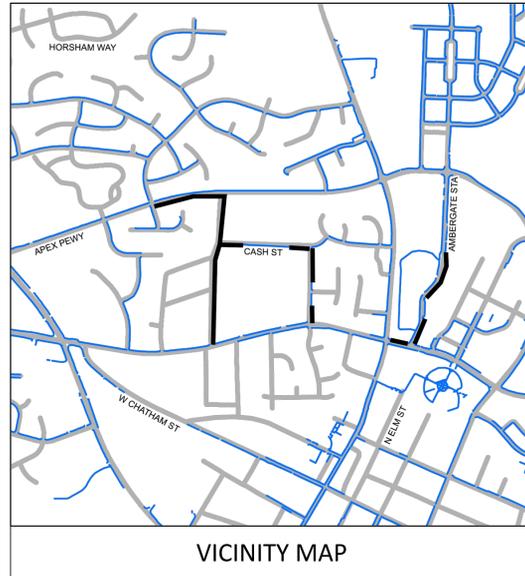


TIP PROJECT: BL-0047



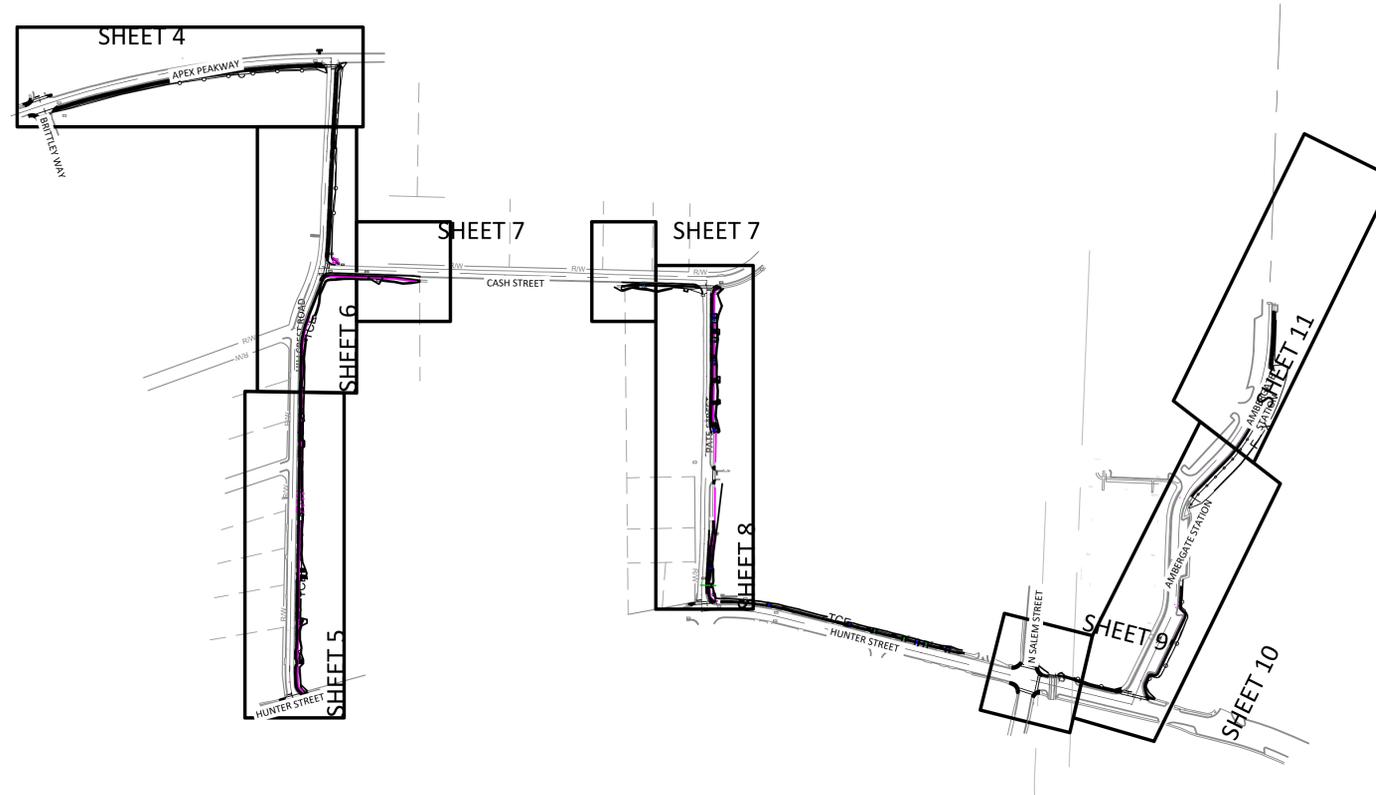
VICINITY MAP

APPROVED EXCEPTIONS	
The following items have been approved as exceptions for this drawing by the Town of Apex Department Director(s), and to the best of my knowledge and belief, this drawing conforms to the requirements established by the Director(s) allowing deviation from the Standard Specifications and Standard Details of the Town of Apex. The signature below represents that the requesting Engineer has been granted a variance ONLY for the items listed. The developer/engineer/contractor is solely responsible for meeting all applicable requirements.	
(List items below add number as needed)	
APPROVED EXCEPTION	DIRECTOR GRANTING EXCEPTION
1. 601 A. 1.	Mike Deaton
2. 602 A. 4.	Mike Deaton
3.	
By: Adam Stephenson Requesting Engineer	Date: 07/19/2024

TOWN OF APEX TRANSPORTATION & INFRASTRUCTURE DEVELOPMENT DOWNTOWN SAFE ROUTES TO SCHOOL & TRANSIT CONNECTIONS

LOCATION: APEX PEAKWAY FROM BRITTTLEY WAY TO HILLCREST ROAD
 HILLCREST ROAD FROM APEX PEAKWAY TO HUNTER STREET
 CASH STREET FROM HILLCREST ROAD TO PATE STREET
 PATE STREET FROM CASH STREET TO HUNTER STREET
 HUNTER STREET FROM PATE STREET TO AMBERGATE STATION
 AMBERGATE STATION FROM HUNTER STREET TO THALES ACADEMY

TYPE OF WORK: GRADING, STORM DRAINAGE, CURB & GUTTER, CONCRETE SIDEWALK



STATE	PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
NC	BL-0047	1	
STATE PROJECT NO.	F.A. PROJECT NO.	DESCRIPTION	

Site Data Table	
Project Centroid	35.738555 N -78.852413 W
Watershed Protection District	Primary & Secondary
River Basin	Cape Fear, Neuse
Grading	Staged

Standard Specifications & Standard Details	
Version:	February 28, 2023

Public Infrastructure (new)	
Sidewalk	4,754 LF
Curb & gutter	1,744 LF
Storm drainage	671 LF
Water line	20 LF

LINEAR PROJECT STORMWATER MANAGEMENT NOTE
 THIS PROJECT MEETS THE SPIRIT AND INTENT OF SECTION E-5 OF THE NORTH CAROLINA DIVISION OF ENVIRONMENTAL QUALITY (DEQ) BMP MANUAL FOR LINEAR TRANSPORTATION PROJECTS. THE TOWN OF APEX IS THE OWNER AND DEVELOPER OF THIS SIDEWALK WHICH IS NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT. THE SIDEWALK WILL BE CONSTRUCTED IN ROAD RIGHT OF WAY FOR THE PURPOSES OF PROVIDING A LINEAR PEDESTRIAN CORRIDOR FOR PUBLIC BENEFIT AS PART OF THE TOWN OF APEX TRANSPORTATION PLAN.

Prepared in the office of:
 TOWN OF APEX
 TRANSPORTATION &
 INFRASTRUCTURE DEVELOPMENT
 105-B UPCHURCH ST
 APEX, NC 27502
 919-249-3417

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Project Engineer P.E.

SHEET INDEX

SHEET#	SHEET
1	TITLE SHEET
1A	SHEET INDEX & GENERAL NOTES
2A	TYPICAL SECTIONS
2B-1 THRU 2B-5	DETAILS
3	DRAINAGE SUMMARY
4 THRU 11	PLAN & PROFILE SHEETS
PM-1	PAVEMENT MARKING PLAN
SIGN-1	SIGNING PLAN
X-1 THRU X-8	CROSS SECTIONS

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. ADDITIONALLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXERCISING REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE ILLUSTRATED DESIGN.
2. PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC, AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGES OCCUR, CONTRACTOR SHALL REPAIR IMMEDIATELY AS DIRECTED BY THE ENGINEER.
3. CONTRACTOR SHALL HOLD HARMLESS THE OWNER AND THE ENGINEER FOR DAMAGES, INJURIES OR OTHER ACCIDENTS WHICH OCCUR DURING THESE CONSTRUCTION ACTIVITIES.
4. TREES AND EXISTING LANDSCAPING NOT DESIGNATED FOR REMOVAL SHALL BE PROTECTED DURING CONSTRUCTION.
5. ALL ELEVATIONS ARE IN REFERENCE TO DESIGNATED BENCHMARKS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATION OF ALL ILLUSTRATED CONSTRUCTION ACTIVITIES AT THE JOB SITE.
7. CONTRACTOR SHALL PROVIDE EXCAVATION AND TRAFFIC CONTROL AS REQUIRED BY LOCAL AUTHORITIES AND ALL APPLICABLE OSHA REGULATIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT HIS EXPENSE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION ADJUSTMENTS OF ALL EXISTING VAULTS (REGARDLESS OF FUNCTION), METER BOXES, FIRE HYDRANTS, CLEAN OUTS, MANHOLES ETC. TO MATCH FINISHED GRADES AND SITE PLAN. ALL SUCH WORK SHALL BE COORDINATED WITH THE ENGINEER.
10. UTILIZE SIGNS, BARRICADES, FLAG MEN, OR GUARDS, PER NCDOT STANDARDS, AS REQUIRED TO ENSURE THE SAFETY OF ALL VEHICULAR AND PEDESTRIAN TRAFFIC DURING ALL CONSTRUCTION ACTIVITIES.
11. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND ADJACENT PROPERTY OWNERS AS REQUIRED FOR WORK OUTSIDE OF PROPERTY LINES.
12. UNDER ABSOLUTELY NO CIRCUMSTANCES SHALL ANY UNMANNED EXCAVATION BE LEFT OPEN OR UNPROTECTED DURING NON-WORKED HOURS. UTILIZE SIGNS, BARRICADES, ETC. TO ENSURE THE SAFETY OF THE GENERAL PUBLIC.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT OF ALL WORK AS ILLUSTRATED ON PLANS. IF EXISTING CONDITIONS DIFFER FROM THOSE ILLUSTRATED ON PLANS, NOTIFY ENGINEER PRIOR TO CONSTRUCTION ACTIVITIES.
14. VERIFY ALL DIMENSIONS AND GRADES AT THE JOB SITE. IF DIFFERENCES ARE FOUND, NOTIFY ENGINEER SO THAT MODIFICATIONS TO THESE DRAWINGS CAN BE MADE.
15. ALL WORK TO BE PERFORMED ACCORDING TO OSHA SAFETY REGULATIONS.
16. THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE TOWN OF APEX FOR ALL REQUIRED INSPECTIONS.
17. ALL UTILITIES OR STRUCTURES NOT DESIGNATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
18. ALL DEMOLITION WORK SHALL BE PERFORMED WITH "DUE CARE AND DILIGENCE" SO AS TO PREVENT THE ARBITRARY DESTRUCTION OR INTERRUPTION OF CONCEALED UTILITIES WHICH ARE INTENDED TO REMAIN IN USE, THE ROUTING OF WHICH COULD NOT BE PREDETERMINED UNTIL DEMOLITION WAS STARTED. ALL SUCH DISCOVERIES OF UTILITIES DURING THE DEMOLITION PROCESS WHICH ARE IN A LOCATION DIFFERENT FROM THAT INDICATED OR ARE UNIDENTIFIED, SHALL BE REPORTED TO THE ENGINEER AND OWNER BEFORE REMOVAL FOR FINAL DISPOSITION.
19. ALL WASTE MATERIAL GENERATED FROM DEMOLITION WORK SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH TOWN OF APEX REGULATIONS.
20. SALVAGEABLE FILL MATERIALS FROM SITE DEMOLITION DETERMINED TO BE ACCEPTABLE BY AN INDEPENDENT SOILS TESTING LABORATORY SHALL BE UTILIZED FOR FILL MATERIAL WHERE APPROPRIATE.
21. ANY NOTE, OR REFERENCE TO ANY ELEMENT, WHICH DOES NOT SPECIFY ACTION BY THE CONTRACTOR SHALL BE CONSTRUED AS INFORMATION ONLY.
22. ALL STRUCTURES/UTILITIES DESIGNATED FOR MODIFICATION SHALL BE PROTECTED BY THE CONTRACTOR DURING CONSTRUCTION.
23. CONTRACTOR SHALL NOTIFY THE NCDOT DISTRICT ENGINEER, IN ACCORDANCE WITH ALL DRIVEWAY PERMITS & ENCROACHMENT AGREEMENTS, PRIOR TO BEGINNING ANY WORK WITHIN THE STATE MAINTAINED RIGHT OF WAY.

***** CAUTION *****

N.C. ONE CALL: UTILITY LOCATOR SERVICE

3 DAYS BEFORE DIGGING CALL
TOLL FREE 1-800-632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY.

*** CAUTION ***

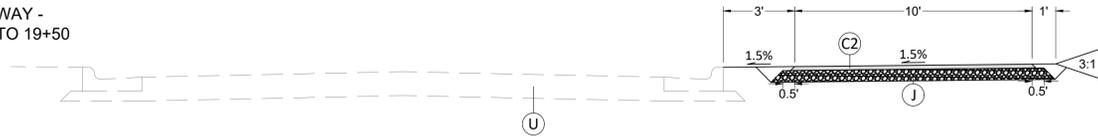
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

TOWN OF APEX
 TRANSPORTATION &
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 105-B UPCHURCH ST
 APEX, NC 27502
 919-249-3417

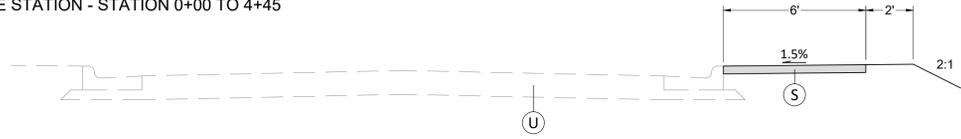


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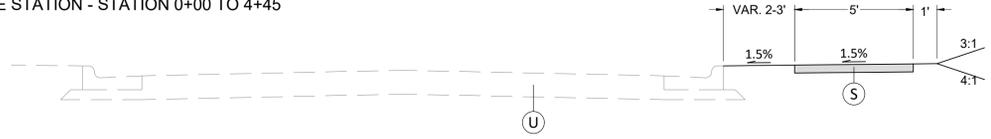
-L1- APEX PEAKWAY -
 STATION 10+50 TO 19+50



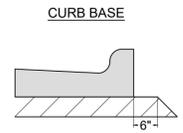
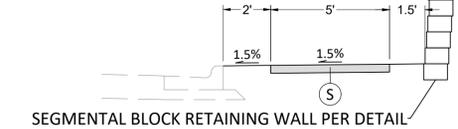
-L2- HILLCREST RD - STATION 0+00 TO 13+30*
 -L6- AMBERGATE STATION - STATION 0+00 TO 4+45



-L2- HILLCREST RD - STATION 0+00 TO 13+30*
 -L6- AMBERGATE STATION - STATION 0+00 TO 4+45

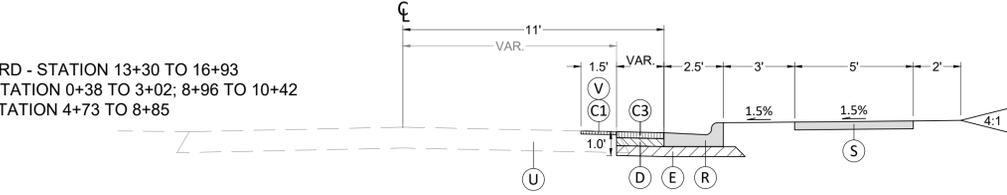


*-L2- HILLCREST RD - STATION 2+86 TO 3+68; 7+60 TO 8+06

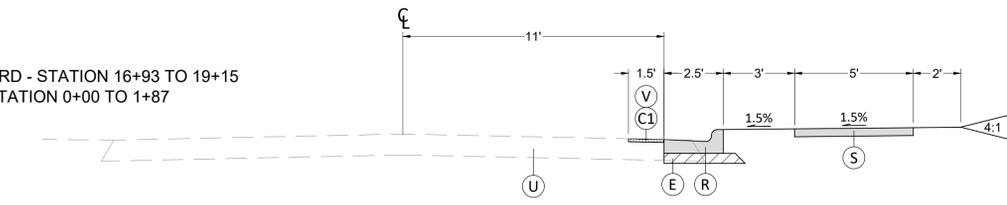


SEGMENTAL BLOCK RETAINING WALL PER DETAIL

-L2- HILLCREST RD - STATION 13+30 TO 16+93
 -L3- CASH ST - STATION 0+38 TO 3+02; 8+96 TO 10+42
 -L4- PATE ST - STATION 4+73 TO 8+85

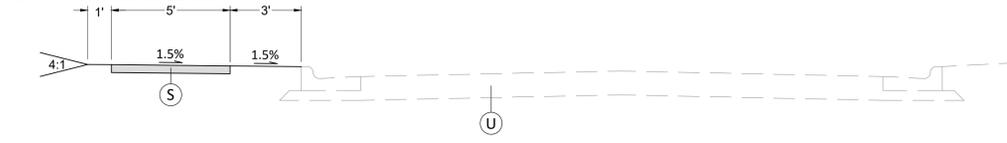


-L2- HILLCREST RD - STATION 16+93 TO 19+15
 -L4- PATE ST - STATION 0+00 TO 1+87

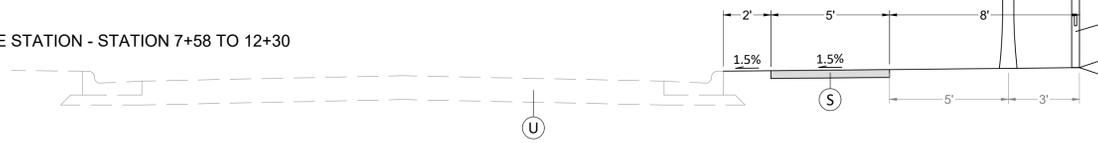


PAVEMENT SCHEDULE	
C1	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, 1 1/2 INCH DEPTH
C2	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, 2 INCH DEPTH
C3	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, 3 INCH DEPTH
D	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, 4 INCH DEPTH
E	ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 5 INCH DEPTH
J	6" AGGREGATE BASE COURSE
R	30 INCH CONCRETE CURB AND GUTTER
S	CONCRETE SIDEWALK, 4 INCH DEPTH, 6 INCH DEPTH AT DRIVEWAYS
U	EXISTING PAVEMENT
V	MILLING, 1 1/2 INCH DEPTH

-L5- HUNTER ST - STATION 11+00 TO 22+63



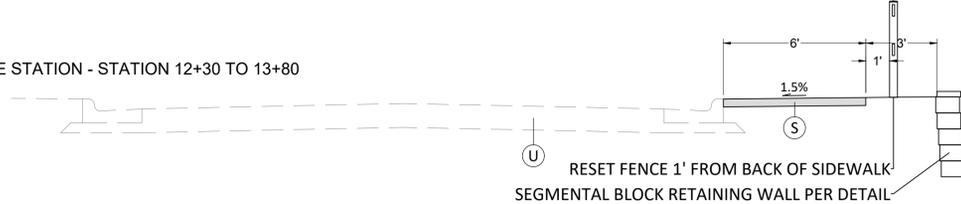
-L6- AMBERGATE STATION - STATION 7+58 TO 12+30



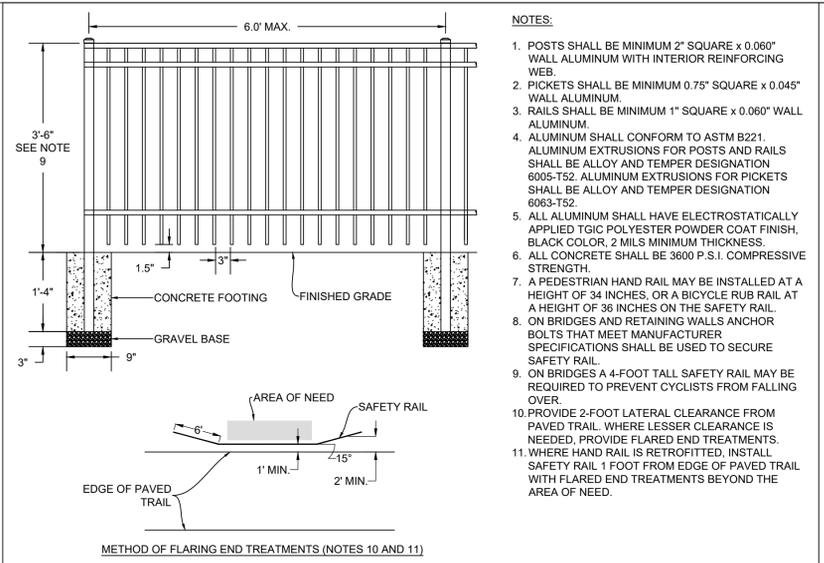
PLANT REPLACEMENT TREES *ULMUS PARVIFOLIA* (CHINESE ELM)
 10 GALLON, 6' TALL
 5' FROM BACK OF SIDEWALK
 SEE PLANTING DETAIL, SHEET 2B

