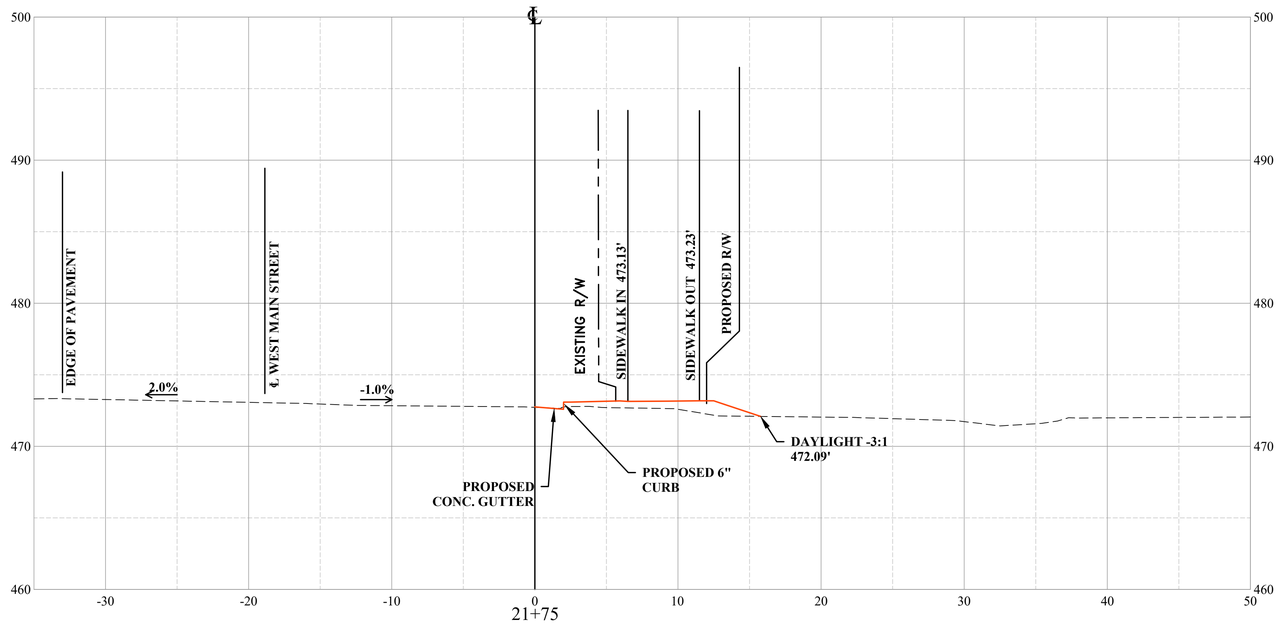
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

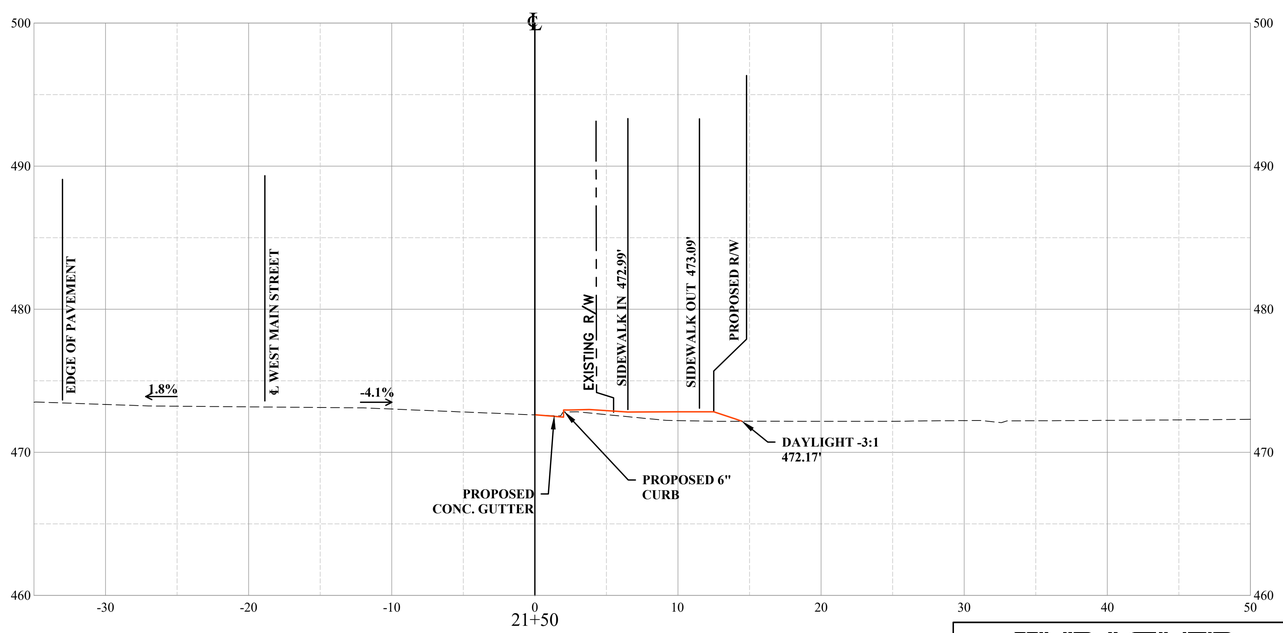
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	44

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
21+50 TO 21+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		44

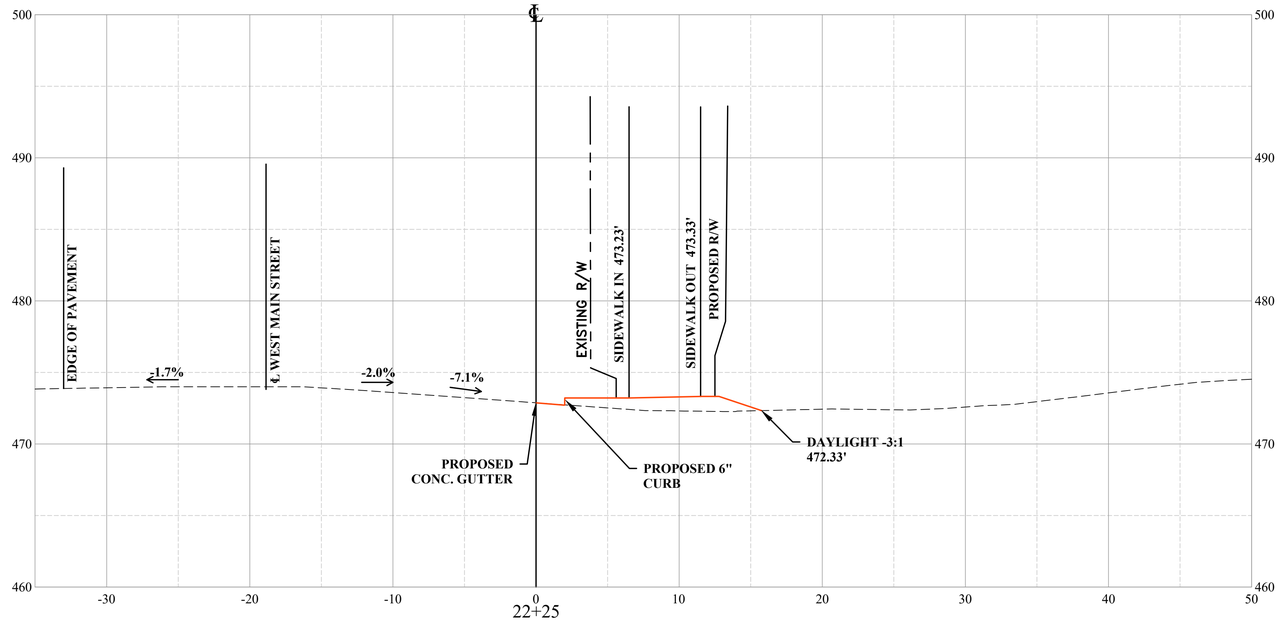
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

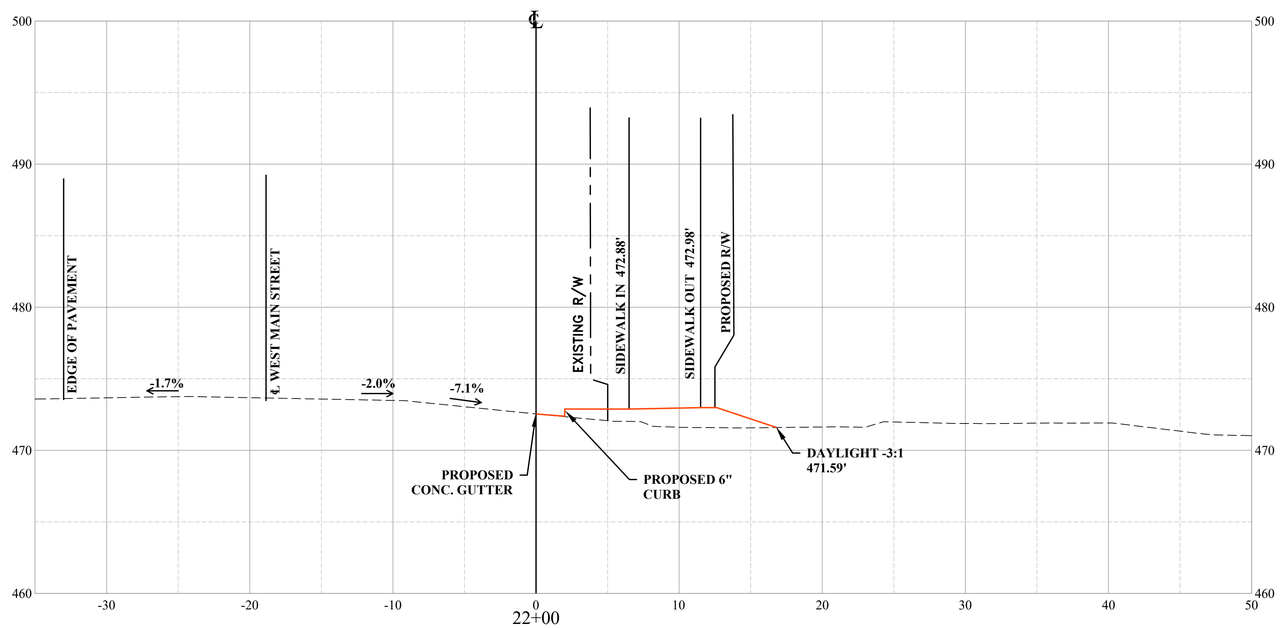
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	45

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

22+00 TO 22+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		45

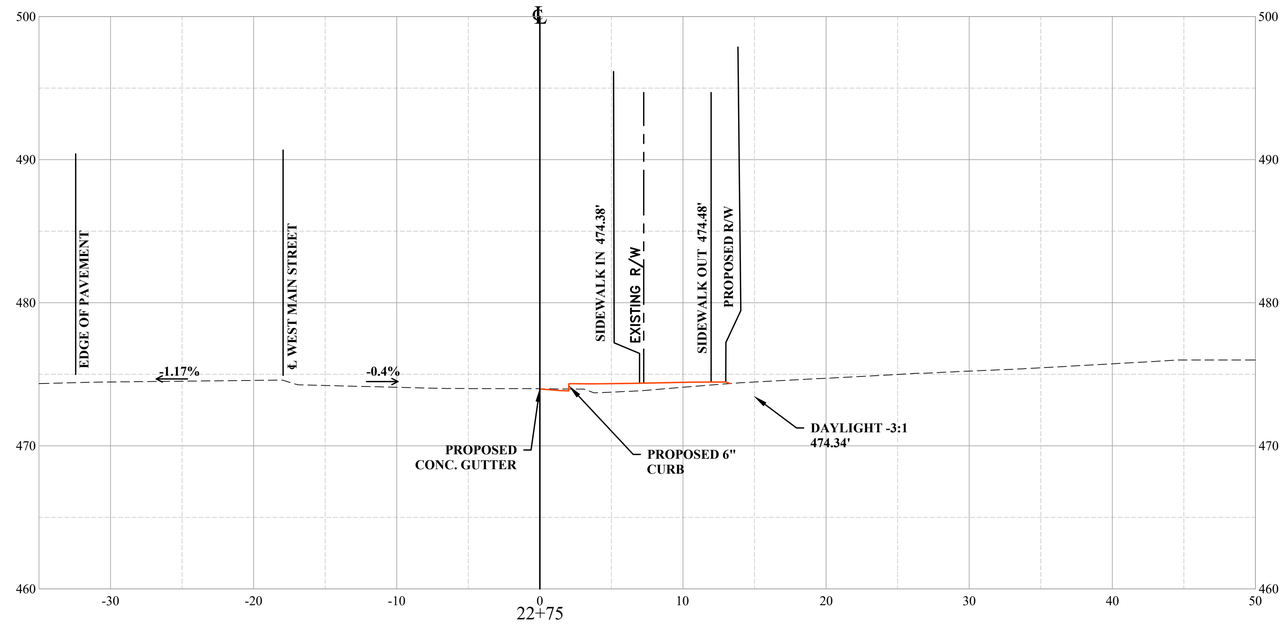
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

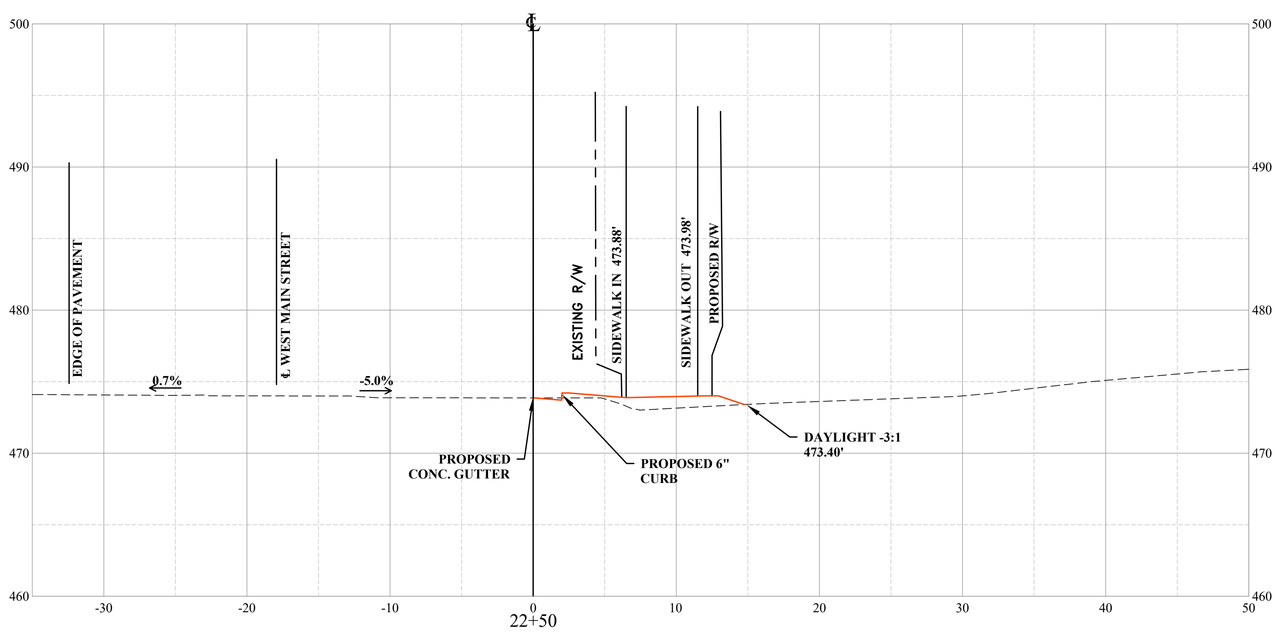
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	46

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
22+50 TO 22+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		46

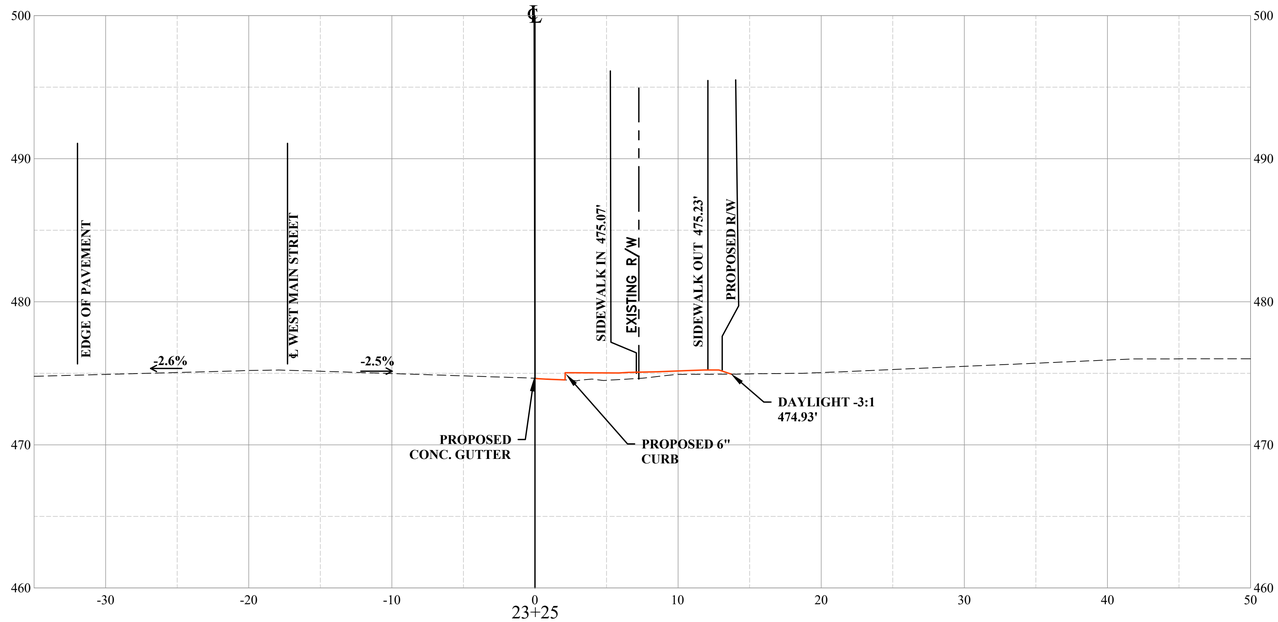
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

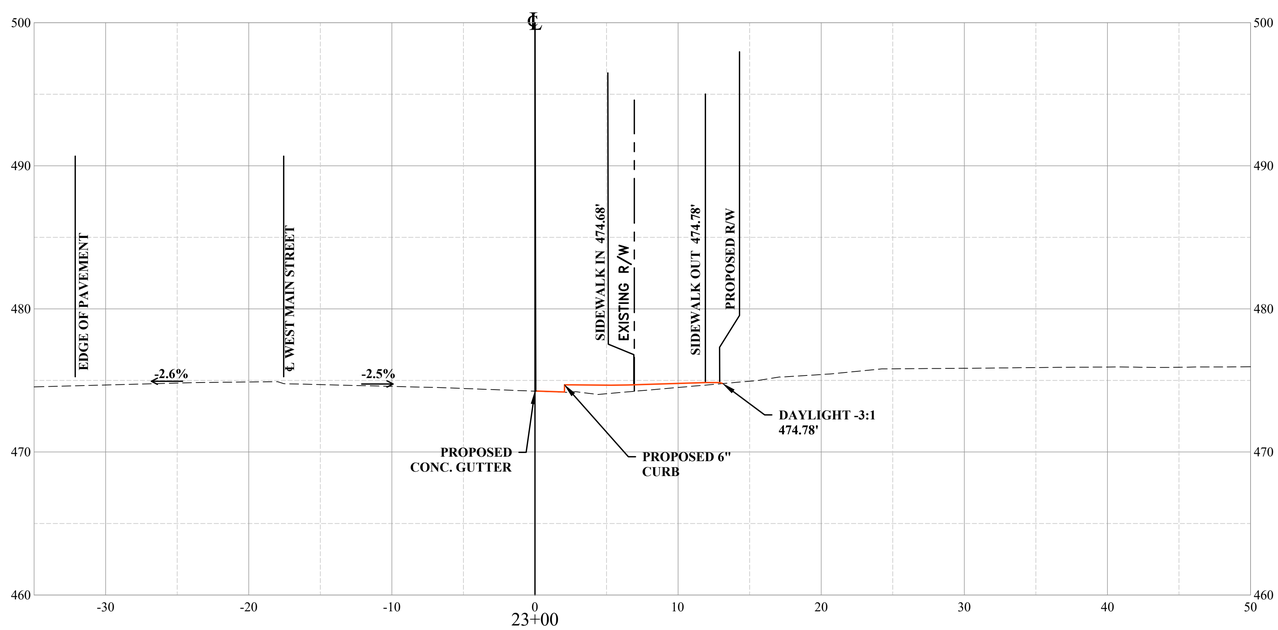
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	47

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
23+00 TO 23+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		47

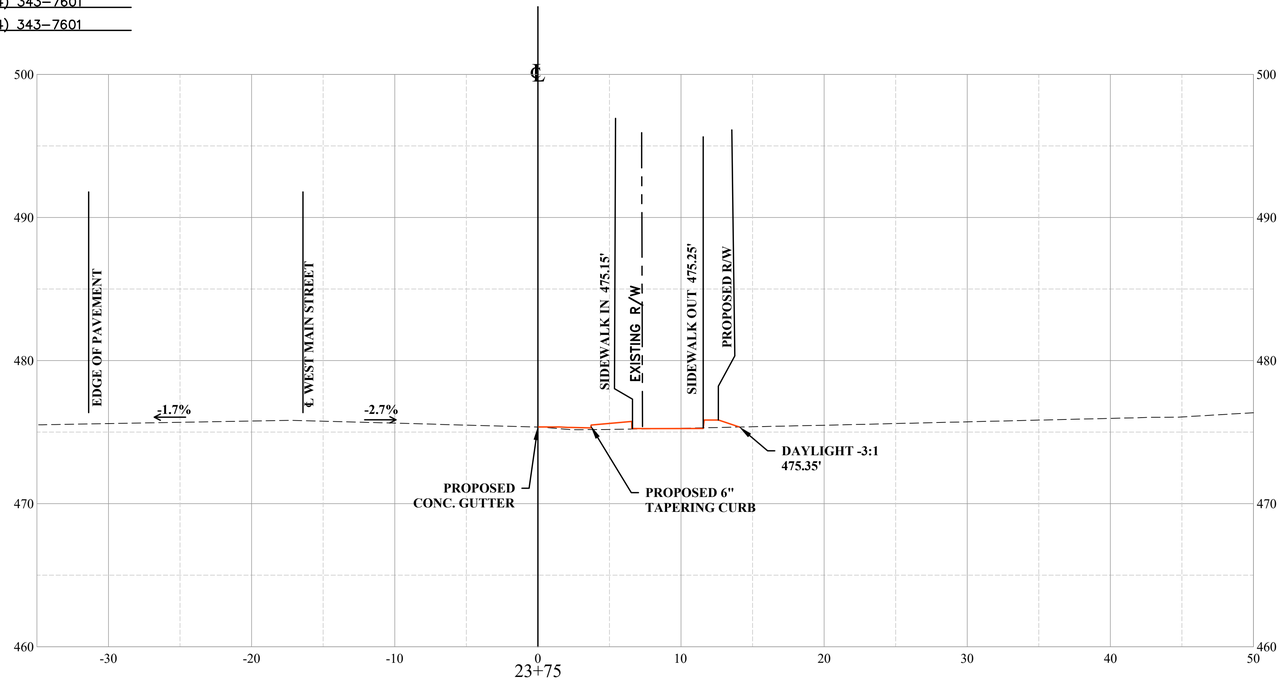
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

