

REVISION	DATE	BY	DESCRIPTION	APPROVED

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS DEPARTMENT OF PUBLIC WORKS

ROUTE 36 (WINDWARD/CHALAN KALABERA) ROAD IMPROVEMENTS PROJECT NO.: TQ-THS-0036(301) PHASE 1a: FROM STA. 90+00 to STA. 130+00

LOCATION MAP
SCALE: NTS



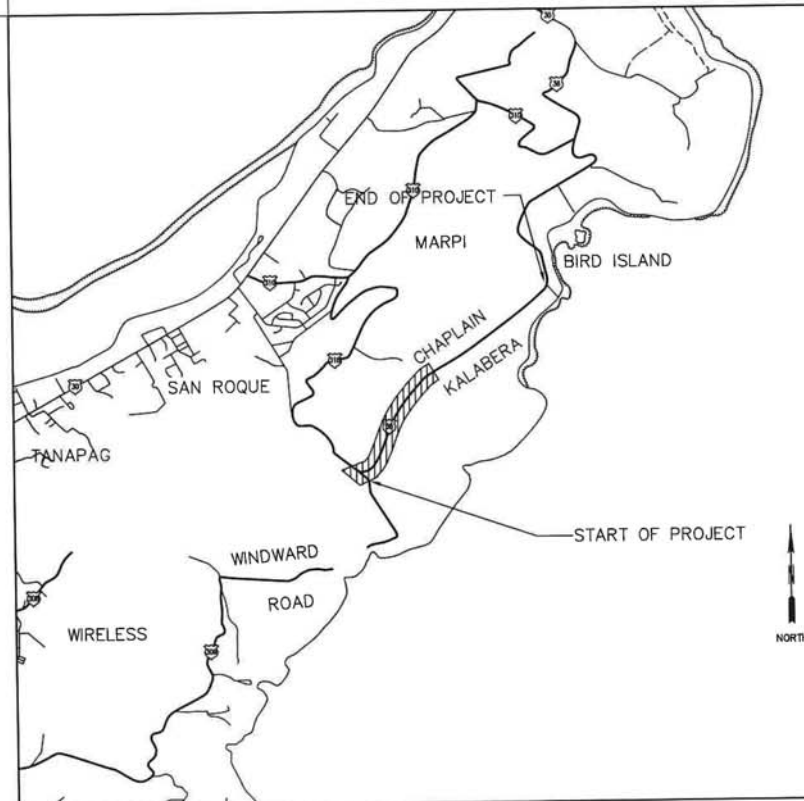
PROJECT DESCRIPTION:

THIS PROJECT INVOLVES THE CONSTRUCTION OF APPROXIMATELY 0.76 MILES OF ALL WEATHER ROADWAY ALONG ROUTE 36, FROM STA. 90+00 TO 130+00 (PHASE-1a) ALSO KNOWN AS CHALAN KALABERA, LOCATED IN THE NORTHERN COAST OF SAIPAN. IT BEGINS AT INTERSECTION OF ROUTE 36 (WINDWARD ROAD) & ROUTE 318 (CHALAN MATUIS) AND ENDS NEAR THE KALABERA CAVE AS SHOWN IN THE DRAWINGS. THE IMPROVEMENTS INCLUDES 12 AND 11.50 FEET WIDE TRAVEL LANES, 4.50 FEET WIDE SHOULDERS/BIKE LANE ON EACH SIDES, ROADSIDE AND ROAD DRAINAGE CROSSING, PERMANENT TRAFFIC MARKERS AND SIGNS, AND OTHER ROADWAY APPURTENANCES FOR A COMPLETE, USABLE, AND SAFE FACILITY.

DESIGN DATA:


ADT (Average Daily Traffic)	-----	1,100 VPD
V (Design Speed)	-----	35 MPH (Maximum)
D (Directional Factor)	-----	50/50
T (Percentage of Trucks)	-----	3%
e (Rate of Superlevation)	-----	6% (Maximum)

VICINITY MAP
SCALE: NTS



APPROVALS


ANTHONY A. CAMACHO
DIRECTOR
TECHNICAL SERVICES DIVISION
10/31/23
DATE


RAYM. YUMUL
SECRETARY
DEPARTMENT OF PUBLIC WORKS
10/31/23
DATE



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
03/01/2020
DATE



- ENGINEERING (CIVIL/STRUCTURAL)
- CONSTRUCTION MANAGEMENT/PLANNING
- ENVIRONMENTAL SERVICES/SUBMITTING
- DEVELOPMENT CONSULTATION
- GEOGRAPHIC INFORMATION SYSTEMS

CONTENT:
TITLE SHEET, LOCATION MAP,
VICINITY MAP, AND APPROVALS

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0036(301)

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GENERAL CONSTRUCTION NOTES:

- OBSERVE & COMPLY WITH ALL FEDERAL AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY & ENVIRONMENTAL QUALITY.
- THE FINISHED GRADE INDICATED HEREON SHALL MATCH OR CONNECT TO ADJACENT EXISTING GROUND AS SHOWN ON THE GRADING PLANS. ANY DISCREPANCY DISCOVERED DURING THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY REPORTED TO THE GOVERNMENT.
- CLEARING AND GRUBBING LIMITS ARE AS SHOWN IN THE DRAWINGS. ALL DEBRIS AND TRASH FROM CONSTRUCTION SHALL BE DISPOSED OF TO MARSH LANDFILL SITE AND THE CONTRACTOR SHALL COMPLY WITH ALL THE REQUIREMENTS PERTAINING TO THE USE OF DISPOSAL AREA.
- THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES SHOWN IN THE PLANS ARE BASED ON THE LATEST AVAILABLE DATA DURING THE TIME OF SURVEY AND INFORMATION PROVIDED BY THE COMMONWEALTH UTILITIES CORPORATION, BUT NO CLARITY AS TO THEIR ACCURACY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF EXISTING UTILITIES AND EXERCISE CAUTION WHEN EXCAVATING IN THE AREA. ANY DAMAGES TO EXISTING UTILITIES AND STRUCTURES RESULTING FROM CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE GOVERNMENT.
- WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN TO BE DONE, THE CONTRACTOR SHALL EXPOSE THE EXISTING UTILITIES AT THE PROPOSED CONNECTION TO VERIFY DEPTH AND ACTUAL LOCATION PRIOR TO EXCAVATING FOR THE NEW UTILITY LINES. IF UTILITIES NOT SHOWN IN THE PLANS ARE ENCOUNTERED OR POTENTIAL UTILITY CONFLICTS ARISES, THE CONTRACTOR SHALL NOTIFY THE GOVERNMENT IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING EXISTING UTILITY LINE UNCOVERED IN THE EXCAVATIONS.
- THE CONTRACTOR SHALL COORDINATE, BE RESPONSIBLE AND PAY FOR ALL DAMAGES TO EXISTING UTILITIES AND STRUCTURES, PERSONAL INJURY RESULTING FROM CONTACT WITH EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL MAINTAIN AN ADEQUATE SAFETY BARRIER TO PREVENT PUBLIC FROM ACCESS TO OPEN TRENCHES.
- EXISTING UTILITIES SHALL REMAIN IN SERVICE AND IN PLACE AT ALL TIMES, UNLESS NOTED OTHERWISE. INTERRUPTION OF SERVICE SHALL BE KEPT TO A MINIMUM AND SHALL BE DONE AT THE CONTRACTOR'S EXPENSE AND ONLY WITH THE APPROVAL OF THE GOVERNMENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO PROVIDE SAFE AND SECURE FROM POTENTIAL SLIDING, CAVE-INS, SETTLEMENT, AND TO SUPPORT EXISTING STRUCTURES, POWER/TELEPHONE POLES, AND OTHER FACILITIES.
- FINISHED GRADES INDICATED ARE INCLUSIVE OF TOP SOIL.
- VERIFY & CHECK ALL DIMENSIONS & DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCY SHALL BE IMMEDIATELY REPORTED TO THE CONTRACTING OFFICER FOR CLARIFICATIONS AND RESOLUTIONS.
- THE CONTRACTOR SHALL PROVIDE SAFE ACCESS TO AND FROM ALL DRIVEWAYS AND STREETS NEAR THE PROJECT SITE.
- RESTORE TO THEIR ORIGINAL CONDITION EQUAL OR BETTER, ALL EXISTING IMPROVEMENTS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES, INCLUDING PAVEMENTS, EMBANKMENTS, DRIVEWAYS, CURBS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, FENCES, ETC.
- WHEN EXCAVATING NEAR EXISTING UTILITY POLES OR STRUCTURES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING SUCH POLES OR STRUCTURES DURING CONSTRUCTION AND MAKE REPAIRS TO ANY DAMAGES RESULTING FROM CONTRACTOR'S OPERATION AT NO COST TO THE GOVERNMENT.
- PROPERTY CORNERS AND ROAD MONUMENTS SHOWN ON THE PLANS OR DISCOVERED DURING CONSTRUCTION SHALL BE PRESERVED AND NOT TO BE DISTURBED. IN ANY CASE, IF THE CONTRACTOR DISTURBS ANY OF THESE MARKERS OR MONUMENTS, THEY SHALL BE REPAIRED AND RESTORED TO THEIR ORIGINAL AND BETTER CONDITION AT NO ADDITIONAL COST TO THE GOVERNMENT.
- THE CONTRACTOR SHALL FOLLOW CLOSELY THE PROPOSED HORIZONTAL AND VERTICAL ALIGNMENTS. ANY PROPOSED DEVIATIONS FROM THE PROPOSED ALIGNMENTS MUST BE APPROVED BY THE GOVERNMENT BEFORE IT IS APPLIED IN THE FIELD.
- THE CONTRACTOR MUST SECURE UNDERGROUND TELEPHONE, WATER, SEWER, CABLE, AND POWER CLEARANCES PRIOR TO ANY EXCAVATIONS. ANY DAMAGES AND REPAIRS TO UNDERGROUND UTILITIES SHALL BE BORNE BY THE CONTRACTOR.
- EXISTING MATERIALS REMOVED FROM THE SITE AS DEMOLITION OR EXCAVATION SHALL BE DISPOSED OF AS APPROVED BY THE GOVERNMENT.
- UNLESS OTHERWISE SPECIFIED, ALL TREES LOCATED WITHIN THE CONSTRUCTION OR CLEARING AND GRUBBING LIMITS, SHALL BE REMOVED AND DISPOSED OF.

EROSION/TEMPORARY DUST CONTROL:

- DURING CONSTRUCTION, PREVENTIVE MEASURES SHALL BE USED TO CONTROL OR MINIMIZE DUST, EROSION OR SEDIMENTATION PROBLEMS WHICH MAY ARISE AS WORK PROGRESSES. SPRINKLE OR TREAT WITH DUST SUPPRESSANT; THE WORK AREA, HAUL ROADS, AND OTHER AREAS AFFECTED BY OR DISTURBED BY THE CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL MEASURES TO PREVENT EROSION OR SEDIMENTATION WITHIN THE PROJECT SITE AND ADJACENT PROPERTIES. EROSION CONTROL MEASURES MAY BE FROM SILT FENCES, SAND BAGS, OR ANY OTHER MEANS BEST SUITED FOR THE INTENDED PURPOSE.
- PROVIDE PREVENTIVE EROSION CONTROL MEASURES ON ALL CUT & FILL SLOPES.

TURF ESTABLISHMENT/RESTORATION:

- NEWLY GRADED AREAS AND AREAS DISTURBED DURING CONSTRUCTION, EXCEPT IN STEEP CUT (1:1 SLOPE OR STEEPER) IN LIME STONE ROCK, SHALL BE PROVIDED WITH 4" THICK TOP SOIL AND PLANTED WITH SEEDS OR TURF APPROPRIATE FOR THE TYPE OF SOILS AT THE SITE. REFER TO SECTION 625 (TURF ESTABLISHMENT). MAKE USE OF EXISTING TOP SOILS AT THE SITE, AS MUCH AS POSSIBLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF SEEDS OR PLANTINGS UNTIL A 95% GROUND COVER IS ATTAINED.

TRAFFIC CONTROL NOTES:

- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES, AND OTHER PROTECTIVE FACILITIES AND SHALL CONFORM WITH THE LOCAL TRAFFIC REGULATIONS AND THE CURRENT U.S. FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION FOR STREETS AND HIGHWAYS, PART VI - STANDARDS AND GUIDES FOR TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS.
- DURING NON-WORKING HOURS, AT LEAST ONE LANE OF ROADWAY SHALL BE OPEN TO TRAFFIC. ALL TRENCHES SHALL BE COVERED WITH A SAFE NONSKID BRIDGING MATERIAL WITH SUITABLE MATERIAL AT THE EDGES TO PROVIDE A SMOOTH TRANSITION.
- WHEREVER PEDESTRIAN WALKWAYS EXIST, THEY SHALL BE MAINTAINED IN PASSABLE CONDITION OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED.
- THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGNS, POSTS, AND MARKINGS DISTURBED BY THE CONTRACTOR'S ACTIVITIES TO EXISTING CONDITIONS OR BETTER.
- THE CONTRACTOR SHALL COORDINATE ALL TRAFFIC CONTROL PLANS WITH THE CONTRACTING OFFICER AND DEPARTMENT OF PUBLIC WORKS.
- COMPLY WITH THE ONM DEPARTMENT OF PUBLIC WORKS REQUIREMENTS FOR WORK ALONGSIDE PUBLIC HIGHWAYS. SUBMIT TRAFFIC CONTROL PLAN, AS REQUIRED, TO SECURE CLEARANCES AND PERMITS.