RESET FENCE 8' FROM BACK OF SIDEWALK

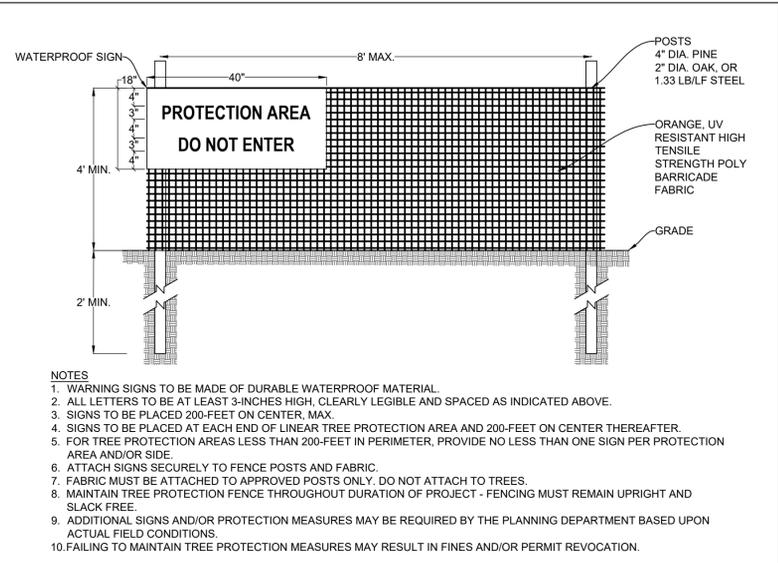
-L6- AMBERGATE STATION - STATION 12+30 TO 13+80



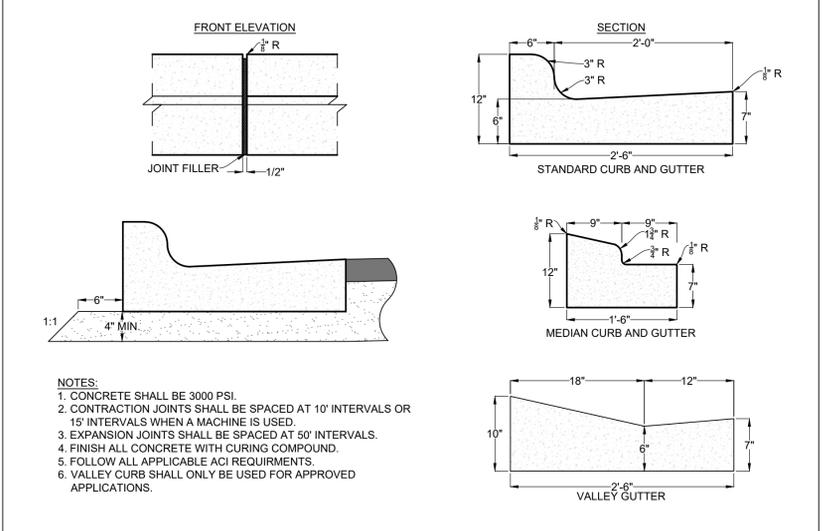
RESET FENCE 1' FROM BACK OF SIDEWALK
 SEGMENTAL BLOCK RETAINING WALL PER DETAIL



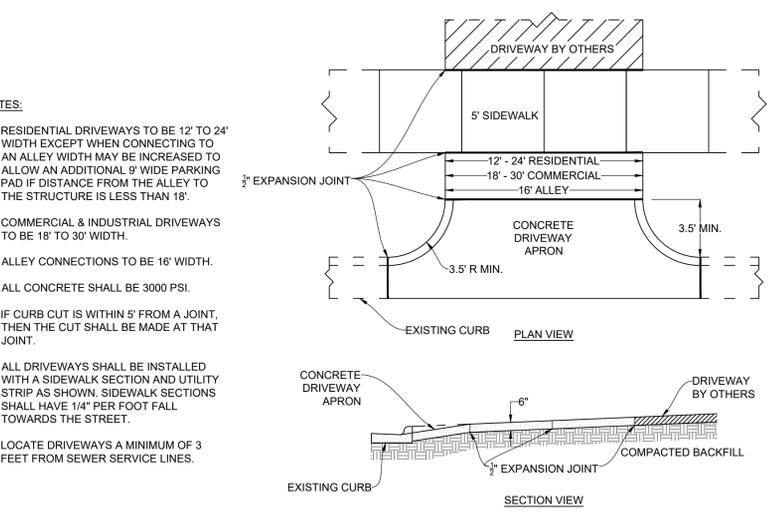
TOWN OF APEX STANDARDS **SAFETY RAIL** STD. NO. **200.03** SHEET 1 OF 1



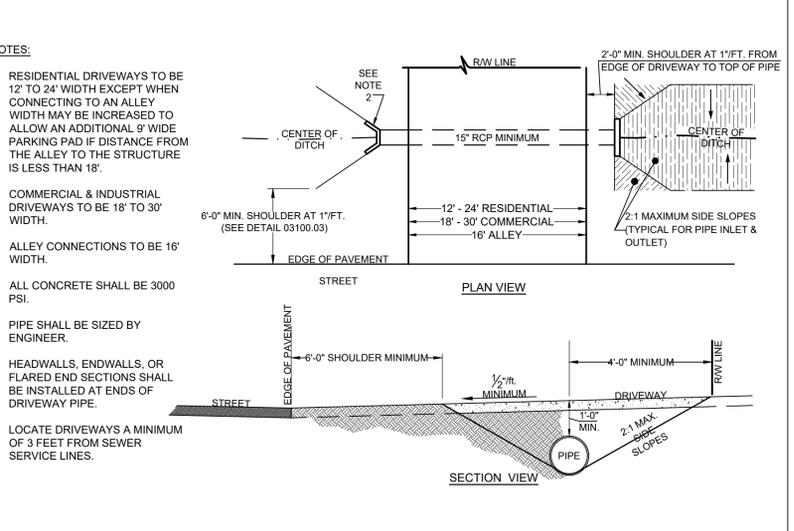
TOWN OF APEX STANDARDS **TREE PROTECTION FENCE** STD. NO. **200.06** SHEET 1 OF 1



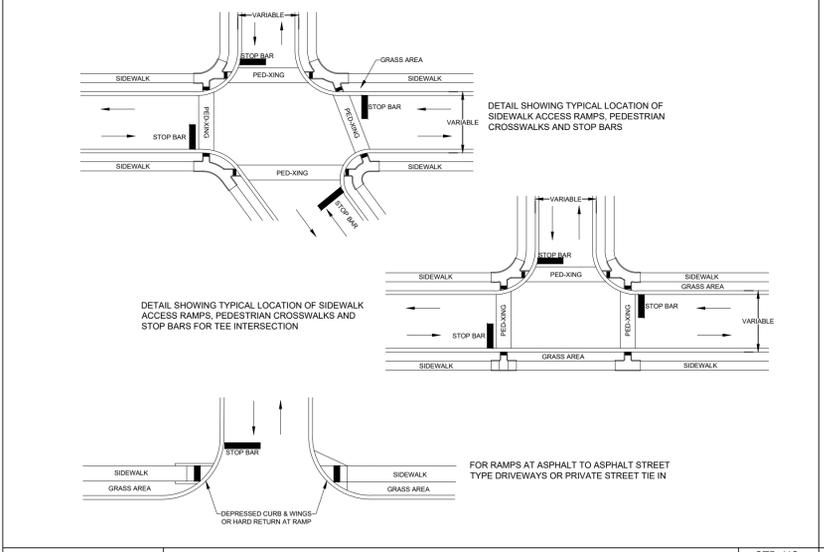
TOWN OF APEX STANDARDS **CONCRETE CURB AND GUTTER** STD. NO. **300.03** SHEET 1 OF 1



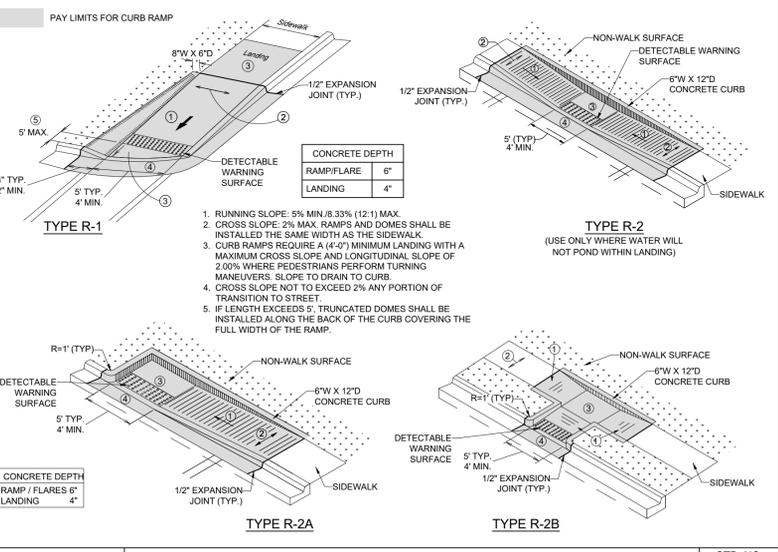
TOWN OF APEX STANDARDS **DRIVEWAY APRON (CURB & GUTTER)** STD. NO. **300.07** SHEET 1 OF 2



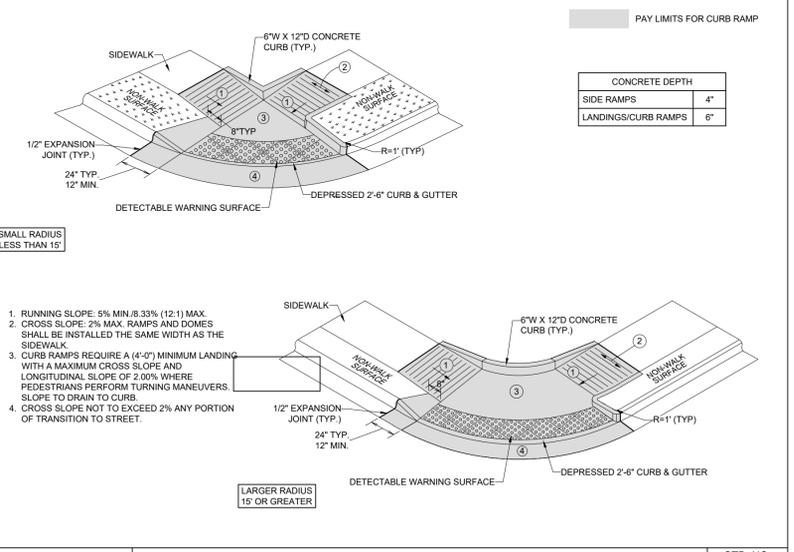
TOWN OF APEX STANDARDS **DRIVEWAY APRON (NO CURB & GUTTER)** STD. NO. **300.07** SHEET 2 OF 2



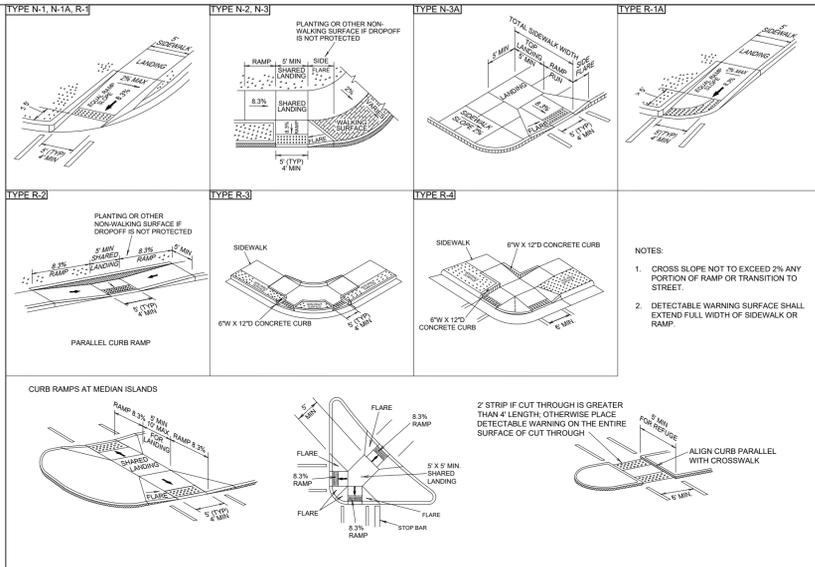
TOWN OF APEX STANDARDS **CURB RAMP (LOCATION)** STD. NO. **300.09** SHEET 1 OF 14



TOWN OF APEX STANDARDS **CURB RAMP (RETROFIT)** STD. NO. **300.09** SHEET 5 OF 14



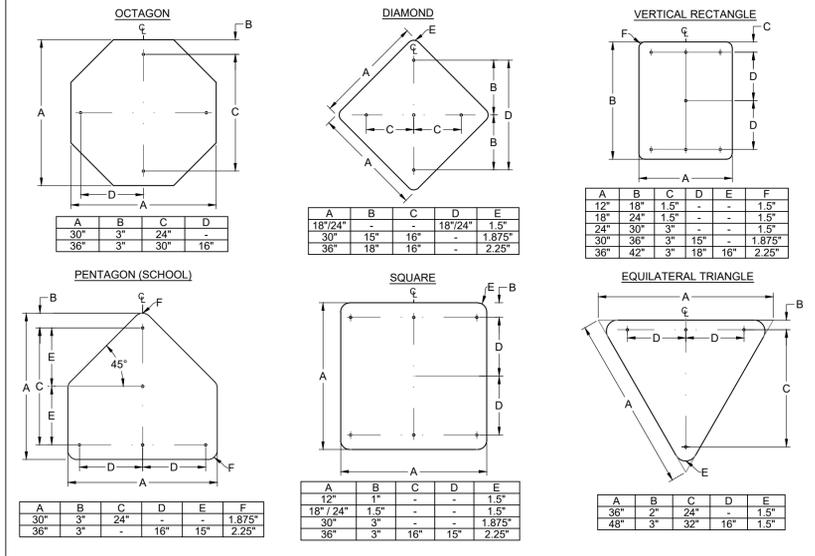
TOWN OF APEX STANDARDS **CURB RAMP (RETROFIT, SHARED FLARE)** STD. NO. **300.09** SHEET 7 OF 14



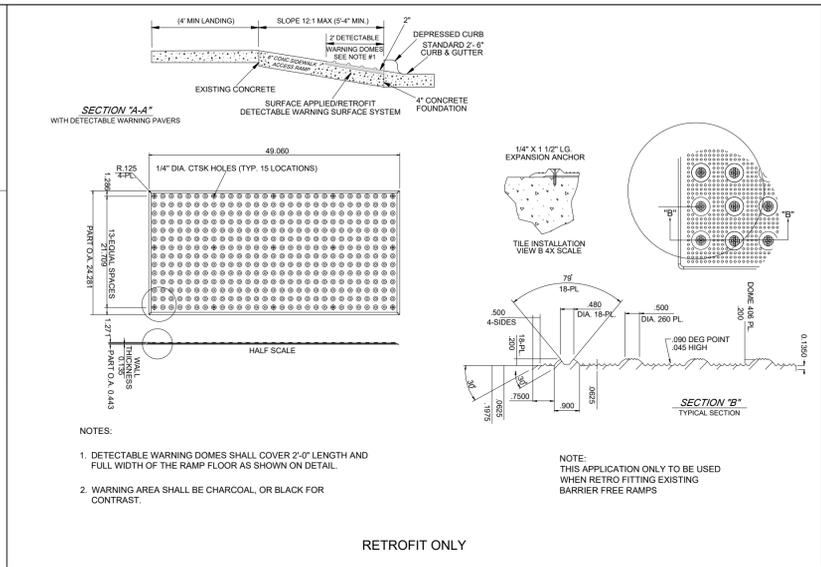
TOWN OF APEX STANDARDS	CURB RAMP (DETECTABLE WARNING PLACEMENT)	STD. NO. 300.09
EFFECTIVE: FEBRUARY 28, 2023		SHEET 9 OF 14

- STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).
- CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.
- THE WALKING SURFACE SHALL BE SLIP RESISTANT. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE GRAY, CHARCOAL, OR BLACK FOR CONTRAST.
- RUNNING SLOPE OF RAMPS SHALL BE 5 PERCENT MINIMUM AND 8.3 PERCENT MAXIMUM BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET.
- IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48". ALL RAMPS SHALL BE INSTALLED AT THE SAME WIDTH AS THE SIDEWALK.
- USE CLASS A (3,000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.
- A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
- CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.

TOWN OF APEX STANDARDS	CURB RAMP (GENERAL NOTES)	STD. NO. 300.09
EFFECTIVE: FEBRUARY 28, 2023		SHEET 14 OF 14



TOWN OF APEX STANDARDS	STREET SIGNS 3/8" BOLT HOLES	STD. NO. 300.26
EFFECTIVE: NOVEMBER 19, 2019		SHEET 3 OF 4



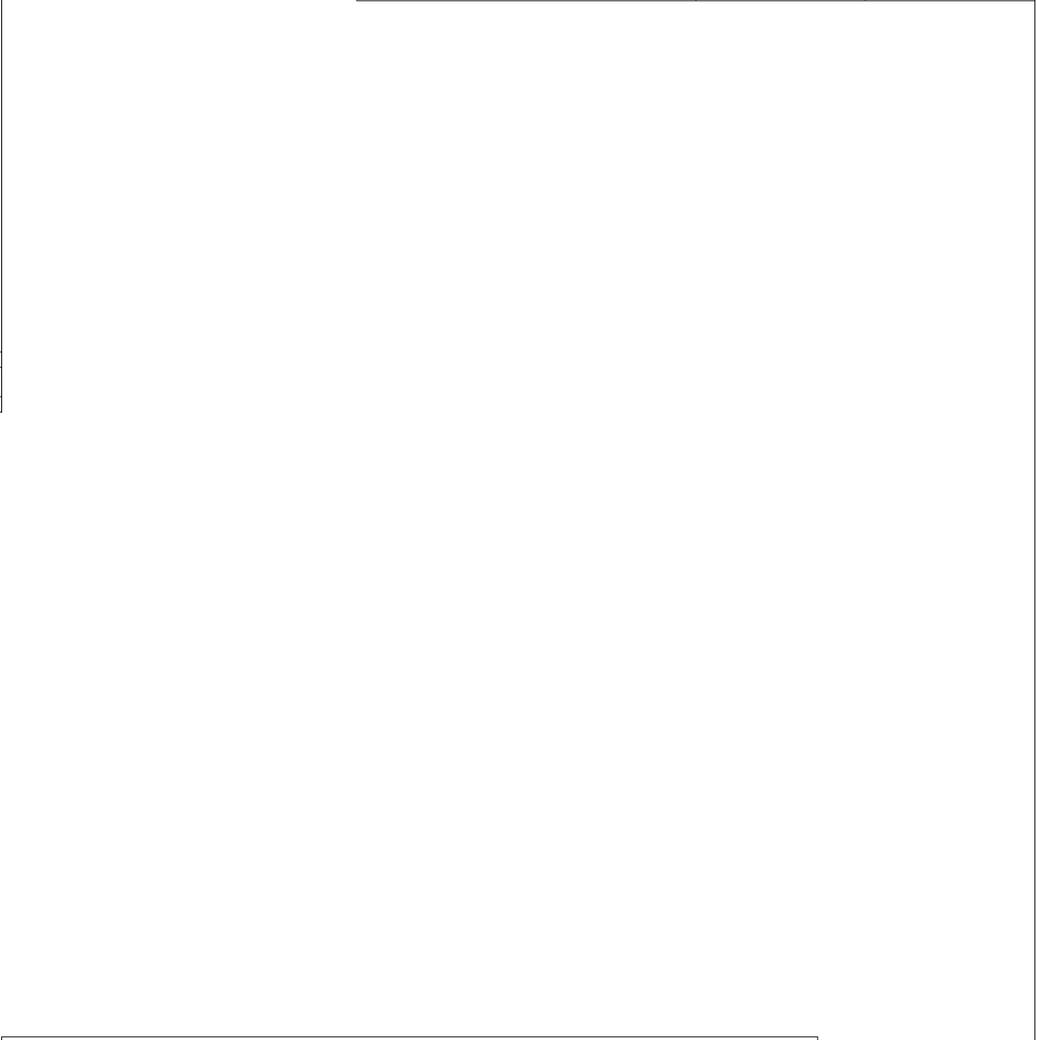
TOWN OF APEX STANDARDS	CURB RAMP (DETECTABLE WARNING - SURFACE APPLIED)	STD. NO. 300.09
EFFECTIVE: FEBRUARY 28, 2023		SHEET 12 OF 14

TOWN OF APEX
 PUBLIC WORKS & TRANSPORTATION
 ENGINEERING DIVISION
 73 HUNTER STREET
 APEX, NC 27502
 919-249-3417

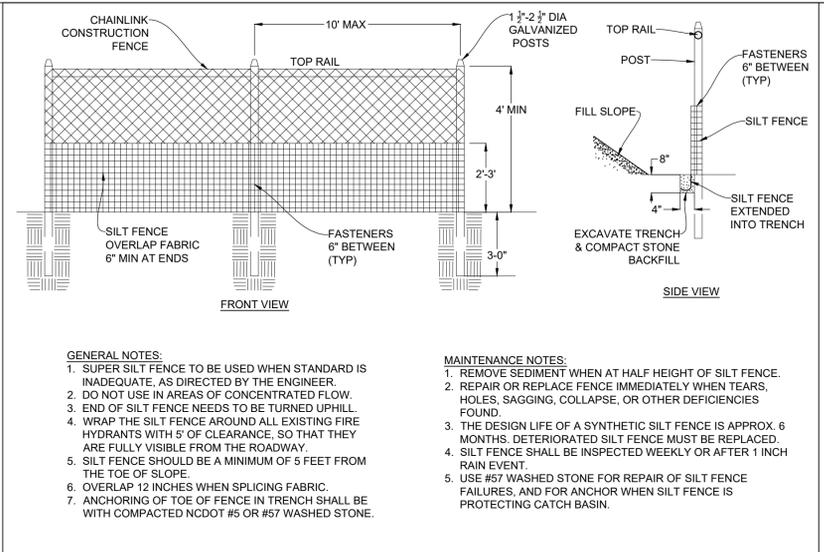
PROJECT REFERENCE NO.
BL-0047

SHEET NO.
2B-2

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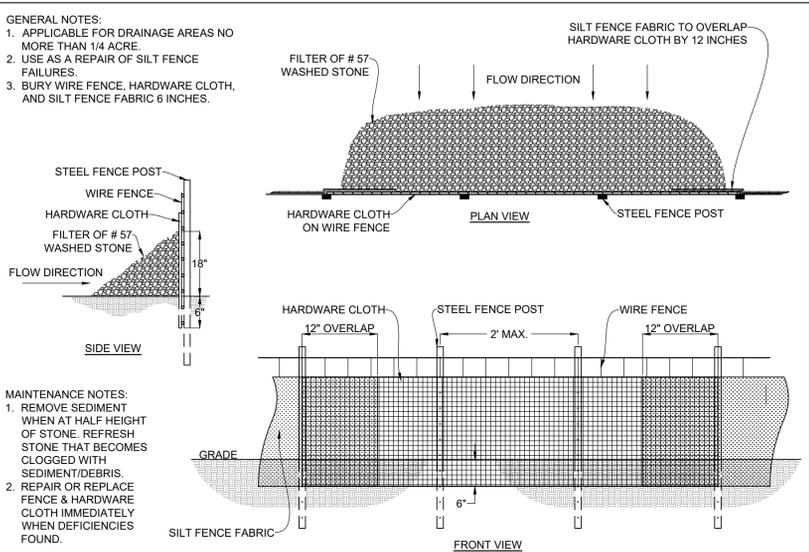
TOWN OF APEX STANDARDS	TEMPORARY SILT FENCE	STD. NO. 400.01
EFFECTIVE: JUNE 11, 2024		SHEET 1 OF 2