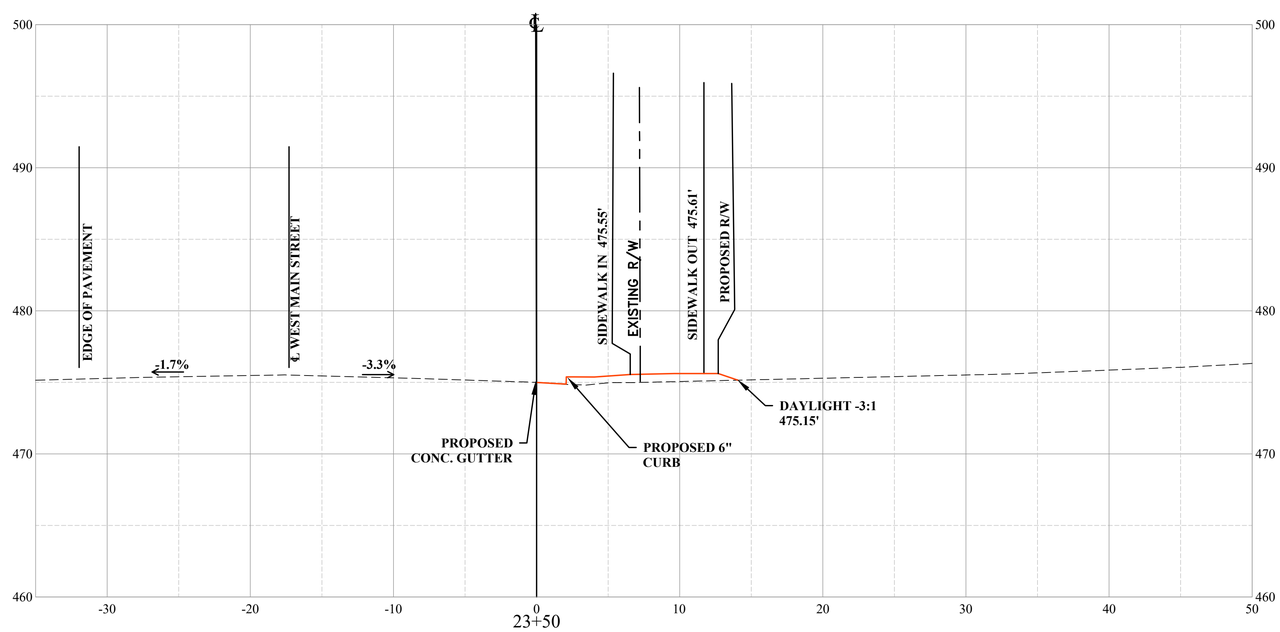
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	48

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

23+50 TO 23+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		48

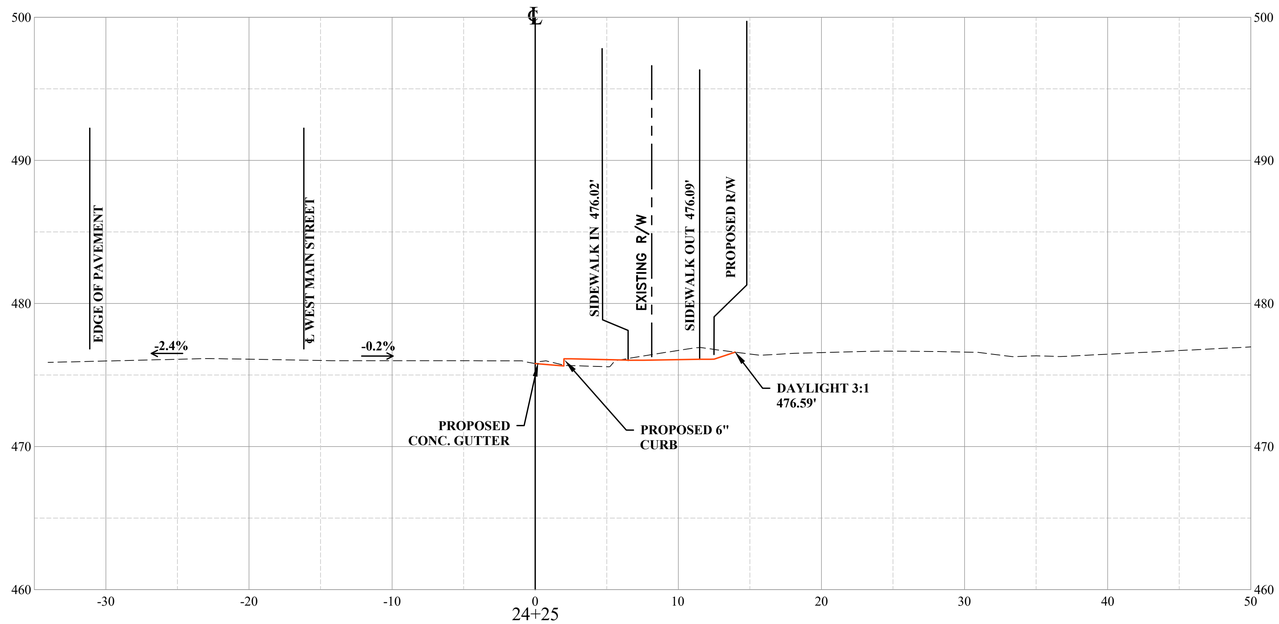
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

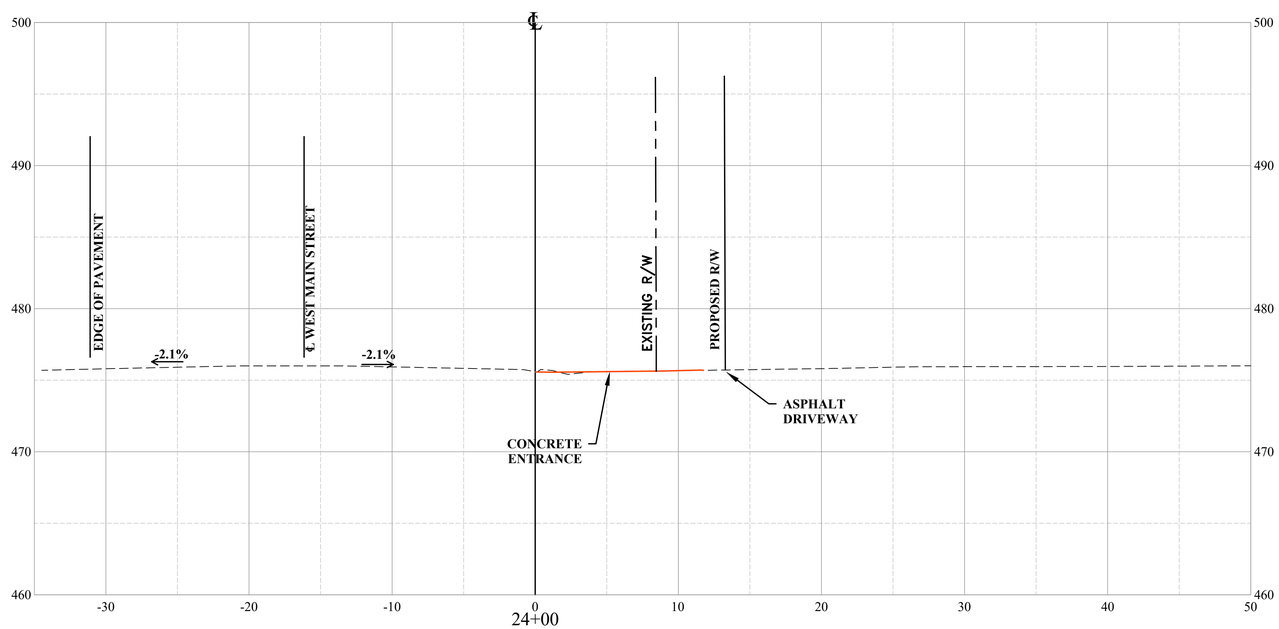
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	49

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

24+00 TO 24+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		49

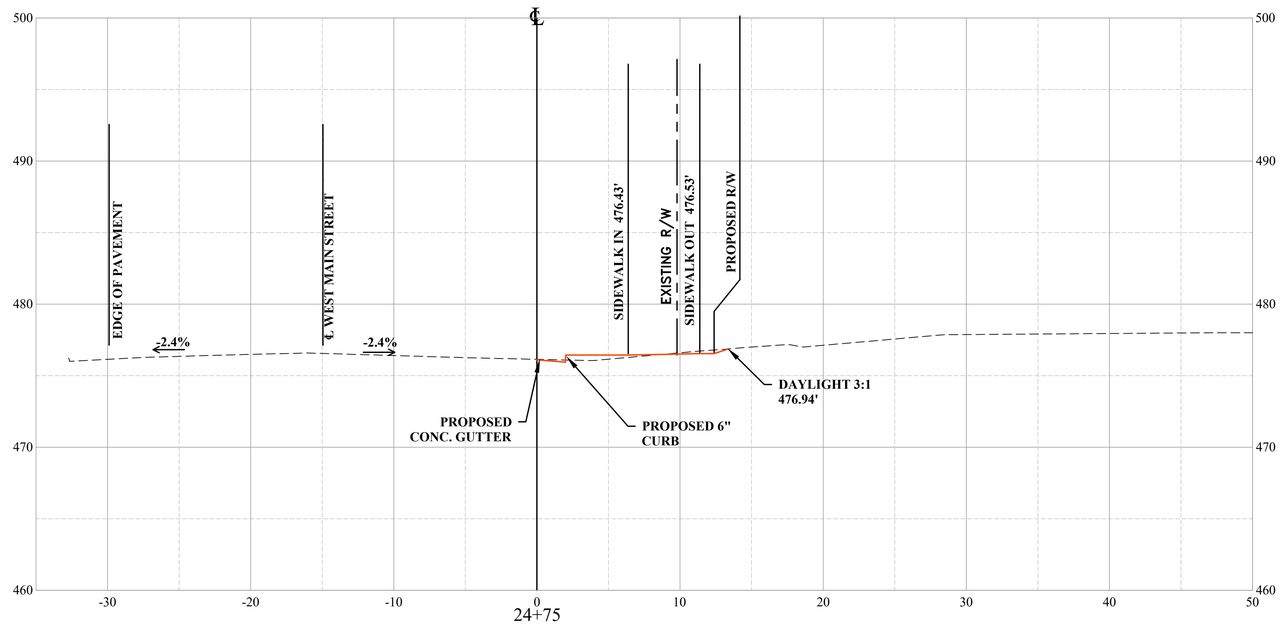
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

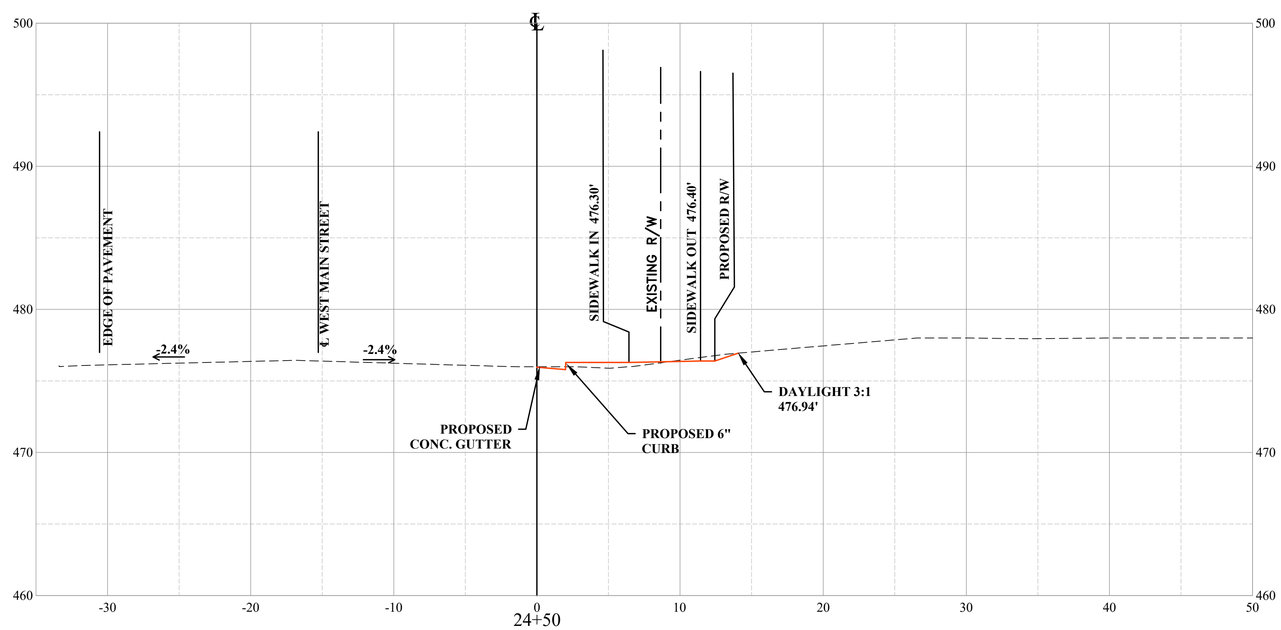
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	50

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

24+50 TO 24+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		50

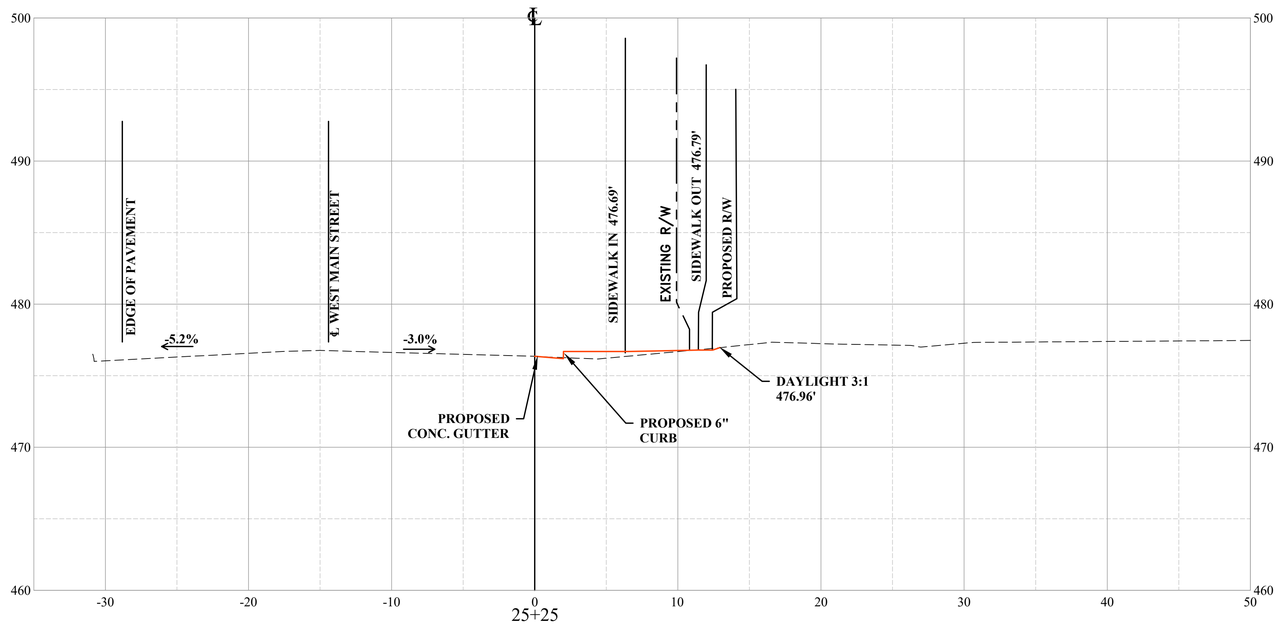
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

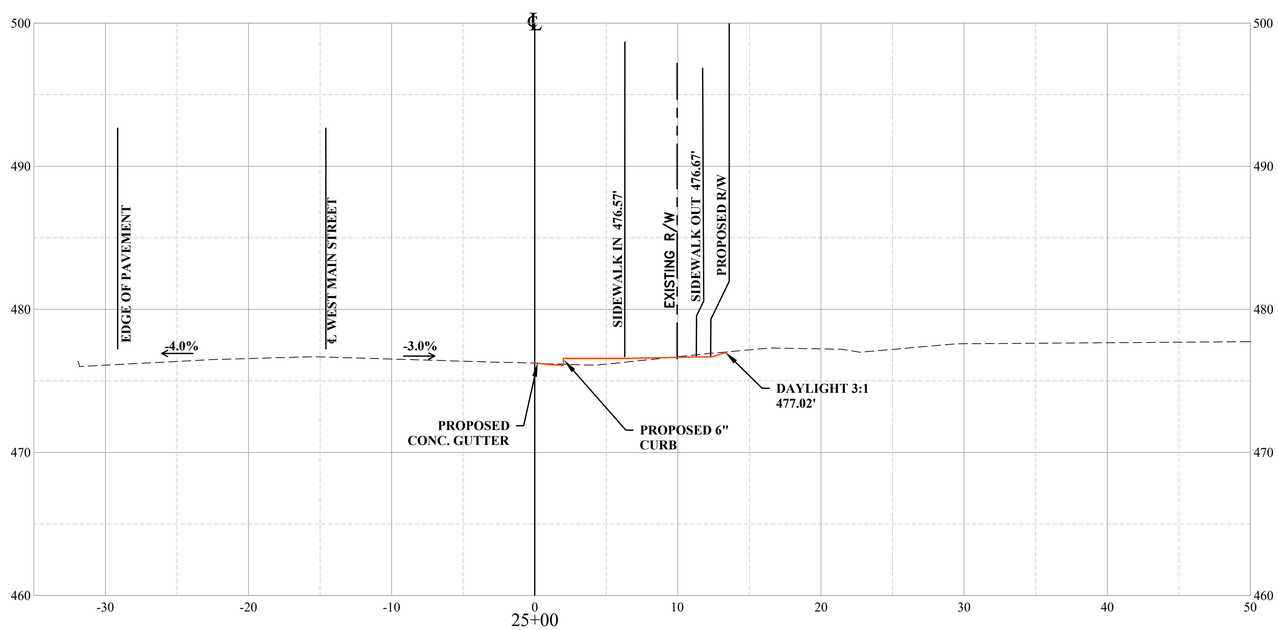
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	51

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
25+00 TO 25+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		51

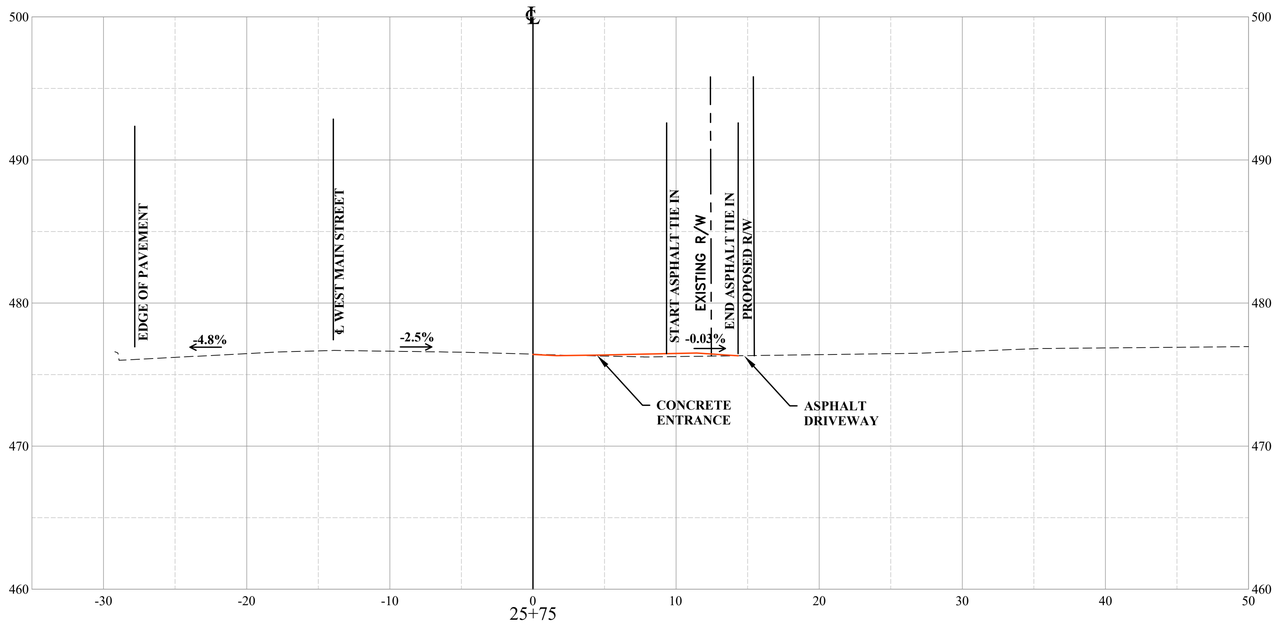
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

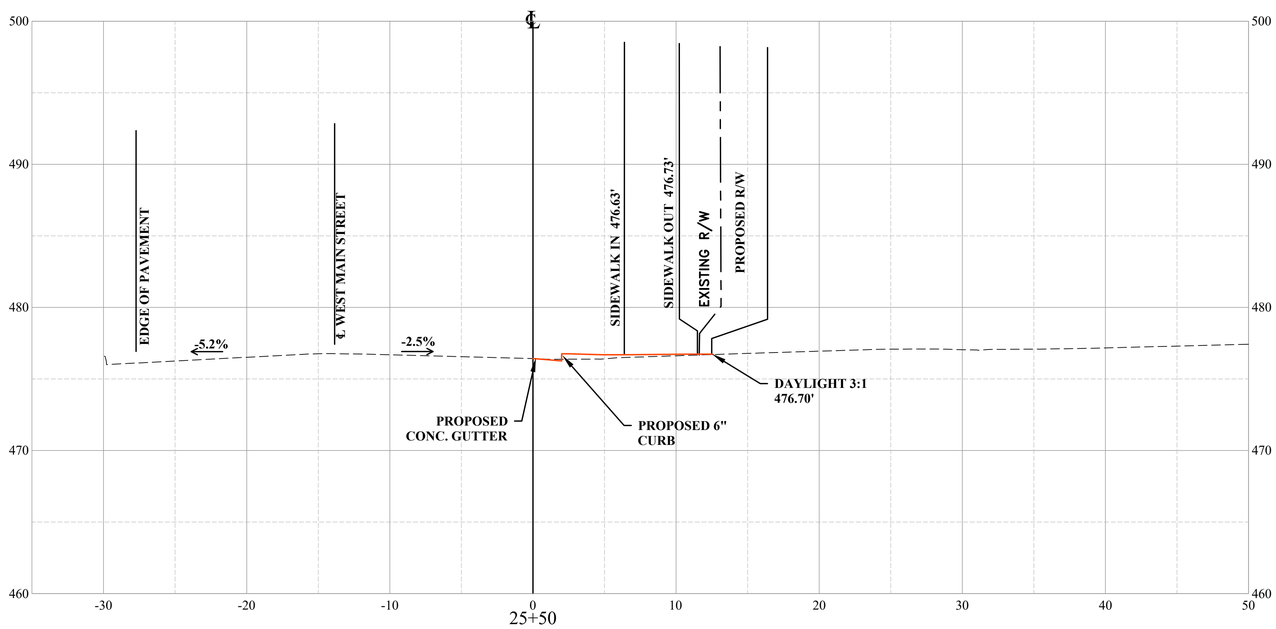
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	52