HOT ASPHALT CONCRETE PAVEMENT PLACEMENT NOTES:

- UNLESS OTHERWISE DIRECTED, BEGIN THE PLACING ALONG THE CENTERLINE OF AREA TO BE PAVED ON CROWNED SECTION OR ON THE HIGH SIDE OF THE AREAS WITH ONE-WAY SLOPE.
- PLACE MIXTURE IN CONSECUTIVE STRIPS OF UNIFORM WIDTHS, EXCEPT AT EDGE LANES WHICH MAY NEED A NARROWER OR WIDER STRIP WIDTH.
- CONSTRUCT LONGITUDINAL JOINTS AND EDGES TRUE TO LINE MARKINGS.
- ESTABLISH LINES PARALLEL TO THE CENTERLINE OF THE AREA TO BE PAVED, AND PLACE STRING LINES COINCIDING WITH THE ESTABLISHED LINES FOR THE SPREADING MACHINE TO FOLLOW.
- PROVIDE THE NUMBER AND LOCATION OF THE LINES NEEDED TO ACCOMPLISH PROPER GRADE CONTROL.
- PLACE MIXTURE AS NEARLY CONTINUOUS AS POSSIBLE AND ADJUST THE SPEED OF PLACING, AS NEEDED, TO PERMIT PROPER ROLLING.

DRAWING UNITS AND SURVEY NOTES:

- COORDINATES ARE BASED ON THE MARIANAS ISLANDS DISTRICT COORDINATE SYSTEM OF 1966.
- HORIZONTAL CONTROL SURVEY WAS BASED FROM NATIONAL GEODETIC SURVEY (NGS) TRIANGULATION MONUMENT STATION "SUMMIT 2" WITH COORDINATES OF NORTH 204,302.698 FEET AND EAST 198,348.704 FEET, AND FOUND PROPERTY CORNERS.
- VERTICAL CONTROL SURVEY WAS BASED FROM NATIONAL GEODETIC SURVEY (NGS) TRIANGULATION STATION "SE-JONES" WITH AN ELEVATION OF 215.48 FEET MEAN SEA LEVEL (MSL) DATUM, WITH GPS COORDINATES OBSERVED COORDINATES OF NORTH 196,292.176 FEET AND EAST 199,346.198.
- ALL DISTANCES, DIMENSIONS, COORDINATES, ELEVATIONS, AND STATIONS ARE IN FEET AND DECIMALS THEREOF.
- CONTOURS WERE DEVELOPED FROM SPOT ELEVATIONS USING A COMBINATION OF RTK GLOBAL POSITIONING SYSTEM (GPS) AND ELECTRONIC TOTAL STATION TOPOGRAPHIC SURVEY METHOD.
- CONSTRUCTION SURVEY REFERENCE POINTS ARE SHOWN IN SHEET C-3 & SHEET C-9, WITH THE FOLLOWING INFORMATION:
 KF-2 (PK NAL ON PAVEMENT AT TALOFORO ROAD AND ROUTE 36 INTERSECTION)
 N 185,699.788
 E 188,045.016
 EL. = 270.68
 CP-100 (METAL SPIKE ON PAVEMENT NEAR END OF EXISTING PAVEMENT AT ROUTE 36)
 N 185,635.027
 E 188,281.152
 EL. = 253.74
 CP-51 (METAL SPIKE AT EDGE OF CORAL ROAD ON ROUTE 36)
 N 187,080.477
 E 194,300.858
 EL.-69.31
 CP-50 (METAL SPIKE AT EDGE OF CORAL ROAD ON ROUTE 36)
 N 187,290.432
 E 194,171.634
 EL. = 90.73

EMBANKMENT CONSTRUCTION:

- ALL FILL PLACED OVER EXISTING GROUND SURFACE STEEPER THAN 5H:1V SLOPE RATIO SHOULD BE KEYED AND BENCHED PER DETAIL 4/MO-6.
- CUT SLOPE IN LIMESTONE ROCK SHALL HAVE NEAT AND CLEAN SURFACE WITHOUT ANY FRACTURED OR LOOSE PIECES.
- BACKFILL OF 10 FEET DEEP OR MORE MUST UNDERGO SETTLEMENT MONITORING. FOR EVERY 10 FEET DEEP OF BACKFILL, PLATES OR STABLE MARKERS/MONUMENTS SHALL BE PLACED ON FILL SURFACE AT INTERVALS BETWEEN 20-30 FEET APART. CONDUCT READINGS WEEKLY UNTIL THREE (3) READINGS CONFIRM THAT ACCUMULATED SETTLEMENT IS LESS THAN 1/4" TOTAL. DO NOT PROCEED WITH ADDITIONAL BACKFILL IF THIS REQUIREMENT IS NOT MET. ALL THIS WORK WILL NOT BE MEASURED AND PAID SEPARATELY BUT CONSIDERED INCIDENTAL TO COMPLETE THE PROJECT.

CONTRACTOR'S STAGING AND STOCKPILE AREA

- IF NEEDED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ARRANGEMENTS WITH THE GOVERNMENT OR PRIVATE LANDOWNERS FOR PROPERTIES NEAR OR ADJACENT TO THE PROJECT SITE FOR USE AS STAGING AND/OR STOCKPILE AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THE NECESSARY PERMITS OR CLEARANCES FOR THE USE OF THE STAGING AND/OR STOCKPILE AREA.
- THE CONTRACTOR MUST PROVIDE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES COMPLYING GOVERNMENT STANDARD REGULATION AND REQUIREMENTS.

SYMBOLS/LEGENDS:

APPROX.	APPROXIMATELY	N	NORTH/NORTHING
AC	ASPHALT CONCRETE	NE	NORTHEAST
APE	AREA OF POTENTIAL EFFECT	NTS	NOT TO SCALE
AT	AREA	NO., #	NUMBER
BEG.	BEGIN/BEGINNING	O/S	OFFSET
BFS	BEGIN FULL SUPERELEVATION	O.C.	ON CENTER
BNC	BEGIN NORMAL CROWN	O.D.	OUTSIDE DIAMETER
BNS	BEGIN NORMAL SHOULDER	PAVT	PAVEMENT
BVC	BEGINNING OF VERTICAL CURVE ELEVATION	PT.	POINT
BVCS	BEGINNING OF VERTICAL CURVE STATION	PC	POINT OF CURVATURE
CLR	BENCHMARK ESTABLISHED FOR CONSTRUCTION	PI	POINT OF INTERSECTION
CLR	CENTERLINE	PCL	PROPOSED GRADE LINE
CHD	CHAINLINK FENCE	PT	POINT OF TANGENCY
CHB	CHORD LENGTH	PAI	POINT OF VERTICAL INTERSECTION
CLR	CHORD BEARING	PVC	POLYVINYL CHLORIDE
CLB	CLEARANCE	PSI	POUNDS PER SQUARE INCH
CMP	CORRUGATED METAL PIPE	R	RADIUS
CNT	COCONUT TREE	K	RATE OF VERTICAL CURVATURE
CONC.	CONCRETE	R-DITCH	RECTANGULAR DITCH
CONST.	CONSTRUCTION	RCBC	REINFORCED CONCRETE BOX CULVERT
CONTOUR LINE	CONTOUR LINE	RCF	REINFORCED CONCRETE PIPE
CTE	CONCRETE TOP ELEVATION	REQ'D	REQUIRED
DELTA	DELTA	RET.	RETAINING
DL	DRAINAGE LINE	RC	REVERSE CROWN
DWY	DRIVEWAY	R/R/T	RIGHT
E	EAST/EASTING	-R/W	RIGHT OF WAY
ECP	EROSION CONTROL PLAN	RD	ROAD
EDGE OF CORAL ROAD	EDGE OF CORAL ROAD	RL	ROCK LINING
EDGE OF TRAVEL WAY	EDGE OF TRAVEL WAY	SHLR	SHOULDER
ELEVATION	ELEVATION	S	SLOPE
END FULL SUPERELEVATION	END FULL SUPERELEVATION	SP	SOIL TEST PIT
END NORMAL CROWN	END NORMAL CROWN	SE	SOUTHEAST
END NORMAL SHOULDER	END NORMAL SHOULDER	SE03	SPOT ELEVATION
END VERTICAL CURVE ELEVATION	END VERTICAL CURVE ELEVATION	STD.	STANDARD
END VERTICAL CURVE STATION	END VERTICAL CURVE STATION	STA.	STATION
EXIST.	EXISTING	SYM.	SYMMETRICAL
EG	EXISTING GRADE	T-DITCH	TRAPEZOIDAL DITCH
EXP	EXPOSED PVC WATERLINE (SEE PLAN FOR PIPE SIZE)	T	TANGENT
FEET	FEET	TEST PIT LOCATION	TEST PIT LOCATION
FG	FINISHED GRADE	THR	THICK
FS	FULL SUPERELEVATION	TS	TOP OF SLAB
FL	FLOW-LINE	TW	TOP OF WALL
FUND	FUND	TRANS.	TRANSITION
FLOW-#4 REBAR WITH CAP MARKED #10	FLOW-#4 REBAR WITH CAP MARKED #10	TR	TREE (SEE PLAN FOR TYPE AND TRUNK SIZE)
GATE	GATE	VAR.	VARIES
GUARDRAIL	GUARDRAIL	VER.	VERTICAL
HOR.	HORIZONTAL	VPD	VEHICLE PER DAY
INV.	INVERT	W/	WITH
LT.	LEFT		
L	LENGTH		
LVC.	LENGTH OF VERTICAL CURVE		
LC	LEVEL CROWN		
LF	LINEAR FEET		
MH	MANHOLE		
MPH	MILES PER HOUR		
MIN.	MINIMUM		

IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT.
LINE DRAWING: SCALE AS APPROPRIATE.

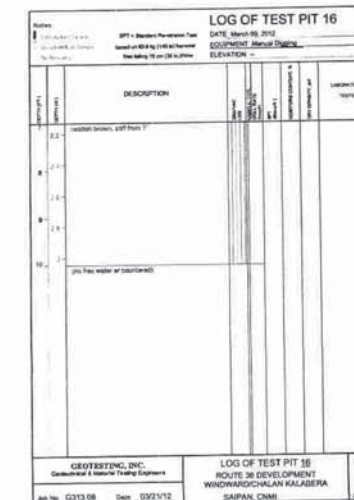
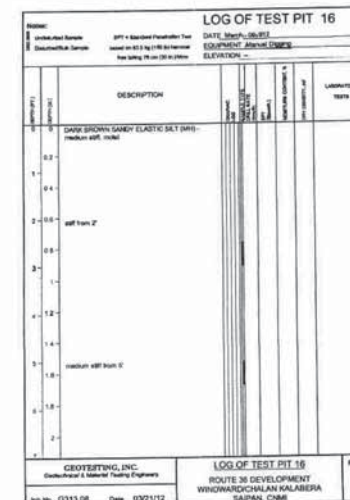
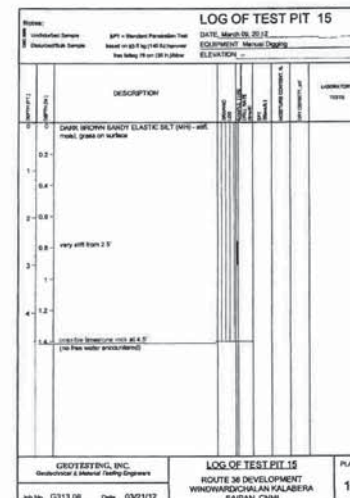
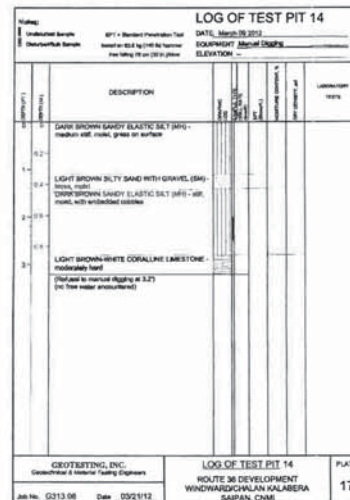
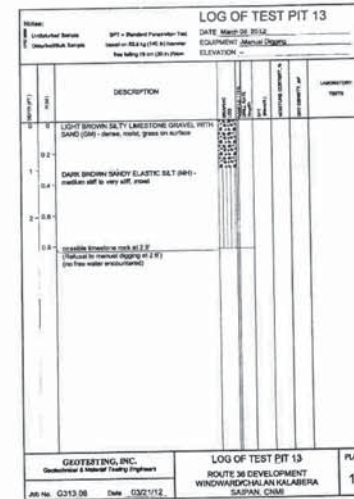
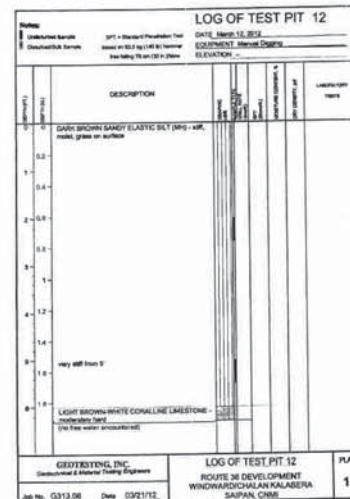
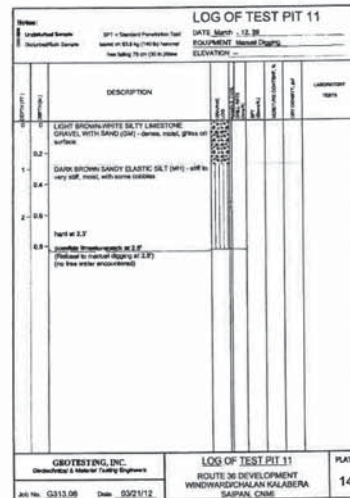
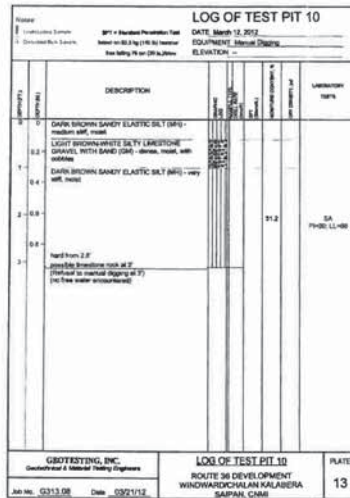


ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No. TQ-THS-0036(301)

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NOTES:

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2. SEE PLANS FOR LOCATION OF BORING LOGS AND TEST PITS.



GEORGE M. SALLER
REGISTERED PROFESSIONAL ENGINEER
LICENSE NO. 7174
EXPIRES 08-30-2014

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
DATE: 03/01/2012

CONTENT:
BORING LOGS

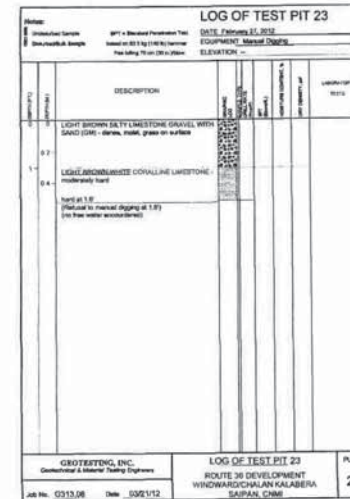
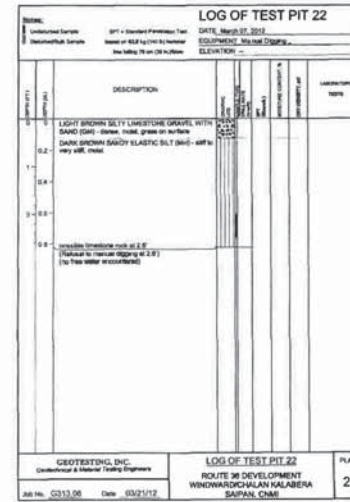
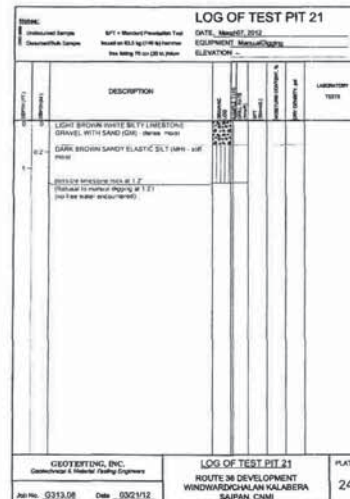
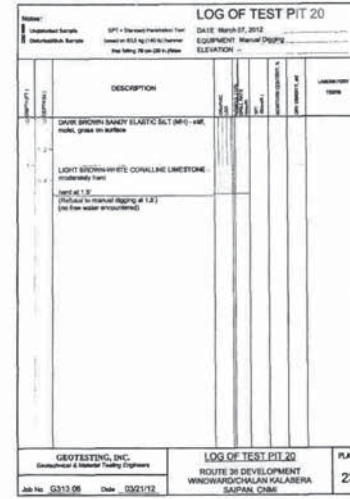
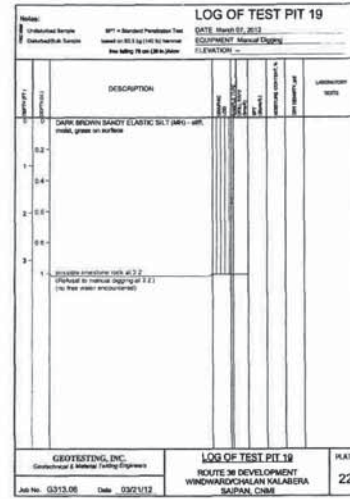
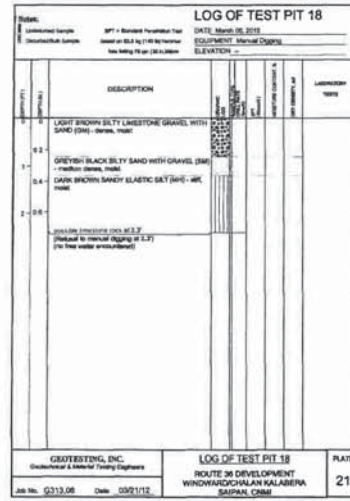
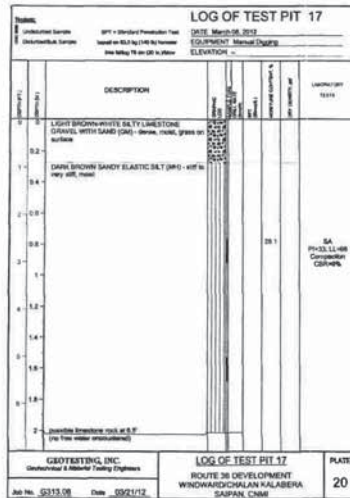
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SHEET NO.
SHEET 8 OF 184

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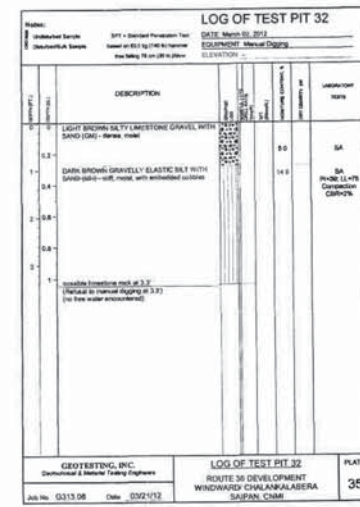
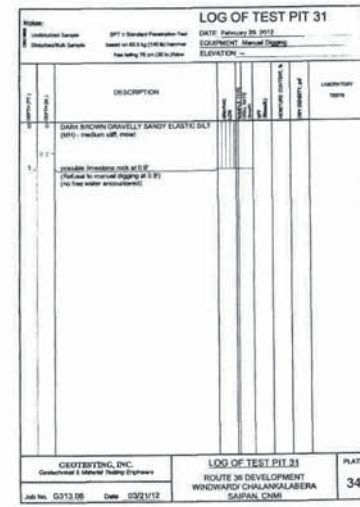
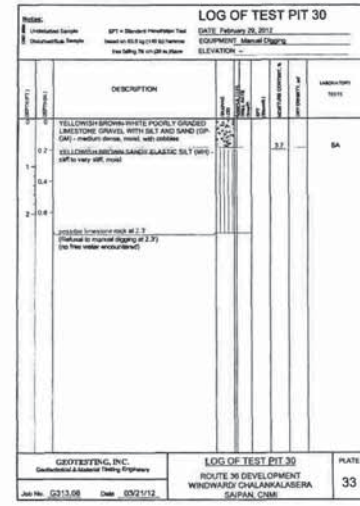
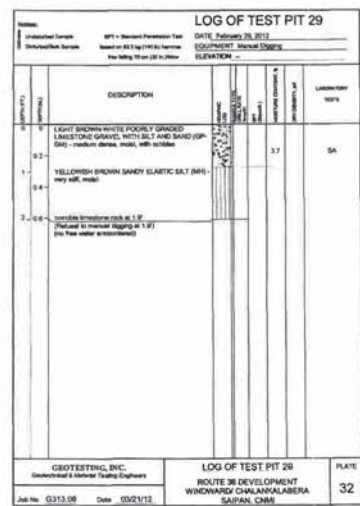
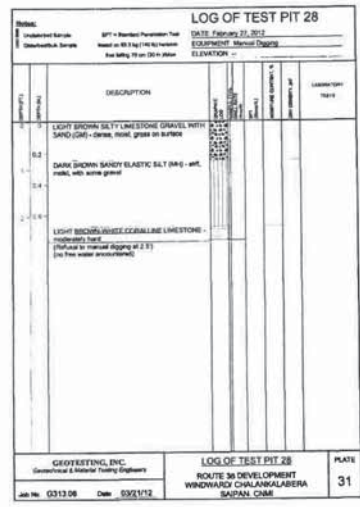
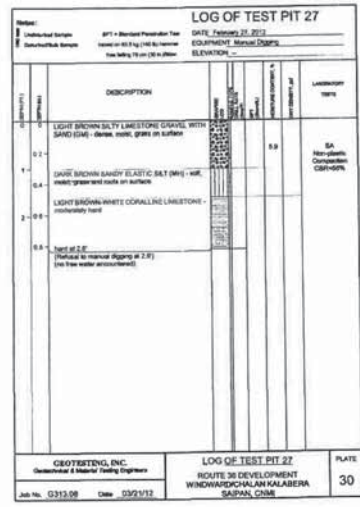
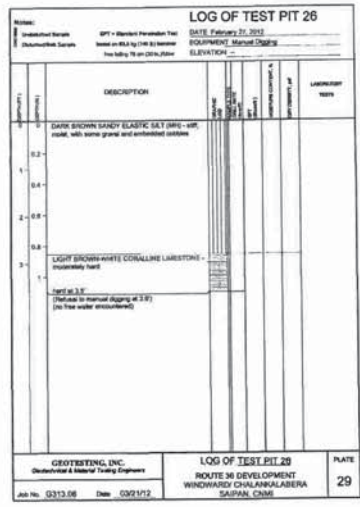
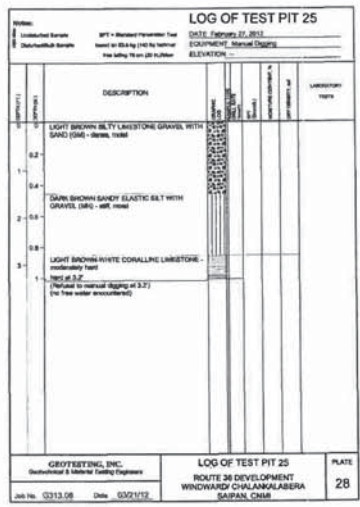
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2. SEE PLANS FOR LOCATION OF BORING LOGS AND TEST PITS.



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REGISTERED PROFESSIONAL ENGINEER
NO. 371
DATE: 03/21/2009

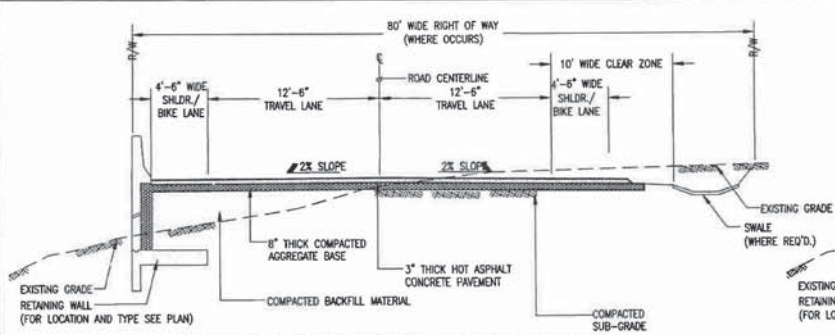
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: 03/21/2009

CONTENT:
BORING LOGS

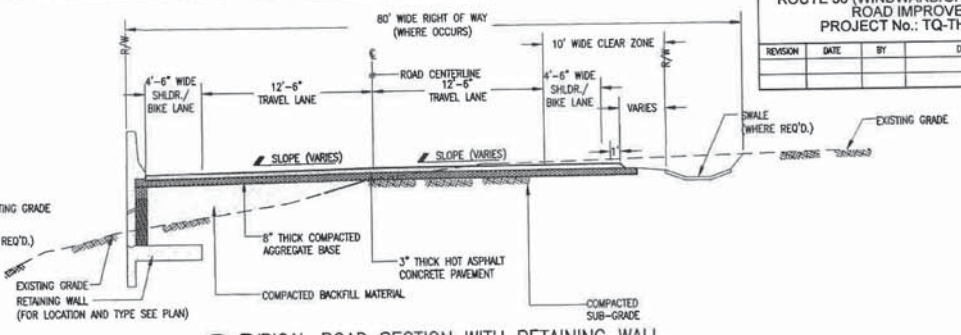
BL-3
SHEET NO.
SHEET 8 OF 184

IF SHEET IS LESS THAN 24" X 36" - REDUCED PRINT, USE GRAPHIC SCALES ACCORDINGLY.