TOWN OF APEX STANDARDS
EFFECTIVE: JUNE 11, 2024

TEMPORARY SILT FENCE (SUPER SILT FENCE)

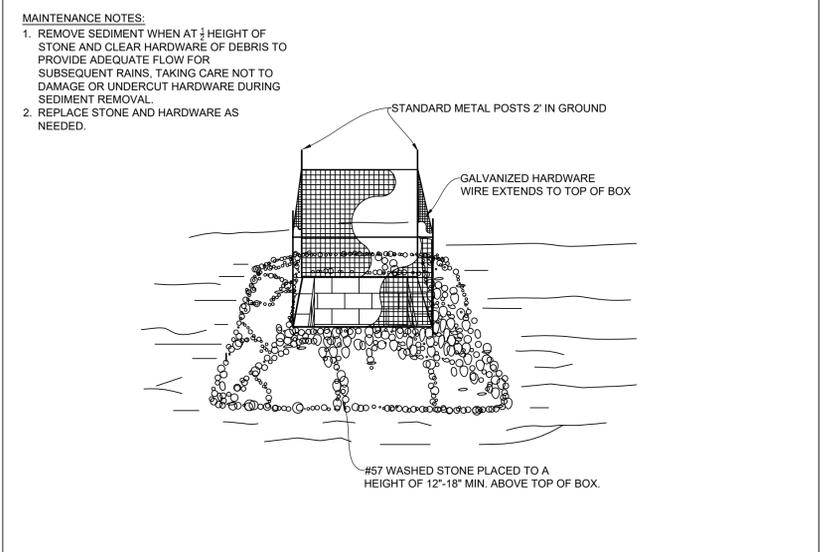
STD. NO. **400.01**
SHEET 2 OF 2



TOWN OF APEX STANDARDS
EFFECTIVE: JUNE 11, 2024

TEMPORARY SILT FENCE OUTLET

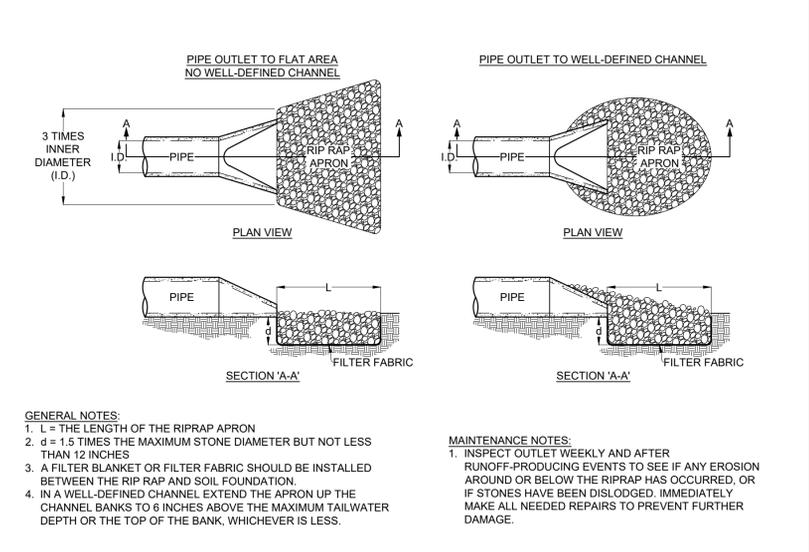
STD. NO. **400.02**
SHEET 1 OF 1



TOWN OF APEX STANDARDS
EFFECTIVE: JUNE 11, 2024

CATCH BASIN & YARD INLET PROTECTION

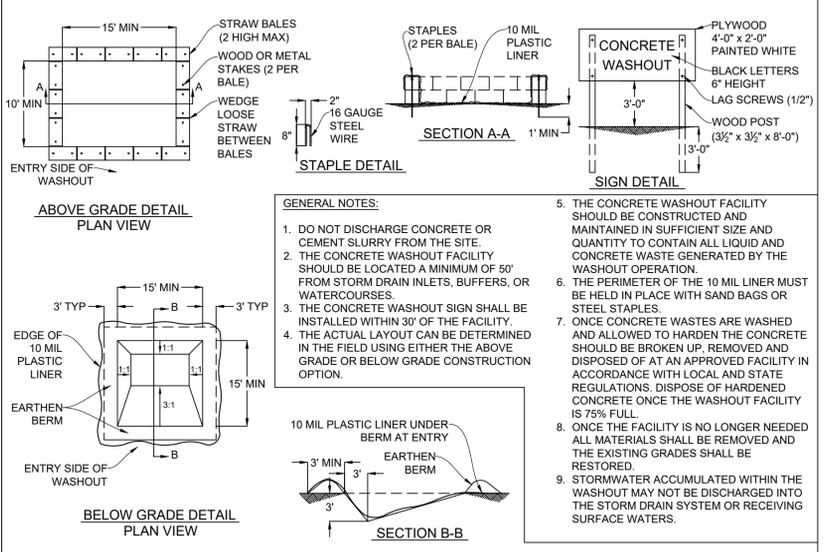
STD. NO. **400.04**
SHEET 1 OF 1



TOWN OF APEX STANDARDS
EFFECTIVE: JUNE 11, 2024

PIPE OUTLET

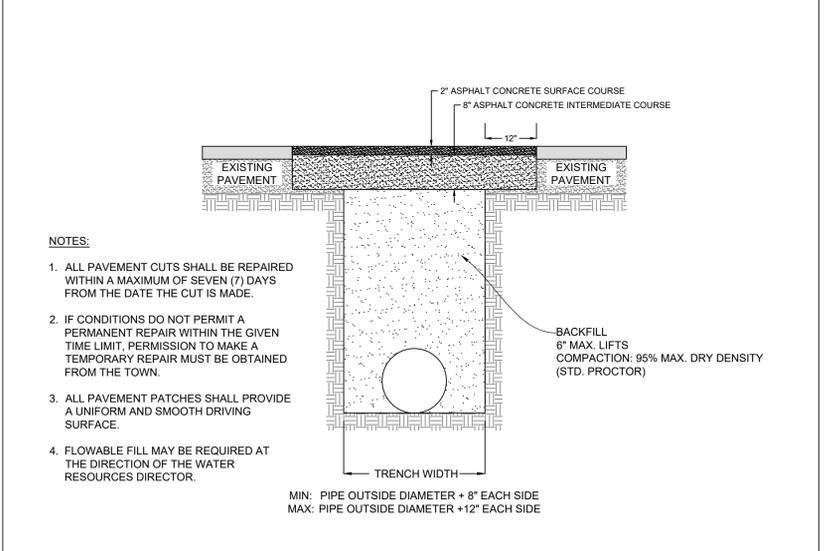
STD. NO. **400.18**
SHEET 1 OF 1



TOWN OF APEX STANDARDS
EFFECTIVE: MAY 5, 2020

TEMPORARY CONCRETE WASHOUT

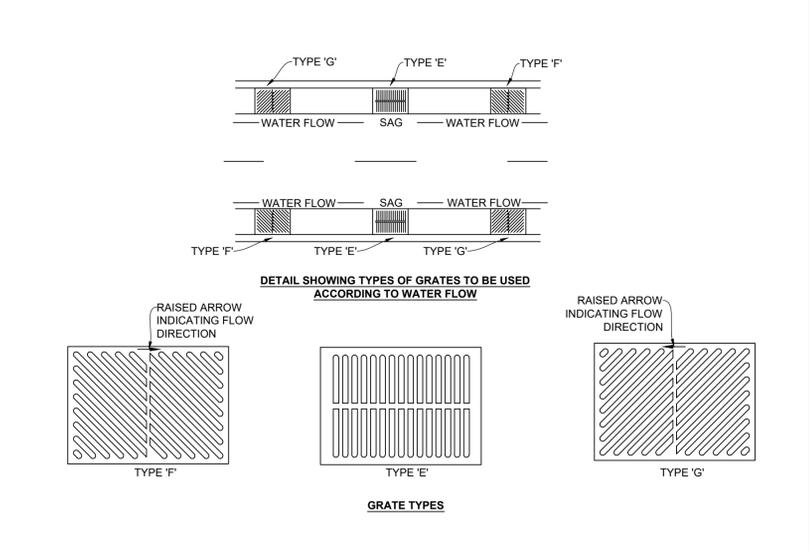
STD. NO. **400.20**
SHEET 1 OF 1



TOWN OF APEX STANDARDS
EFFECTIVE: MARCH 23, 2021

TRENCH & PAVEMENT REPAIR SECTION FOR ASPHALT

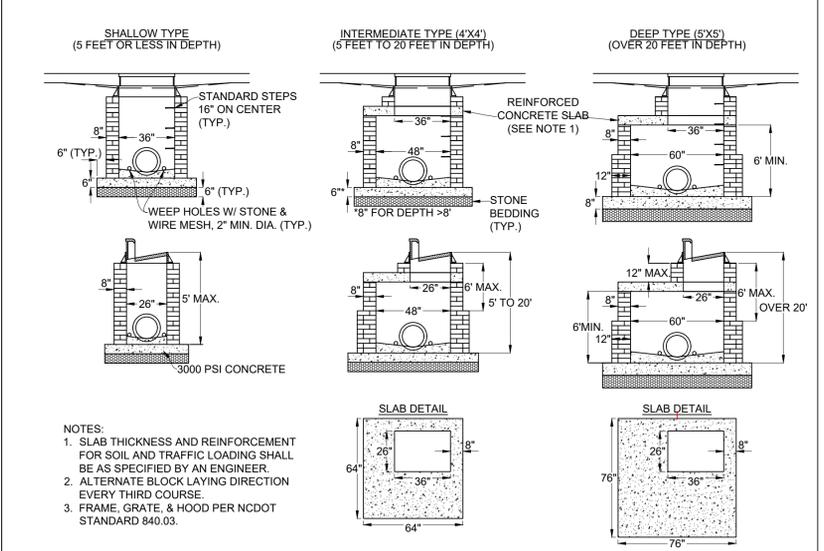
STD. NO. **450.04**
SHEET 1 OF 1



TOWN OF APEX STANDARDS
EFFECTIVE: DECEMBER 3, 2002

GRATE PLACEMENT DETAIL FOR CATCH BASIN

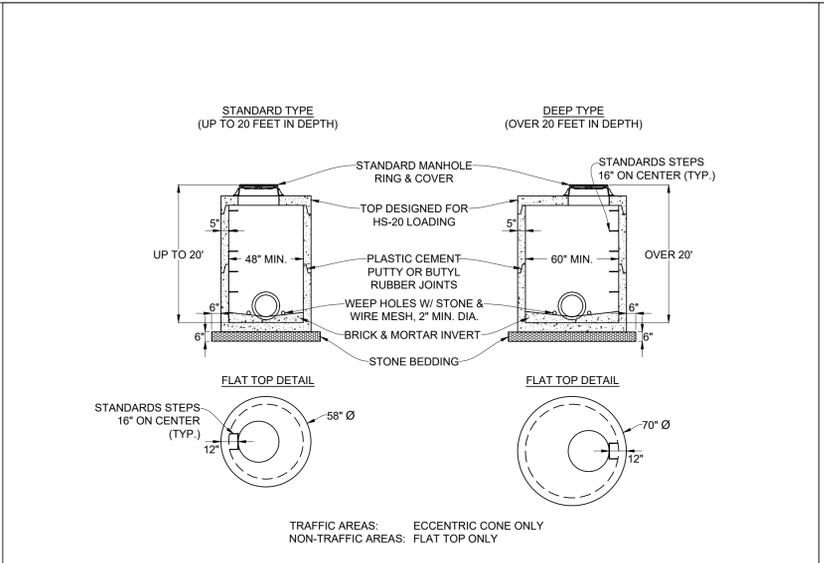
STD. NO. **500.03**
SHEET 1 OF 1



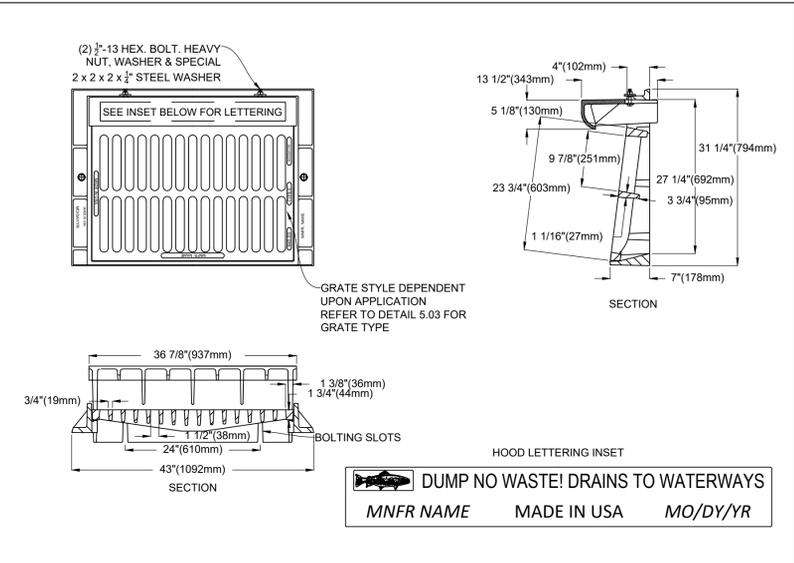
TOWN OF APEX STANDARDS
EFFECTIVE: DECEMBER 18, 2012

BLOCK CATCH BASIN DETAIL

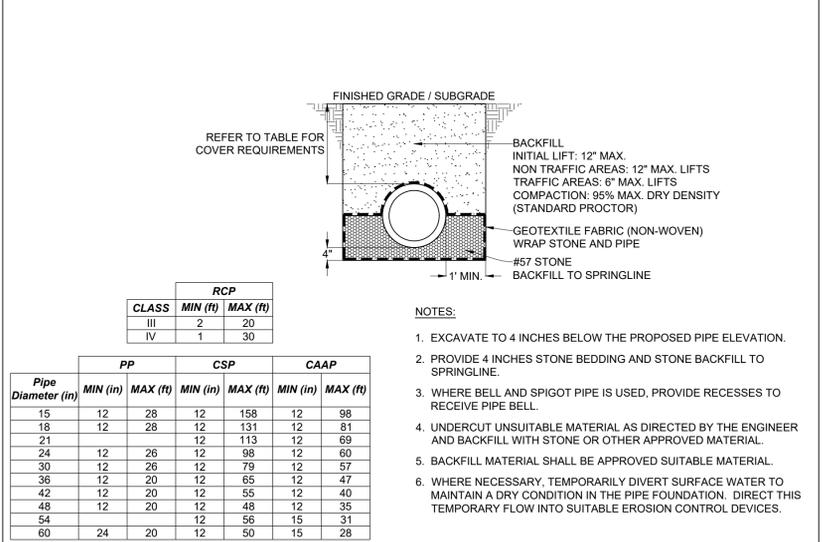
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SHEET 1 OF 1



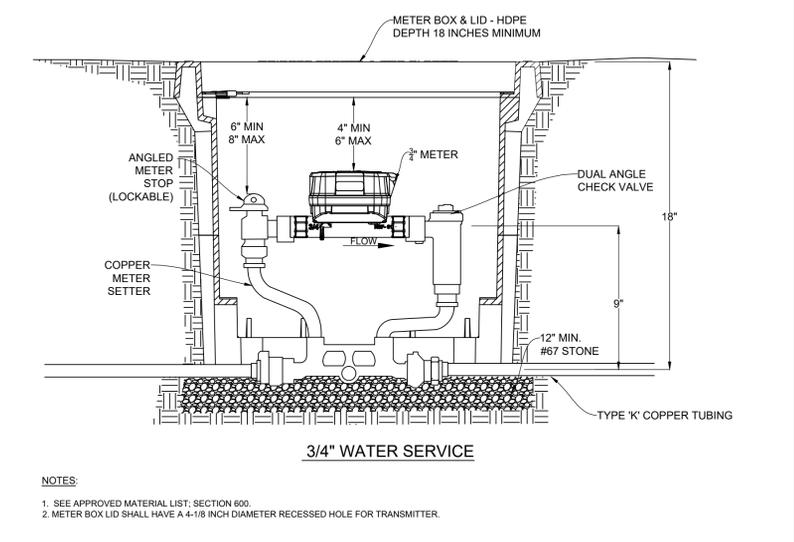
TOWN OF APEX STANDARDS PRECAST MANHOLE JUNCTION BOX STD. NO. 500.06 SHEET 1 OF 1 EFFECTIVE: DECEMBER 18, 2012



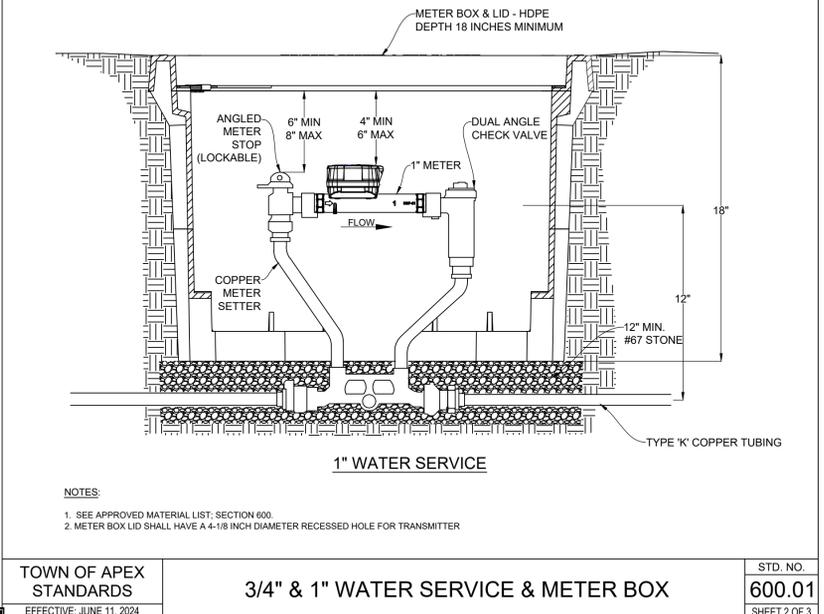
TOWN OF APEX STANDARDS FRAME DETAIL FOR CATCH BASIN STD. NO. 500.08 SHEET 1 OF 1 EFFECTIVE: DECEMBER 3, 2002



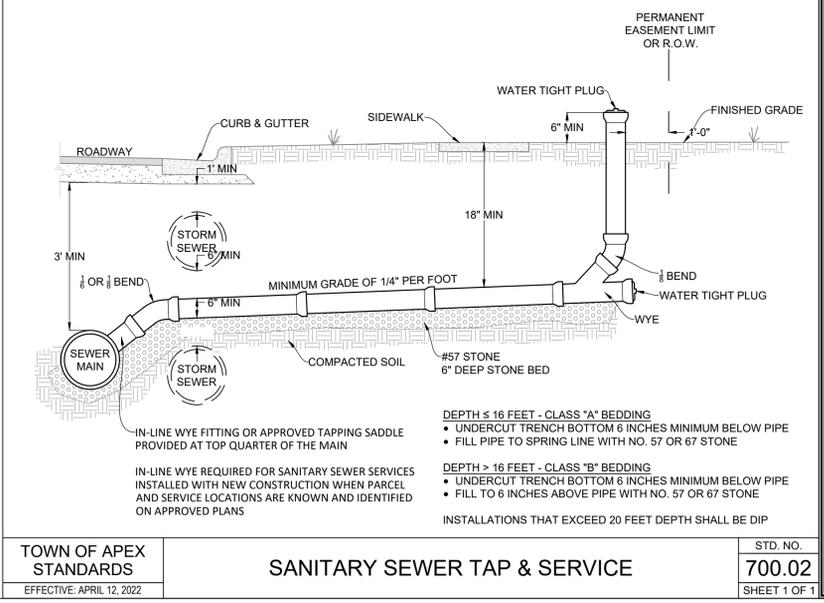
TOWN OF APEX STANDARDS STORM DRAIN PIPE BEDDING & BACKFILLING STD. NO. 500.09 SHEET 1 OF 1 EFFECTIVE: JUNE 11, 2024



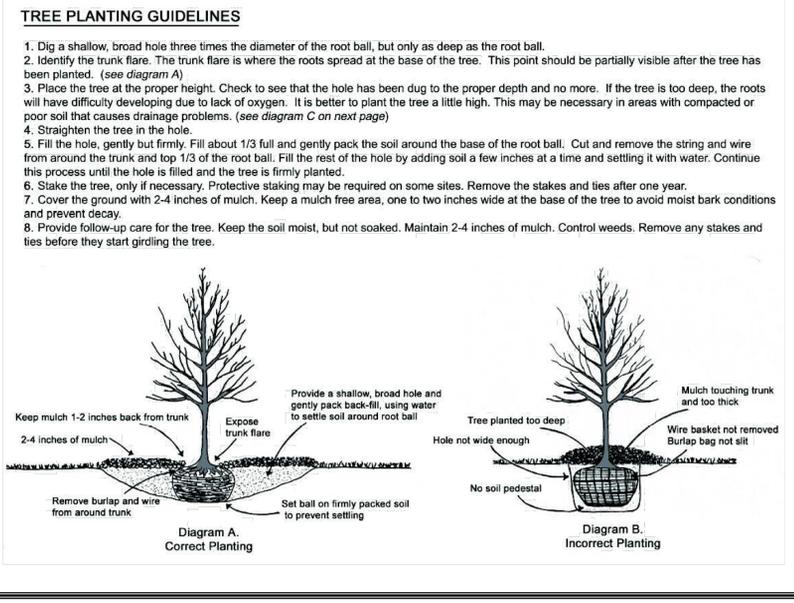
TOWN OF APEX STANDARDS 3/4" & 1" WATER SERVICE & METER BOX STD. NO. 600.01 SHEET 1 OF 3 EFFECTIVE: JUNE 11, 2024