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

25+50 TO 25+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		52

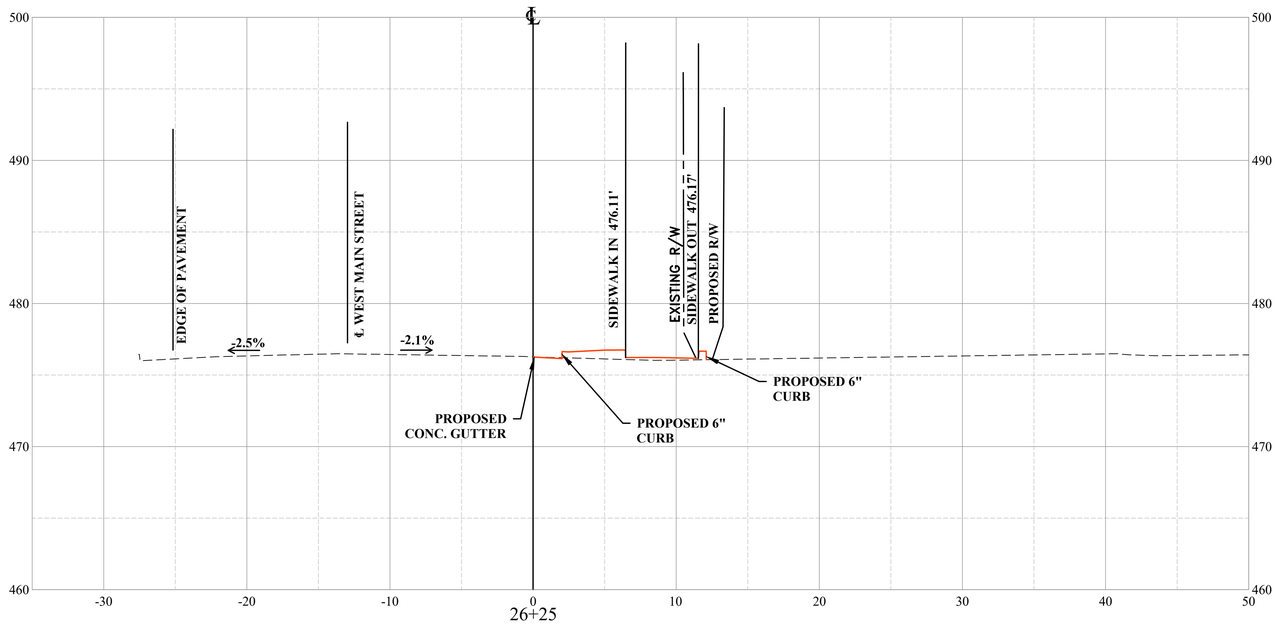
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	53

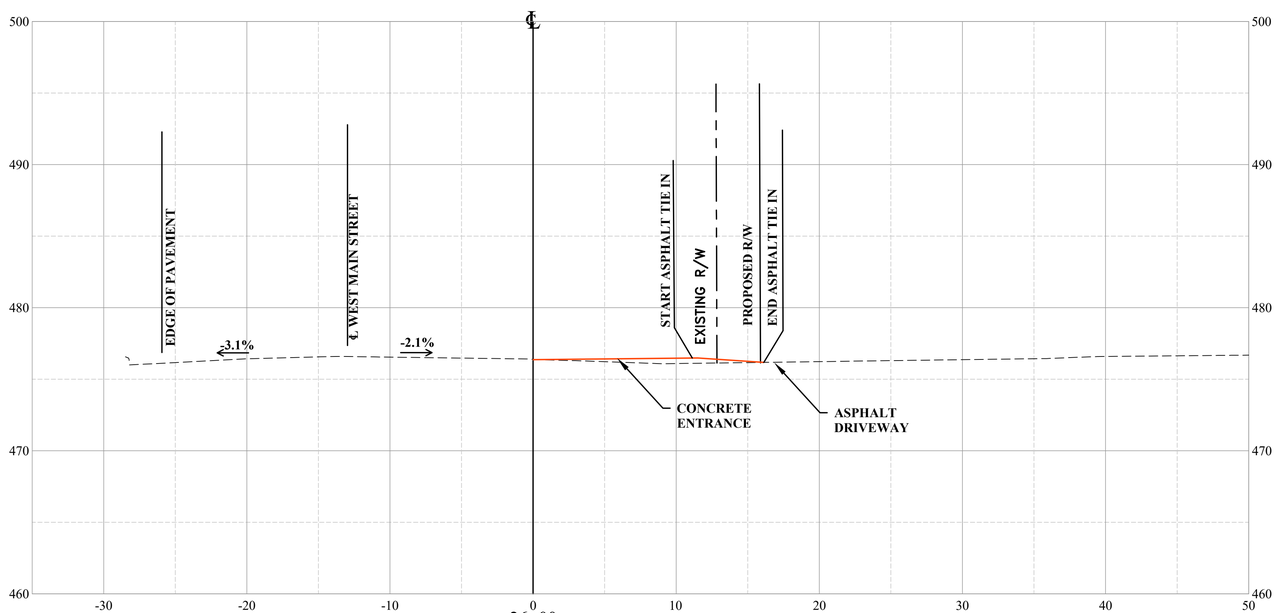
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.



26+25



26+00

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

26+00 TO 26+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		53

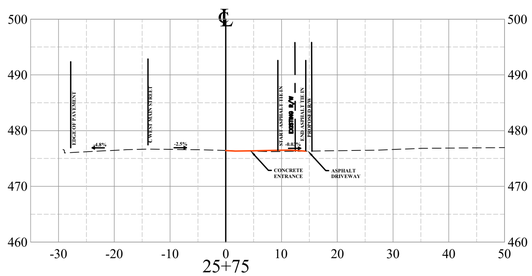
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	54

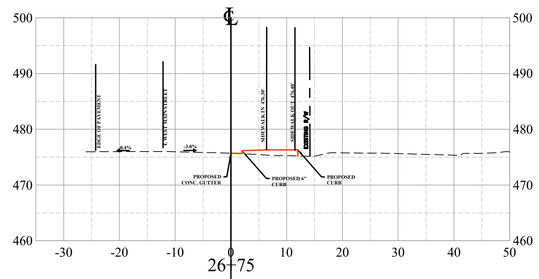
LEGEND

EXISTING GRADE
PROPOSED GRADE

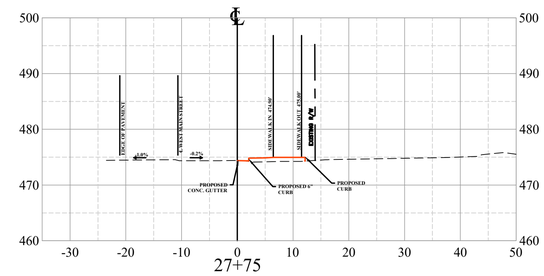
20 ft.
VERT. 0
HOR. 0 20 ft.



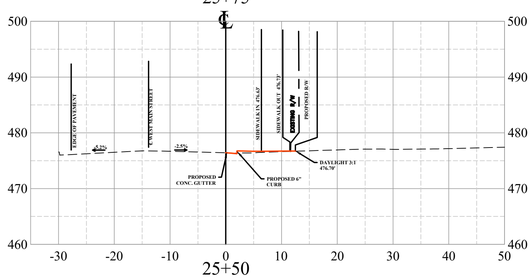
25+75



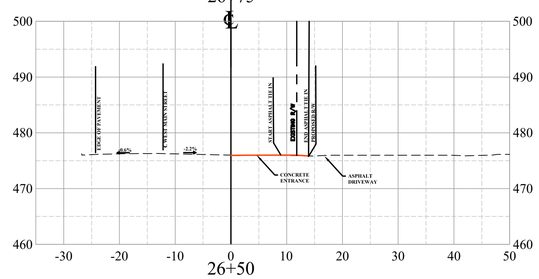
26+75



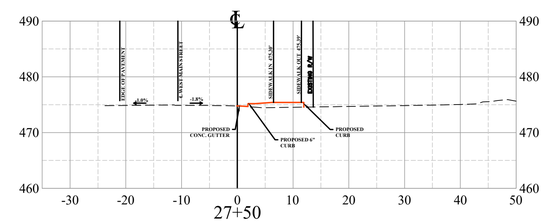
27+75



25+50



26+50



27+50

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

26+50 TO 26+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		54

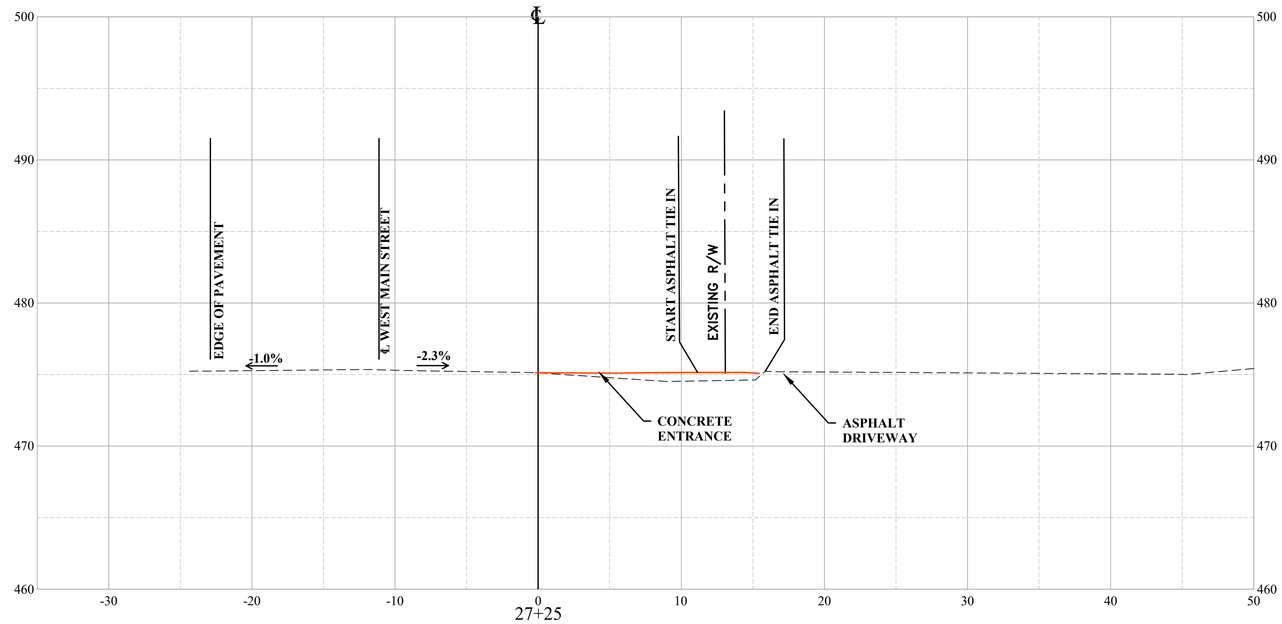
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

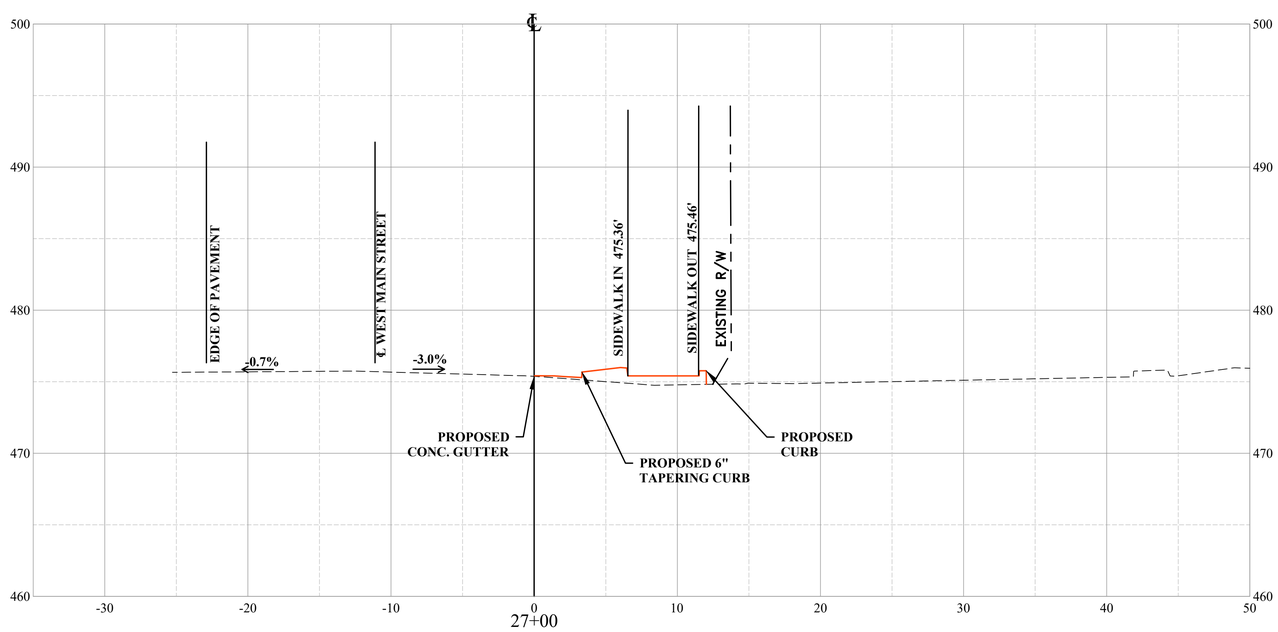
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	55

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
0 50 ft.
HOR.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

27+00 TO 27+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		55

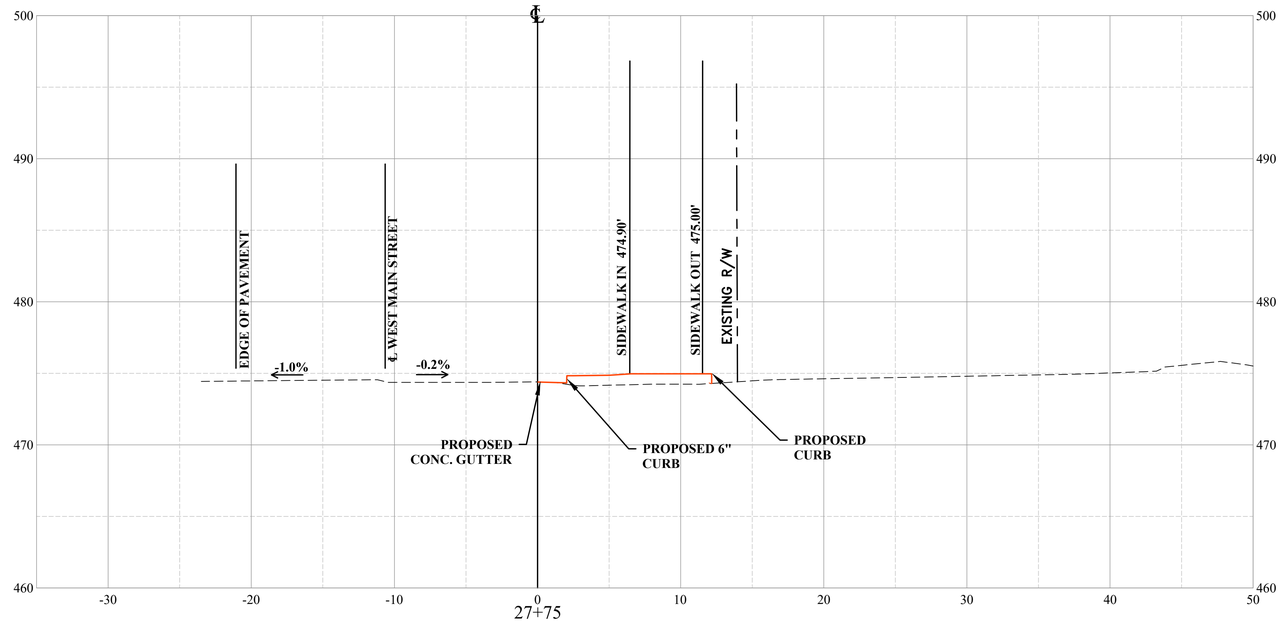
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

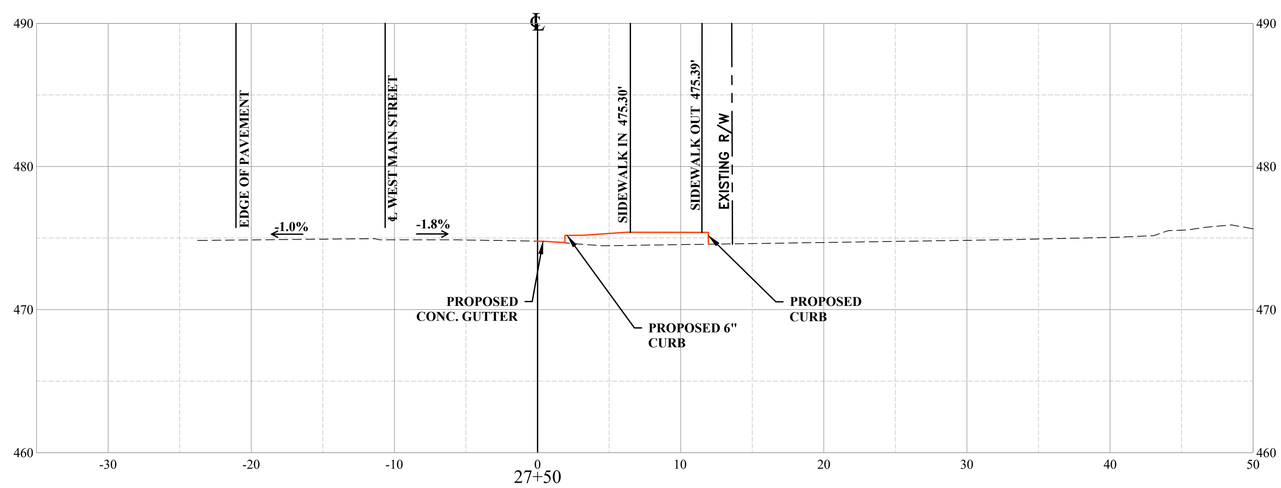
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	56

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

27+50 TO 27+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		56

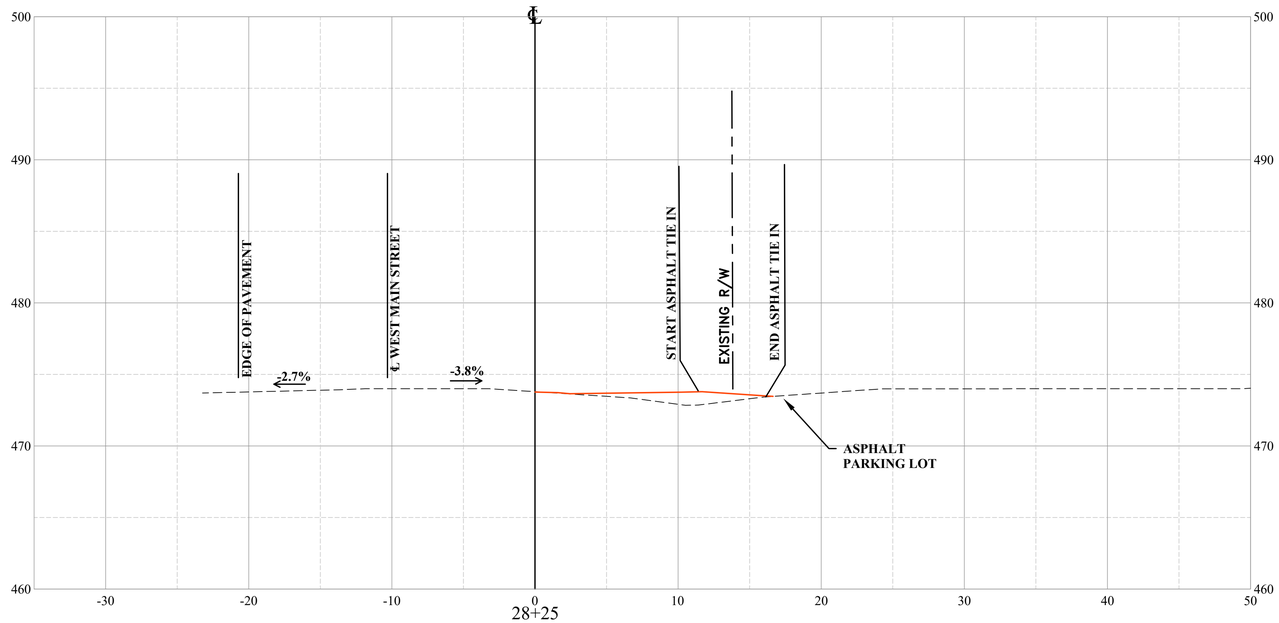
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

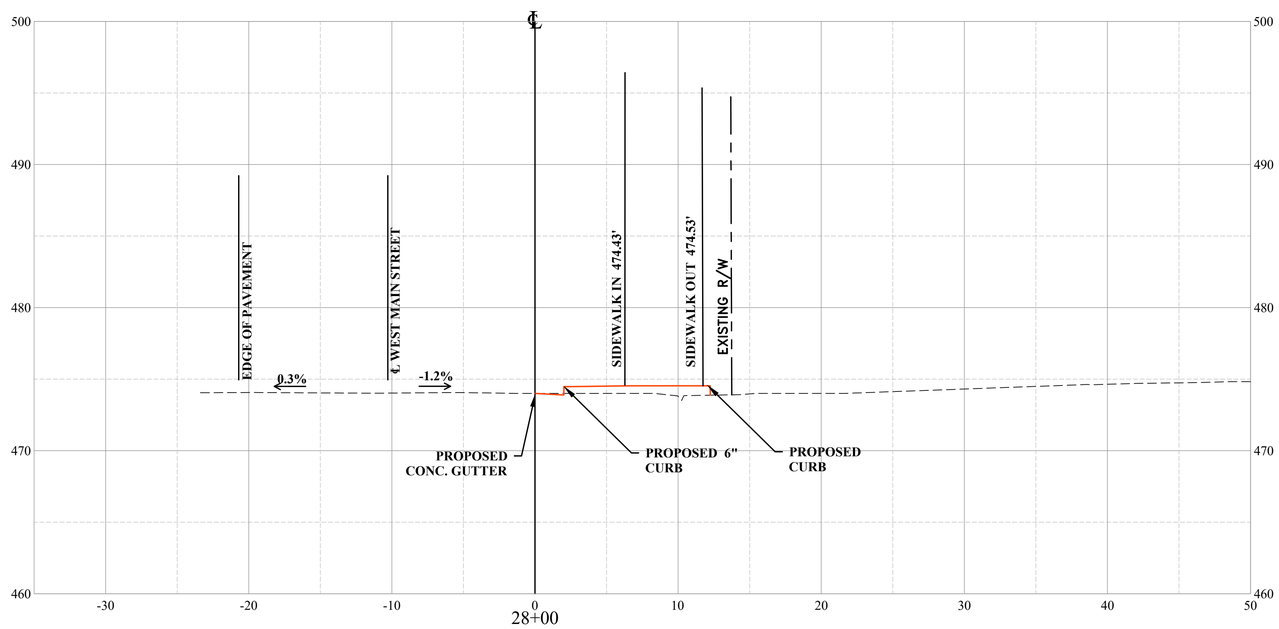
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	57

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

28+00 TO 28+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		57

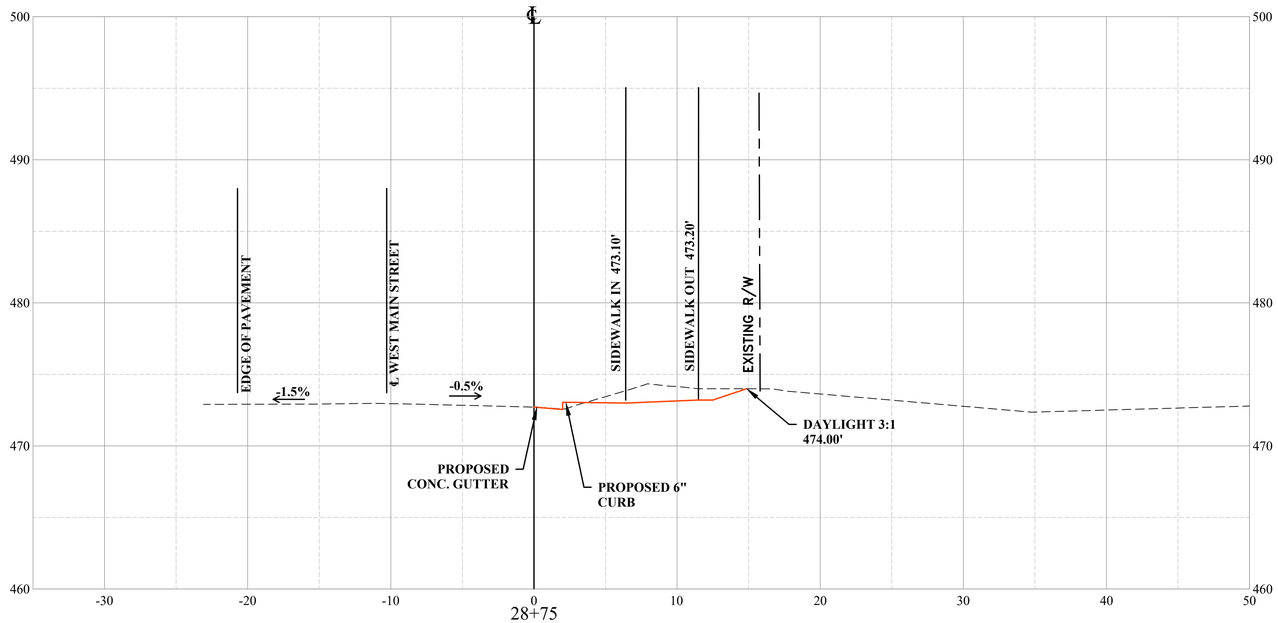
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