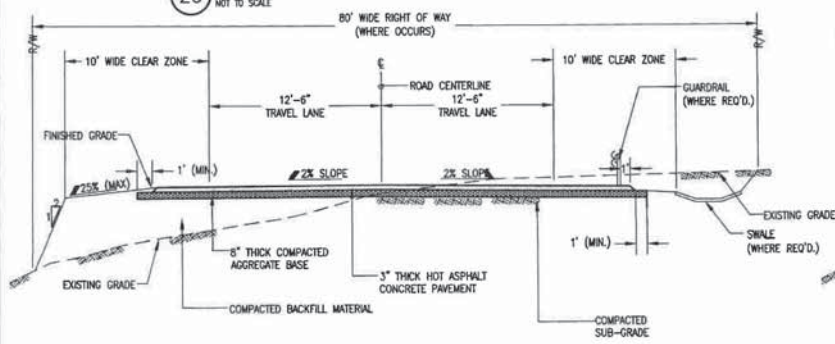
REVISION	DATE	BY	DESCRIPTION	APPROVED



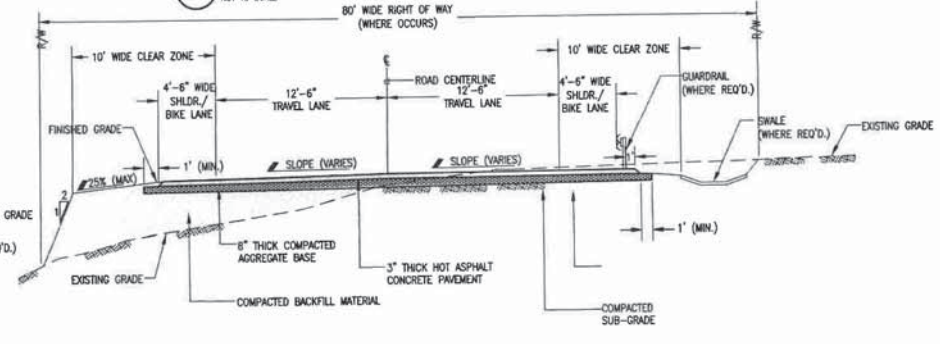
2C TYPICAL ROAD SECTION WITH RETAINING WALL
NOT TO SCALE



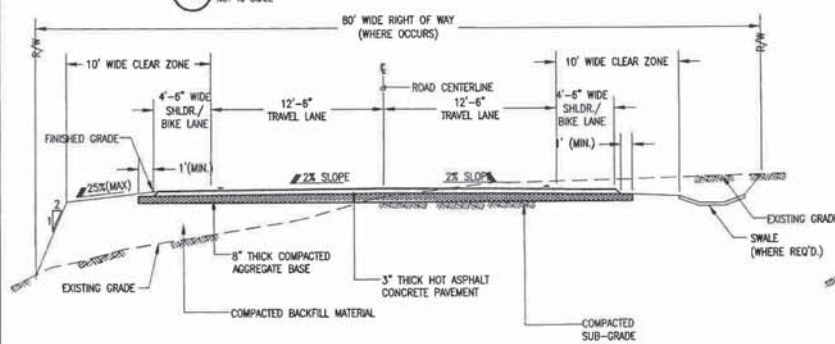
1C TYPICAL ROAD SECTION WITH RETAINING WALL
NOT TO SCALE



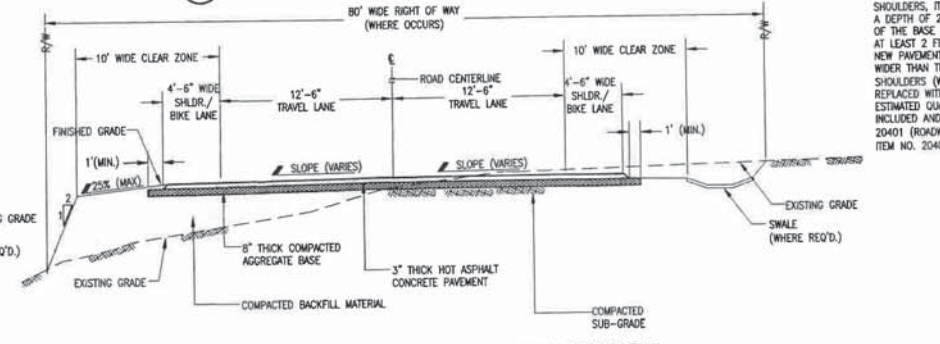
2B TYPICAL ROAD SECTION WITH GUARDRAIL
NOT TO SCALE



1B TYPICAL ROAD SECTION WITH GUARDRAIL
NOT TO SCALE



2A TYPICAL ROAD SECTION WITHOUT GUARDRAIL
NOT TO SCALE



1A TYPICAL ROAD SECTION WITHOUT GUARDRAIL
NOT TO SCALE

2 TYPICAL ROAD SECTIONS (NORMAL CROWN) ON 80' WIDE R/W AND OTHER AREAS
NOT TO SCALE

1 TYPICAL ROAD SECTIONS (SUPERELEVATED) ON 80' WIDE R/W AND OTHER AREAS
NOT TO SCALE

NOTES:

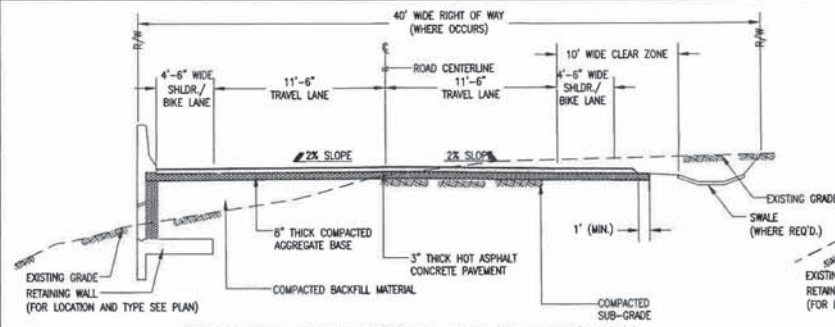
- WHERE THE ON-SITE SILTY SOIL IS EXPOSED WITHIN THE ROADWAY AND ROAD SHOULDERS, IT SHOULD BE EXCAVATED TO A DEPTH OF 2 FEET BELOW THE BOTTOM OF THE BASE COURSE LAYER, INCLUDING AT LEAST 2 FEET WIDER ALL AROUND THE NEW PAVEMENT OR AT LEAST ONE FOOT WIDER THAN THE EDGES OF THE ROAD SHOULDERS (WHICHEVER APPLIES) AND REPLACED WITH BACKFILL MATERIAL. ESTIMATED QUANTITY, AS ALLOWANCE, IS INCLUDED AND PAID UNDER PAY ITEM NO. 20401 (ROADWAY EXCAVATION) AND PAY ITEM NO. 20402 (ROADWAY EMBANKMENT).



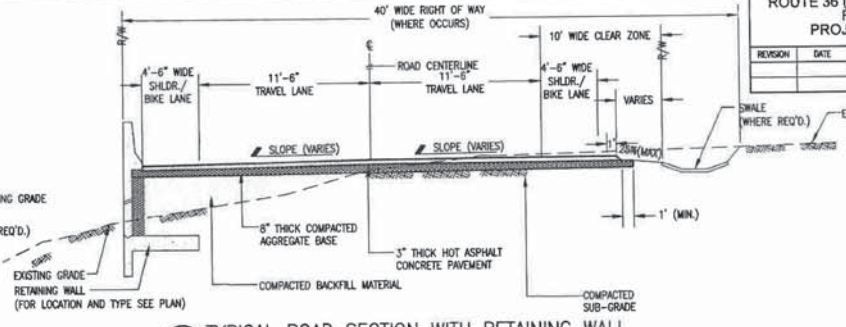
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
DATE: 03/01/2020

CONTENT:
TYPICAL ROAD SECTIONS
@ 80' WIDE R/W

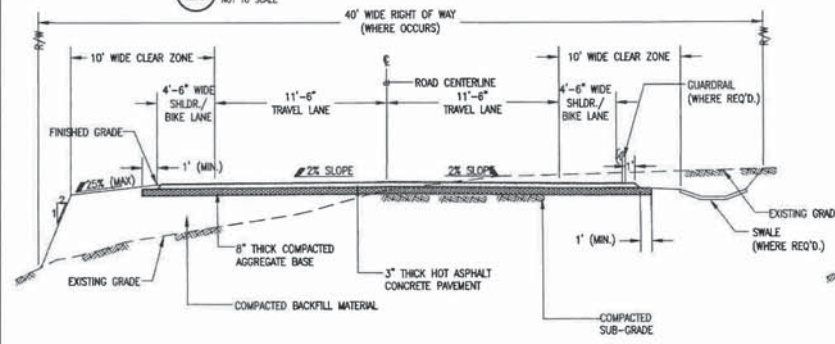
REVISION	DATE	BY	DESCRIPTION	APPROVED



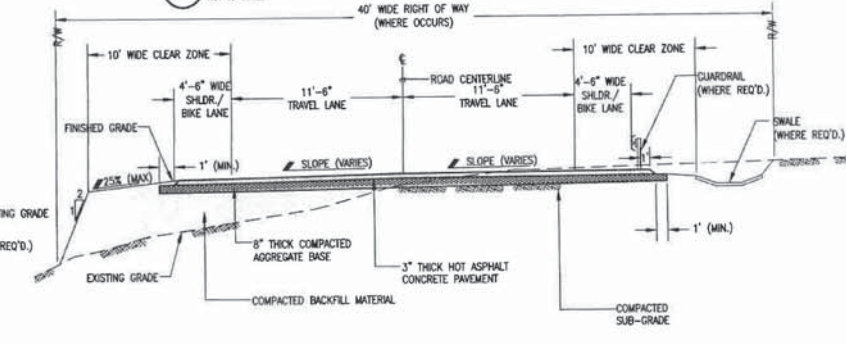
2C TYPICAL ROAD SECTION WITH RETAINING WALL
NOT TO SCALE



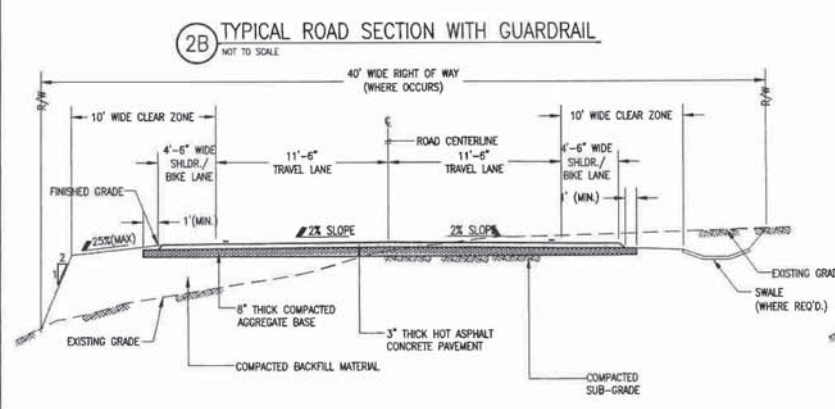
1C TYPICAL ROAD SECTION WITH RETAINING WALL
NOT TO SCALE



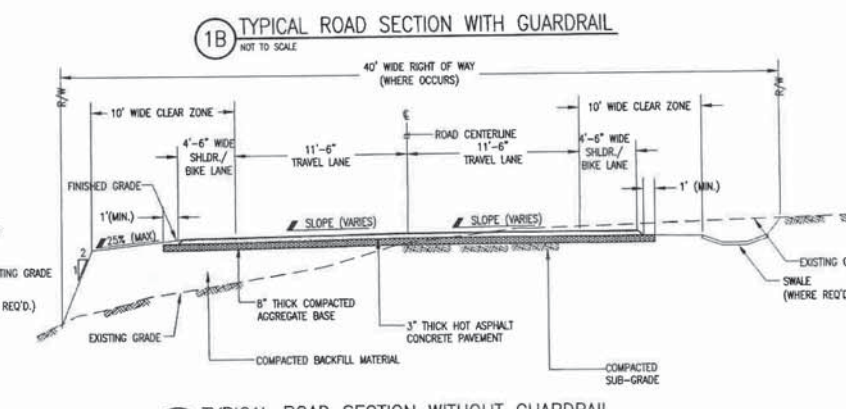
2B TYPICAL ROAD SECTION WITH GUARDRAIL
NOT TO SCALE



1B TYPICAL ROAD SECTION WITH GUARDRAIL
NOT TO SCALE



2A TYPICAL ROAD SECTION WITHOUT GUARDRAIL
NOT TO SCALE

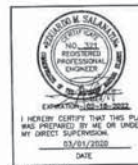


1A TYPICAL ROAD SECTION WITHOUT GUARDRAIL
NOT TO SCALE

2 TYPICAL ROAD SECTIONS (NORMAL CROWN) ON 40' WIDE R/W
NOT TO SCALE

1 TYPICAL ROAD SECTIONS (SUPERELEVATED) ON 40' WIDE R/W
NOT TO SCALE

- NOTES:
- WHERE THE ON-SITE SILEY SOIL IS EXPOSED WITHIN THE ROADWAY AND ROAD SHOULDERS, IT SHOULD BE EXCAVATED TO A DEPTH OF 2 FEET BELOW THE BOTTOM OF THE BASE COURSE LAYER, INCLUDING AT LEAST 2 FEET WIDER ALL AROUND THE NEW PAVEMENT OR AT LEAST ONE FOOT WIDER THAN THE EDGES OF THE ROAD SHOULDERS (WHICHEVER APPLIES) AND REPLACED WITH BACKFILL MATERIAL ESTIMATED QUANTITY, AS ALLOWANCE, IS INCLUDED AND PAID UNDER PAY ITEM NO. 20401 (ROADWAY EXCAVATION AND PAY ITEM NO. 20402 (ROADWAY EMBANKMENT).