TOWN OF APEX STANDARDS 3/4" & 1" WATER SERVICE & METER BOX STD. NO. 600.01 SHEET 2 OF 3 EFFECTIVE: JUNE 11, 2024



TOWN OF APEX STANDARDS SANITARY SEWER TAP & SERVICE STD. NO. 700.02 SHEET 1 OF 1 EFFECTIVE: APRIL 12, 2022



TOWN OF APEX STANDARDS TREE PLANTING GUIDELINES STD. NO. 700.03 SHEET 1 OF 1 EFFECTIVE: JUNE 11, 2024

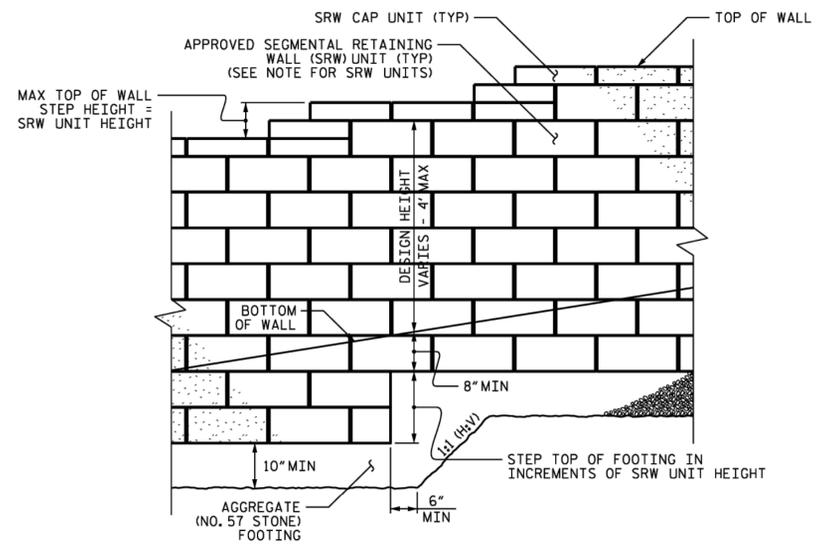


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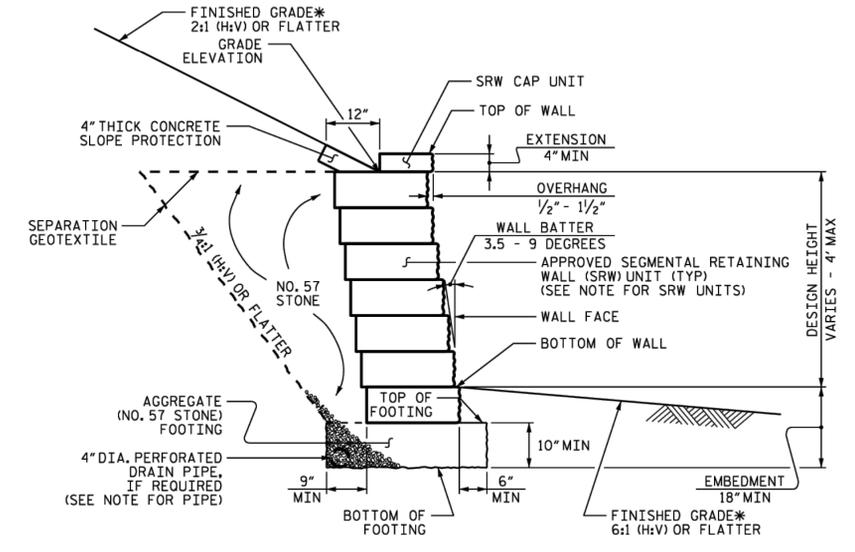
GEOTECHNICAL ENGINEER
 ENGINEER

SEAL
 PE #
 ENGINEER'S
 SEAL NAME

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



STANDARD SEGMENTAL GRAVITY WALL - PARTIAL ELEVATION



STANDARD SEGMENTAL GRAVITY WALL WITH SLOPE
 *SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

NOTES:

FOR STANDARD SEGMENTAL GRAVITY RETAINING WALLS, SEE SEGMENTAL GRAVITY RETAINING WALLS PROVISION.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

DO NOT ATTACH FENCES OR HANDRAILS TO STANDARD SEGMENTAL GRAVITY WALLS.

DO NOT USE STANDARD SEGMENTAL GRAVITY WALLS FOR INTERSTATE HIGHWAY OR RAILROAD PROJECTS.

DO NOT USE STANDARD SEGMENTAL GRAVITY WALLS WHEN SURCHARGE LOADS WILL BE WITHIN 5'-6" OF THE BACK OF SRW CAP UNITS.

DO NOT USE STANDARD SEGMENTAL GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW WALLS.

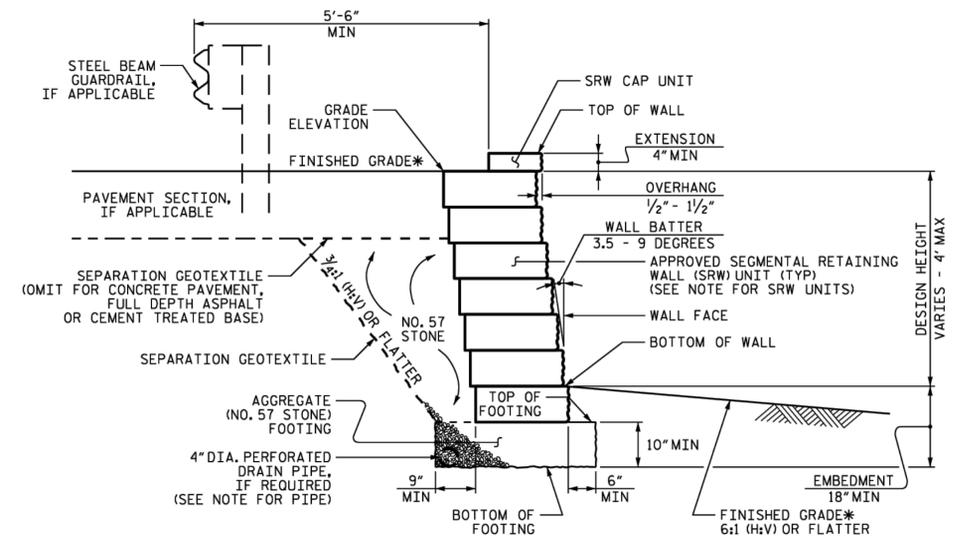
SEGMENTAL RETAINING WALL (SRW) UNITS ARE APPROVED FOR EITHER 2' OR 4' MAXIMUM DESIGN HEIGHTS. FOR DETAILS AND DIMENSIONS OF APPROVED SRW UNITS AND MAXIMUM DESIGN HEIGHTS, SEE connect.ncdot.gov/resources/Geological/Pages/Products.aspx

DO NOT MIX APPROVED SRW UNITS FROM DIFFERENT VENDORS ON THE SAME STANDARD SEGMENTAL GRAVITY WALL. USE THE SAME SIZE APPROVED SRW UNITS FOR EACH WALL SECTION.

BEFORE BEGINNING STANDARD SEGMENTAL GRAVITY WALL CONSTRUCTION, SURVEY WALL LOCATIONS AND SUBMIT WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. FOR WALL ENVELOPES, INCLUDE BOTTOM OF WALL, EXISTING GROUND AND GRADE ELEVATIONS AND OTHER ELEVATIONS AS NEEDED AT INTERVALS OF 25' OR LESS ALONG WALLS. DO NOT START WALL CONSTRUCTION UNTIL WALL ENVELOPES ARE ACCEPTED.

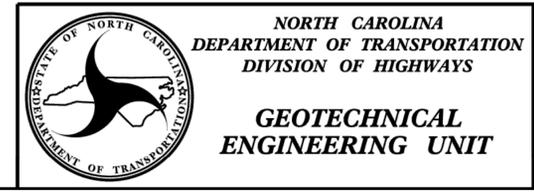
A DRAIN PIPE IS REQUIRED IF GROUNDWATER IS ABOVE BOTTOM OF FOOTINGS.

DO NOT PLACE NO. 57 STONE FOR FOOTINGS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



STANDARD SEGMENTAL GRAVITY WALL WITHOUT SLOPE
 *SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: _____ COUNTY _____
 STATION: _____
 SHEET OF _____



STANDARD DETAIL NO. 453.02

STANDARD SEGMENTAL GRAVITY RETAINING WALL

SHEET NO. _____

DATE: 3-17-15

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 919-249-3417



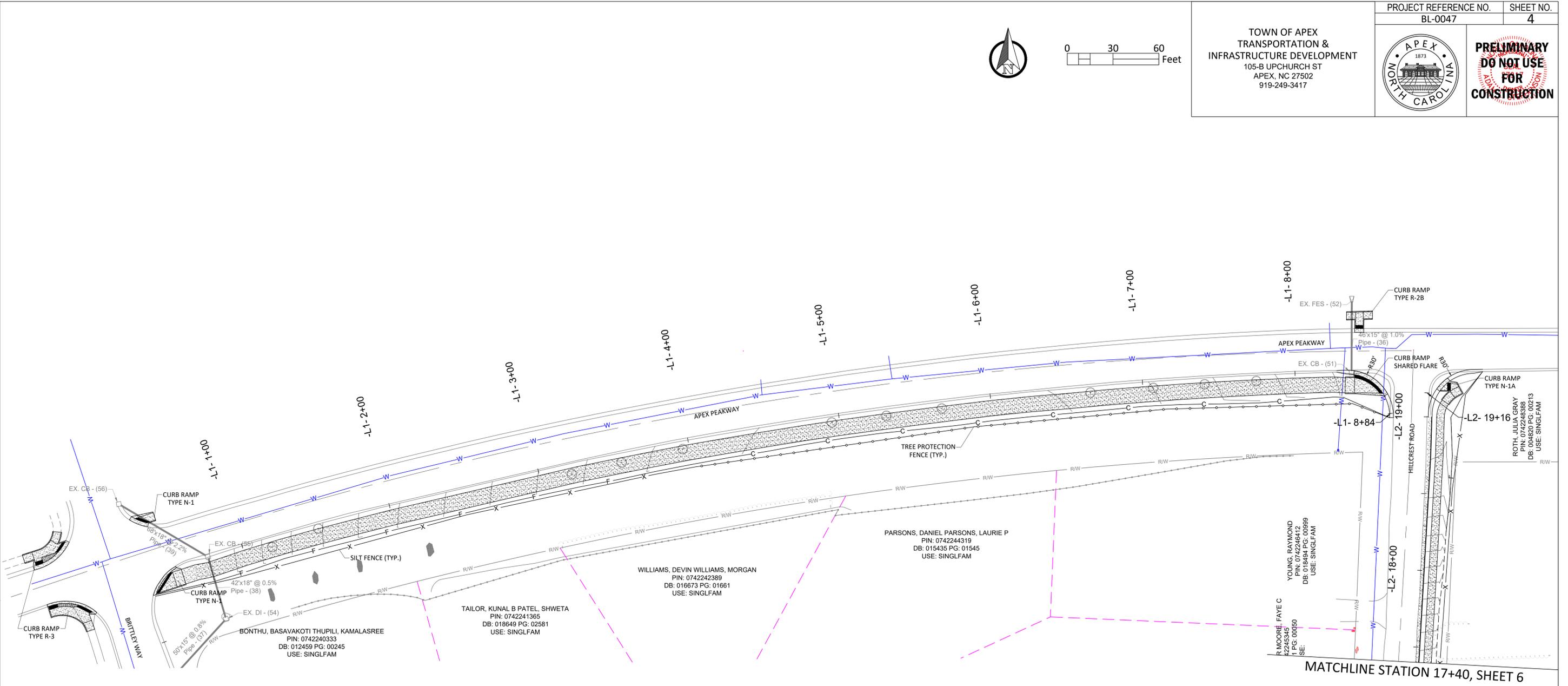
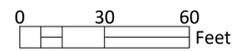
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Line No.	Alignment				Flow Data				Physical Data							Line ID	
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)		Inlet/ Rim El (ft)
1	End	67.591	30.454	DrGrt	3.69	0.00	0.00	0.0	455.00	2.25	456.52	18	Cir	0.013	1.09	462.31	Pipe - (39)
2	1	42.222	43.174	DrGrt	1.10	0.00	0.00	0.0	456.52	0.50	456.73	18	Cir	0.013	1.32	462.43	Pipe - (38)
3	2	49.793	58.817	DrGrt	0.36	0.00	0.00	0.0	456.73	0.80	457.13	15	Cir	0.013	1.00	461.19	Pipe - (37)
4	End	46.248	90.164	DrGrt	0.00	0.00	0.00	0.0	456.77	1.02	457.24	15	Cir	0.013	1.00	470.04	Pipe - (36)
5	End	35.214	26.408	DrCrb	15.81	0.00	0.00	0.0	462.77	3.86	464.13	24	Cir	0.013	1.55	472.33	Pipe - (42)
6	5	63.869	-115.162	DrCrb	9.11	0.00	0.00	0.0	464.13	4.20	466.81	15	Cir	0.013	1.50	471.01	Pipe - (41)
7	6	26.036	89.799	DrCrb	2.90	0.00	0.00	0.0	466.81	6.15	468.41	15	Cir	0.013	1.50	471.51	Pipe - (40)
8	7	7.538	-94.094	DrCrb	0.00	0.00	0.00	0.0	468.50	6.63	469.00	15	Cir	0.013	1.00	471.47	Pipe - (80)
9	5	47.741	-9.707	DrGrt	6.66	0.00	0.00	0.0	464.13	1.82	465.00	24	Cir	0.013	0.73	470.48	Pipe - (43)
10	9	133.573	25.640	DrCrb	0.43	0.00	0.00	0.0	464.00	1.50	466.00	24	Cir	0.013	1.00	485.42	Pipe - (60)
11	End	36.663	-13.916	DrCrb	0.00	0.00	0.00	0.0	458.81	0.71	459.07	24	Cir	0.013	1.50	462.86	Pipe - (35)
12	11	27.365	-11.657	DrCrb	0.00	0.00	0.00	0.0	459.07	1.57	459.50	15	Cir	0.013	0.78	462.96	Pipe - (27)
13	12	115.329	27.546	DrCrb	0.00	0.00	0.00	0.0	459.70	1.99	462.00	15	Cir	0.013	0.78	466.90	Pipe - (26)
14	13	26.448	27.766	DrGrt	0.00	0.00	0.00	0.0	463.20	14.37	467.00	15	Cir	0.013	1.00	472.84	Pipe - (25)
15	11	11.711	130.306	DrCrb	0.00	0.00	0.00	0.0	459.20	0.85	459.30	15	Cir	0.013	1.00	462.80	Pipe - (81)
16	End	74.375	-34.468	DrCrb	0.00	0.00	0.00	0.0	459.76	0.32	460.00	18	Cir	0.013	1.50	463.38	Pipe - (34)
17	16	20.951	85.258	DrCrb	0.00	0.00	0.00	0.0	460.00	4.77	461.00	15	Cir	0.013	1.22	463.94	Pipe - (32)
18	17	10.183	-51.302	None	0.00	0.00	0.00	0.0	461.00	4.91	461.50	15	Cir	0.013	1.00	463.80	Pipe - (31)
19	16	21.080	-94.735	DrCrb	0.00	0.00	0.00	0.0	460.00	5.36	461.13	15	Cir	0.013	1.00	464.25	Pipe - (33)
20	End	31.337	91.301	DrGrt	0.00	0.00	0.00	0.0	489.93	4.95	491.48	15	Cir	0.013	1.00	493.92	Pipe - (24)
21	End	14.545	-86.965	DrCrb	0.00	0.00	0.00	0.0	476.01	1.00	476.15	30	Cir	0.013	1.47	489.31	Pipe - (49)
22	21	337.911	77.084	DrGrt	0.00	0.00	0.00	0.0	476.25	4.32	490.85	24	Cir	0.013	1.40	494.44	Pipe - (48)
23	22	254.202	12.328	DrGrt	0.00	0.00	0.00	0.0	491.63	4.10	502.06	18	Cir	0.013	1.48	507.46	Pipe - (18)
24	23	40.149	-79.256	DrGrt	0.00	0.00	0.00	0.0	502.06	8.29	505.39	15	Cir	0.013	1.00	507.89	Pipe - (17)
25	End	155.108	-83.417	DrCrb	0.00	0.00	0.00	0.0	497.90	0.86	499.23	15	Cir	0.013	0.50	502.84	Pipe - (29)
26	25	24.970	-3.325	DrCrb	0.00	0.00	0.00	0.0	499.23	4.20	500.28	15	Cir	0.013	1.00	503.22	Pipe - (28)
27	22	40.348	-66.925	DrGrt	0.00	0.00	0.00	0.0	491.63	2.16	492.50	18	Cir	0.013	1.43	496.50	Pipe - (19)
28	27	80.058	-9.555	DrCrb	0.00	0.00	0.00	0.0	492.50	0.62	493.00	15	Cir	0.013	1.50	495.99	Pipe - (21)
29	28	31.336	90.464	DrCrb	0.00	0.00	0.00	0.0	493.05	4.72	494.53	15	Cir	0.013	1.50	497.47	Pipe - (20)
30	29	172.843	-86.300	Curb	0.00	0.00	0.00	0.0	494.53	0.85	496.00	15	Cir	0.013	1.00	501.00	Pipe - (30)
31	27	70.119	70.996	DrGrt	0.85	0.00	0.00	0.0	492.50	2.00	493.90	15	Cir	0.013	0.50	499.30	Pipe - (16)
32	31	88.274	-1.453	DrGrt	0.37	0.00	0.00	0.0	493.90	5.17	498.46	15	Cir	0.013	1.00	502.26	Pipe - (15)
33	End	106.514	82.158	DrCrb	0.00	0.00	0.00	0.0	458.00	0.94	459.00	30	Cir	0.013	0.50	463.60	Pipe - (78)
34	33	95.199	9.336	DrCrb	0.00	0.00	0.00	0.0	459.00	1.05	460.00	30	Cir	0.013	0.50	463.56	Pipe - (76)
35	34	90.794	-9.090	DrCrb	0.00	0.00	0.00	0.0	460.00	0.94	460.85	30	Cir	0.013	0.86	465.41	Pipe - (75)
36	35	66.305	-31.316	DrCrb	0.00	0.00	0.00	0.0	460.95	2.34	462.50	30	Cir	0.013	1.50	467.45	Pipe - (74)
37	36	26.285	89.108	DrCrb	0.00	0.00	0.00	0.0	462.68	1.03	462.95	30	Cir	0.013	1.20	467.46	Pipe - (73)
38	37	36.758	-49.980	DrCrb	0.00	0.00	0.00	0.0	463.00	2.45	463.90	30	Cir	0.013	1.22	467.45	Pipe - (72)
39	38	25.881	-51.035	DrCrb	0.00	0.00	0.00	0.0	464.00	13.45	467.48	30	Cir	0.013	1.50	473.36	Pipe - (71)
40	39	64.801	94.940	DrCrb	0.00	0.00	0.00	0.0	467.75	4.86	470.90	30	Cir	0.013	1.41	478.91	Pipe - (69)
41	40	47.688	5.115	Curb	0.00	0.00	0.00	0.0	474.00	4.05	475.93	18	Cir	0.013	0.87	481.93	Pipe - (46)
42	41	79.902	31.749	DrCrb	0.00	0.00	0.00	0.0	475.93	8.72	482.90	18	Cir	0.013	0.96	487.40	Pipe - (45)
43	42	35.600	-35.783	DrCrb	0.00	0.00	0.00	0.0	483.10	1.12	483.50	15	Cir	0.013	1.13	489.09	Pipe - (23)
44	43	22.833	45.190	DrCrb	0.00	0.00	0.00	0.0	483.50	1.31	483.80	15	Cir	0.013	1.09	489.90	Pipe - (22)
45	44	38.413	42.933	DrCrb	0.00	0.00	0.00	0.0	483.80	9.74	487.54	15	Cir	0.013	1.00	491.00	Pipe - (82)
46	40	82.241	-67.808	Hdwl	0.00	0.00	0.00	0.0	473.20	2.19	475.00	30	Cir	0.013	1.00	478.29	Pipe - (70)
47	End	39.847	115.283	DrCrb	0.00	0.00	0.00	0.0	496.50	0.50	496.70	12	Cir	0.013	1.47	503.02	Pipe - (63)
48	47	22.359	77.739	DrCrb	0.00	0.00	0.00	0.0	495.70	1.79	496.10	12	Cir	0.013	1.48	503.10	Pipe - (55)
49	48	8.854	-79.799	DrCrb	0.00	0.00	0.00	0.0	496.30	1.13	496.40	12	Cir	0.013	0.50	502.32	Pipe - (57)
50	49	39.373	-10.478	DrCrb	0.00	0.00	0.00	0.0	496.50	0.76	496.80	12	Cir	0.013	1.50	502.37	Pipe - (56)
51	50	321.062	90.460	Curb	0.00	0.00	0.00	0.0	497.00	0.78	499.50	15	Cir	0.013	1.66	504.75	Pipe - (58)