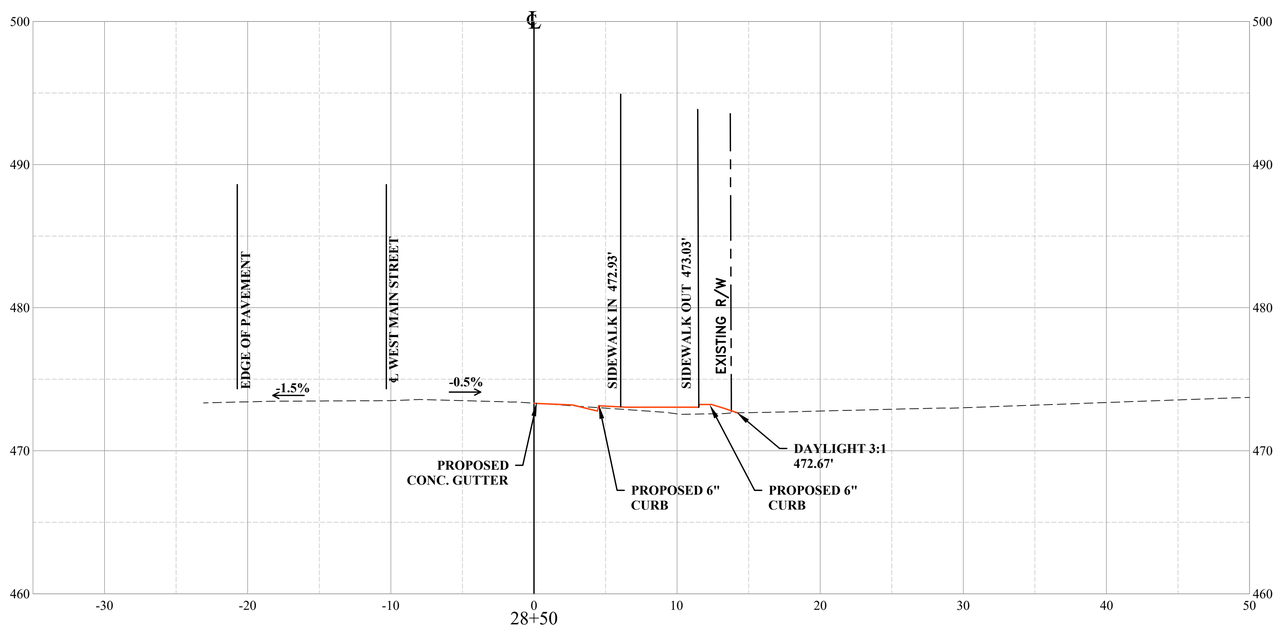
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	58

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

28+50 TO 28+75

Designed: .....
Drawn: .....
Checked: .....

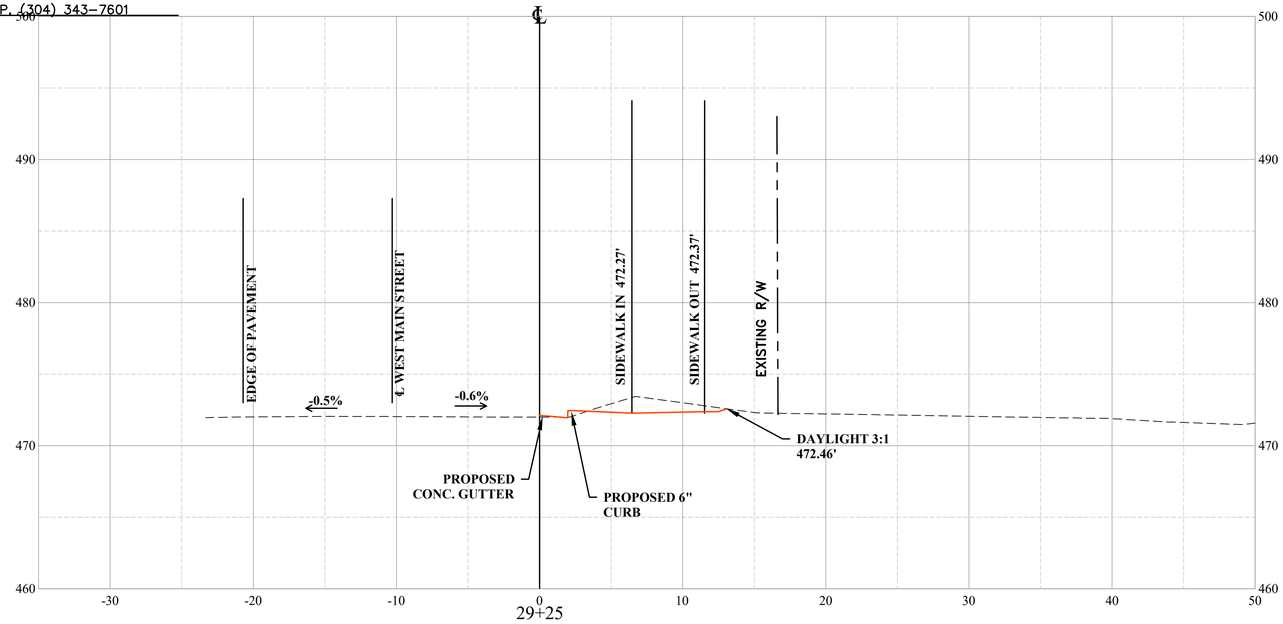
Date	Plan No.	Sheet No.
		58

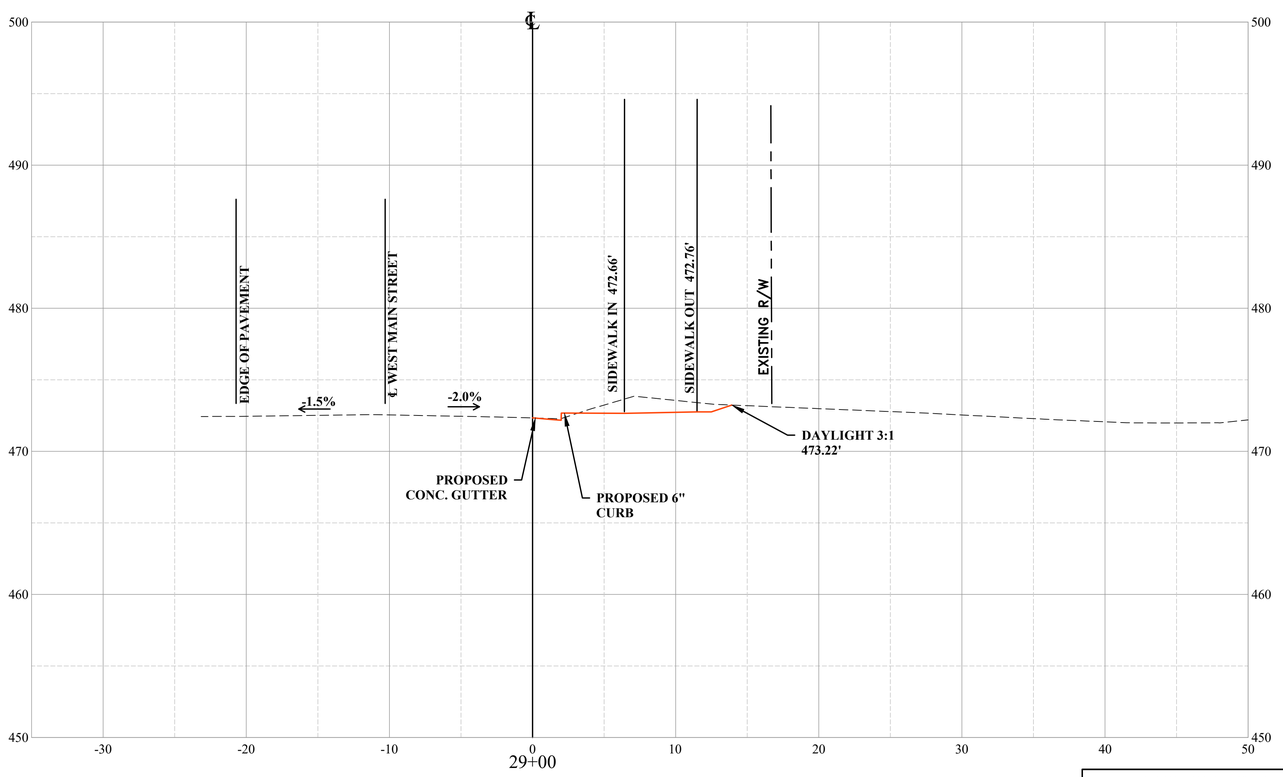
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	59

LEGEND
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
29+00 TO 29+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		59

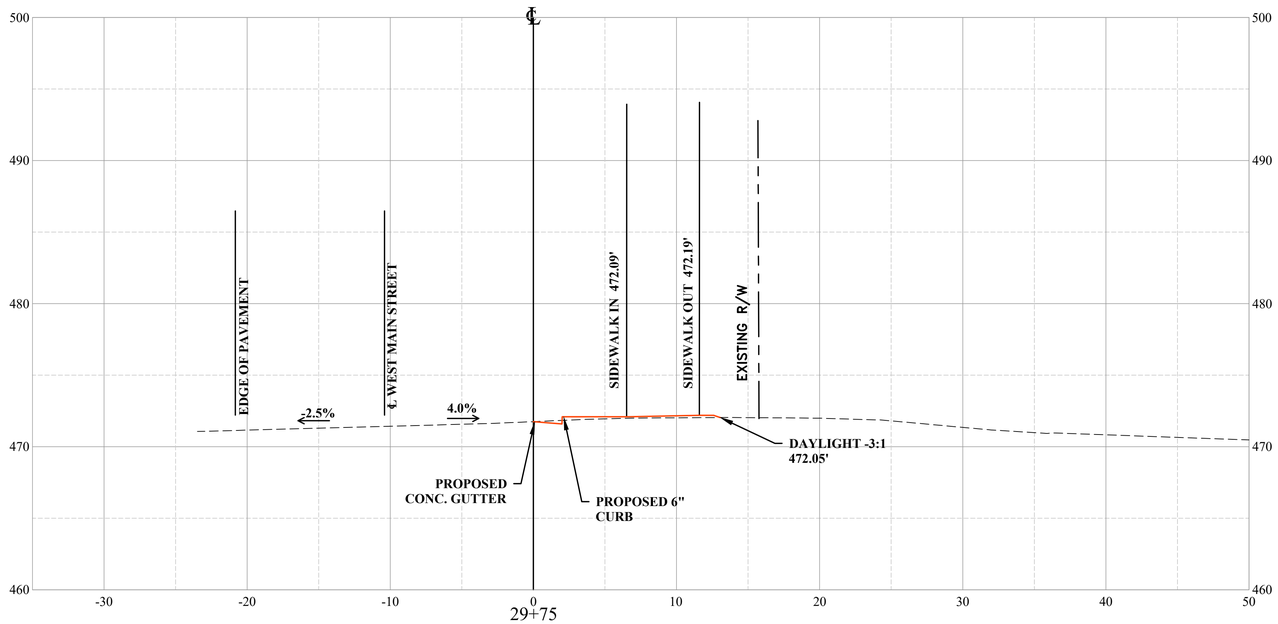
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

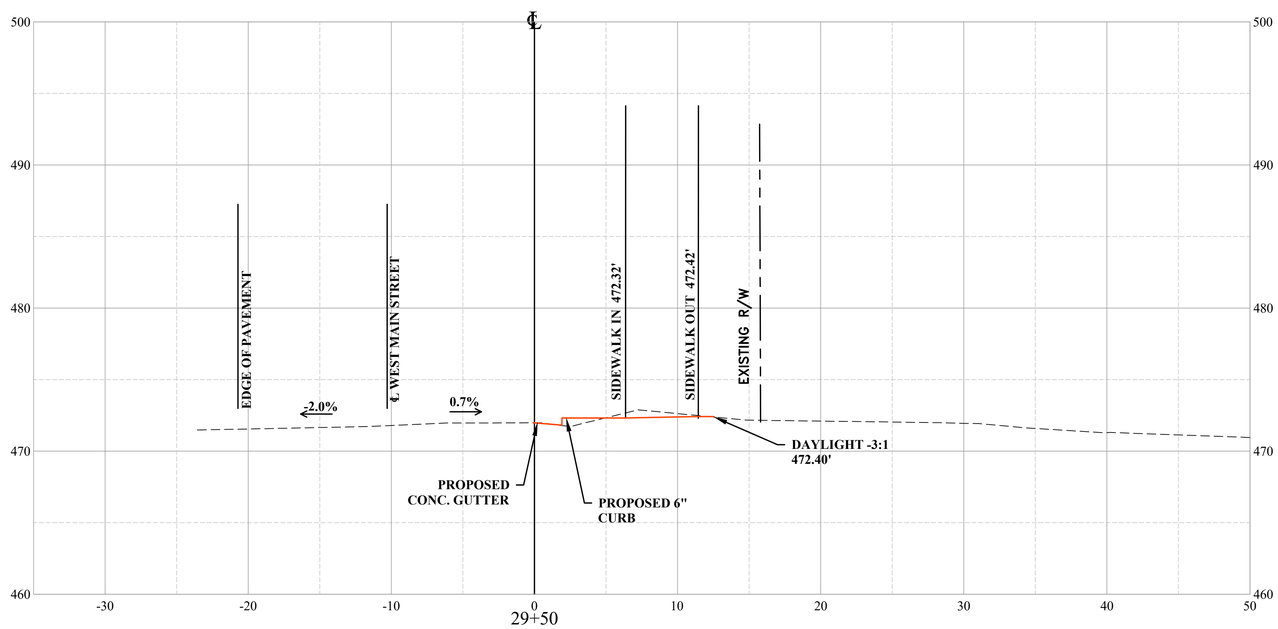
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	60

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
29+50 TO 29+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		60

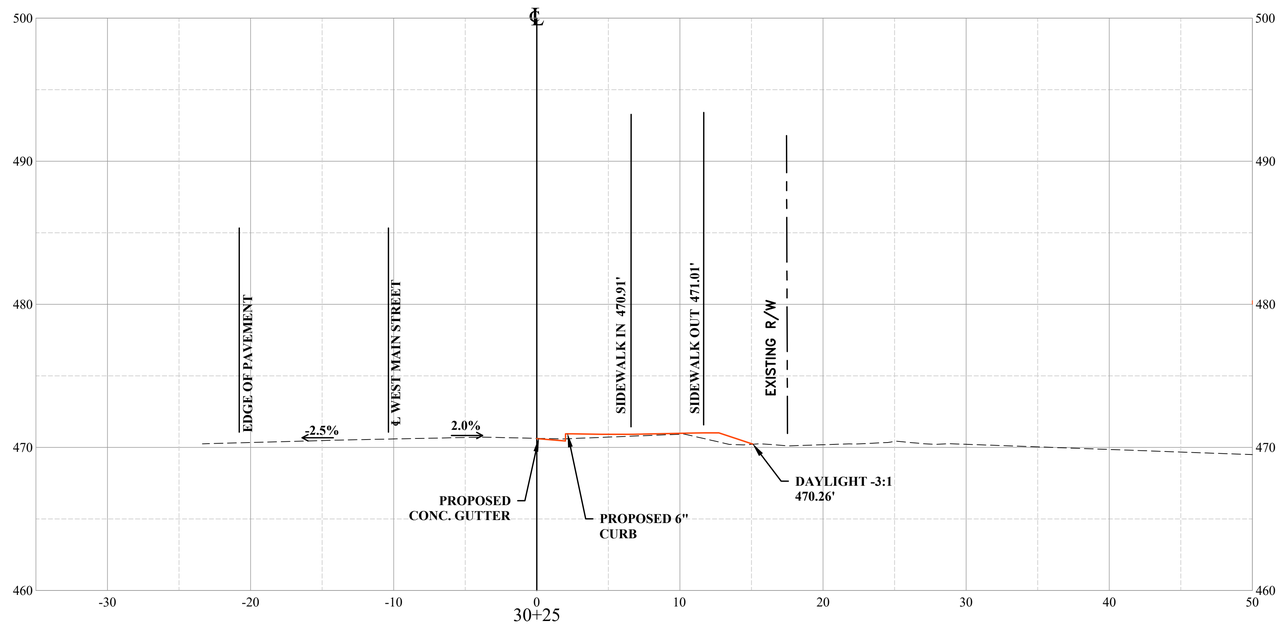
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

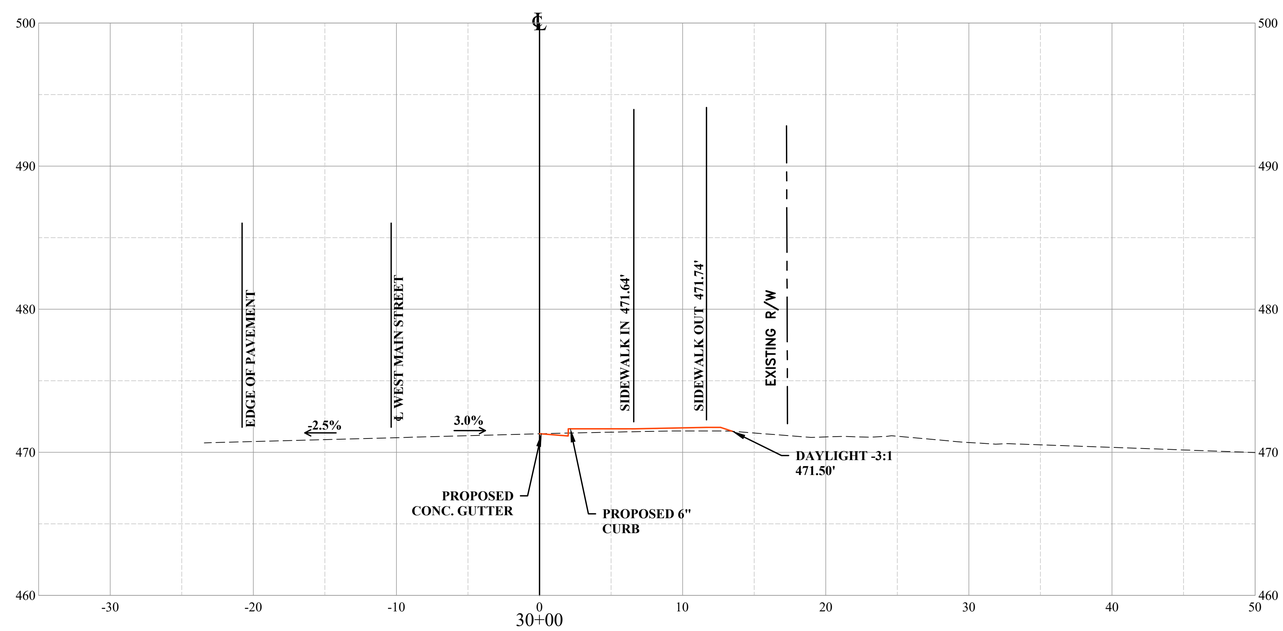
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	61

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

30+00 TO 30+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		61

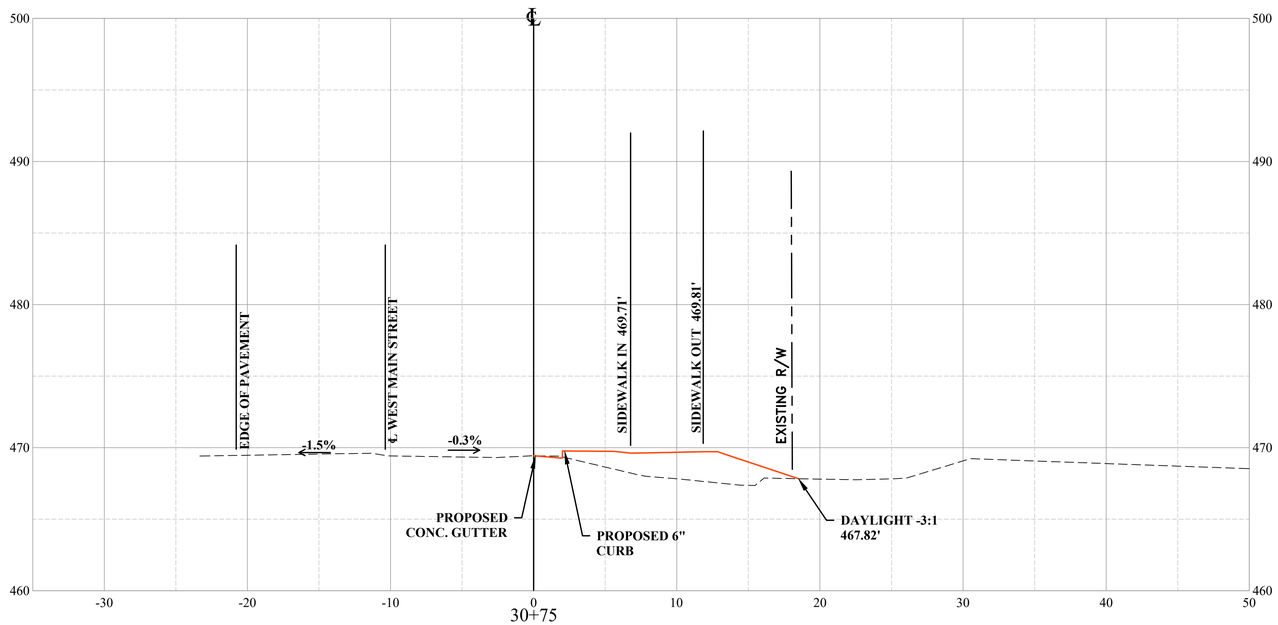
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