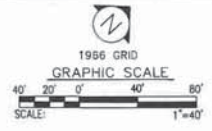


CONTENT:
TYPICAL ROAD SECTIONS
@ 40' WIDE R/W

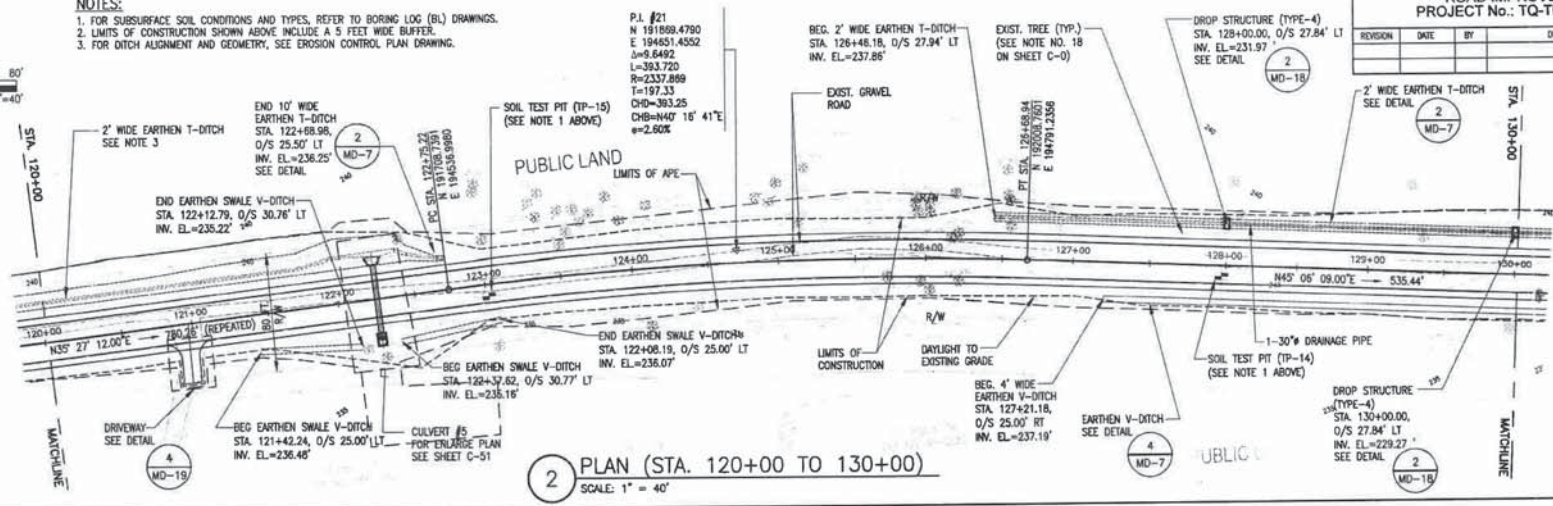
IF SHEET IS LESS THAN 24" X 36" (REDUCED) PRINT
USE GRAPHIC SCALES ACCORDINGLY

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0036(30.)

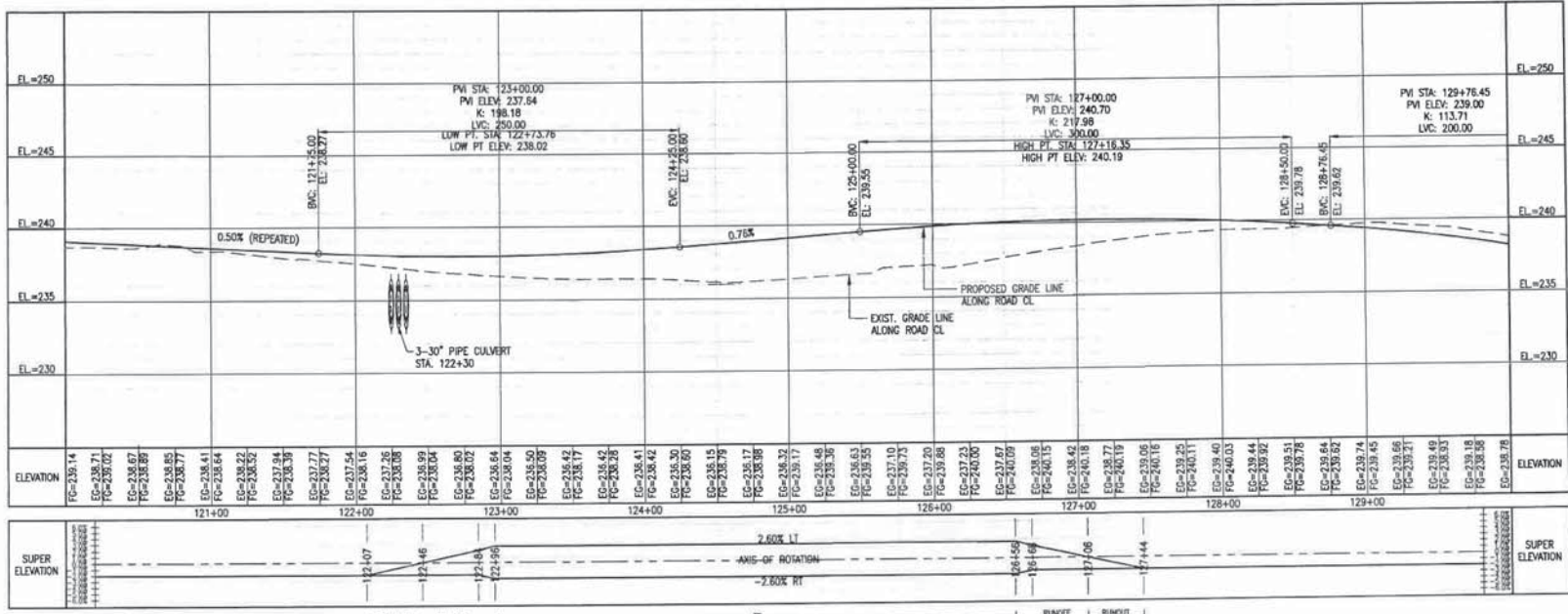
REVISION	DATE	BY	DESCRIPTION	APPROVED



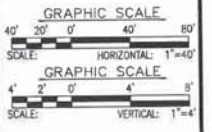
- NOTES:**
- FOR SUBSURFACE SOIL CONDITIONS AND TYPES, REFER TO BORING LOG (BL) DRAWINGS.
 - LIMITS OF CONSTRUCTION SHOWN ABOVE INCLUDE A 5 FEET WIDE BUFFER.
 - FOR DITCH ALIGNMENT AND GEOMETRY, SEE EROSION CONTROL PLAN DRAWING.



2 PLAN (STA. 120+00 TO 130+00)
SCALE: 1" = 40'



1 PROFILE AND SUPERELEVATION DIAGRAM (STA. 120+00 TO 130+00)
SCALE: HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'



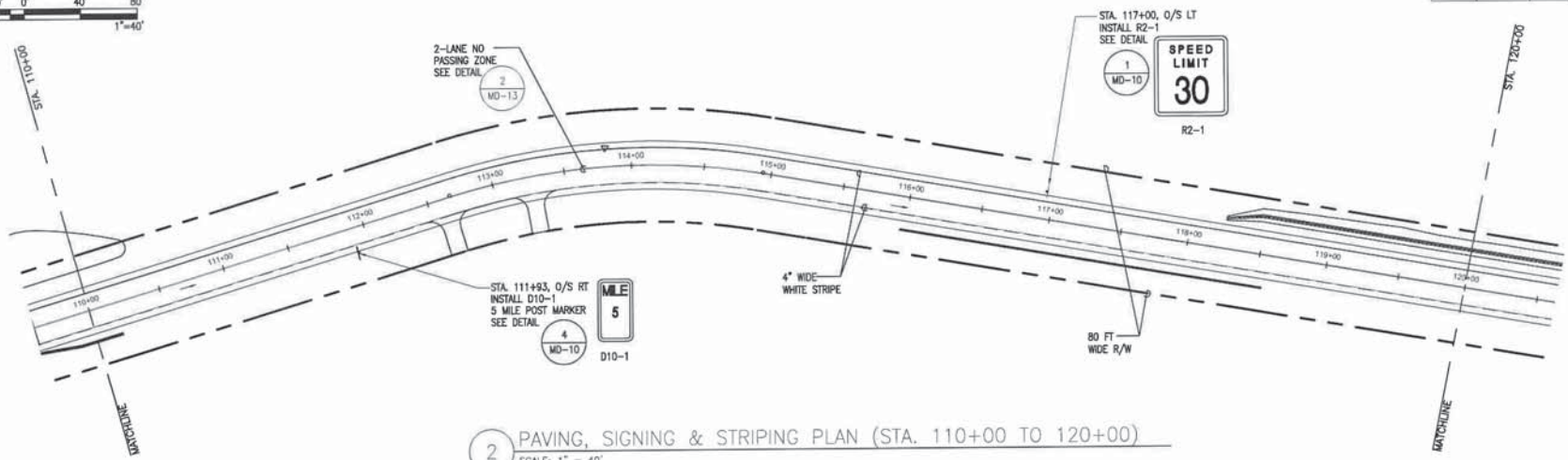
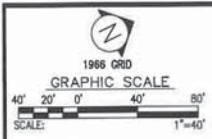
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: 05/03/2020

CONTENT:
PLAN & PROFILE
(STA. 120+00 TO STA. 130+00)

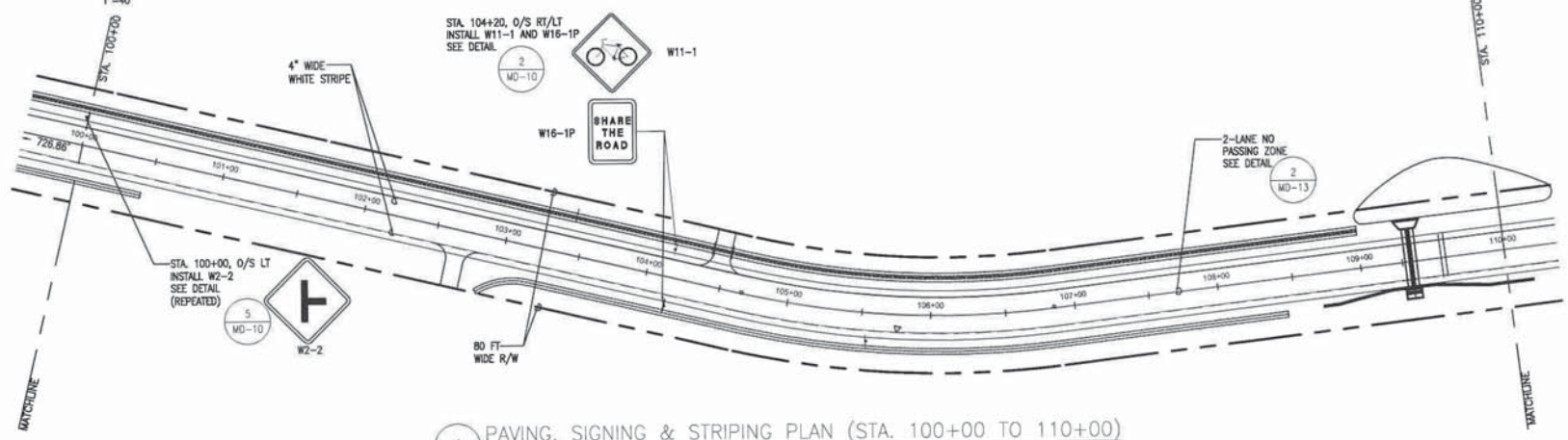
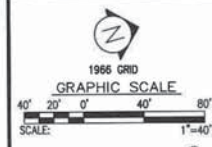
C-18
SHEET NO.
SHEET 28 OF 134

IF SHEET IS LESS THAN 24" X 36" - REDUCE PRINT.
USE GRAPHIC SCALES ACCORDINGLY.