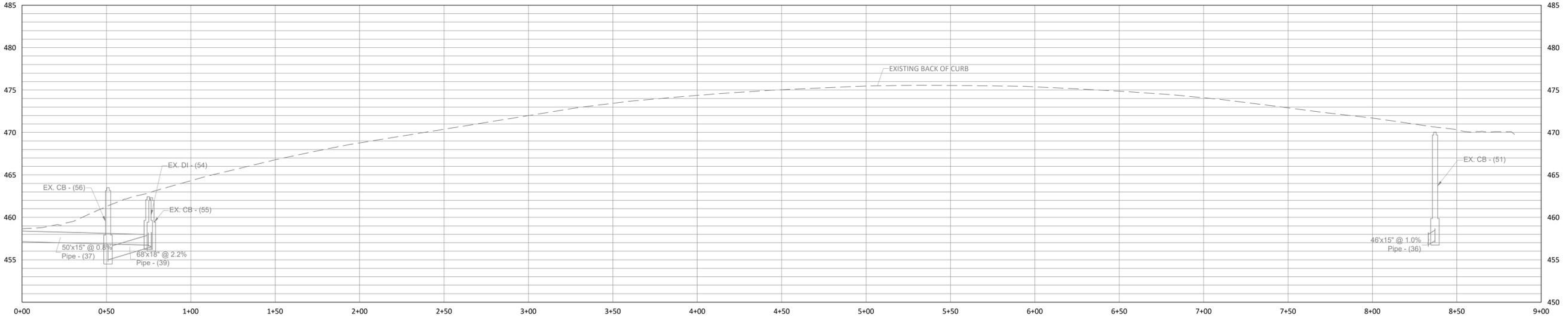
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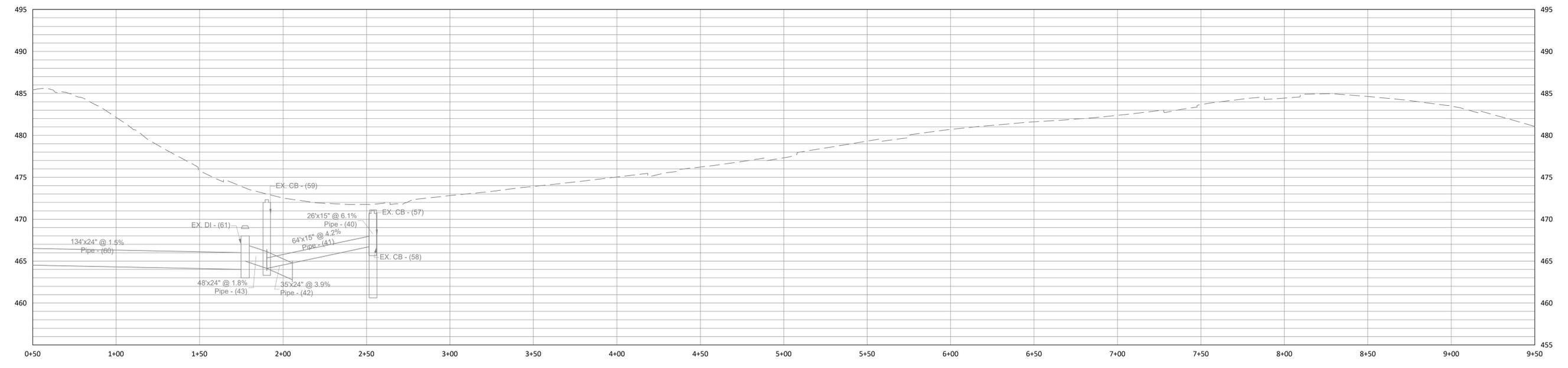
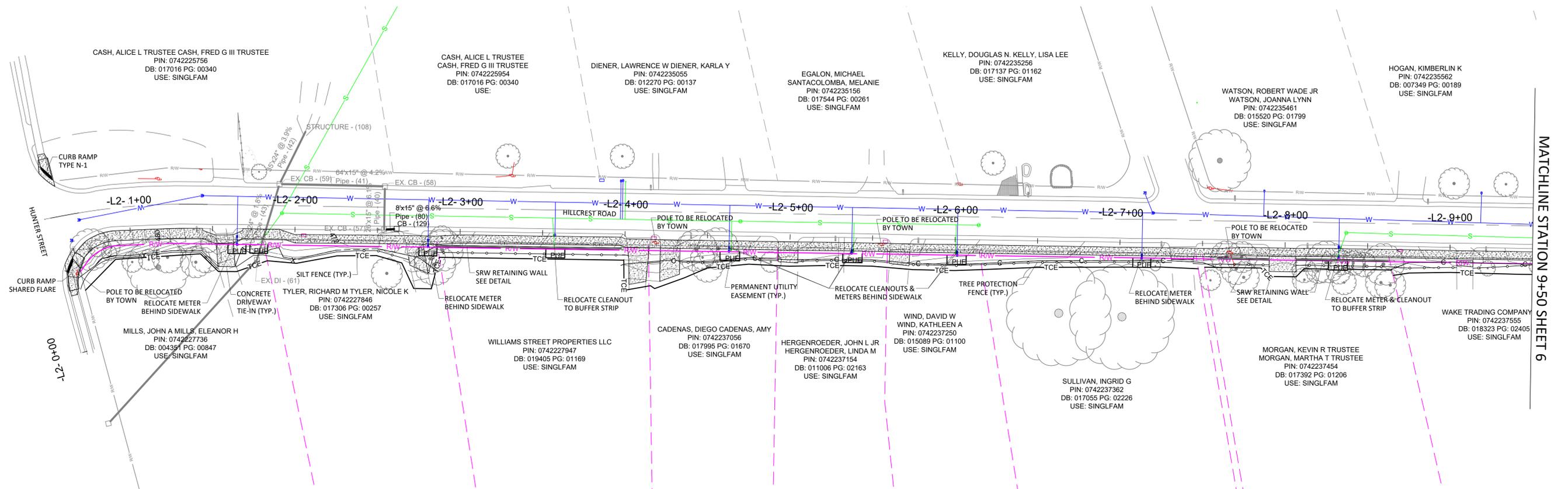
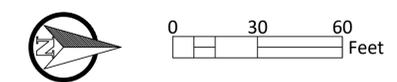
MATCHLINE STATION 17+40, SHEET 6



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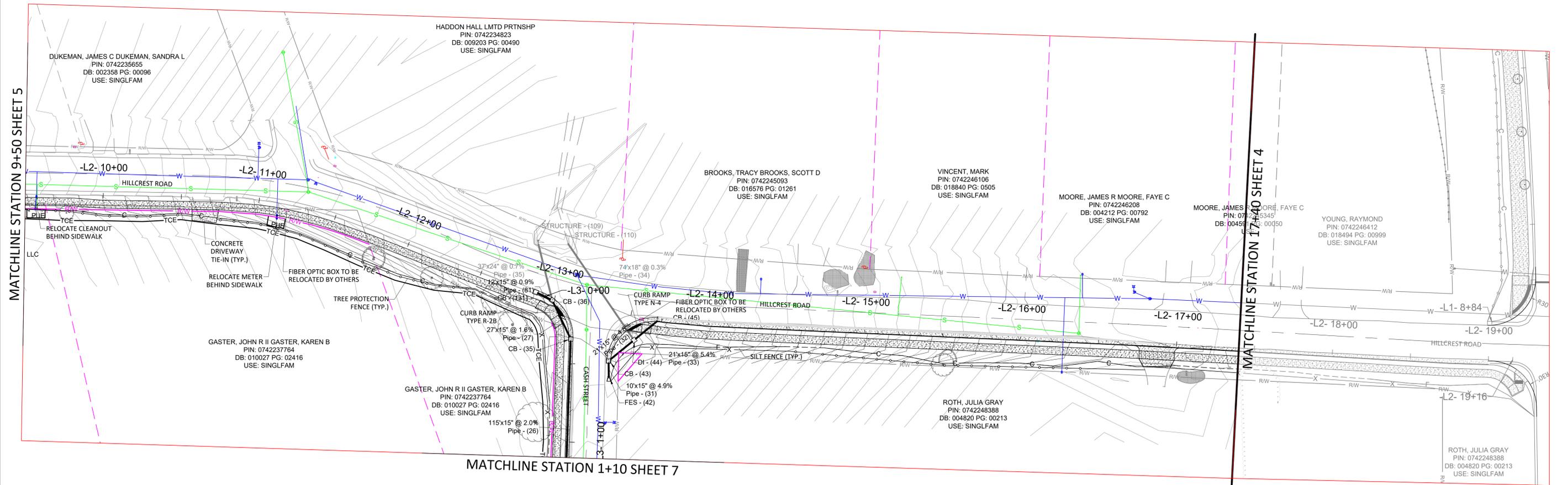
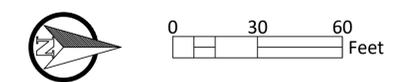


MATCHLINE STATION 9+50 SHEET 6

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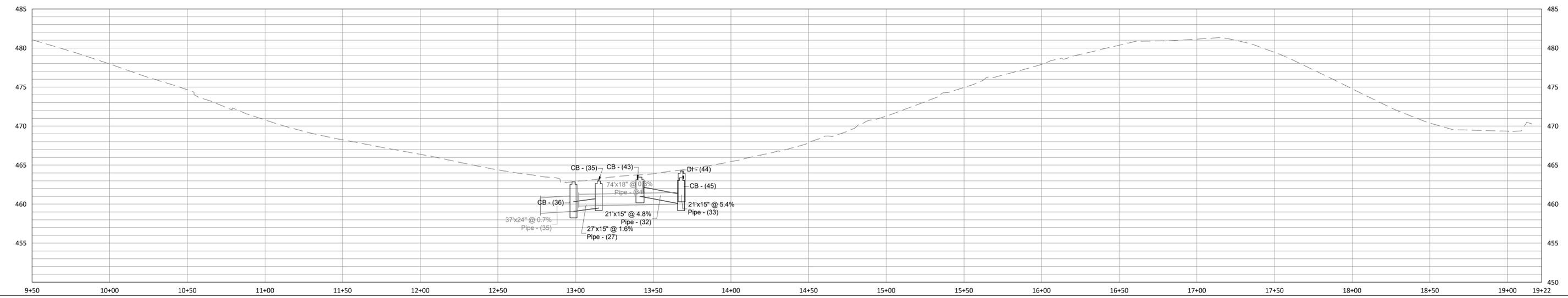
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MATCHLINE STATION 9+50 SHEET 5

MATCHLINE STATION 17+40 SHEET 4

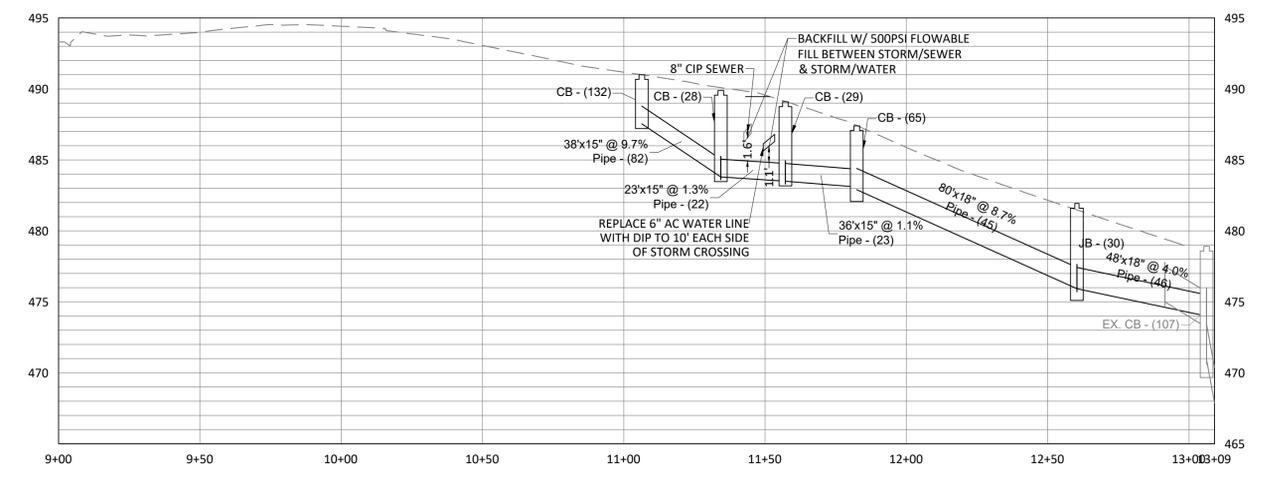
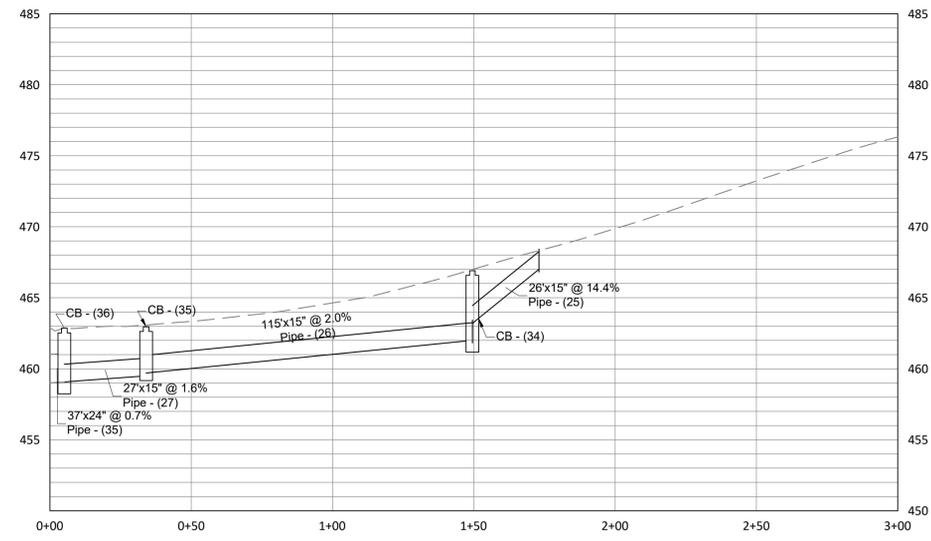
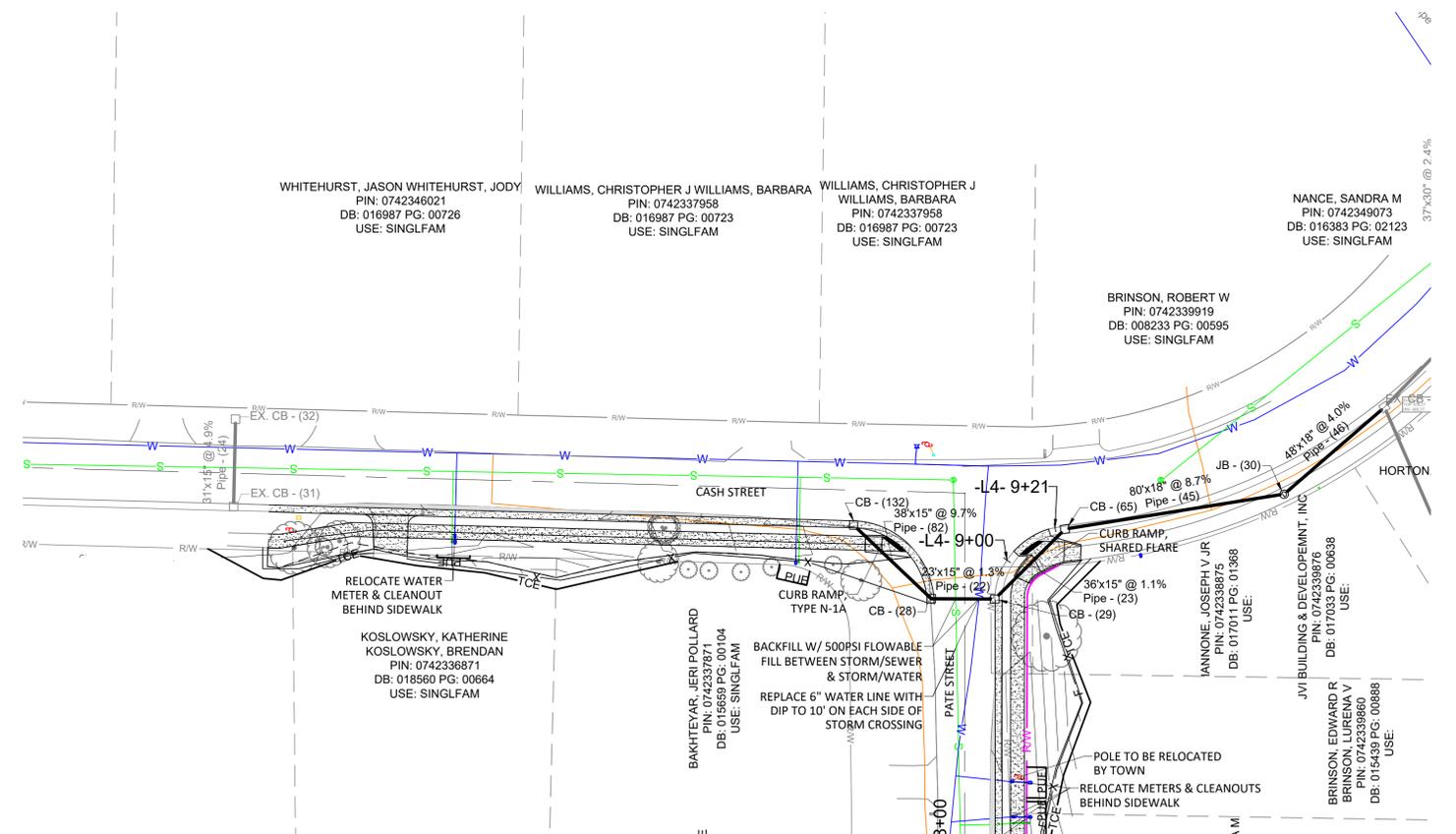
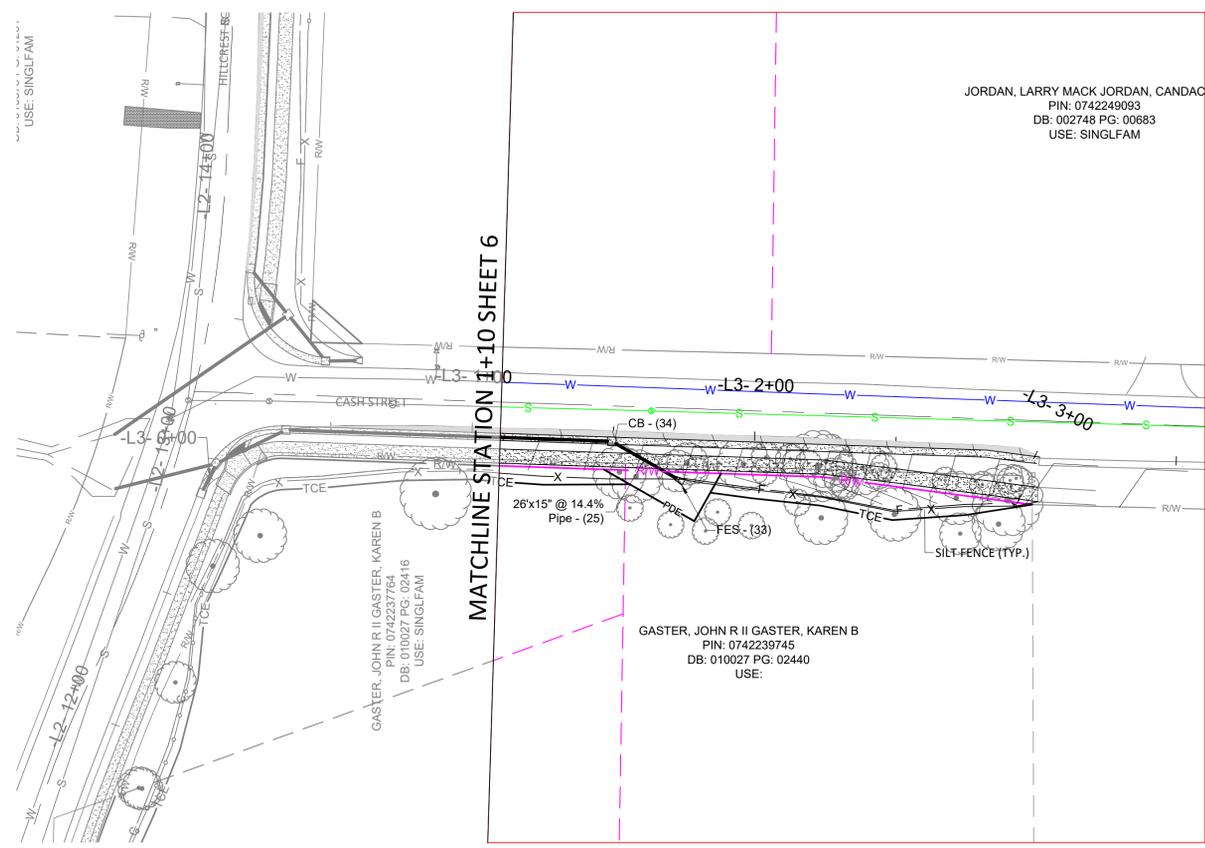
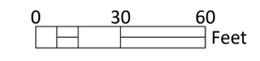
MATCHLINE STATION 1+10 SHEET 7



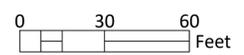
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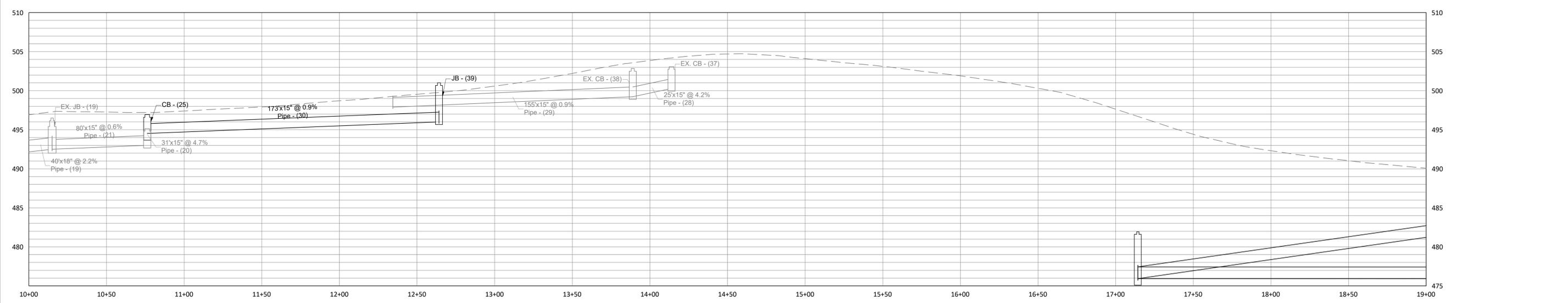
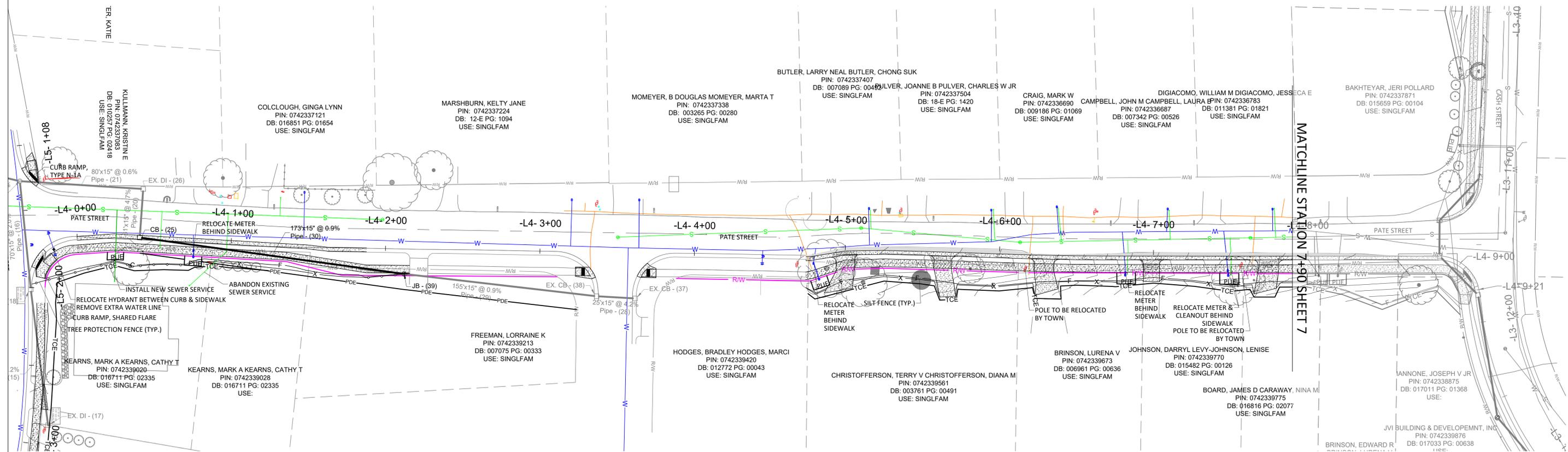
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Fire Hydrant Relocations
 Check age of hydrants to be relocated as indicated by the date of manufacture provided on the hydrant.
 • >20 years of operational service: Replace with new fire hydrant; provide existing fire hydrant to Town of Apex Water Resources Department.
 • <20 years of operational service: Disinfect, flush, and pressure test following relocation.