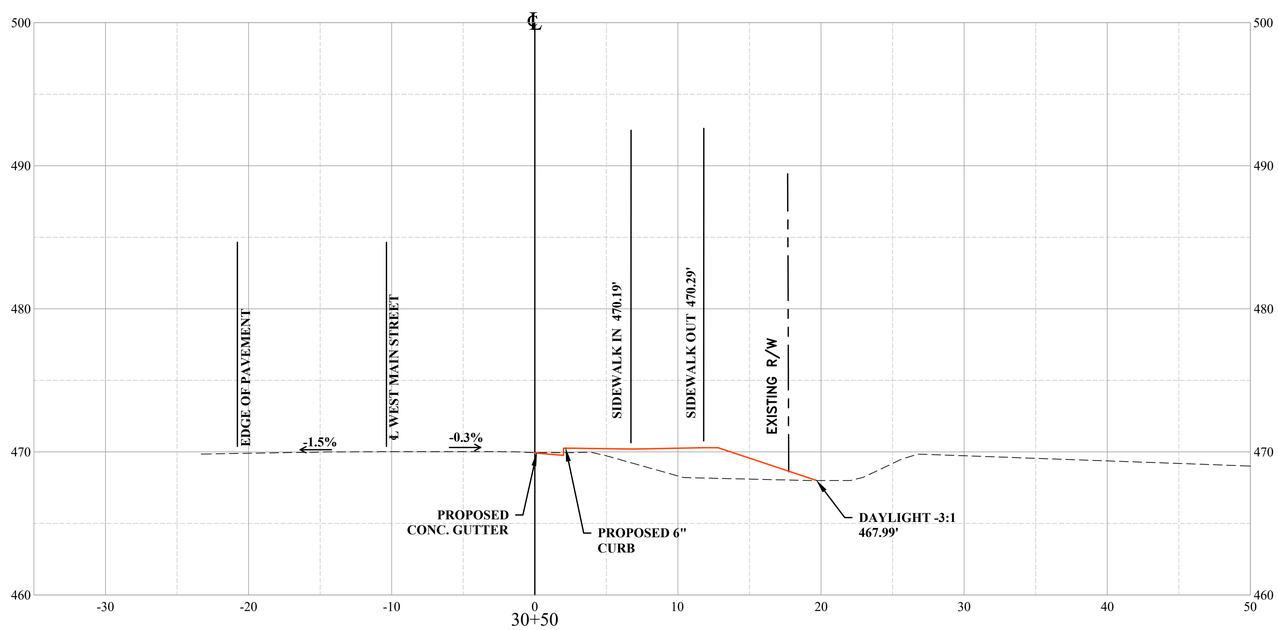
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	62

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
30+50 TO 30+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		62

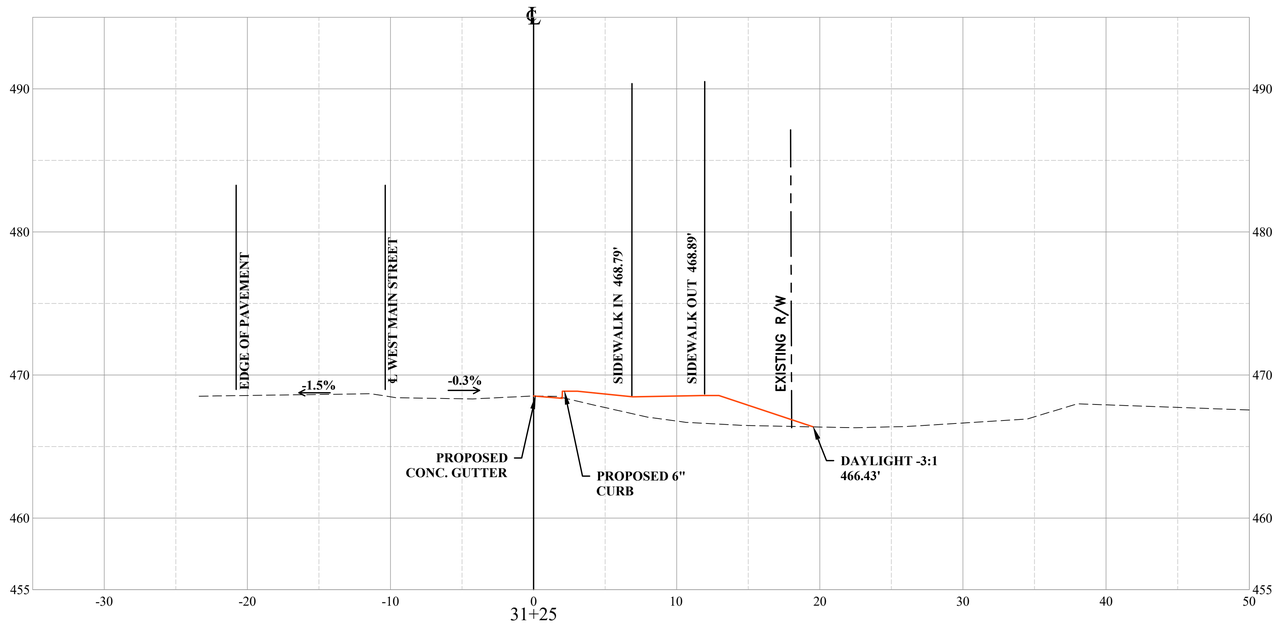
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

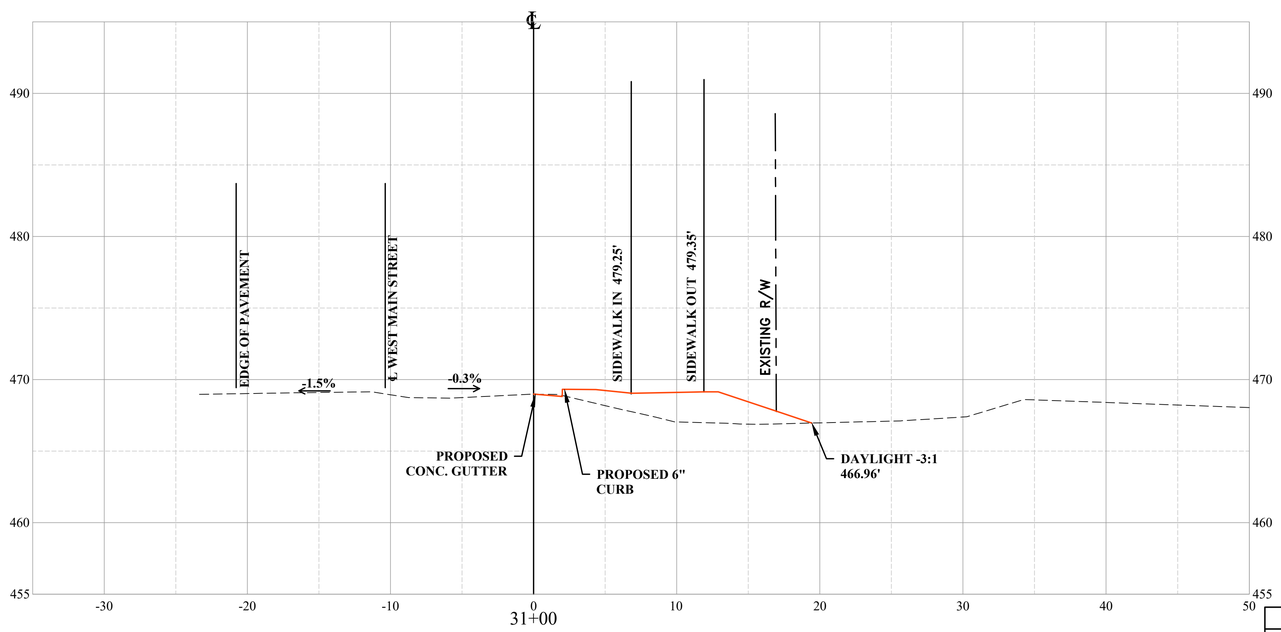
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	63

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

31+00 TO 31+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		63

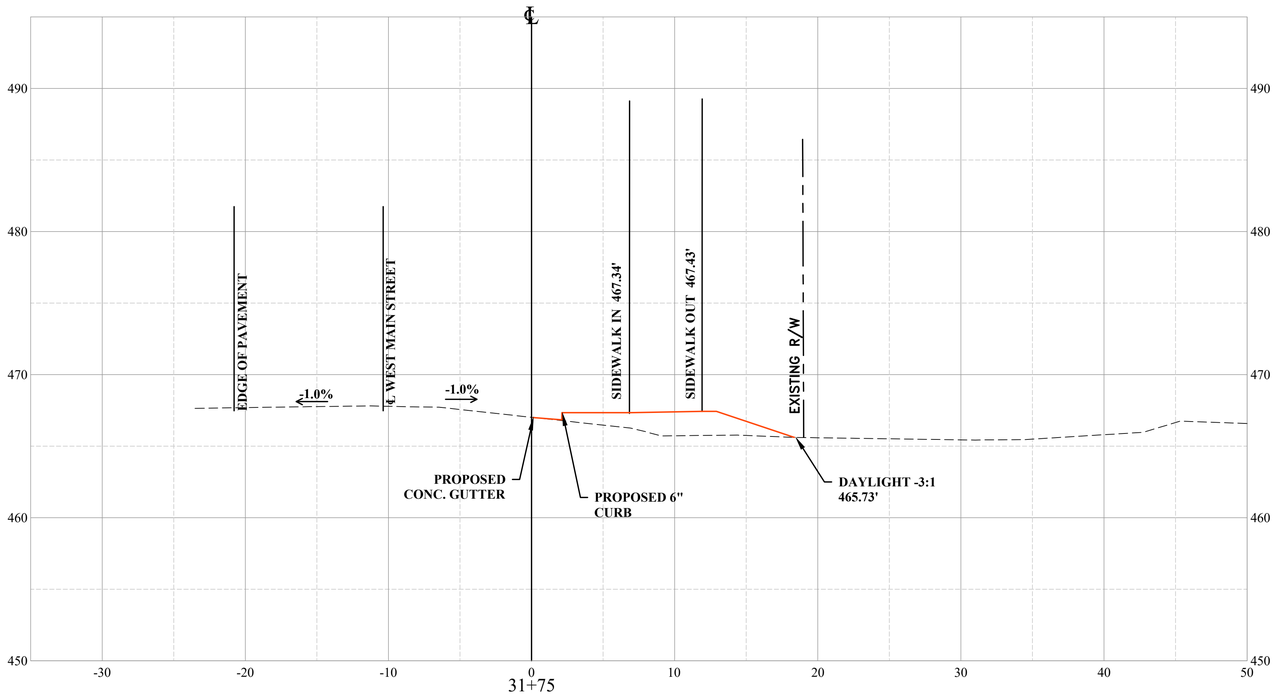
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	64

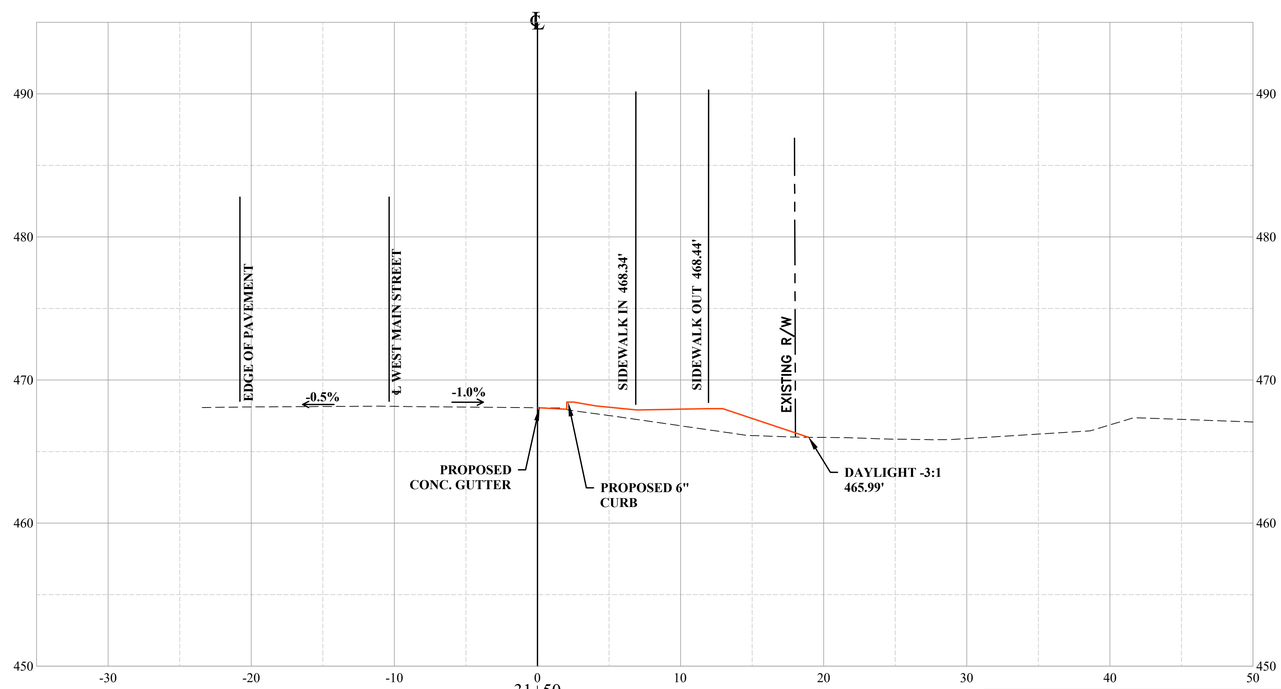
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.



31+75



31+50

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

31+50 TO 31+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		64

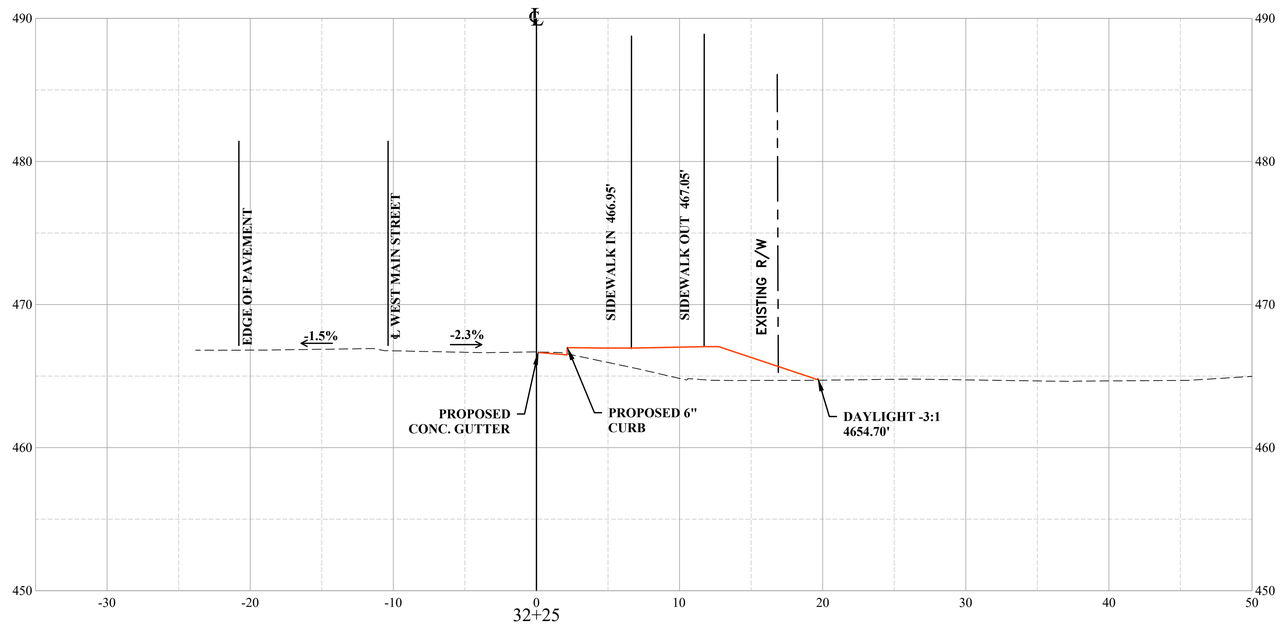
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

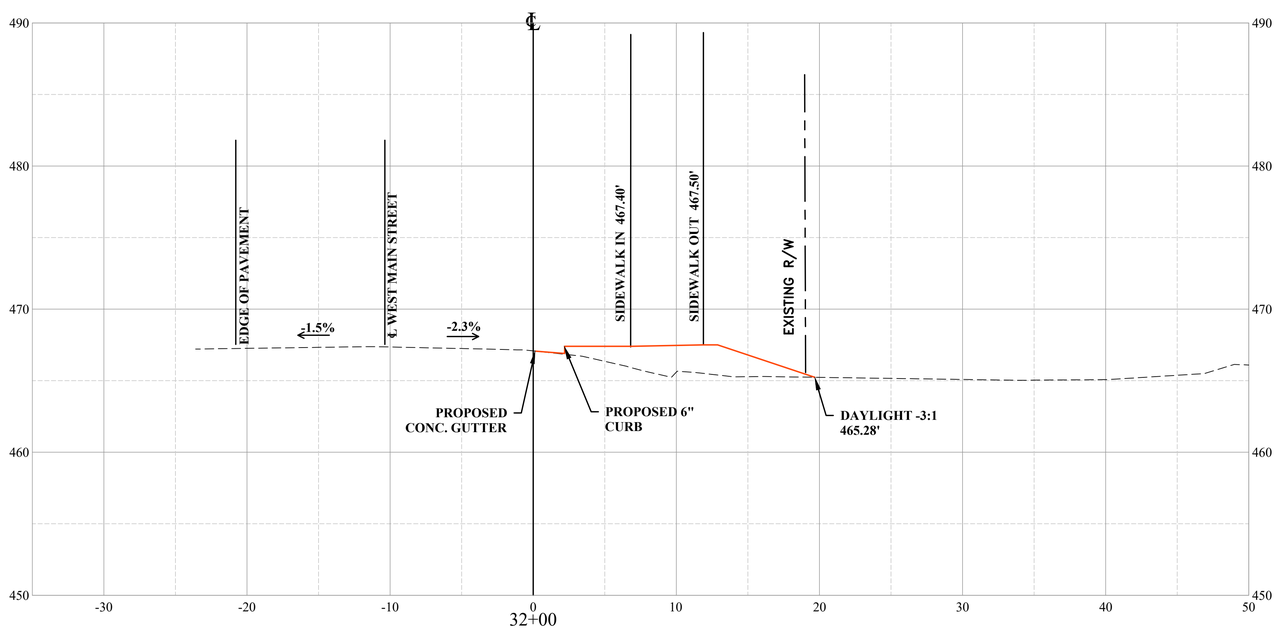
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	65

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

32+00 TO 32+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		65

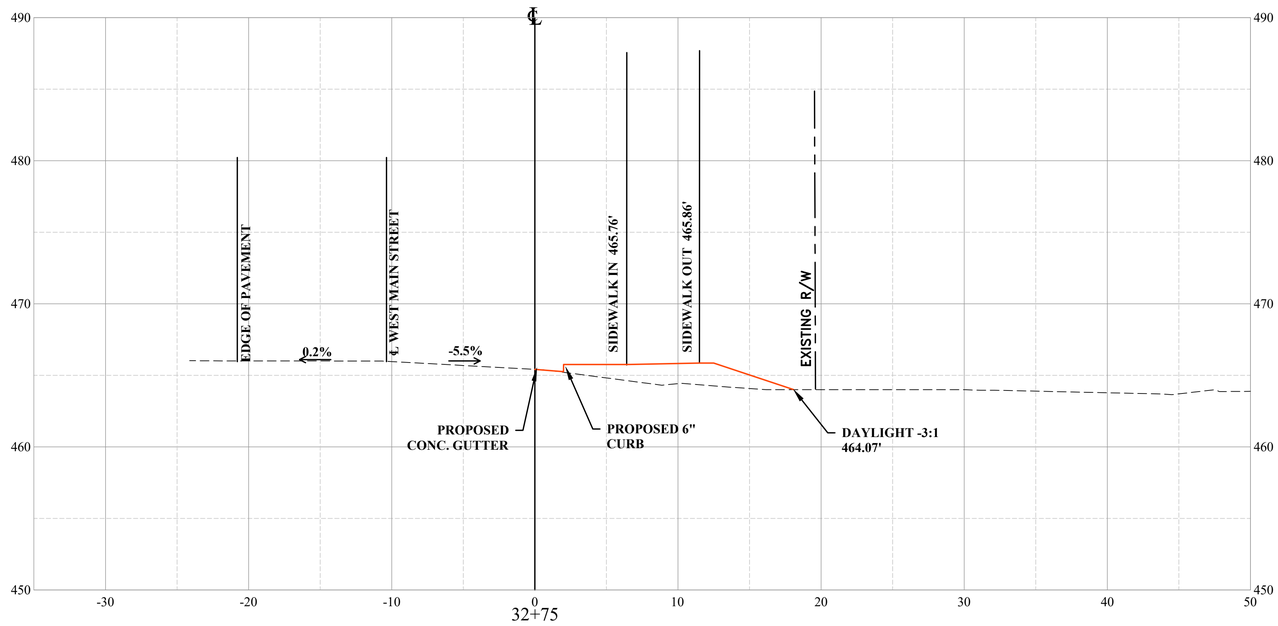
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

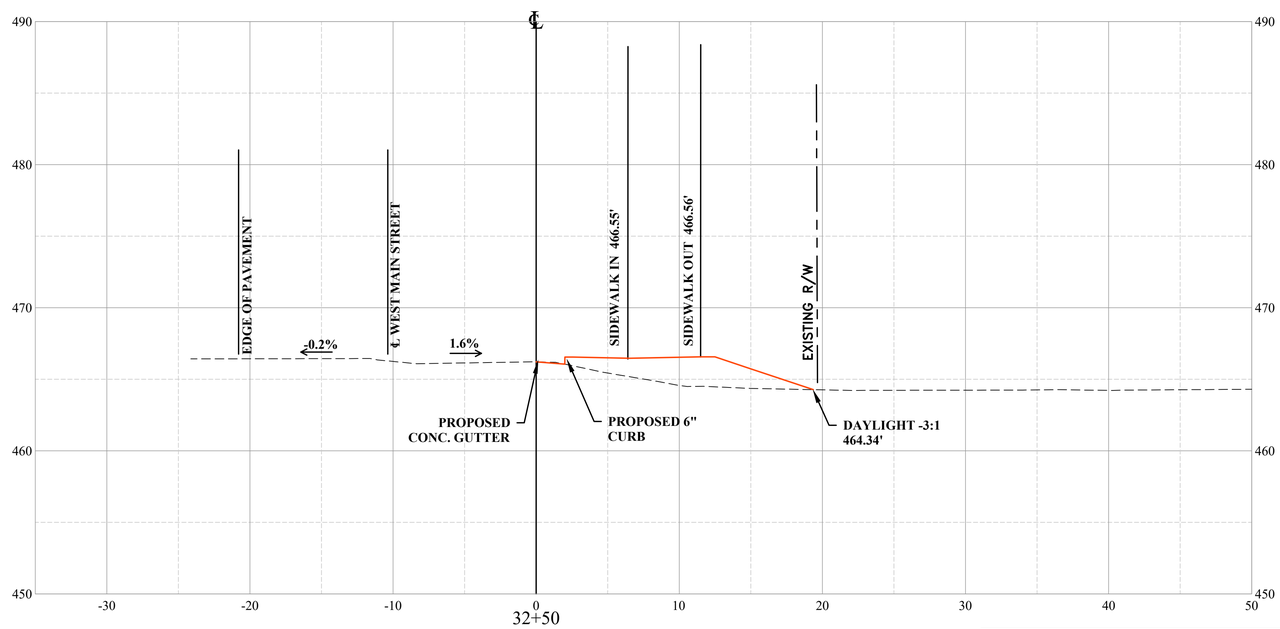
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	66