REVISION	DATE	BY	DESCRIPTION	APPROVED



2 PAVING, SIGNING & STRIPING PLAN (STA. 110+00 TO 120+00)
SCALE: 1" = 40'



1 PAVING, SIGNING & STRIPING PLAN (STA. 100+00 TO 110+00)
SCALE: 1" = 40'

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION ON 03/01/2020

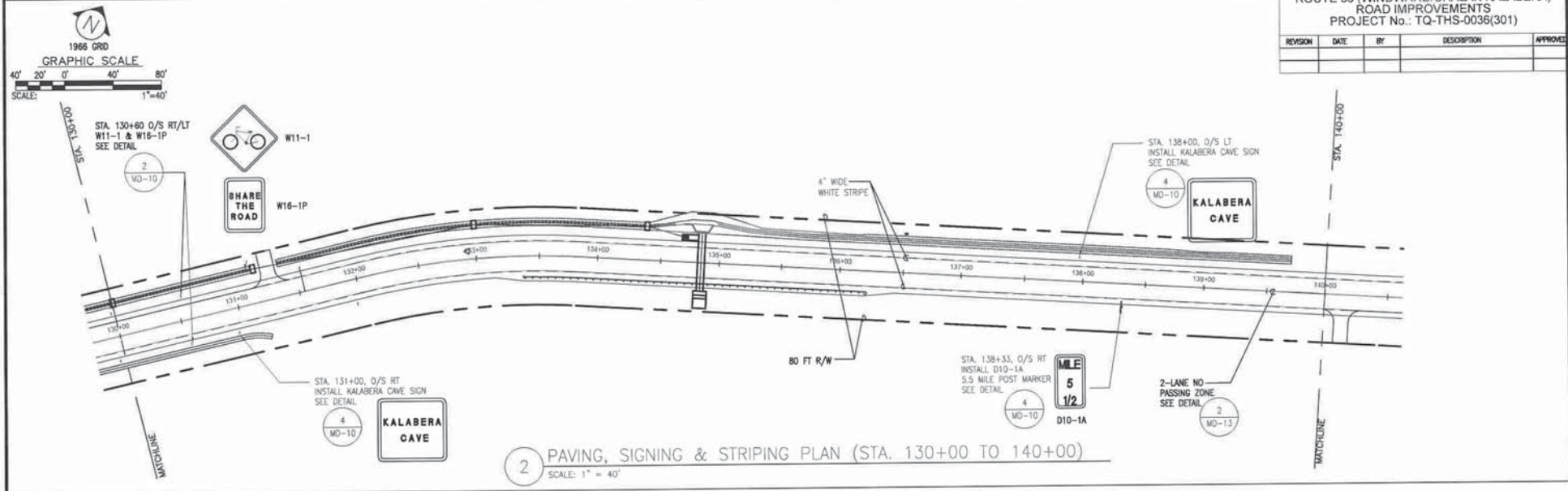
DATE

CONTENT:
PAVING, SIGNING AND STRIPING PLAN
(STA. 100+00 TO STA. 120+00)

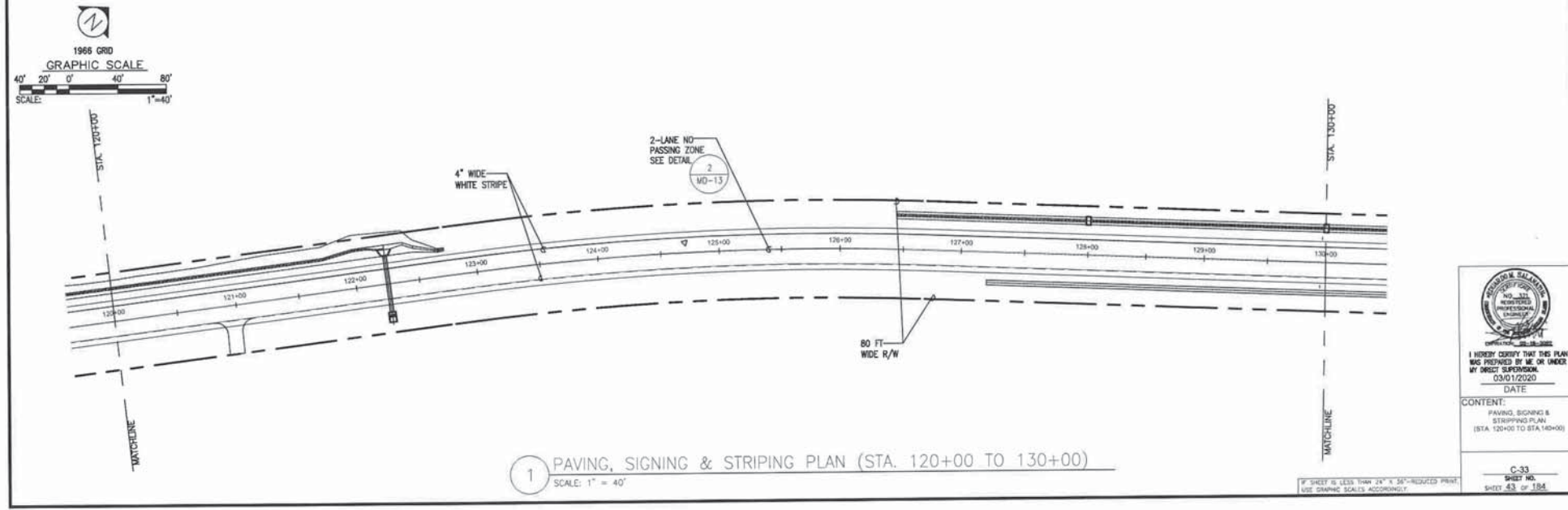
C-32
SHEET NO.
SHEET 42 OF 184

IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT, USE GRAPHIC SCALES ACCORDINGLY.

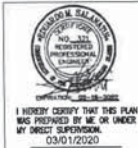
REVISION	DATE	BY	DESCRIPTION	APPROVED



2 PAVING, SIGNING & STRIPING PLAN (STA. 130+00 TO 140+00)
SCALE: 1" = 40'



1 PAVING, SIGNING & STRIPING PLAN (STA. 120+00 TO 130+00)
SCALE: 1" = 40'



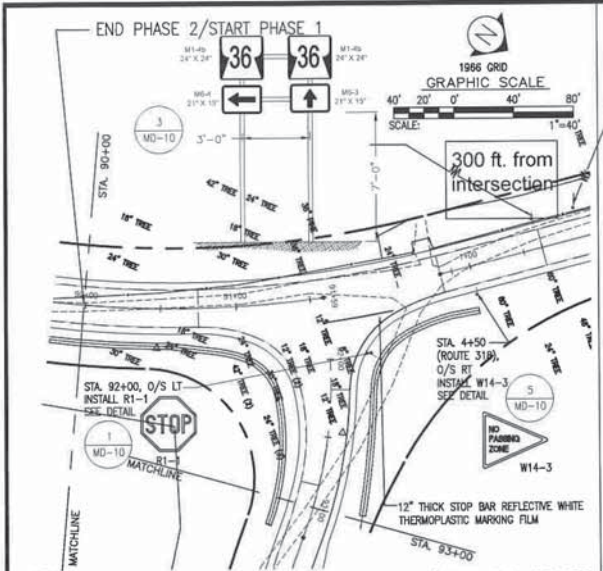
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: 03/01/2020

CONTENT: PAVING, SIGNING & STRIPING PLAN (STA. 120+00 TO STA. 140+00)
C-33 SHEET NO. 43 OF 184

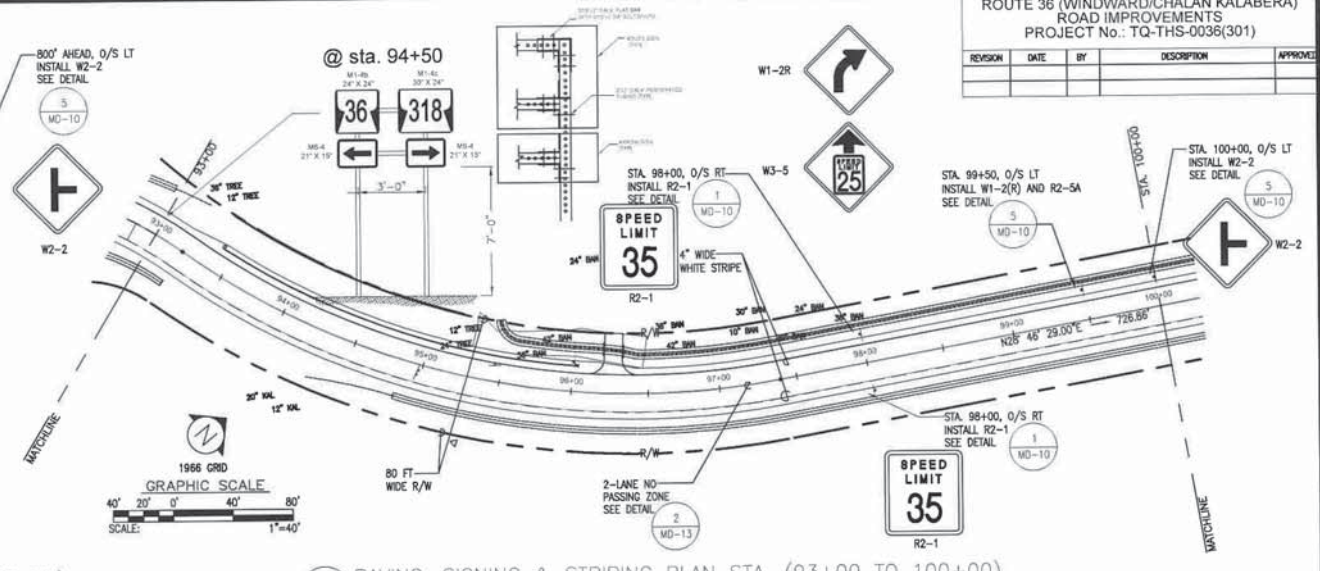
IF SHEET IS LESS THAN 24" X 36" REDUCED PRINT. USE DIMING SCALES ACCORDINGLY.

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0036(301)