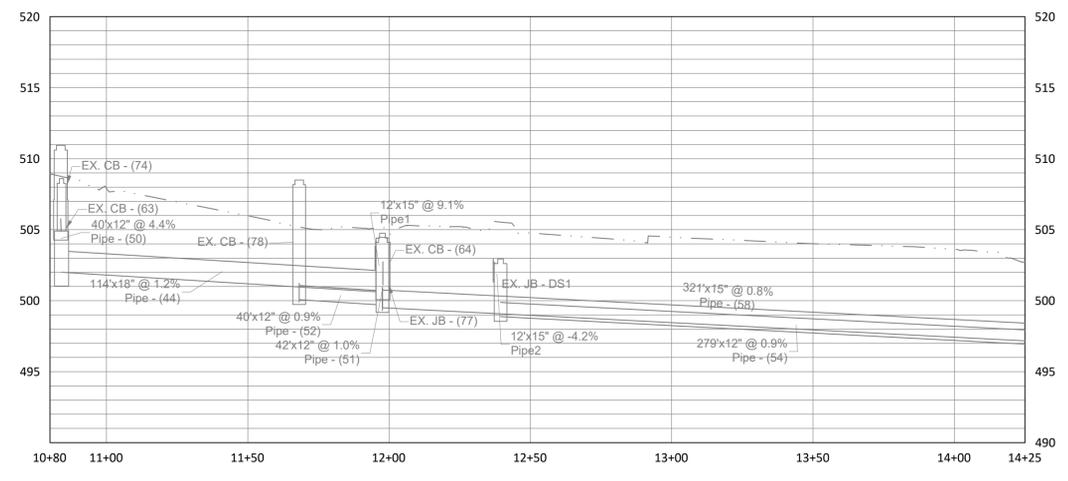
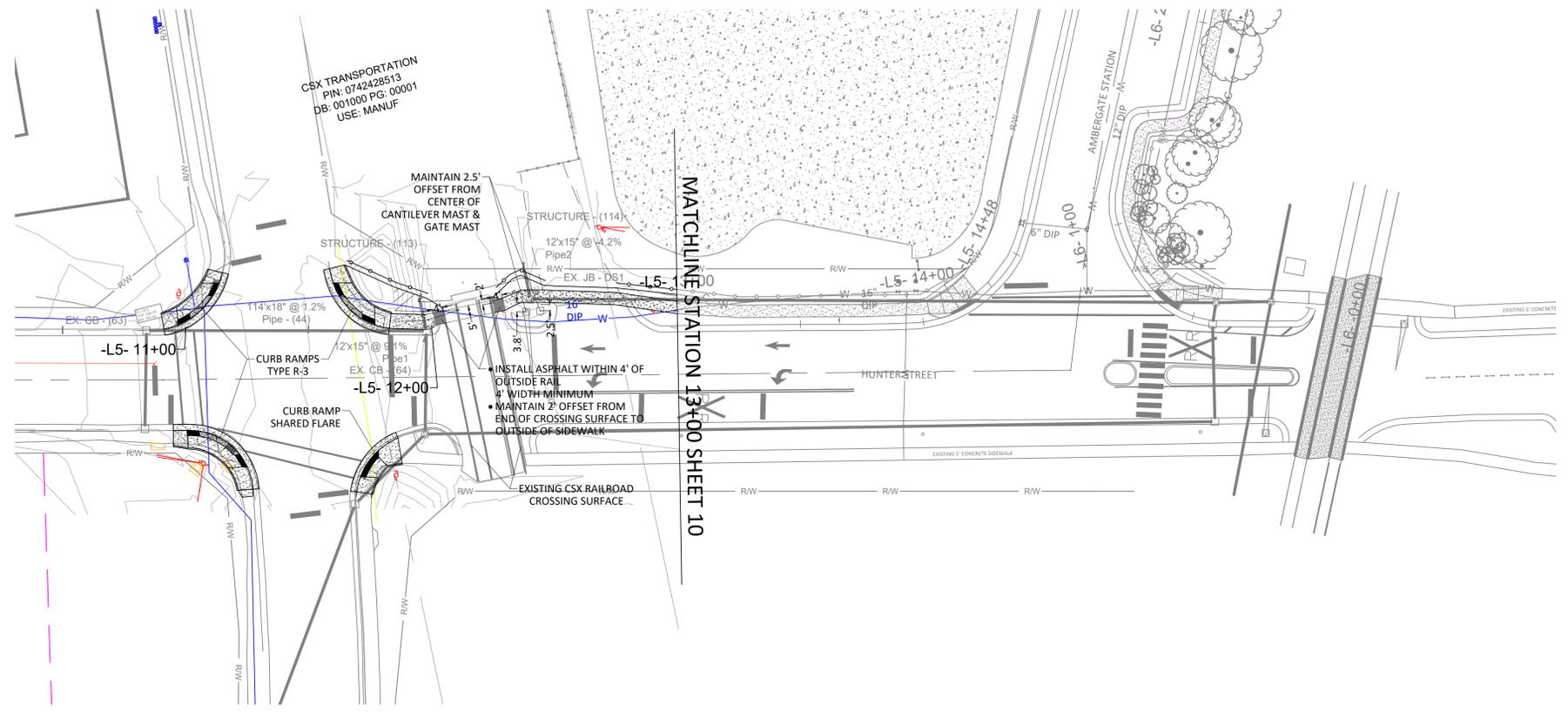
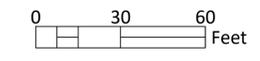
TOWN OF APEX TRANSPORTATION & INFRASTRUCTURE DEVELOPMENT 105-B UPCHURCH ST APEX, NC 27502 919-249-3417	PROJECT REFERENCE NO.	SHEET NO.
	BL-0047	8



TOWN OF APEX
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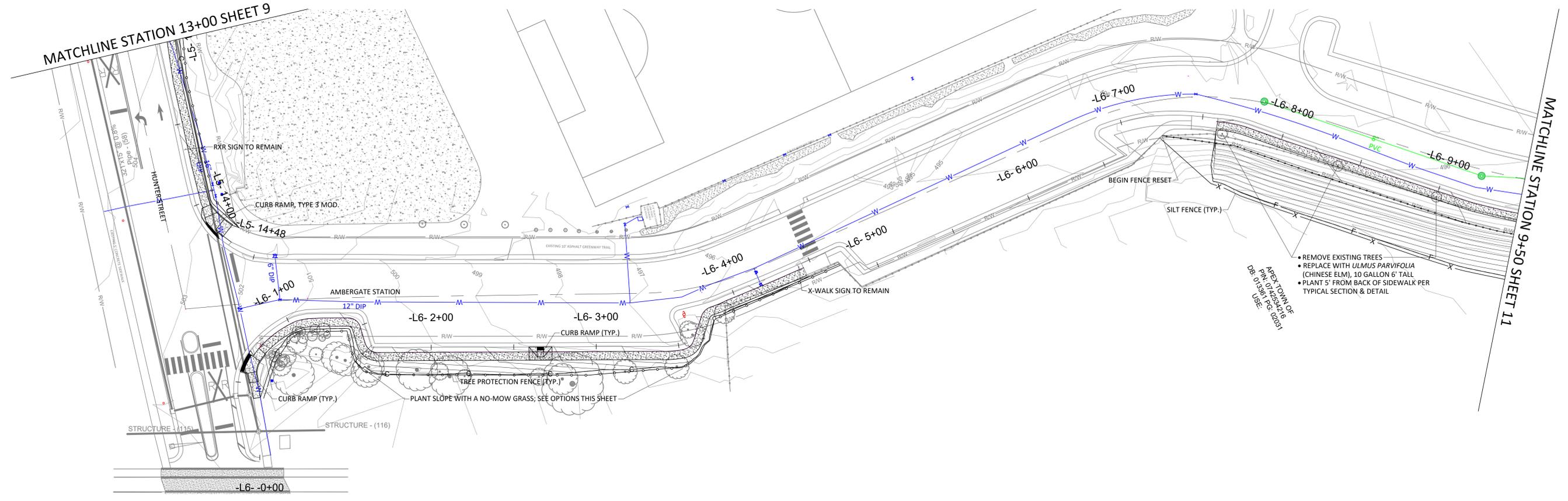
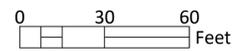


TOWN OF APEX
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 APEX, NC 27502
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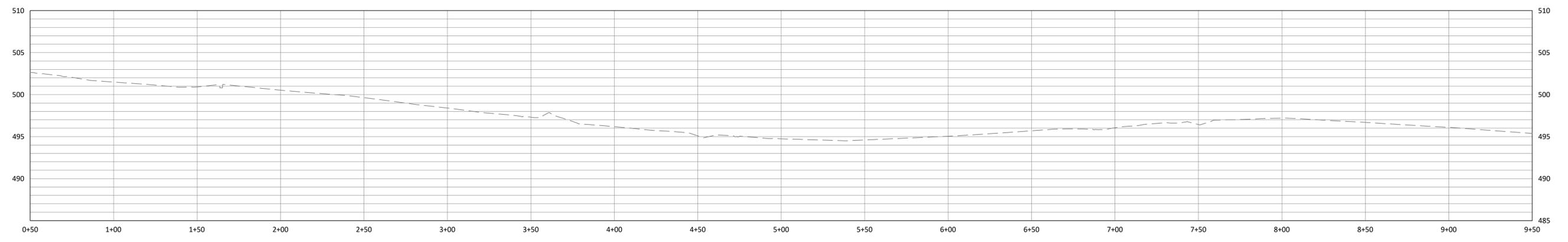


**PRELIMINARY
 DO NOT USE
 FOR
 CONSTRUCTION**

- NO-MOW GRASS OPTIONS
- ANDROPOGON GERARDII BIG BLUESTEM
 - ANDROPOGON GLOMERATUS BUSHY BLUESTEM
 - ANDROPOGON TERNARIUS SPLITBEARD BLUESTEM
 - ANDROPOGON VIRGINICUS BROOMSEDGE
 - ARISTIDA STRICTA WIREGRASS
 - ARUNDINARIA GIGANTEA RIVER CANE/SWITCH CANE
 - CAREX PENNSYLVANICA PENNSYLVANIA SEDGE
 - CAREX PLANTAGINEA PLANTAIN-LEAVED SEDGE
 - CHASMANTHIUM LATIFOLIUM RIVER OATS
 - DANTHONIA SPICATA POVERTY OATGRASS
 - DANTHONIA COMPRESSA OAT GRASS
 - DESCHAMPSIA FLEXUOSA CRINKLED HAIRGRASS
 - ELYMUS HYSTRIX BOTTLE BRUSH
 - ERAGROSTIS SPECTABILIS PURPLE LOVE GRASS
 - MUHLENBERGIA CAPILLARIS PINK MUHLY GRASS
 - PANICUM VIRGATUM SWITCH-GRASS
 - SCHIZACHYRIUM SCOPARIUM LITTLE BLUESTEM
 - SORGHASTRUM NUTANS INDIAN GRASS
 - TRIPSACUM DACTYLOIDES EASTERN GAMMAGRASS



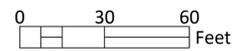
- REMOVE EXISTING TREES
 - REPLACE WITH *ULMUS PARVIFOLIA* (CHINESE ELM), 10 GALLON 6' TALL
 - PLANT 5' FROM BACK OF SIDEWALK PER TYPICAL SECTION & DETAIL
- APEX TOWN OF
 PLAN 0142247.00
 DB: 01366.PS: 10091
 USE:



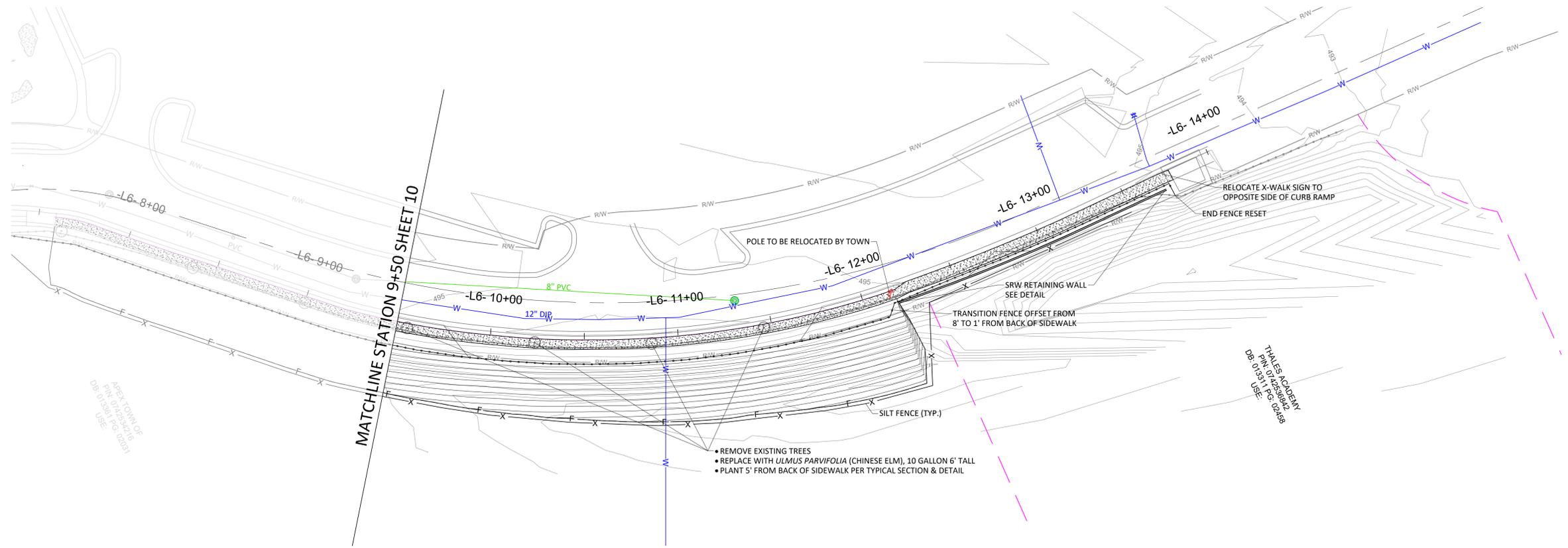
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**PRELIMINARY
 DO NOT USE
 FOR
 CONSTRUCTION**



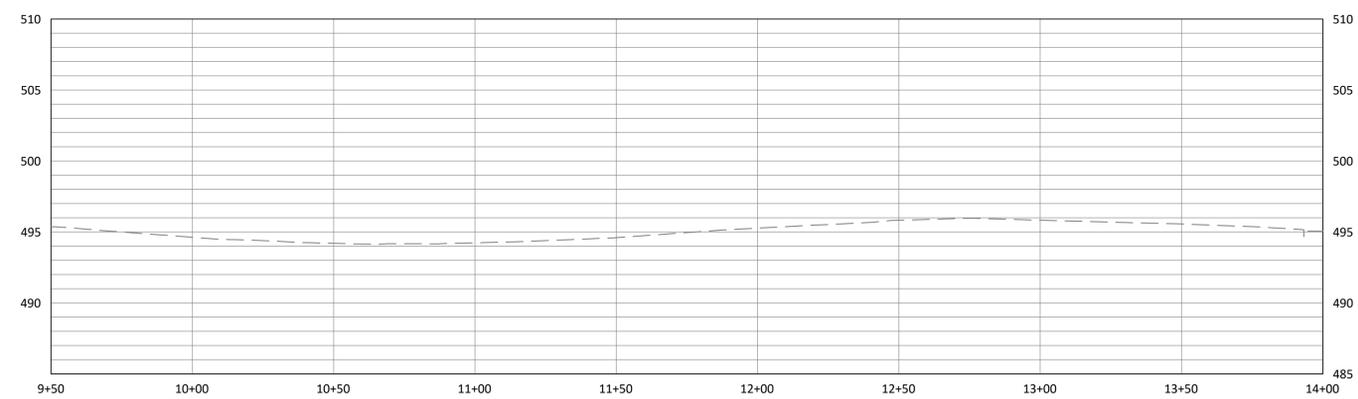
- NO-MOW GRASS OPTIONS
- ANDROPOGON GERARDII BIG BLUESTEM
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 - SORGHASTRUM NUTANS INDIAN GRASS
 - TRIPSACUM DACTYLOIDES EASTERN GAMMAGRASS



APEX TOWN OF
 PIN: 07/25/2024/06
 DB: 10/30/24 PG: 00/01

THALES ACADEMY
 PIN: 04/25/2024/02
 DB: 03/31/24 PG: 02/05

- REMOVE EXISTING TREES
- REPLACE WITH *ULMUS PARVIFOLIA* (CHINESE ELM), 10 GALLON 6' TALL
- PLANT 5' FROM BACK OF SIDEWALK PER TYPICAL SECTION & DETAIL





GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

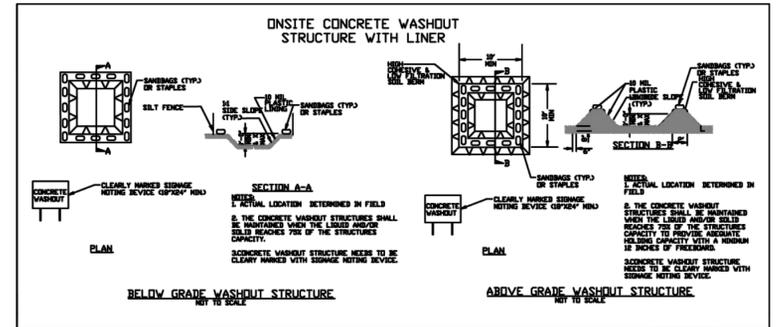
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



TOWN OF APEX

PUBLIC WORKS & TRANSPORTATION
ENGINEERING DIVISION
73 HUNTER STREET
APEX, NC 27502
919-249-3417

PROJECT REFERENCE NO. BL-0047 SHEET NO. EC-2



PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

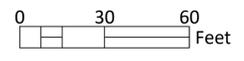
PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.