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

32+50 TO 32+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		66

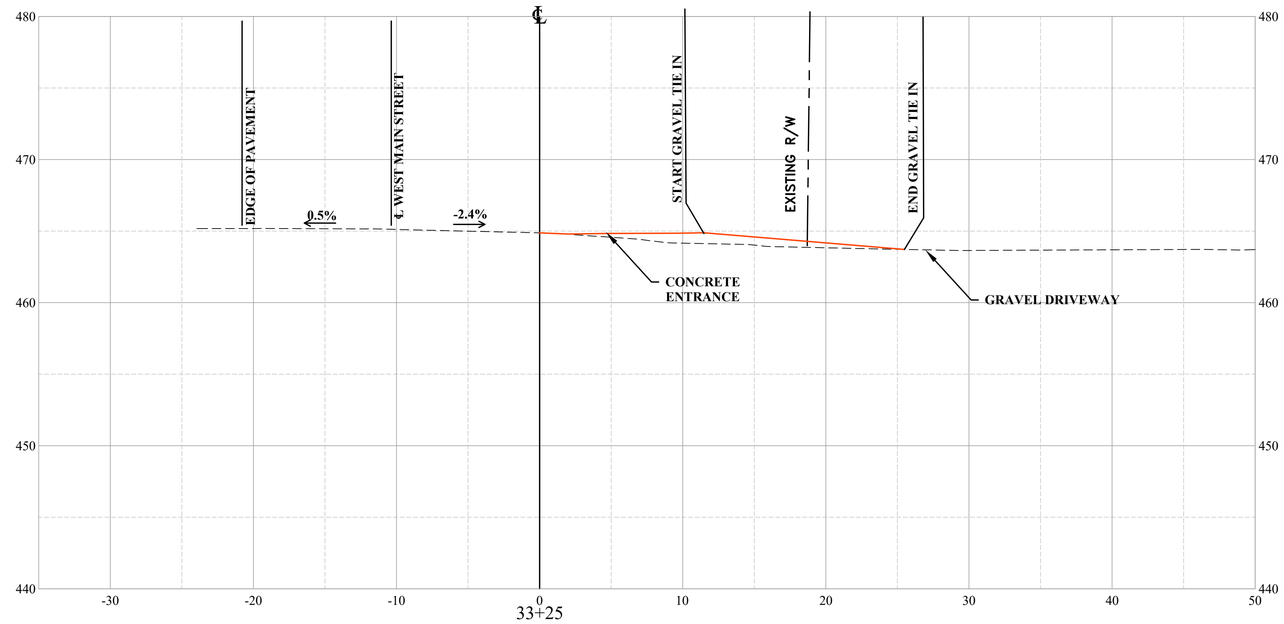
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

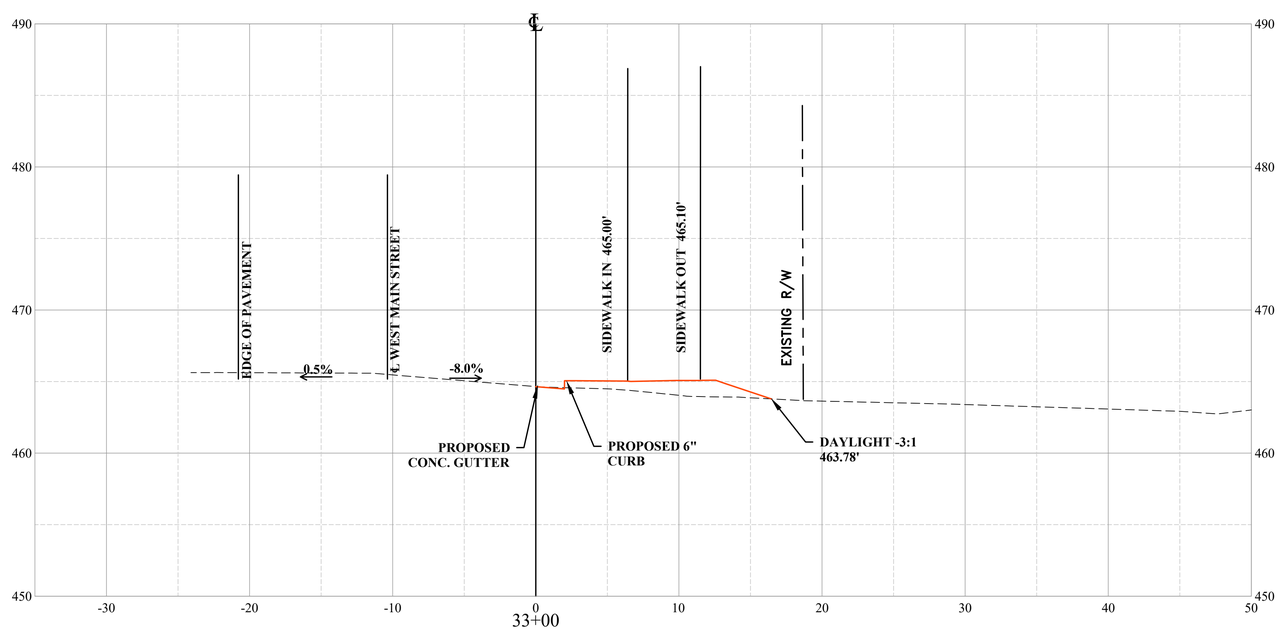
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	67

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
PHONE (540)-372-3499
www.thethrashergroup.com
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

33+00 TO 33+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		67

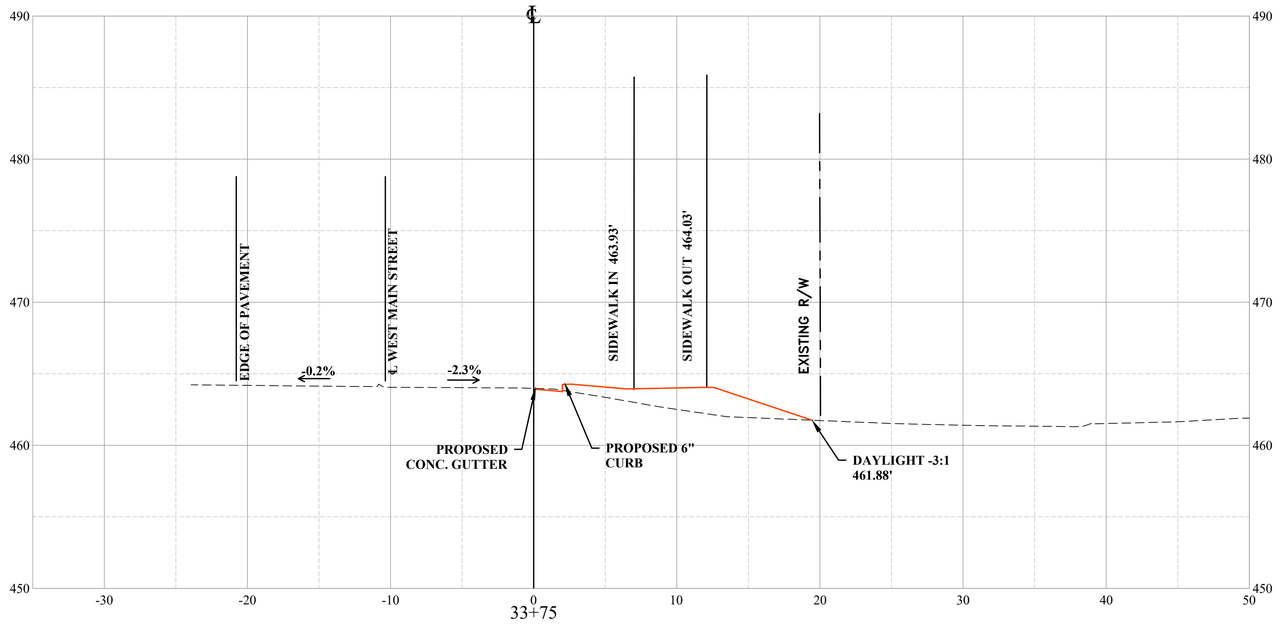
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	68

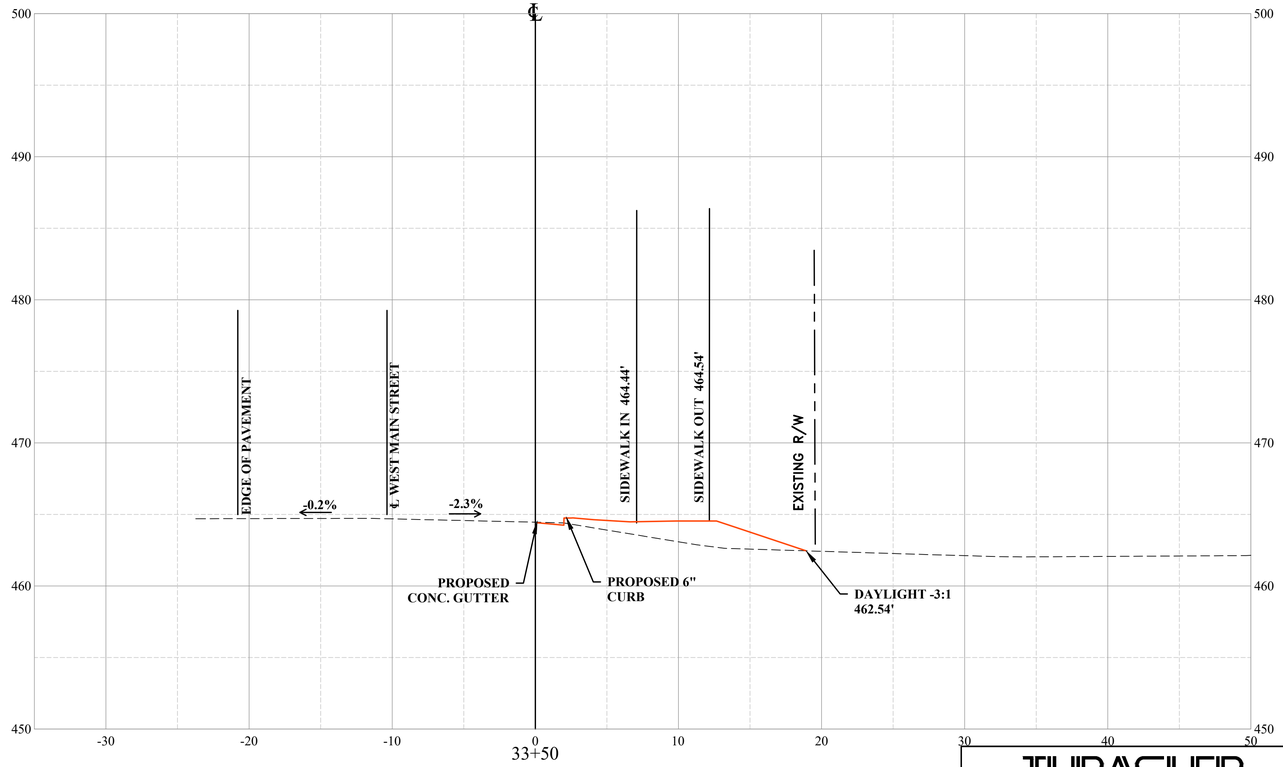
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.



33+75



33+50

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS
33+50 TO 33+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		68

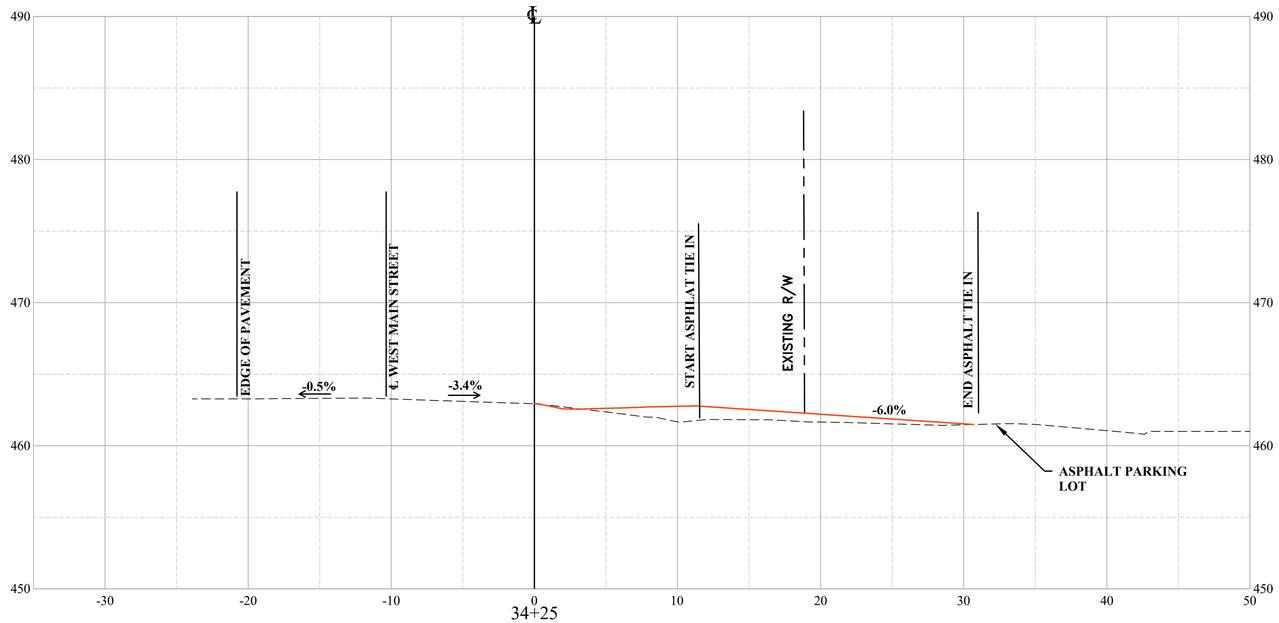
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

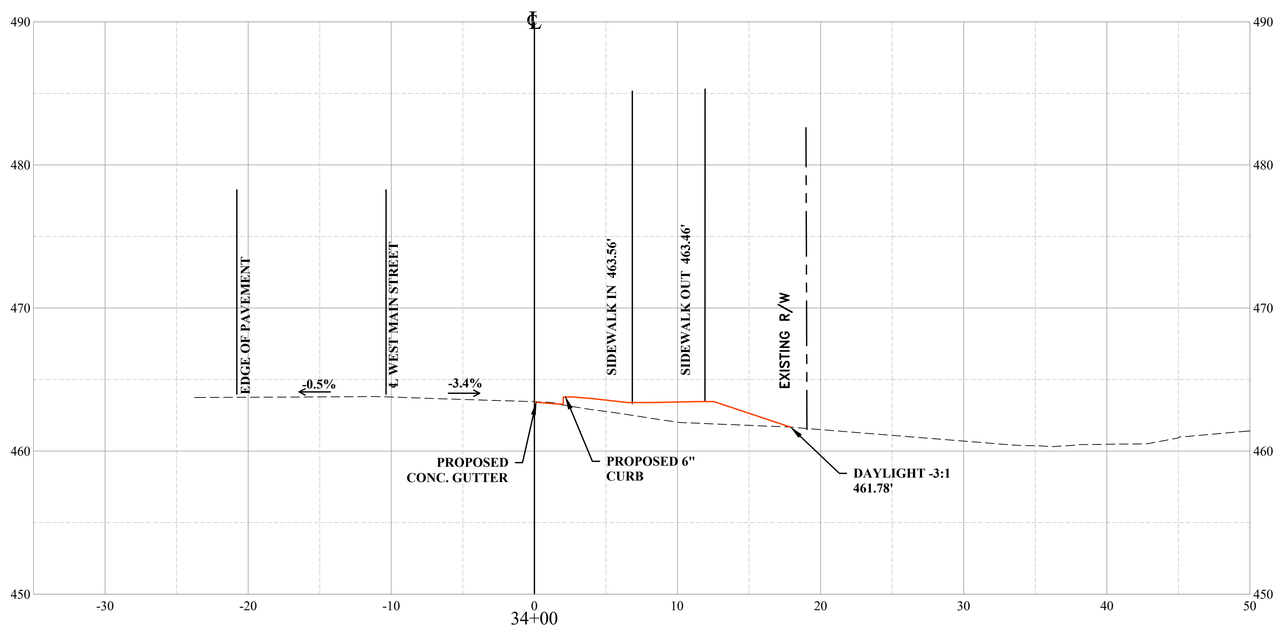
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	69

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

34+00 TO 34+25

Designed: .....
Drawn: .....
Checked: .....

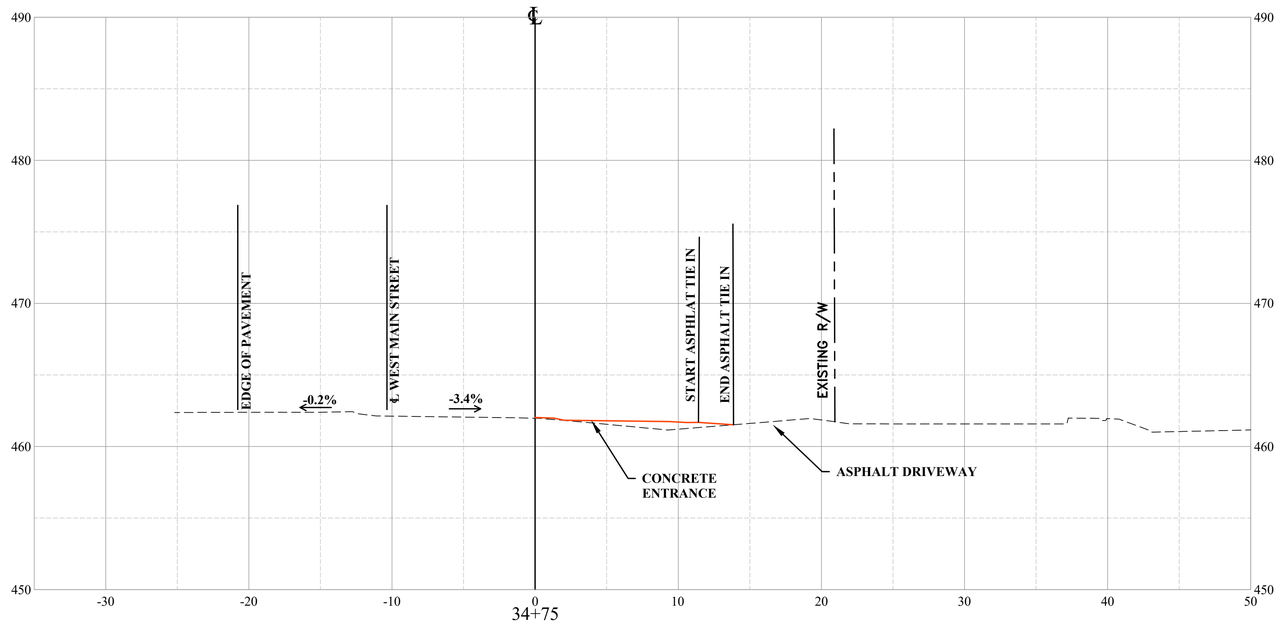
Date	Plan No.	Sheet No.
		69

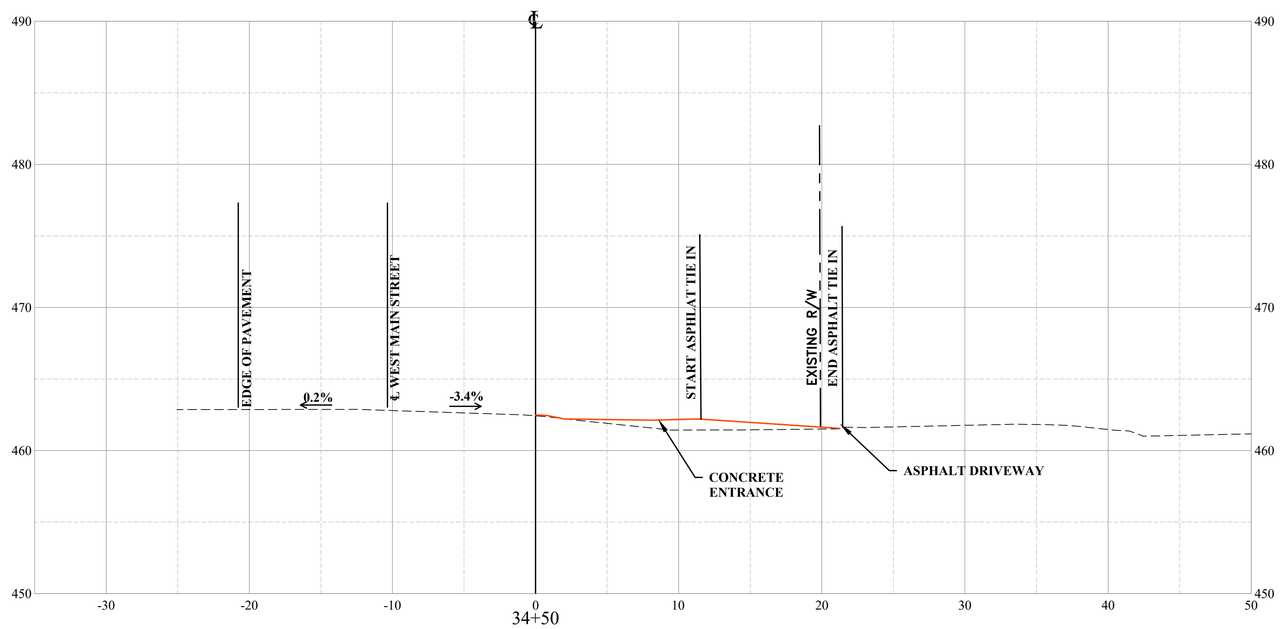
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	70

LEGEND
EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
34+50 TO 34+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		70

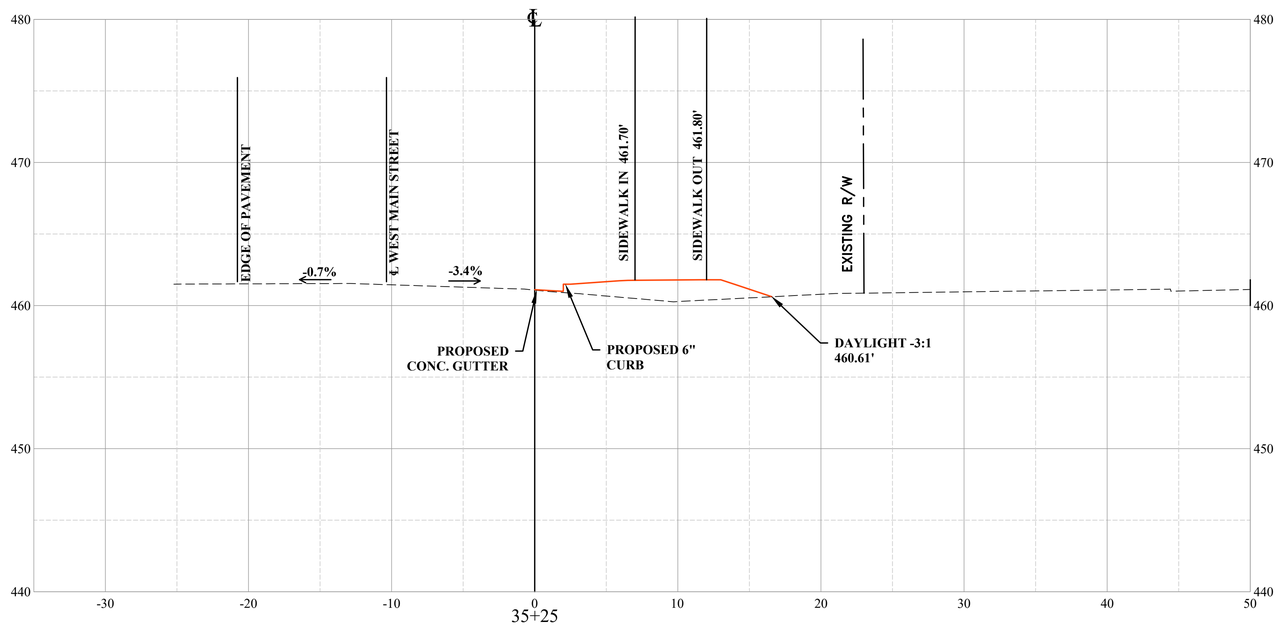
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