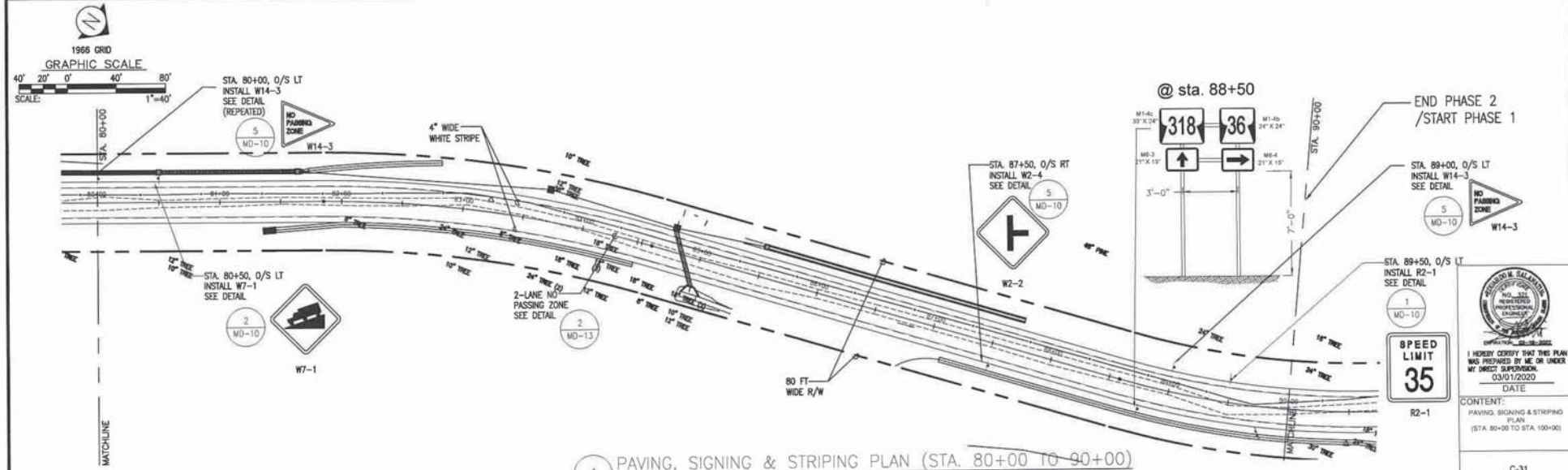
REVISION	DATE	BY	DESCRIPTION	APPROVED



2 PAVING, SIGNING & STRIPING PLAN (STA. 90+00 TO 93+00)
SCALE: 1" = 40'



3 PAVING, SIGNING & STRIPING PLAN STA. (93+00 TO 100+00)
SCALE: 1" = 40'



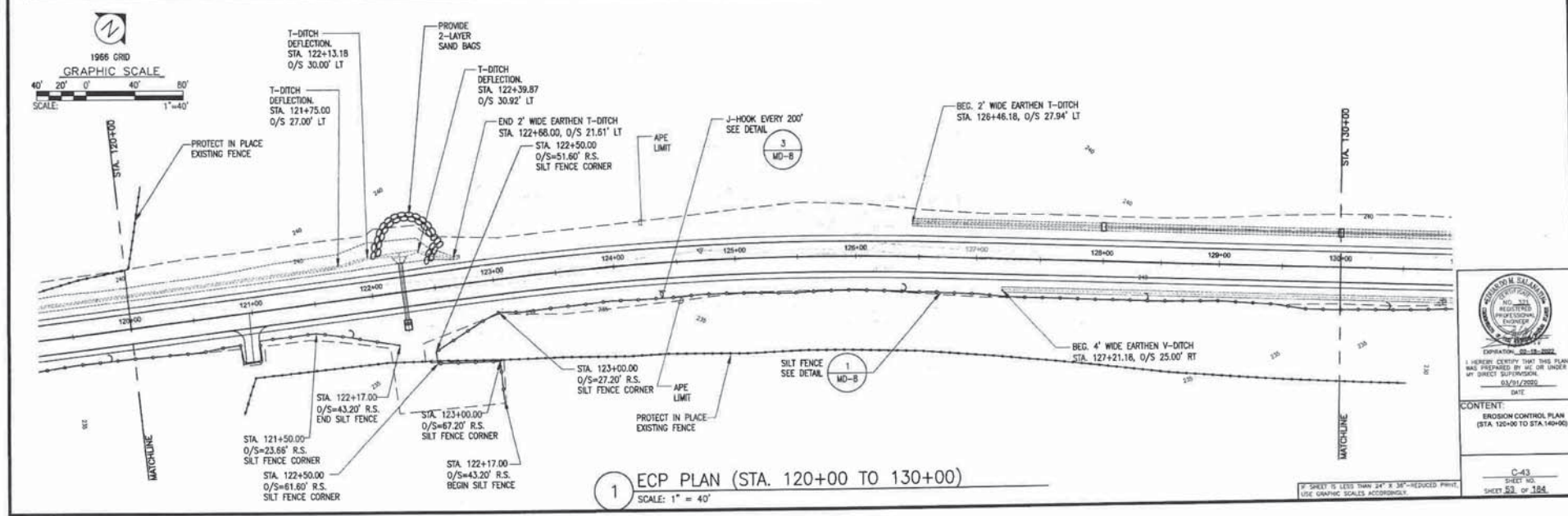
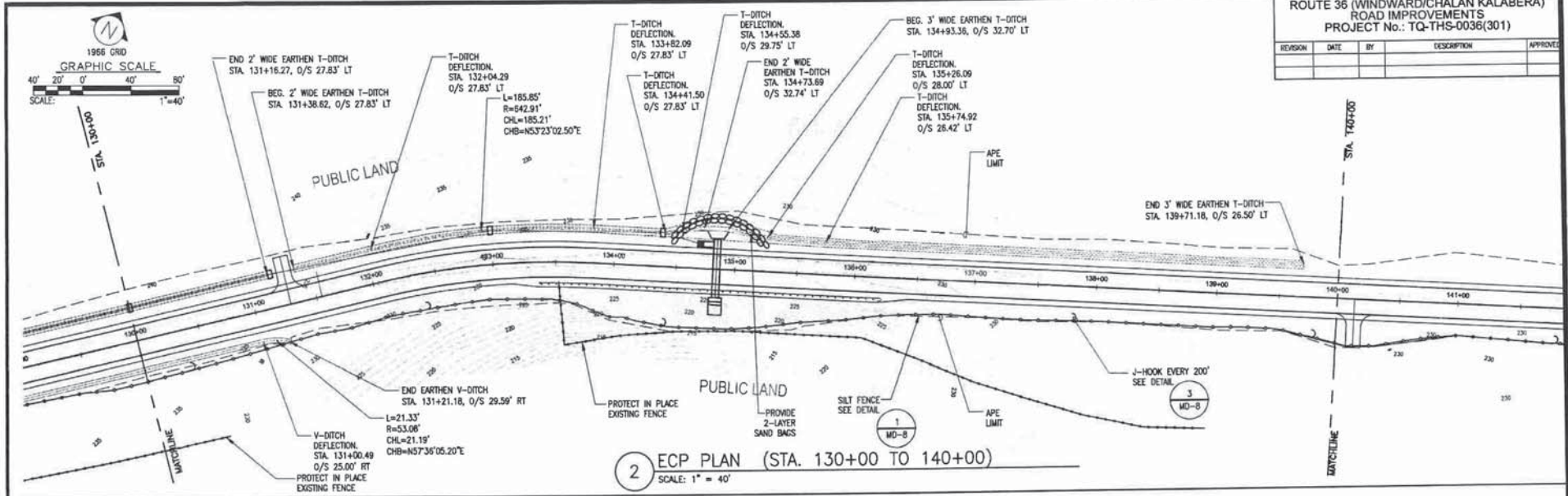
1 PAVING, SIGNING & STRIPING PLAN (STA. 80+00 TO 90+00)
SCALE: 1" = 40'

I HEREBY CERTIFY THAT THIS PLAN
 WAS PREPARED BY ME OR UNDER
 MY DIRECT SUPERVISION
 03/01/2020
 DATE
 CONTENT: PAVING, SIGNING & STRIPING
 PLAN
 (STA. 80+00 TO STA. 100+00)
 C-31
 SHEET NO.
 SHEET 41 OF 184

IF SHEET IS LESS THAN 24" X 36" - REDUCED PRINT
USE GRAPHIC SCALES ACCORDINGLY.

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0036(301)

REVISION	DATE	BY	DESCRIPTION	APPROVED



EXPIRATION: 02-18-2002

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION

DATE: 06/21/2002

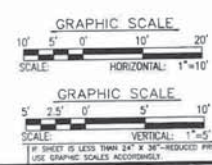
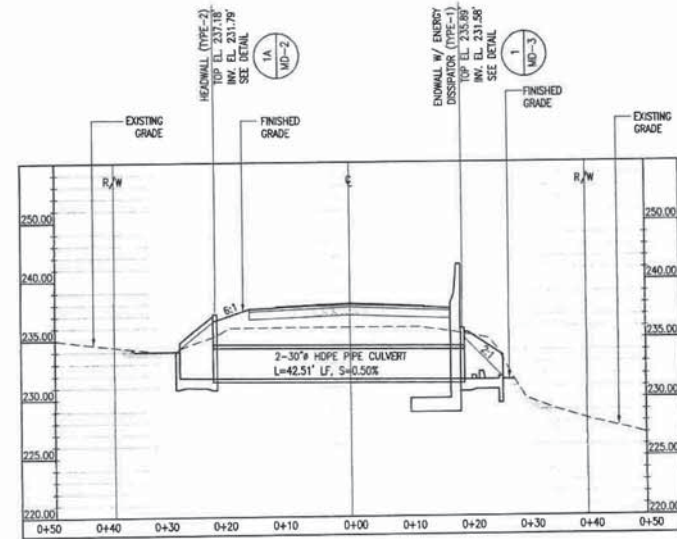
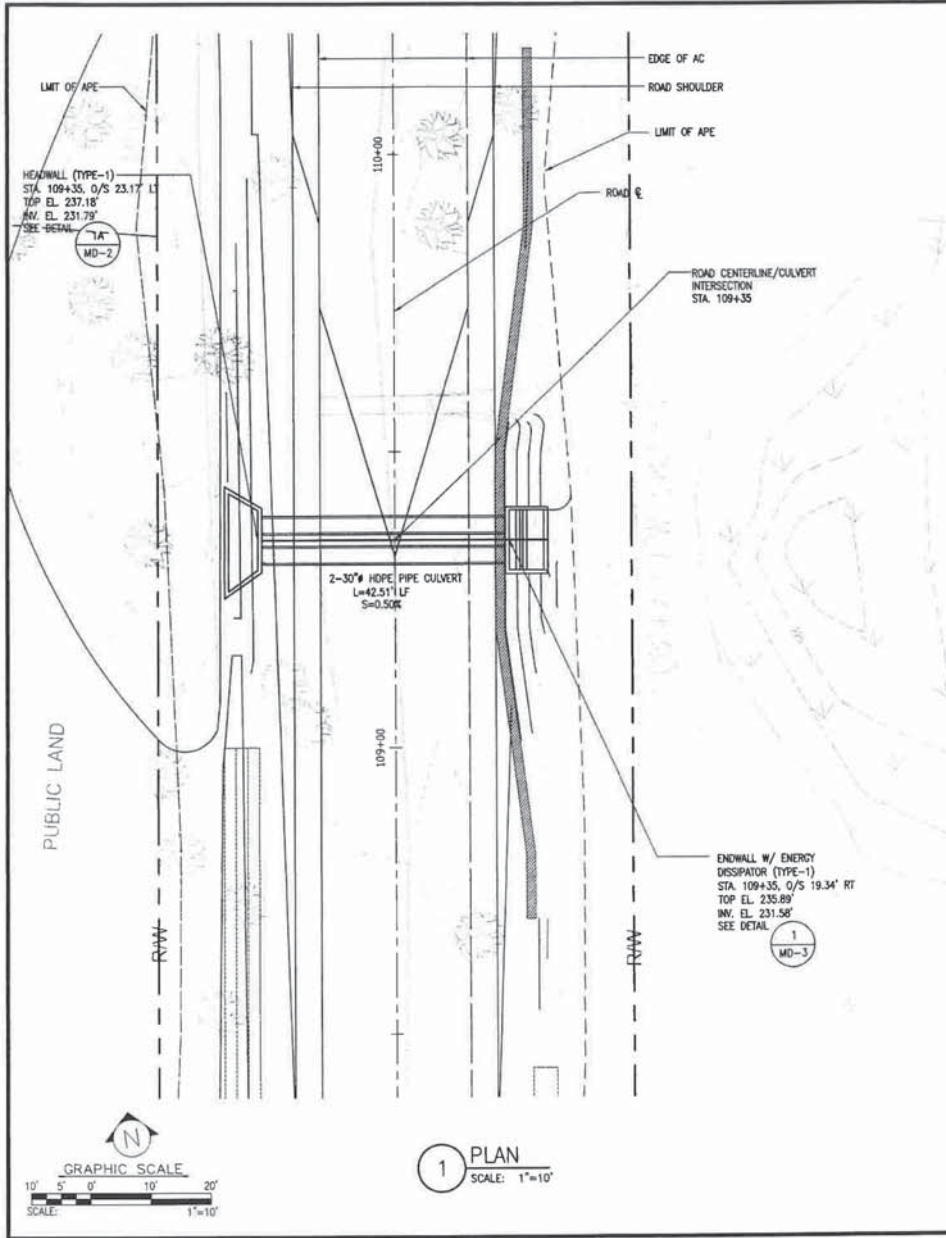
CONTENT: EROSION CONTROL PLAN (STA. 120+00 TO STA. 140+00)

C-43
SHEET NO. 53 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0036(301)

REVISION	DATE	BY	DESCRIPTION	APPROVED

NOTE:
1. CONTRACTOR TO MAINTAIN CONTINUOUS DRAINAGE THROUGHOUT CONSTRUCTION.



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME, OR UNDER MY DIRECT SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER.