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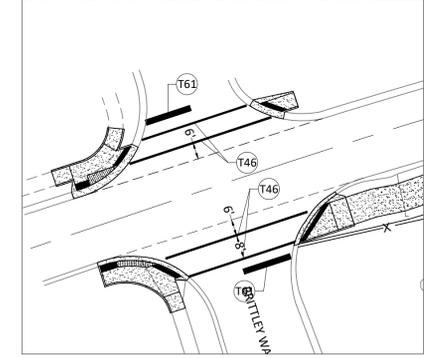


PAVEMENT MARKING LEGEND

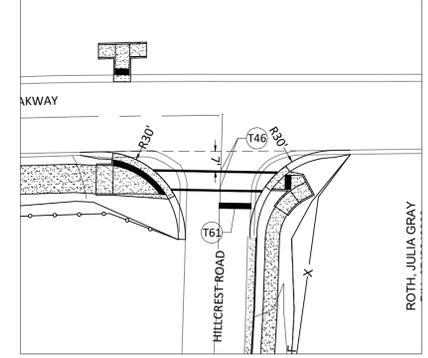
PAVEMENT MARKING LINES

SYMBOL	TYPE	COLOR	DIM	THICKNESS	DESCRIPTION
T1	THERMOPLASTIC	WHITE	4"	90 MIL	EDGE LINE
T10	THERMOPLASTIC	YELLOW	4"	90 MIL	EDGE LINE
T42	THERMOPLASTIC	YELLOW	8"	90 MIL	DIAGONAL
T46	THERMOPLASTIC	WHITE	8"	90 MIL	CROSSWALK LINE
T61	THERMOPLASTIC	WHITE	24"	90 MIL	STOP BAR

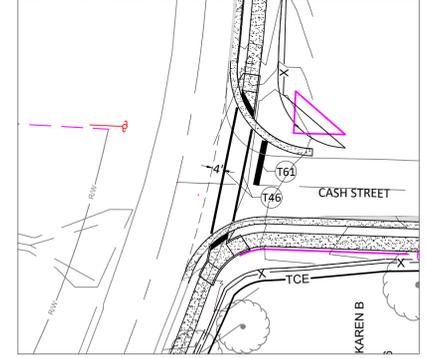
APEX PEAKWAY & BRITTLEY WAY



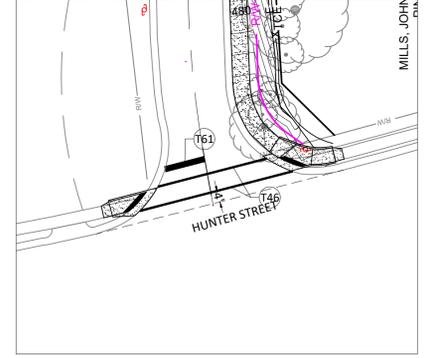
APEX PEAKWAY & HILLCREST RD



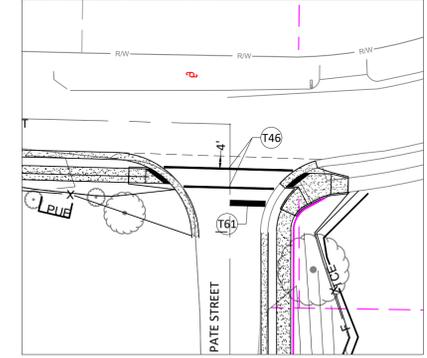
HILLCREST RD & CASH ST



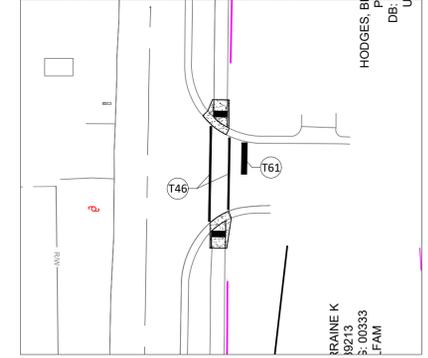
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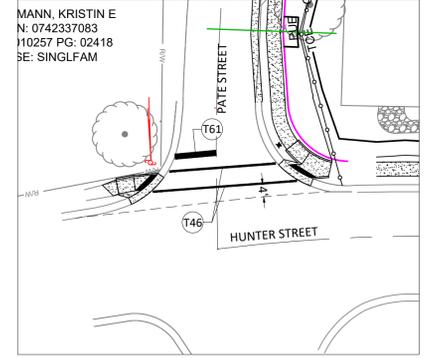
CASH ST & PATE ST



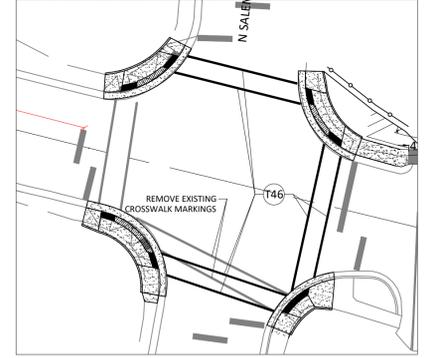
PATE ST & FAIRDALE COURT



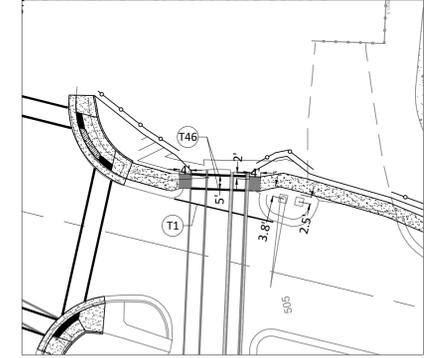
PATE ST & HUNTER ST



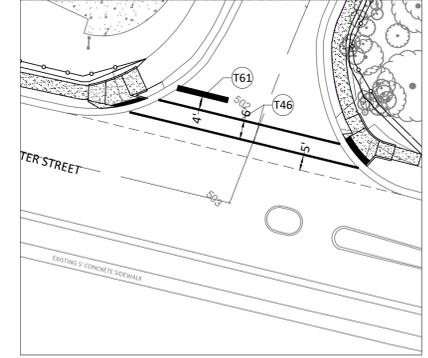
HUNTER ST & N SALEM ST



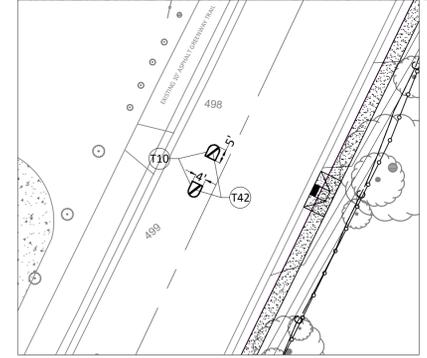
HUNTER ST & CSX CROSSING



HUNTER ST & AMBERGATE STATION



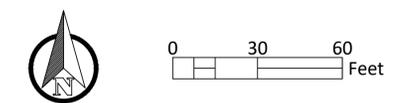
AMBERGATE STATION N OF HUNTER ST



TOWN OF APEX
 TRANSPORTATION &
 INFRASTRUCTURE DEVELOPMENT
 105-B UPCHURCH ST
 APEX, NC 27502
 919-249-3417



**PRELIMINARY
 DO NOT USE
 FOR
 CONSTRUCTION**



SPECSHEET SPEC-PED. 05/12/2016

In-Street Pedestrian Crosswalk Sign

2009 MUTCD Standard

12" x 36" fluorescent yellow reflective sheeting with 10" x 24" white insert. White post and panel.
 Overall height of unit is 47"

R1-6 **R1-6a**

BASE OPTIONS
 This product can be used with the One Base® Portable Quick Release Base, Surface Mount Fixed Base, or Recessed, Low Profile Snow-Plowable Base.

One Base® Portable Quick Release Base

SPECIFICATIONS

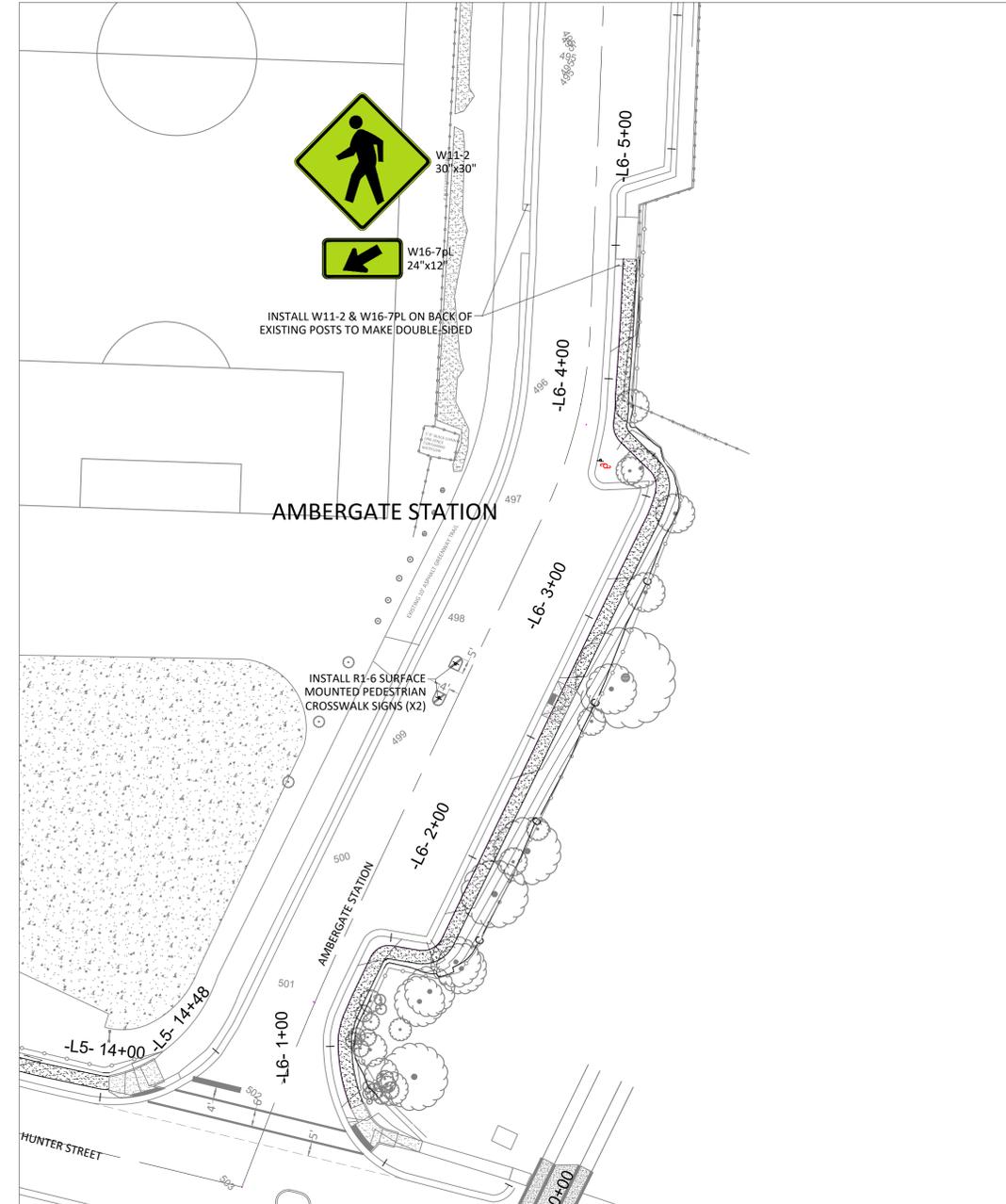
- Post and panel are constructed of flexible polyethylene plastic that is resistant to: ultraviolet light, ozone, and hydrocarbons.
- Unit has an anti-twist reactive spring assembly that rebounds to upright when struck.
- NCHRP-350 Approved
- Weight: 12 pounds without base

RECOMMENDED USES

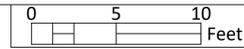
- Ideal for delineating crosswalks to reduce the risk of injury, death, and property damage.
- Take care to avoid creating a trip hazard when using any sign in a crosswalk. Ensure that sign bases are outside the crosswalk area.

IMPACT recovery SYSTEMS
 4955 Stout Dr. • San Antonio, TX 78219
 210-736-4477 • 800-736-5256 • Fax 210-734-6448
 Email: info@impactrecovery.com
 www.impactrecovery.com

QR: Download Spec Sheets
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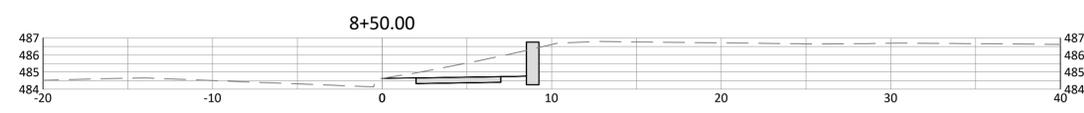
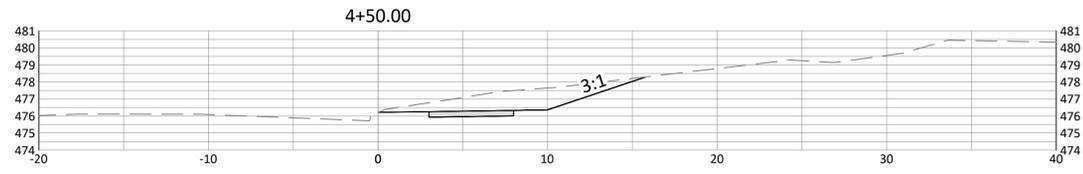
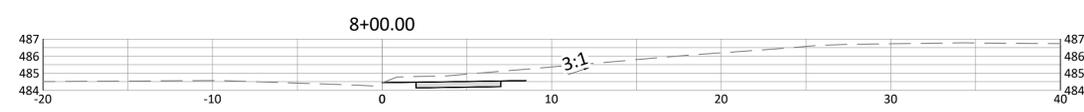
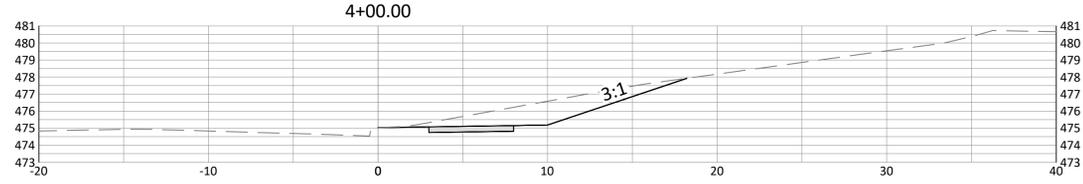
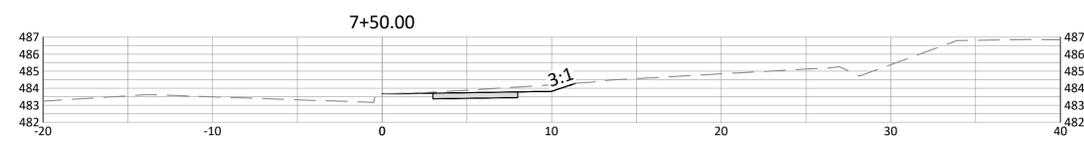
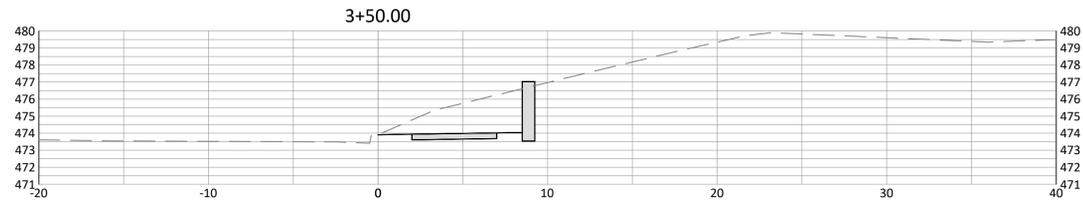
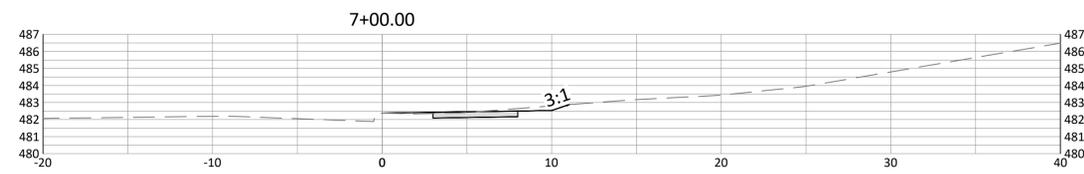
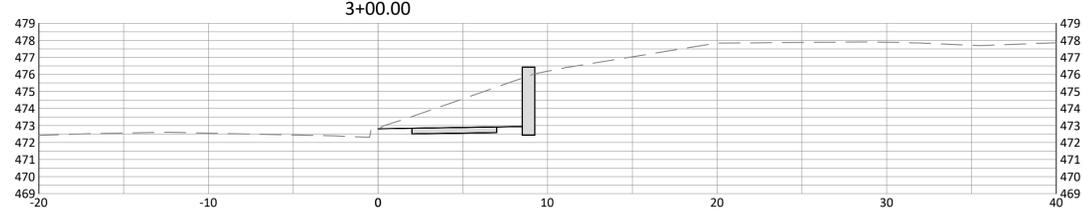
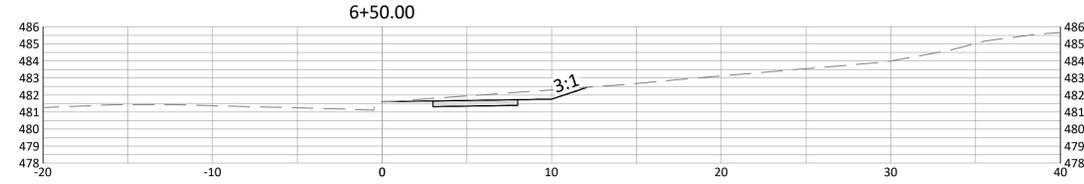
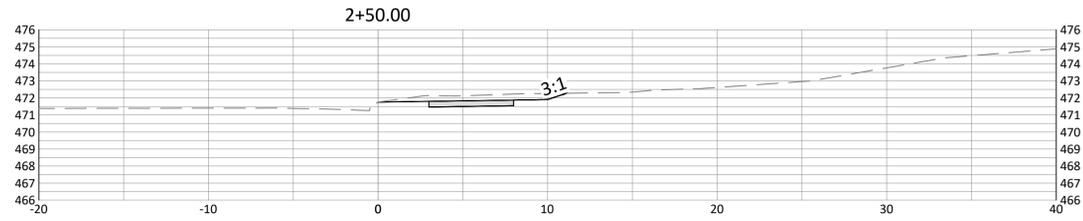
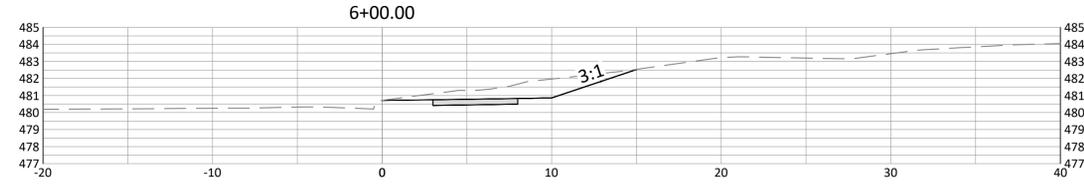
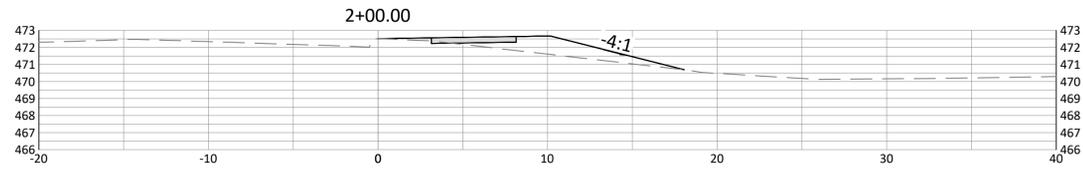
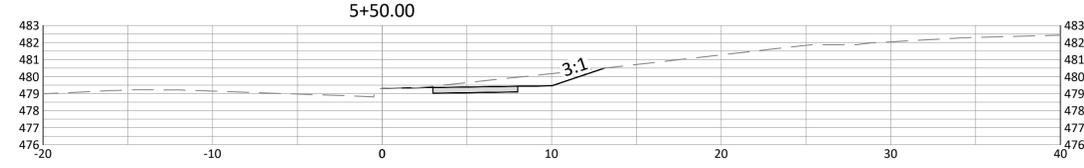
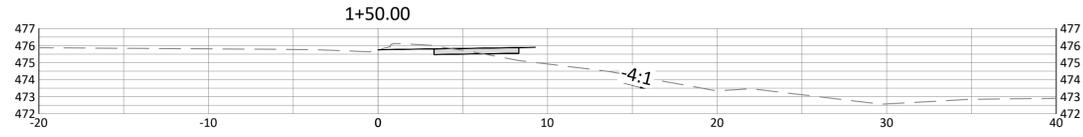
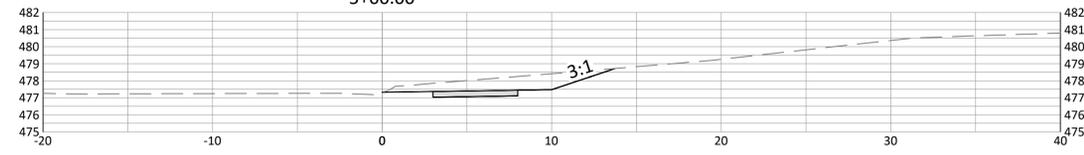
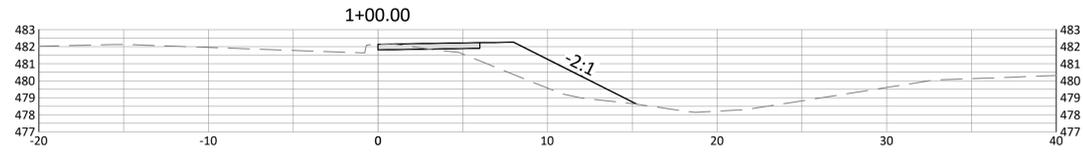