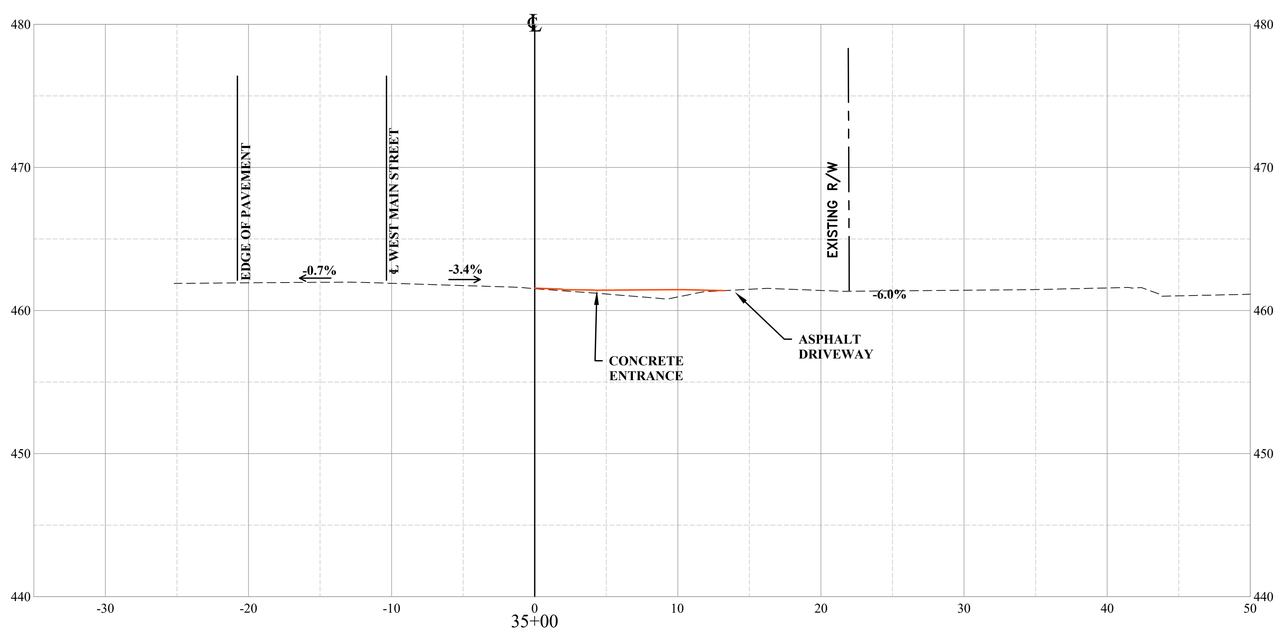
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	71

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

35+00 TO 35+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		71

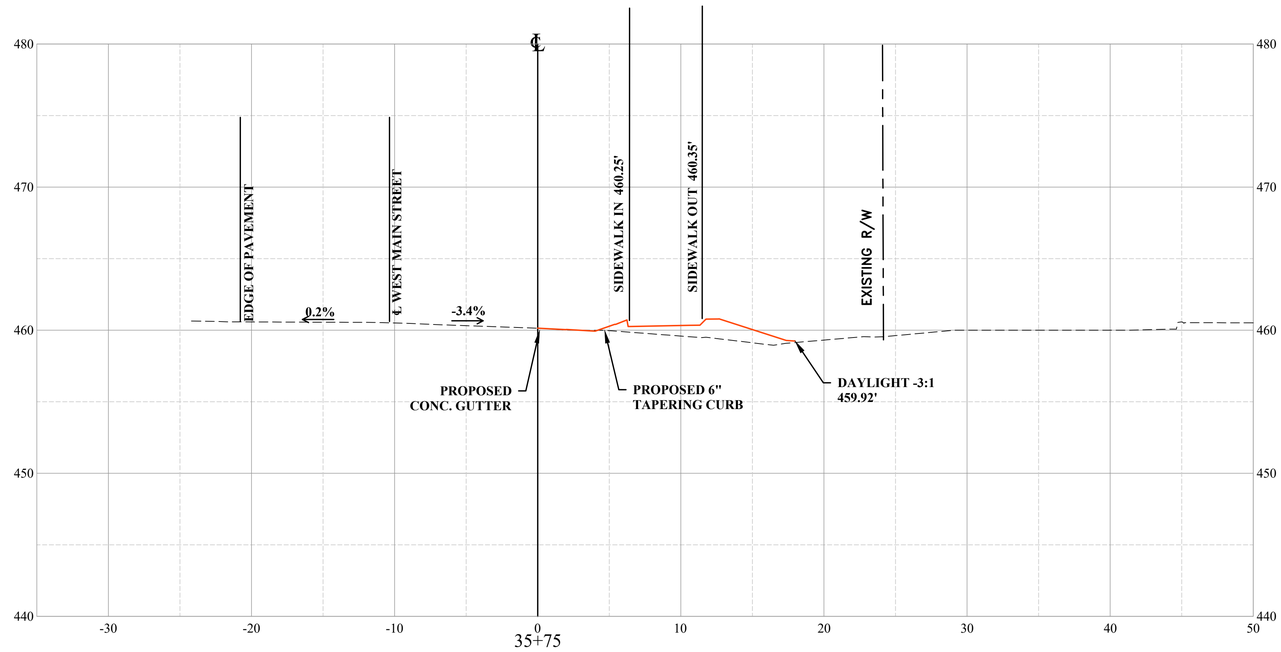
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

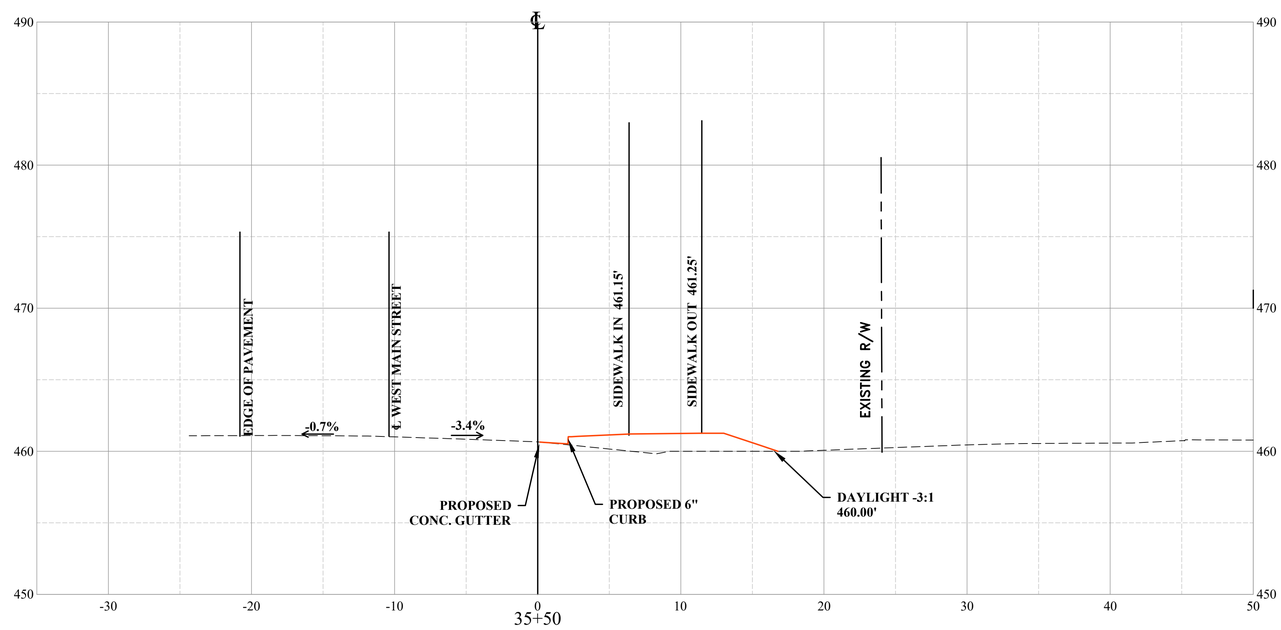
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	72

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
ROADWAY DIVISION

CROSS SECTIONS
35+50 TO 35+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		72

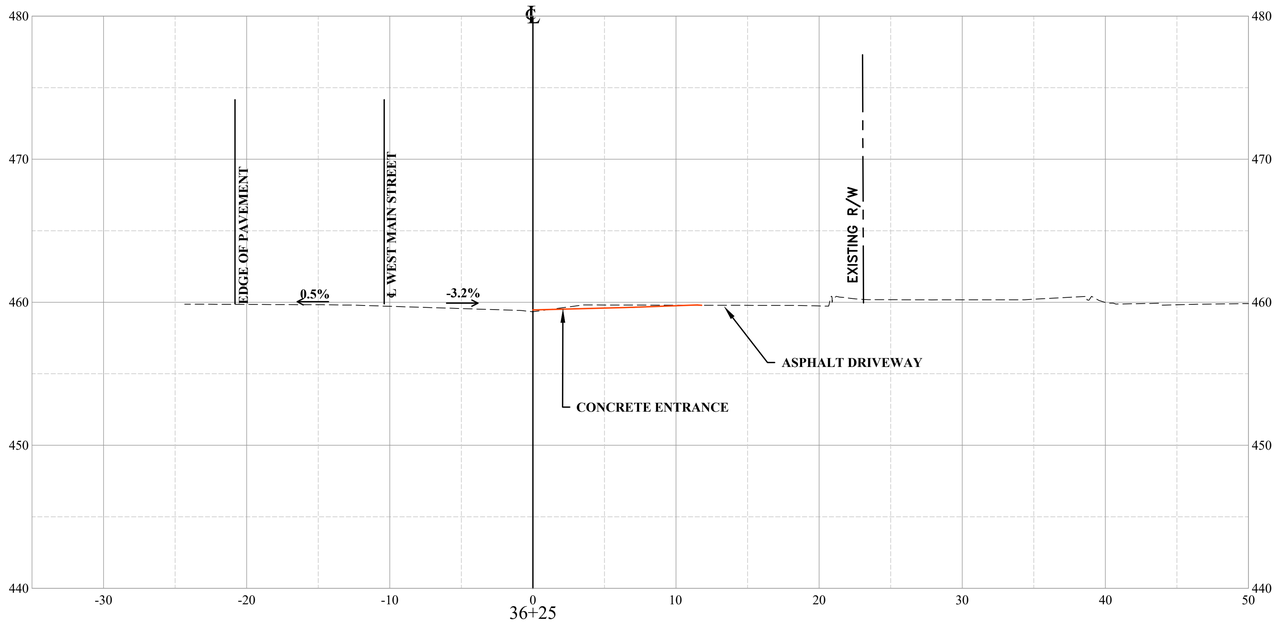
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	73

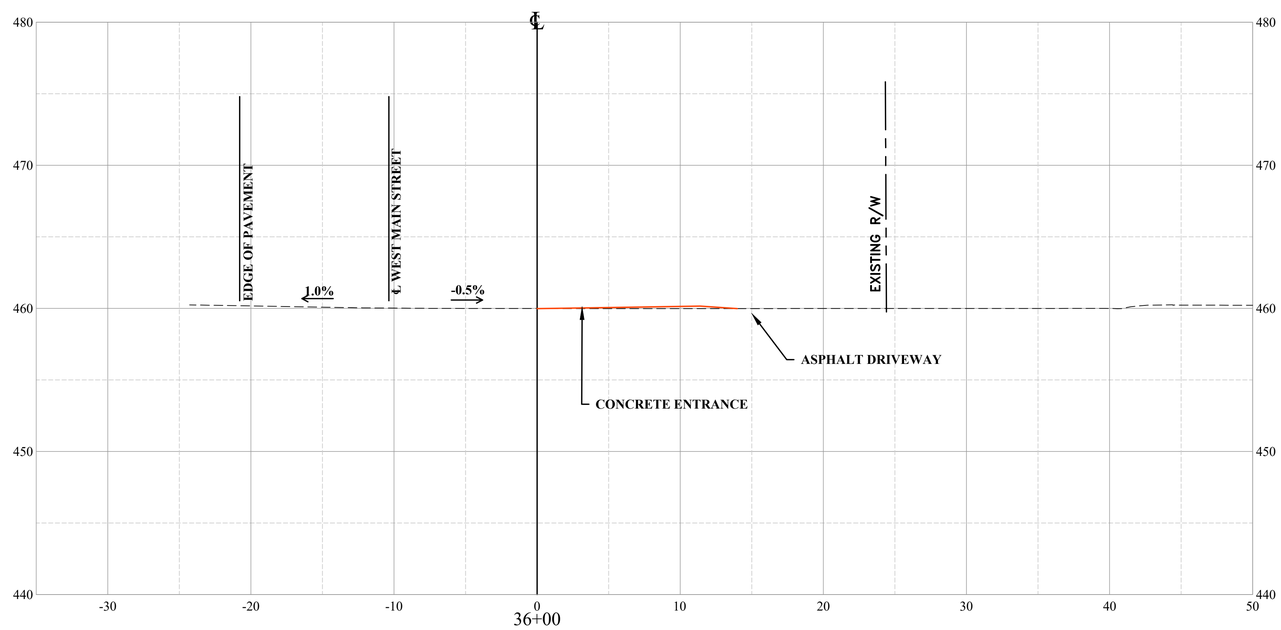
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
0 50 ft.
HOR.



36+25



36+00

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

36+00 TO 36+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		73

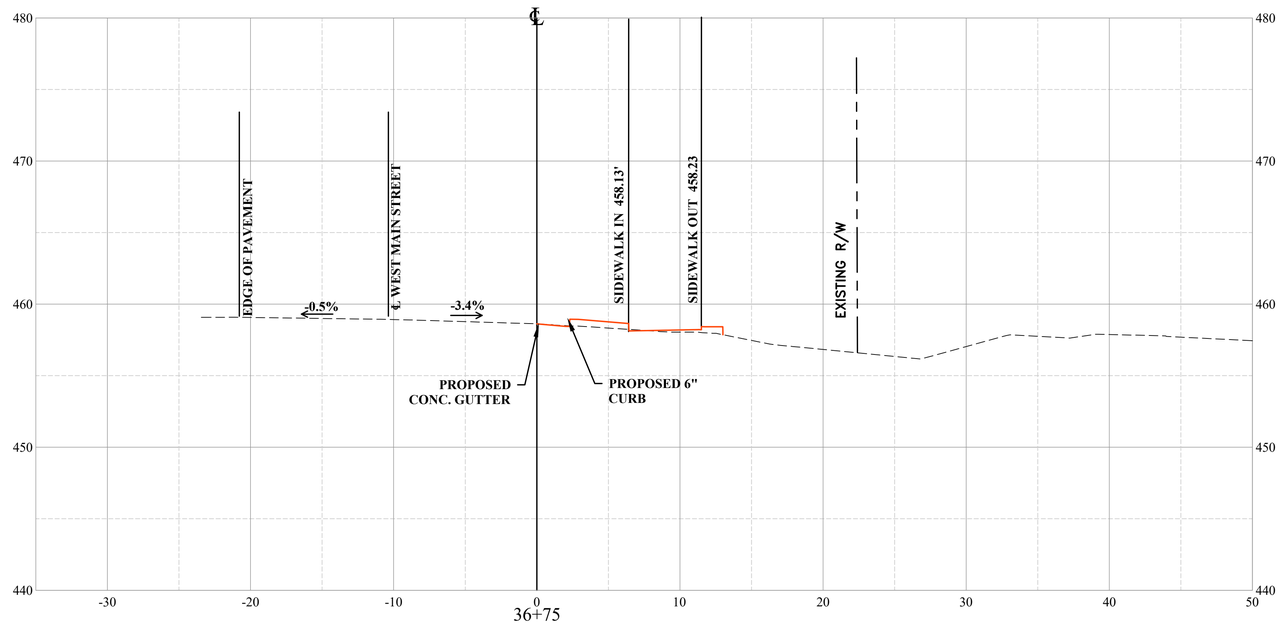
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

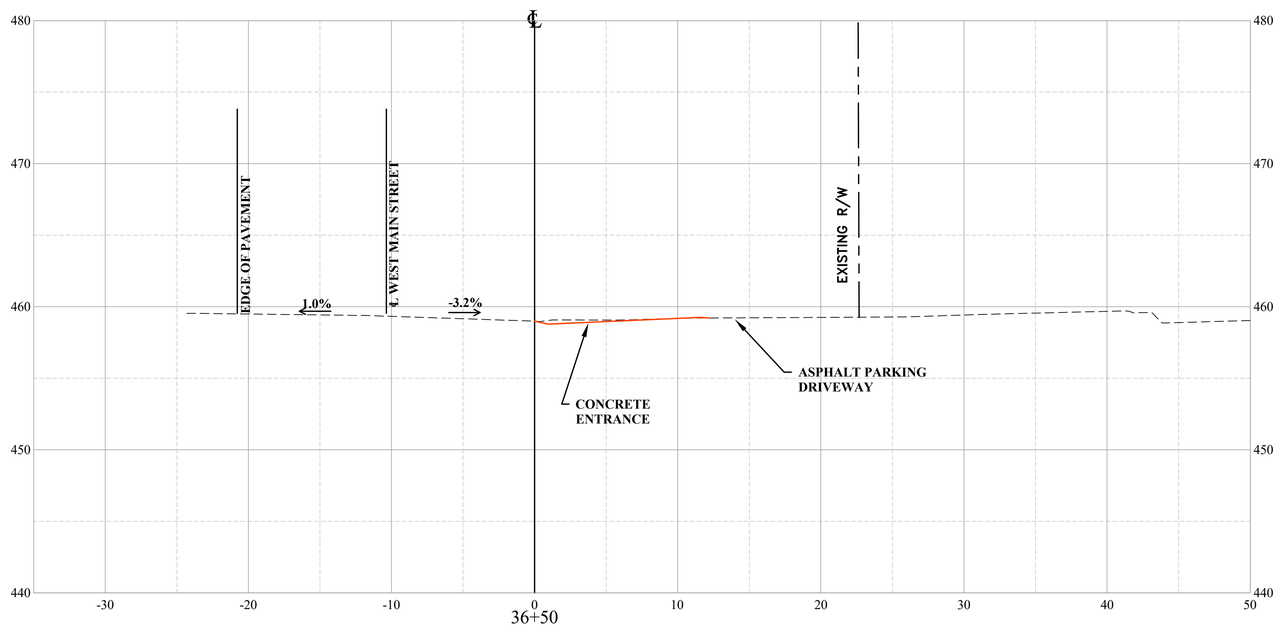
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	74

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS
36+50 TO 36+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		74

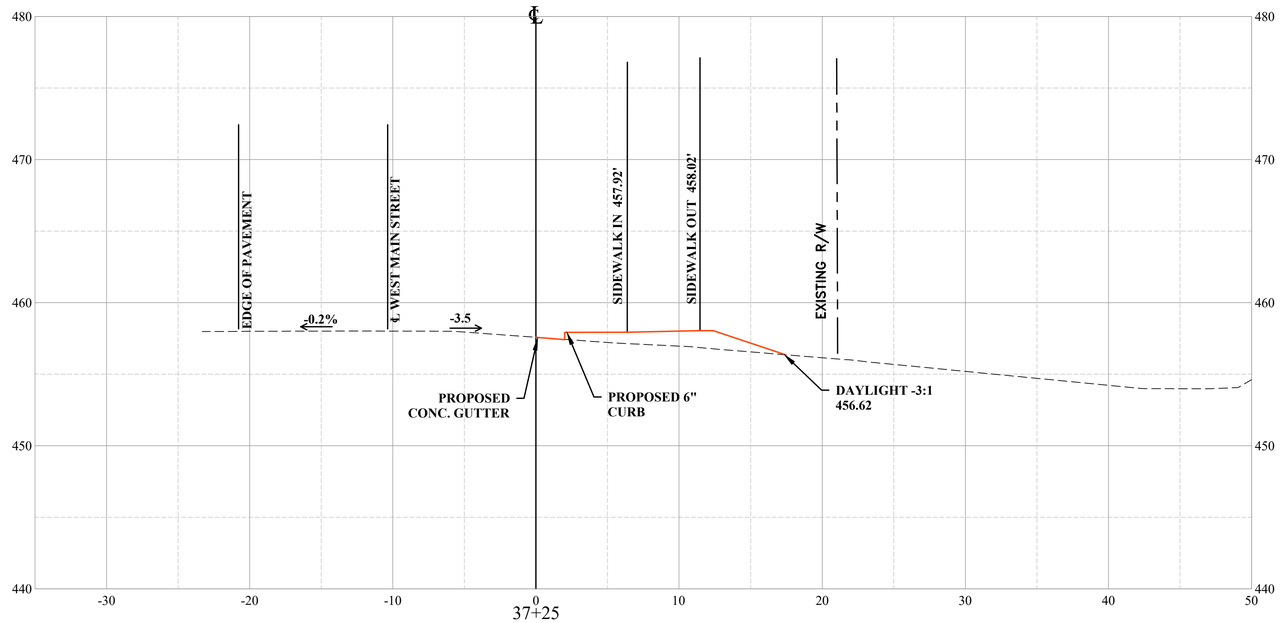
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

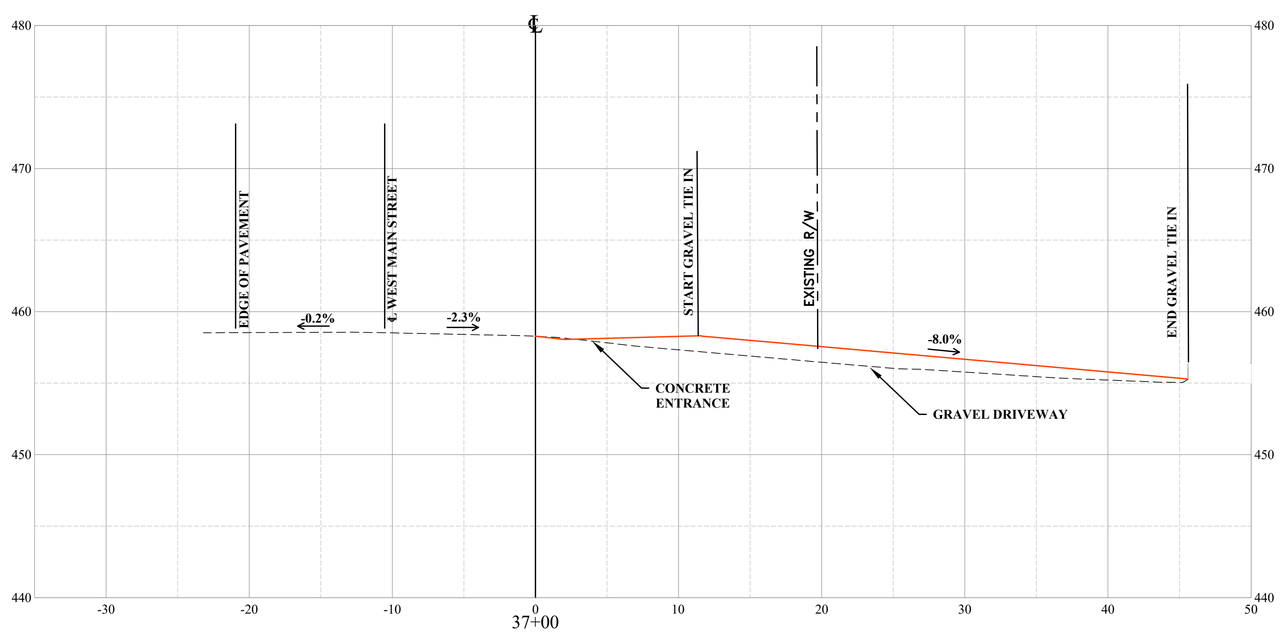
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	75

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
0 50 ft.
HOR.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

37+00 TO 37+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		75

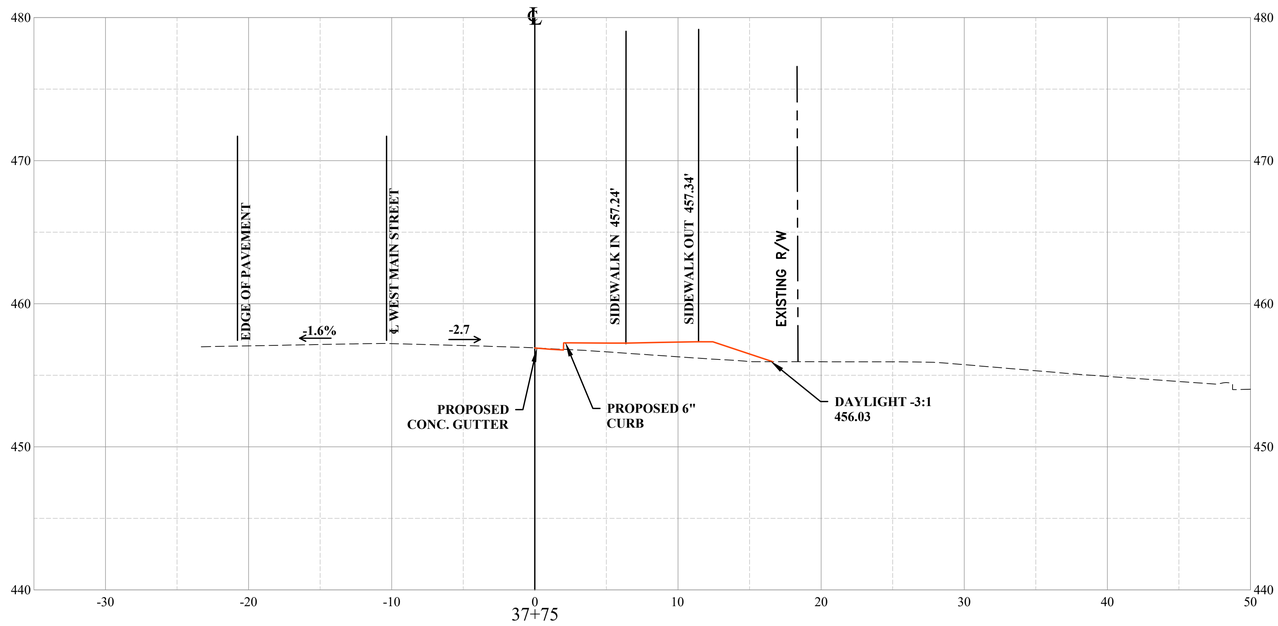
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

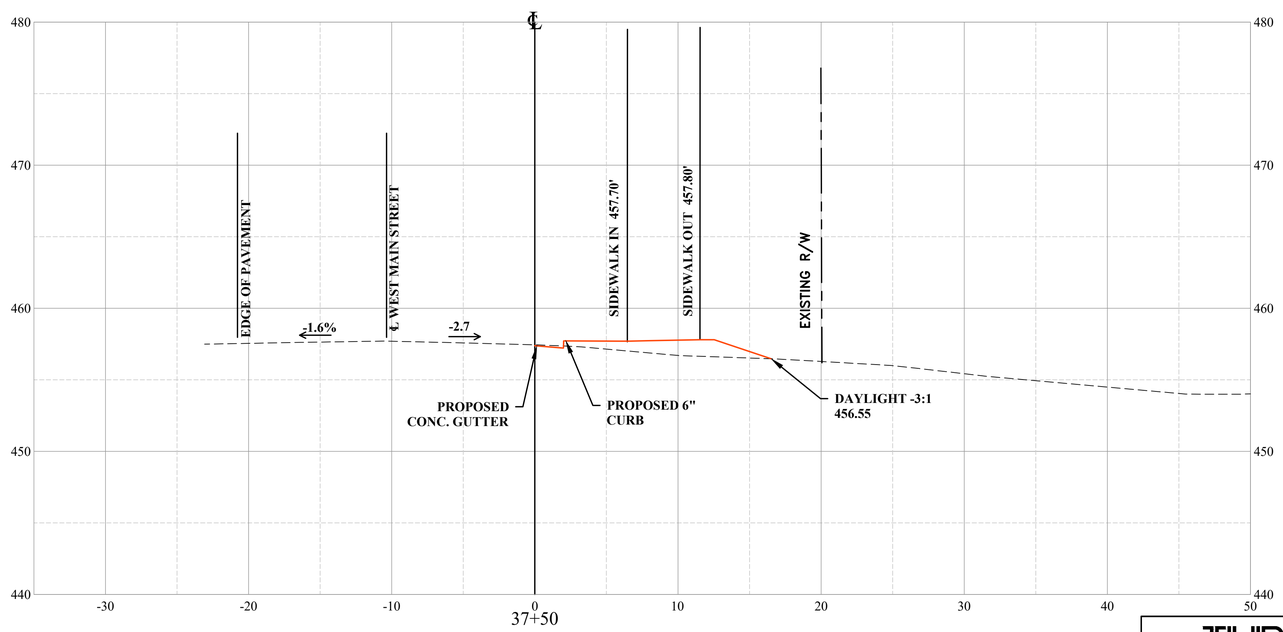
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	76

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

37+50 TO 37+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		76

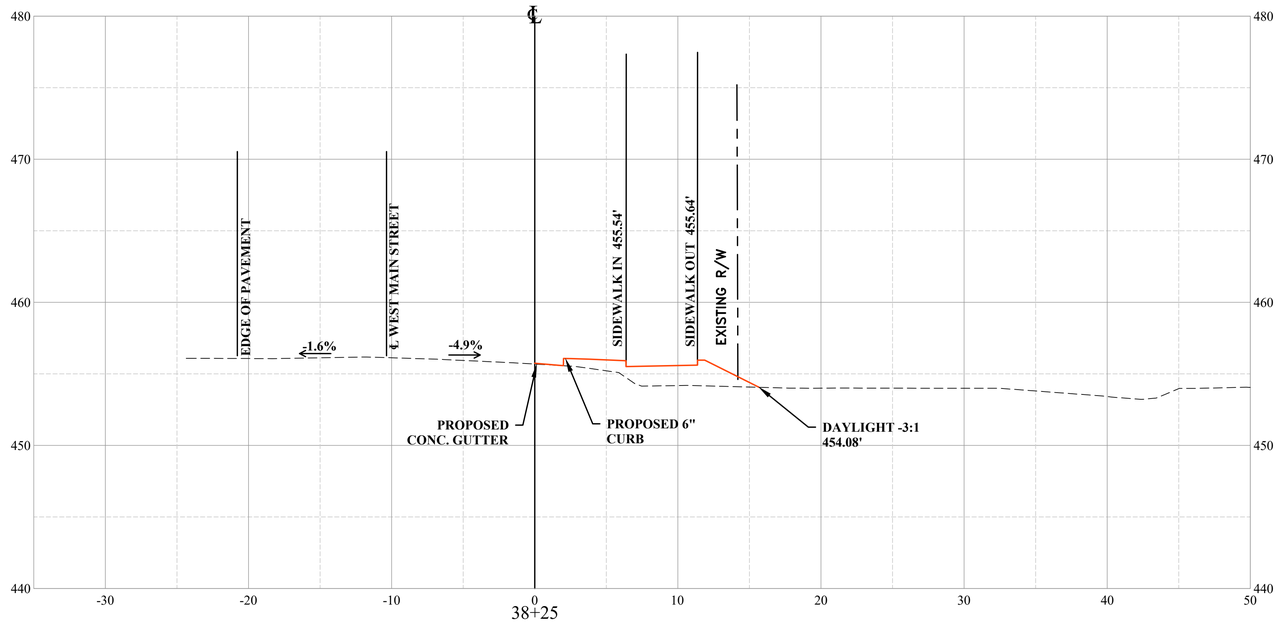
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	77

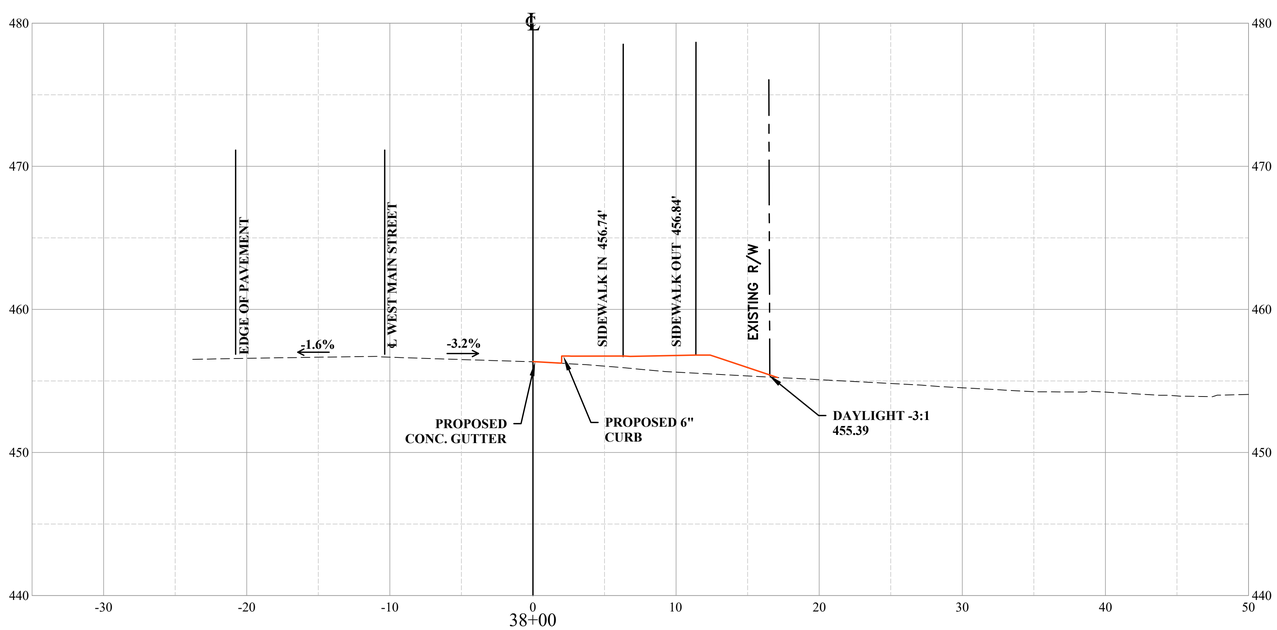
LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.



38+25



38+00

X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

38+00 TO 38+25

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		77

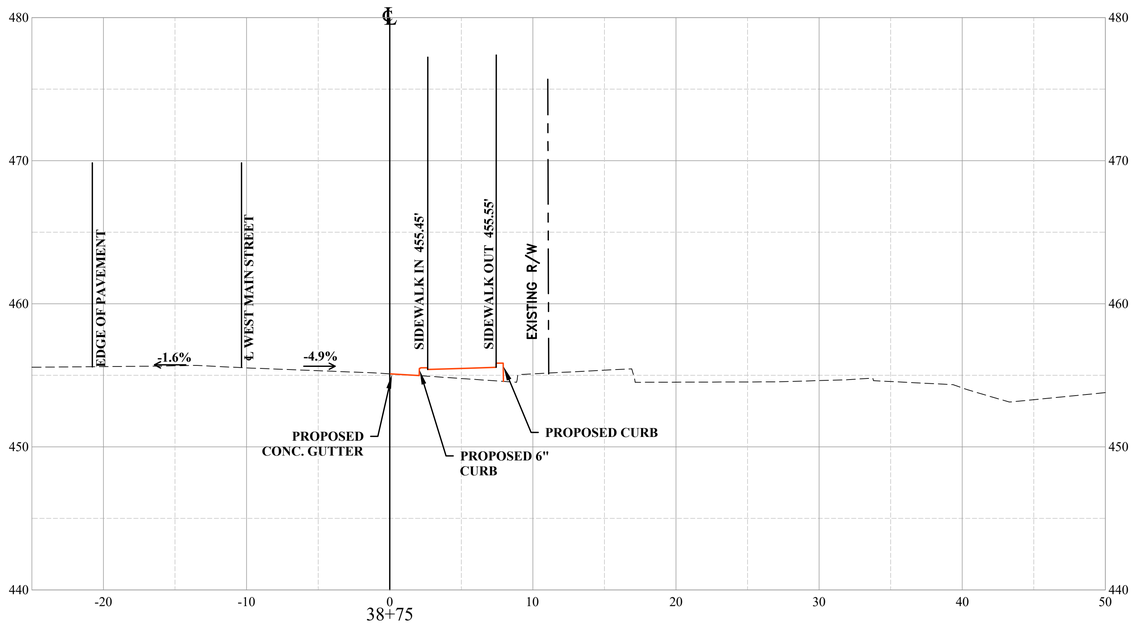
PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

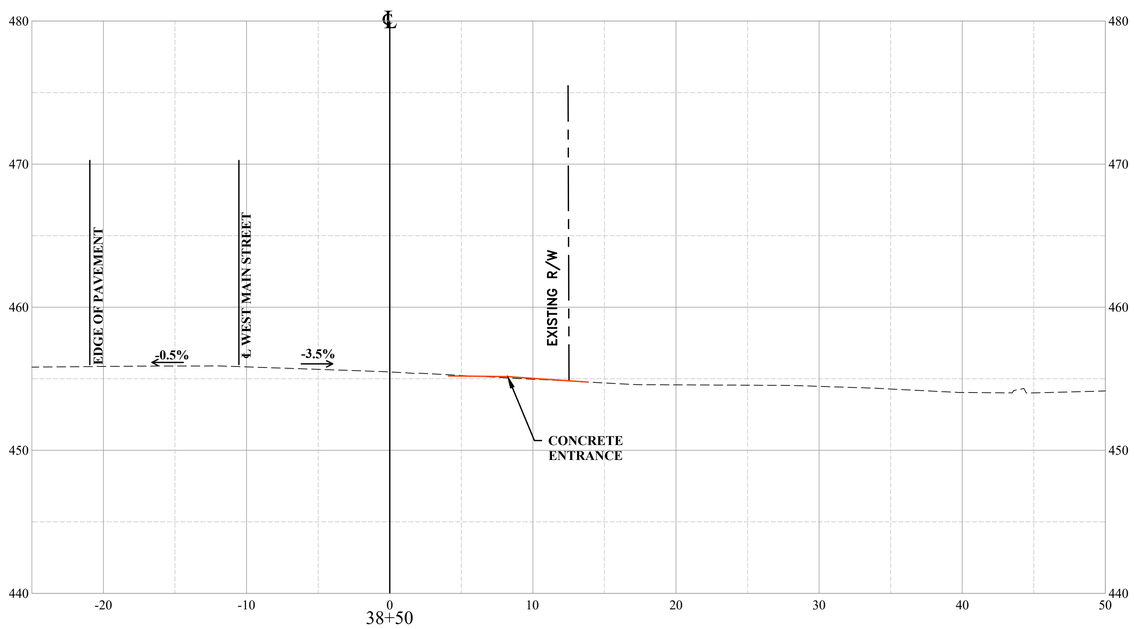
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	78

LEGEND

EXISTING GRADE
PROPOSED GRADE

10 ft.
VERT. 0
HOR. 0 50 ft.





X-XX-2019

THE THRASHER GROUP
CHARLESTON, WV
ROADWAY ENGINEER

THRASHER
100 INDUSTRIAL DRIVE
FREDERICKSBURG VA 22405
www.thethrashergroup.com
PHONE (540)-372-3499
FAX (540)-372-6746

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

ROADWAY DIVISION

CROSS SECTIONS

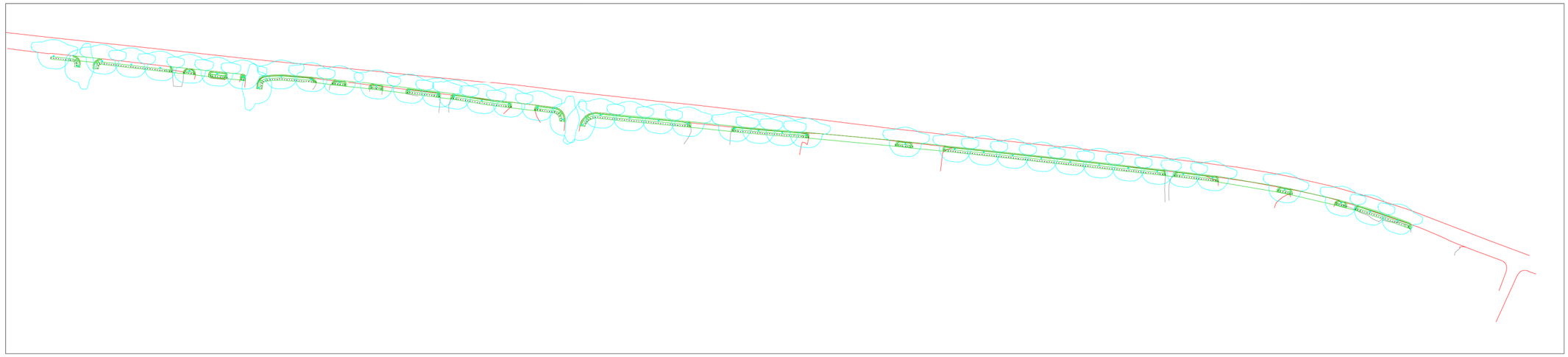
38+50 TO 38+75

Designed: .....
Drawn: .....
Checked: .....

Date	Plan No.	Sheet No.
		78

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	UPC # ROUTE	UPC # PROJECT	SHEET NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	09



Scale: 1 inch= 100 Ft.

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Lum. Lumens	Lum. Watts	LLF	Description	[MANUFAC]	Filename
	44	C5675A	SINGLE	6282	150	0.750	Post top. 150W MH, Type 3 Cutoff, 12ft Pole	Hadco	V092-15H3H.ies

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Description
Sidewalks	Illuminance	Fc	2.73	6.0	0.6	4.55	10.00	5ft Spacing

Rev	Date	Comments
A	09/10/19	Initial Layout
..	.....	.....
..	.....	.....
..	.....	.....
..	.....	.....

Revisions

Disclaimer

Lighting Designs by Dugan (LDD) assumes no responsibility for any errors in the IES files, background images, or other information provided to LDD to be used in these calculations. Actual or measured results may vary due to manufacturer tolerances, component malfunctions, obstructions, varying surface reflectance's and field conditions. The owner assumes all responsibility for compliance with federal, state and/or local codes and regulations.

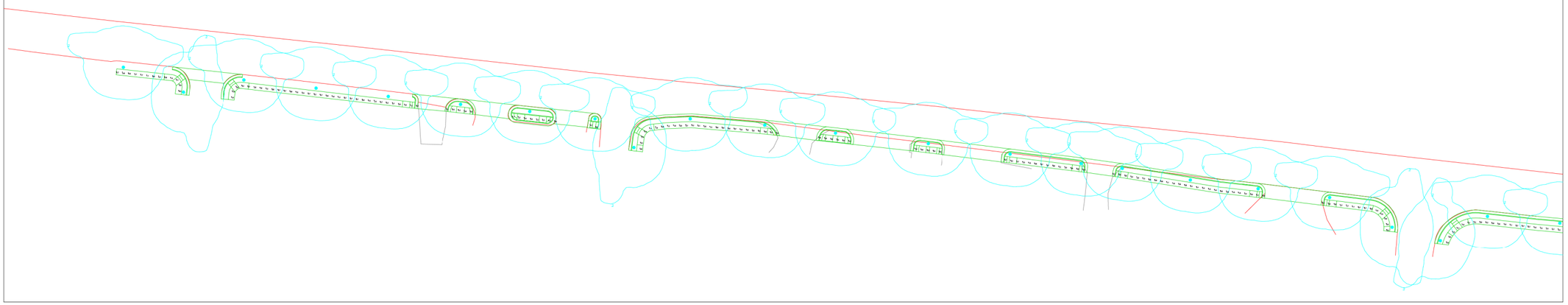
Project Name: Louisa, VA
Drawn by: PMD
Project ID#: DDA-10439
Date: 9/10/2019
Rev: A

Lighting Designs by Dugan

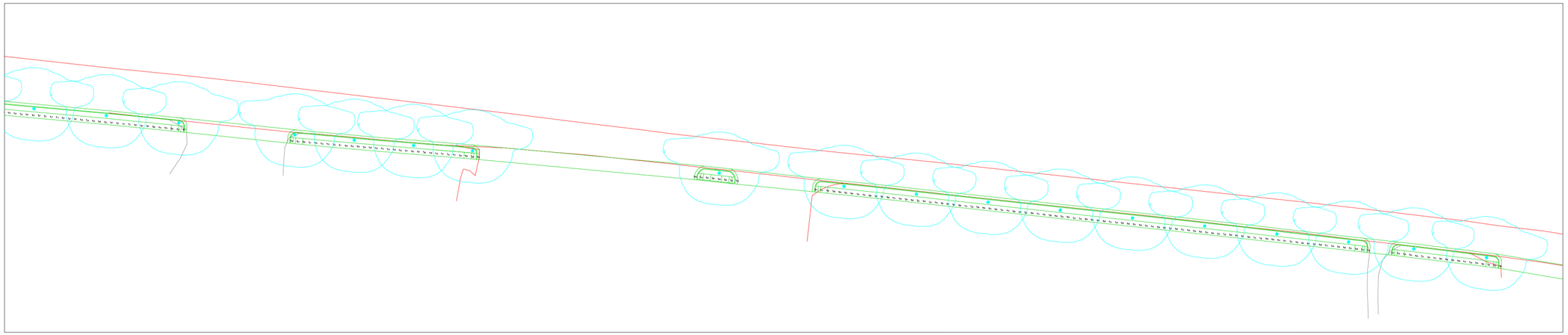
24" x 36"
Page 1 of 2

PROJECT MANAGER ROBERT MILNE, PE (304) 326-6141
SURVEYD BY BRIAN W. SINER (540)-372-3499
DESIGN SUPERVISED BY THE THRASHER GROUP, (304) 343-7601
DESIGNED BY THE THRASHER GROUP, (304) 343-7601

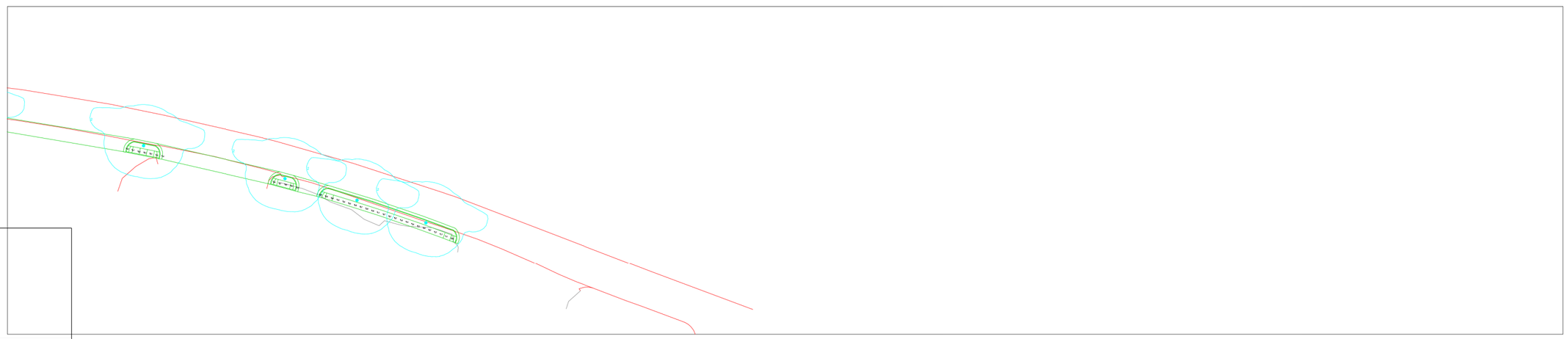
STATE	FEDERAL AID		STATE		UPC #		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	US 33	TAP-5254(202)	US 33	EN17-254-104	US 33	111396	09



Scale: 1 inch= 40 Ft.



Scale: 1 inch= 40 Ft.



Scale: 1 inch= 40 Ft.

Rev	Date	Comments
A	09/10/19	Initial Layout
..	.....	.....
..	.....	.....
..	.....	.....
..	.....	.....

Revisions

Disclaimer

Lighting Designs by Dugan (LDD) assumes no responsibility for any errors in the IES files, background images, or other information provided to LDD to be used in these calculations. Actual or measured results may vary due to manufacturer tolerances, component malfunctions, obstructions, varying surface reflectance's and field conditions. The owner assumes all responsibility for compliance with federal, state and/or local codes and regulations.

Project Name: Louisa, VA
Drawn by: PMD
Project ID#: DDA-10439
Date: 9/10/2019
Rev: A

Lighting Designs by Dugan

24" x 36"
Page 2 of 2