-L2- HILLCREST RD

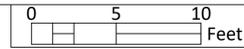


PROJECT REFERENCE NO.
BL-0047

SHEET NO.
X-2

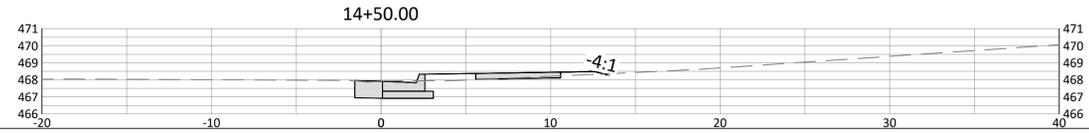
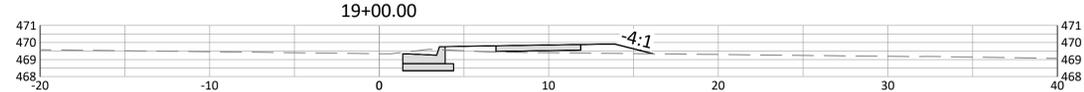
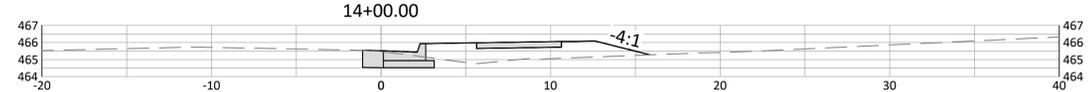
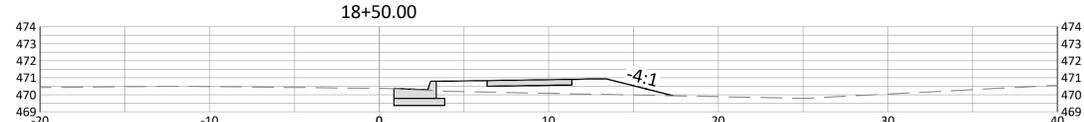
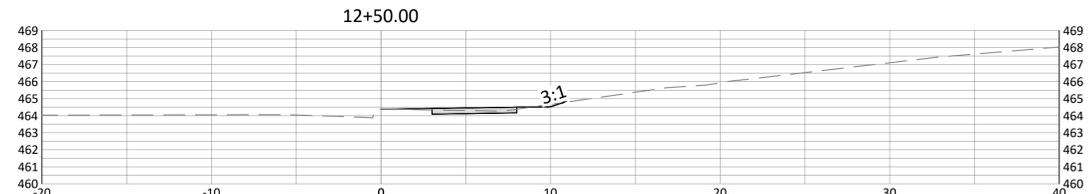
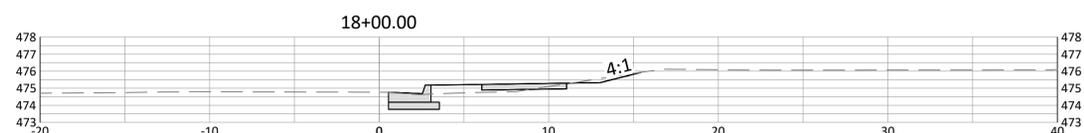
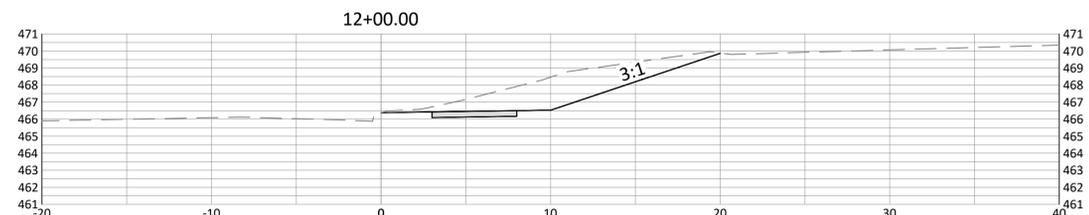
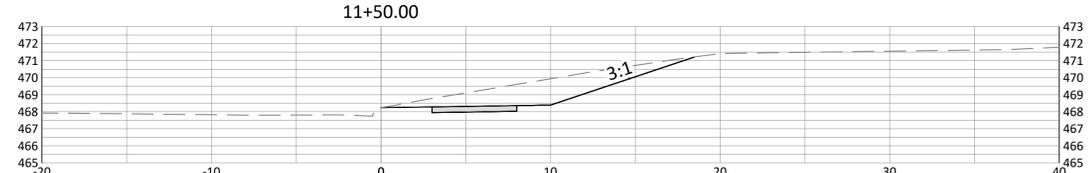
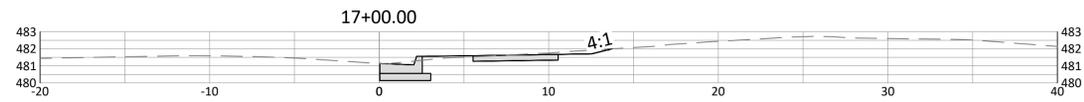
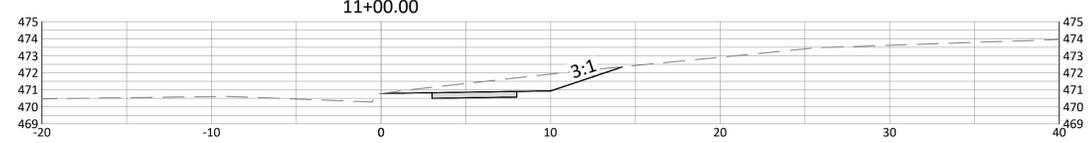
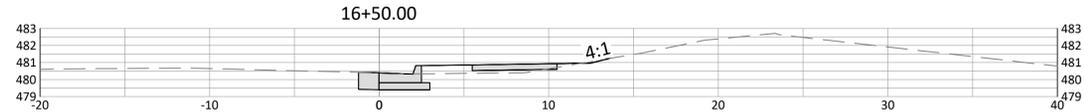
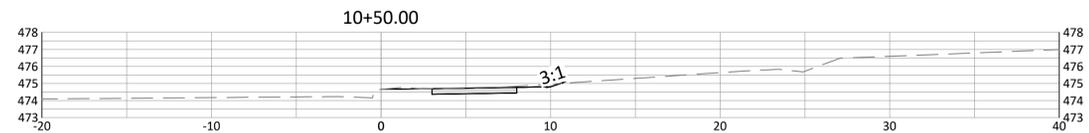
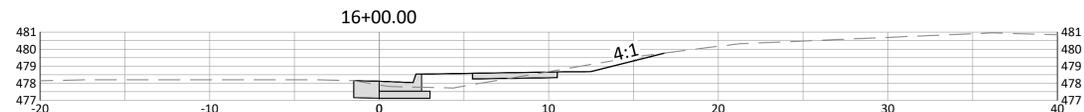
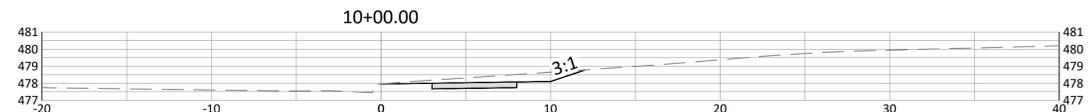
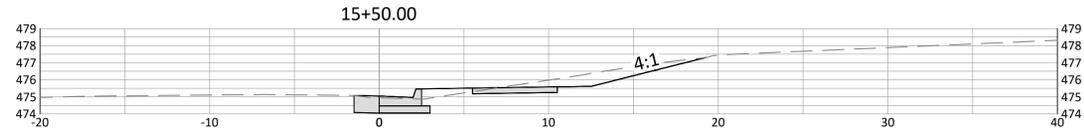
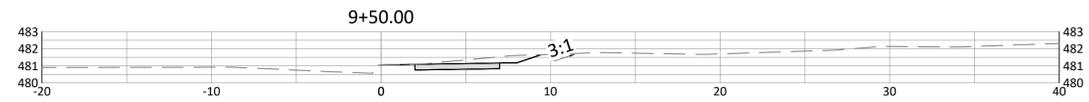
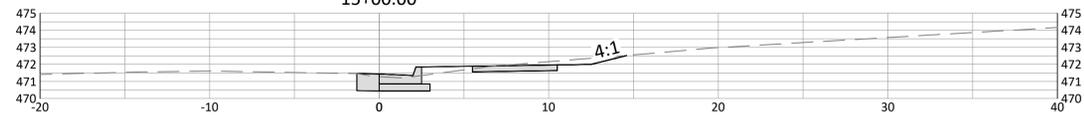
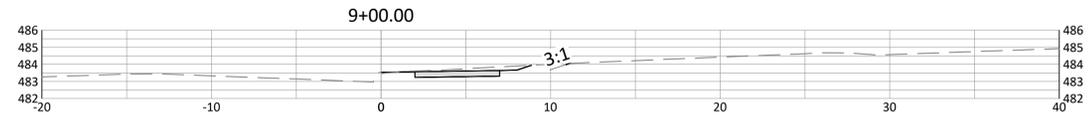


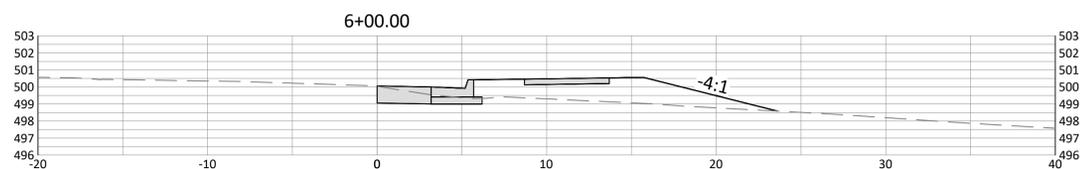
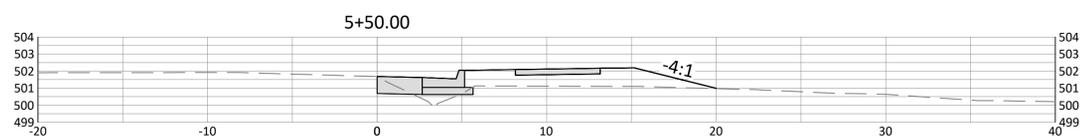
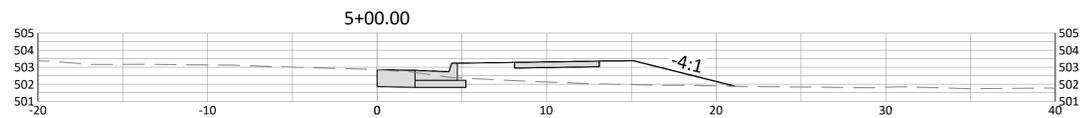
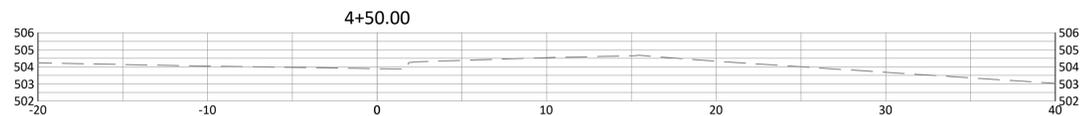
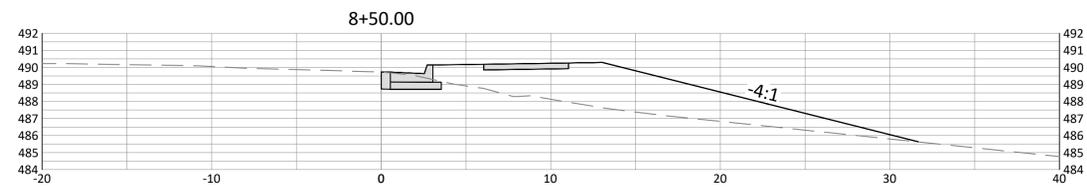
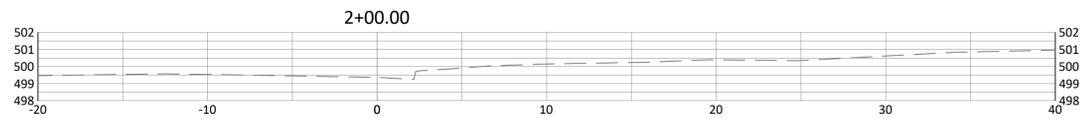
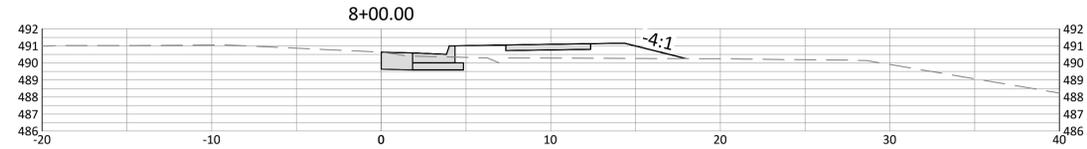
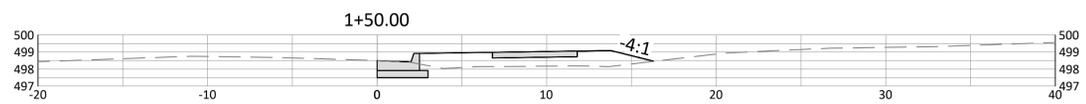
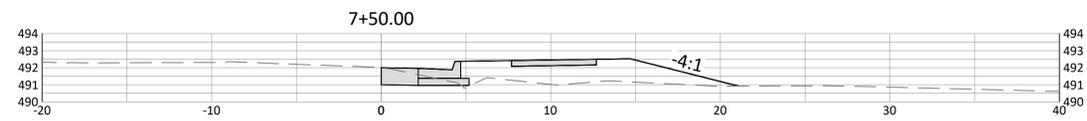
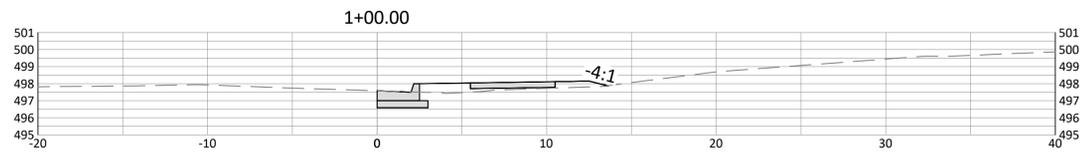
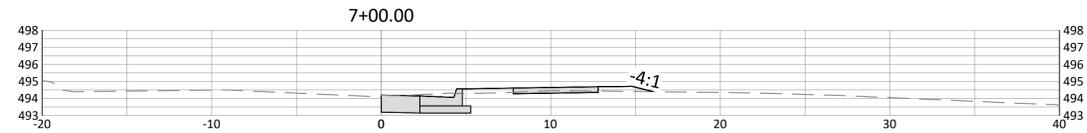
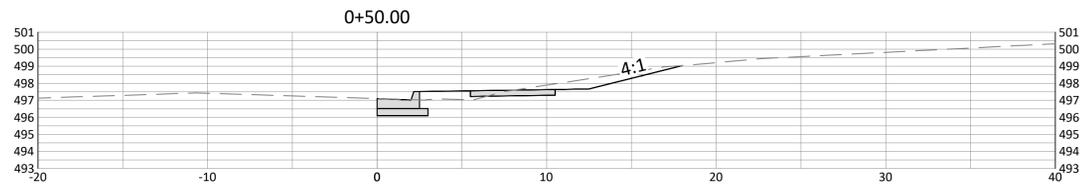
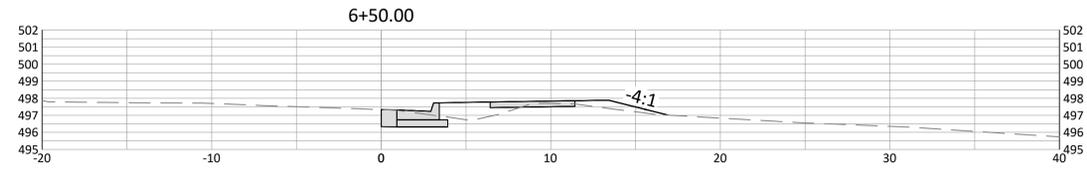
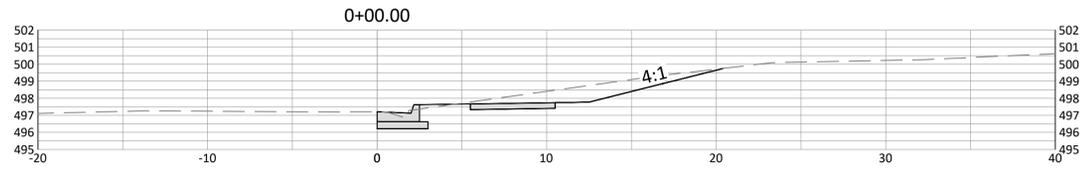
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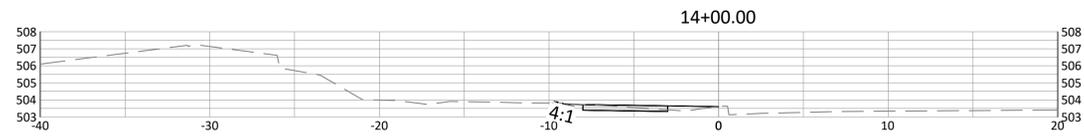
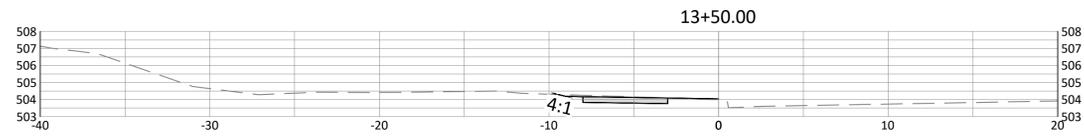
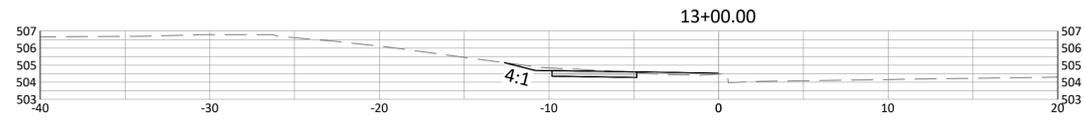
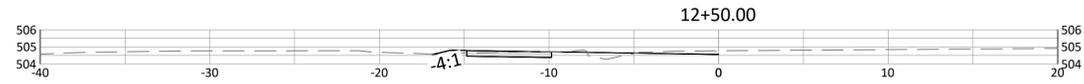
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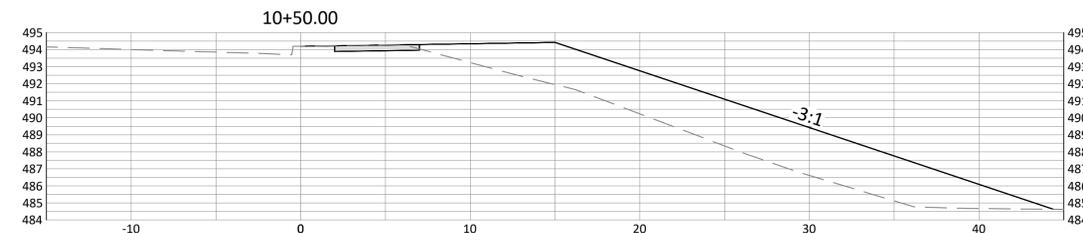
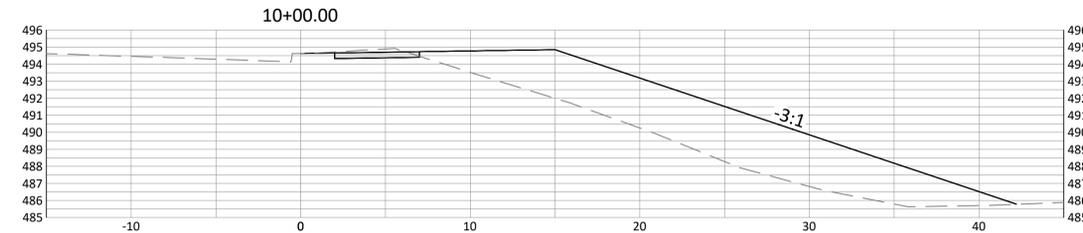
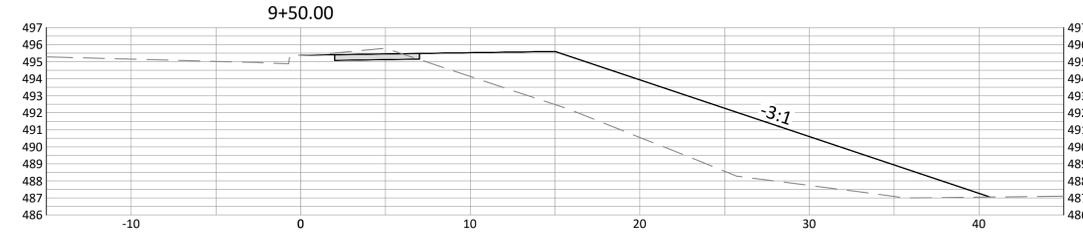
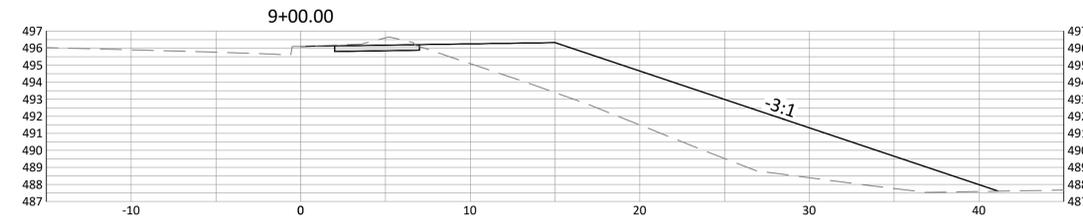
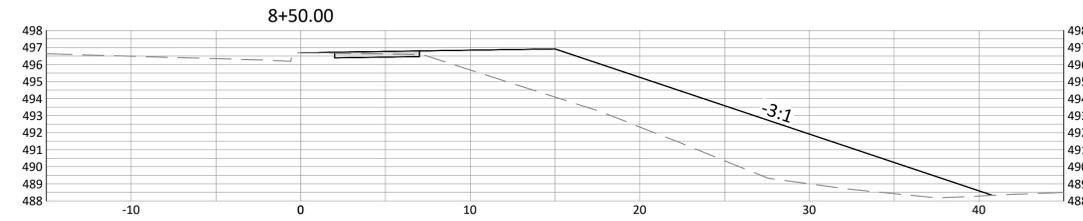
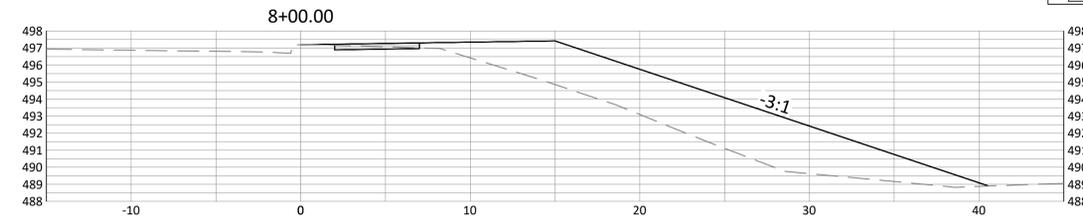
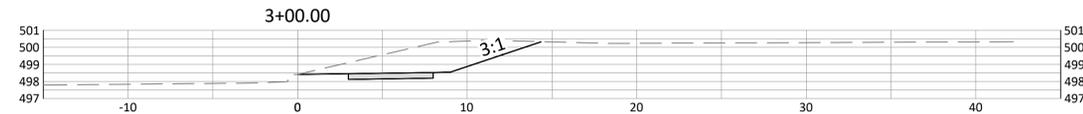
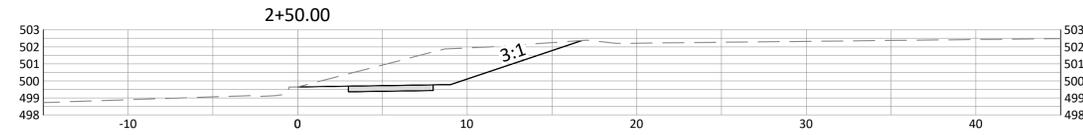
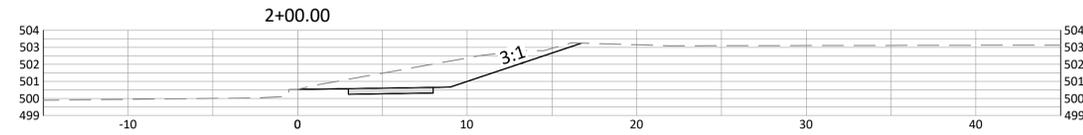




-L5- HUNTER ST



-L6- AMERGATE STATION



-L6- AMERGATE STATION