 DATE: _____

 CONTENT: CULVERT #8A PLAN & PROFILE (STA. 109+35)

 C-50A

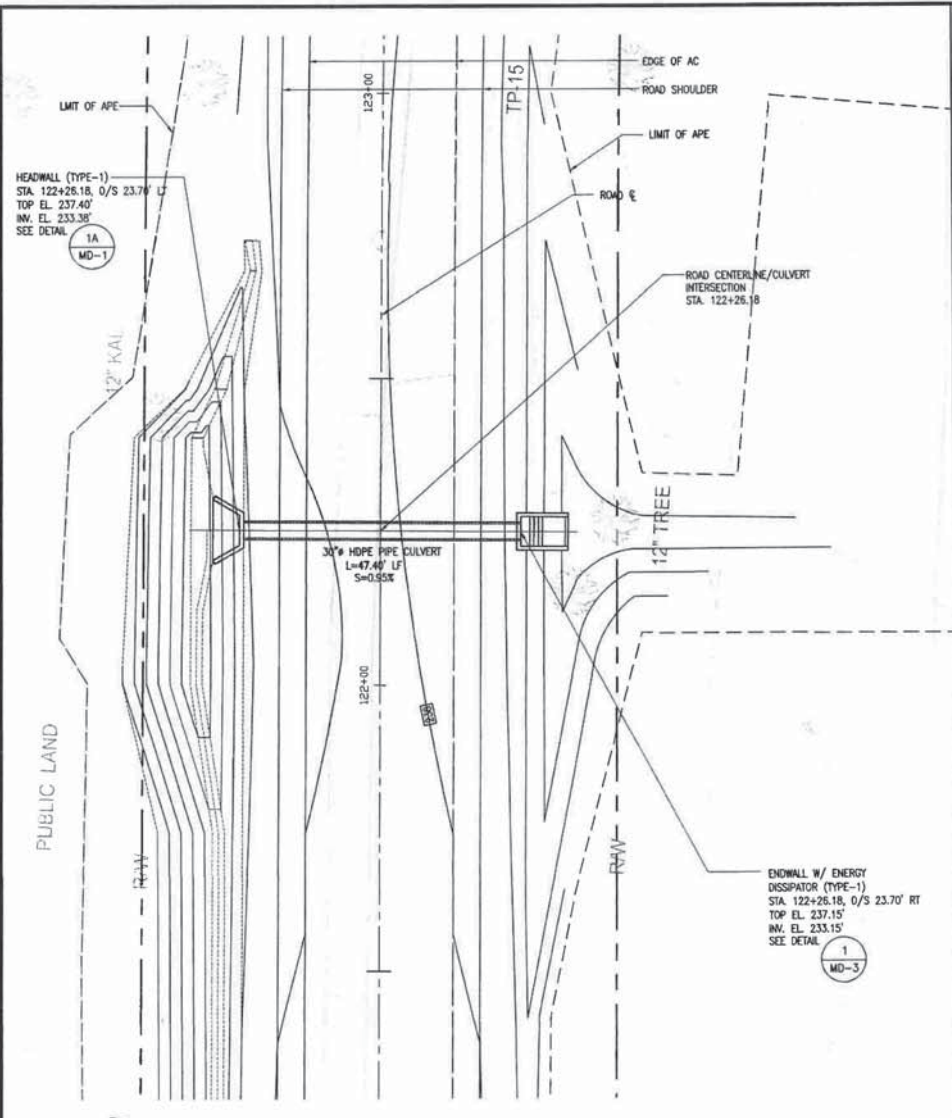
 SHEET NO. 165

 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0036(301)

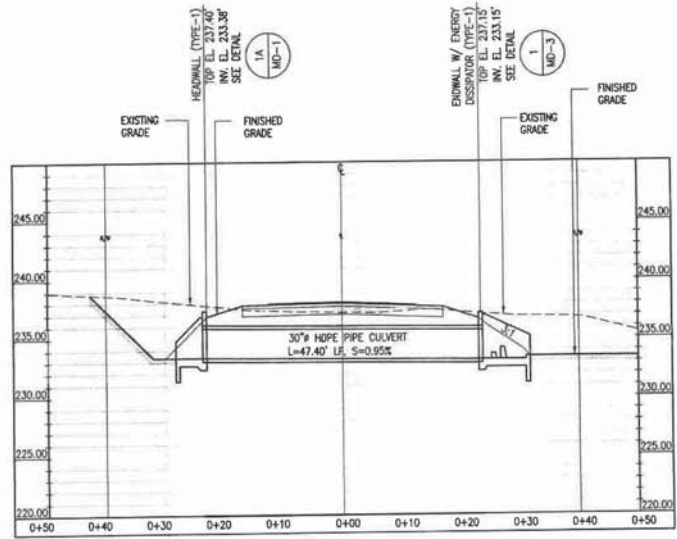
REVISION	DATE	BY	DESCRIPTION	APPROVED

NOTE:
1. CONTRACTOR TO MAINTAIN CONTINUOUS DRAINAGE THROUGHOUT CONSTRUCTION.

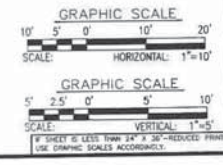


1 PLAN
SCALE: 1"=10'

GRAPHIC SCALE
1"=10'



2 PROFILE
SCALE: HOR. 1"=10'
VER. 1"=5'



PROFESSIONAL ENGINEER
NO. 332
REGISTERED
PROFESSIONAL
ENGINEER
EXPIRES 12-31-2022

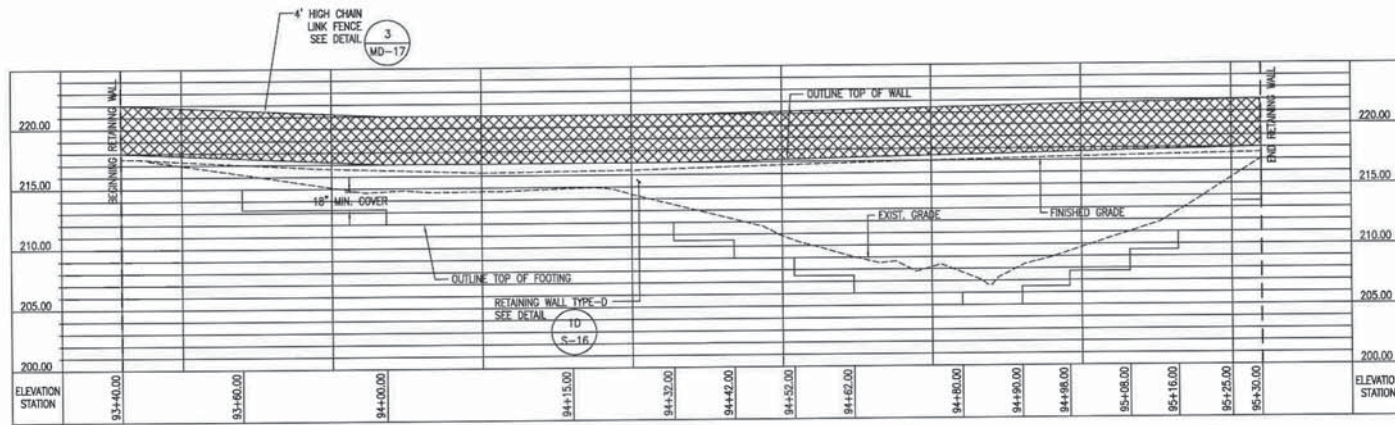
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: 03/01/2020

CONTENT:
CULVERT AS PLAN & PROFILE
(STA. 122+26.18)

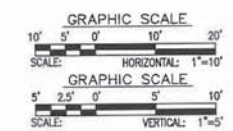
C-51
SHEET NO.
SHEET 81 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0036(301)

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 RETAINING WALL (TYPE-D) PROFILE LT. SIDE (STA 93+40.00 TO 95+30.00)
SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'



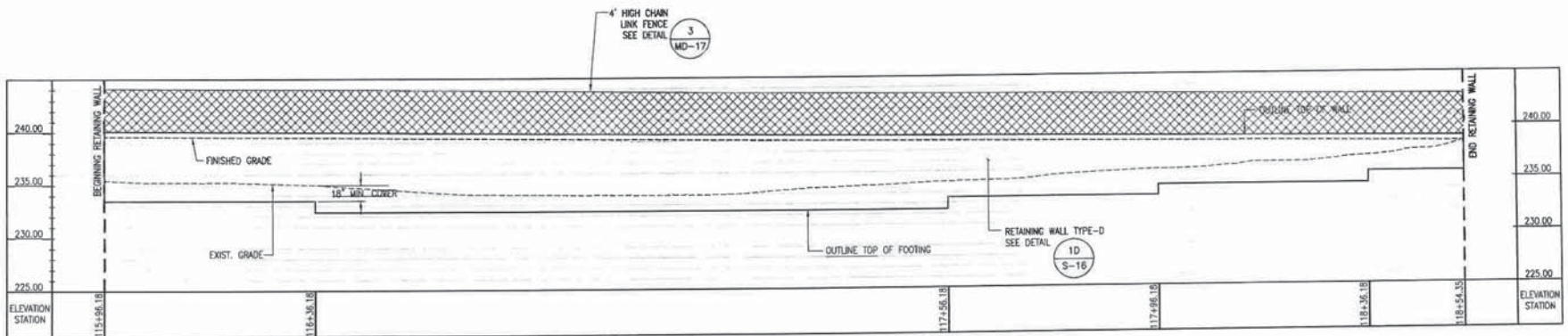
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
03/11/2020
DATE

CONTENT:
RETAINING WALL PROFILE
(STA 93+40 TO STA 95+30)

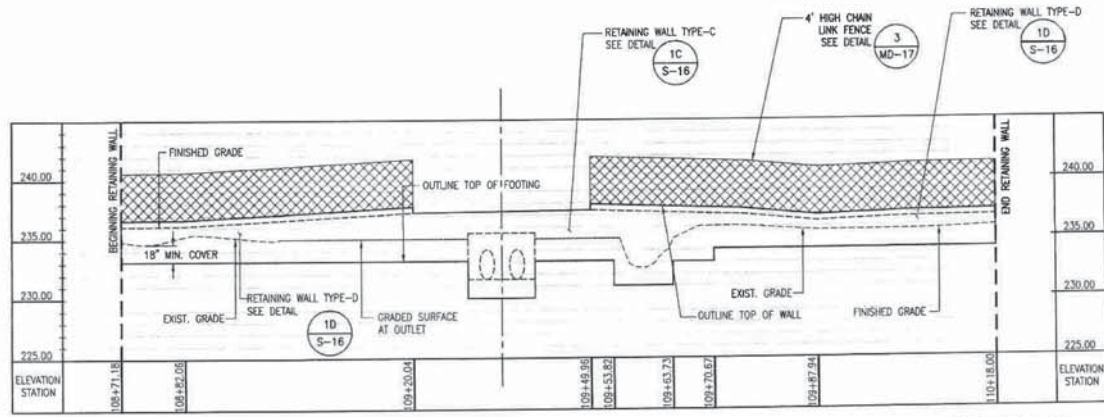
C-63
SHEET NO.
SHEET 23 OF 184

IF SHEET IS LESS THAN 24" X 36" - REDUCED PRINT. USE GRAPHIC SCALES ACCORDINGLY.

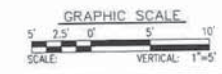
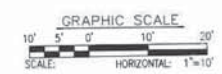
ROUTE 36 (WINDWARD/CHALAN KALABERA) ROAD IMPROVEMENTS PROJECT No.: TQ-THS-0036(301)				
REVISION	DATE	BY	DESCRIPTION	APPROVED



2 RETAINING WALL (TYPE-D) PROFILE RT. SIDE (STA 115+96.18 TO 118+54.35)
SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'



1 RETAINING WALL (TYPE-C) & (TYPE-D) PROFILE RT. SIDE (STA 108+71.18 TO 110+18.00)
SCALE: HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: _____

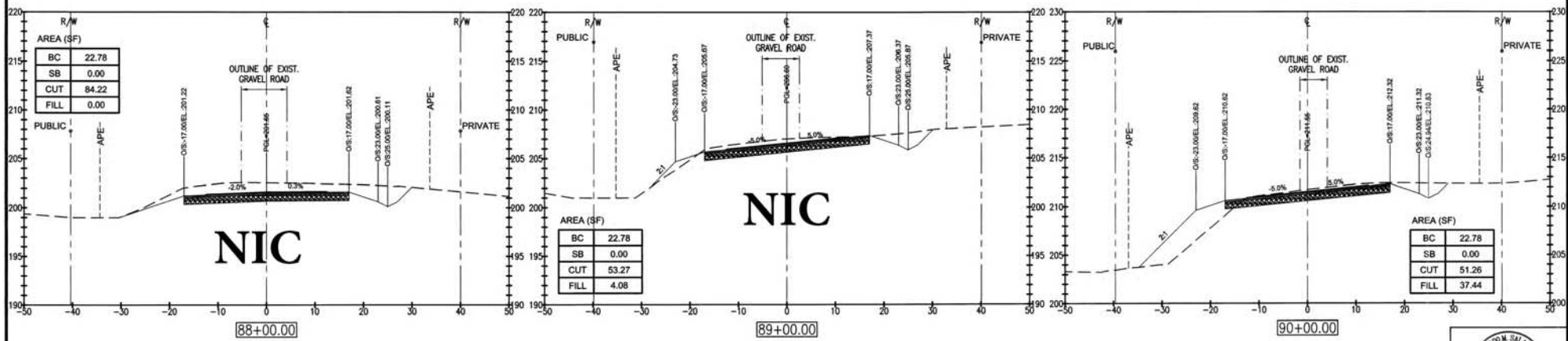
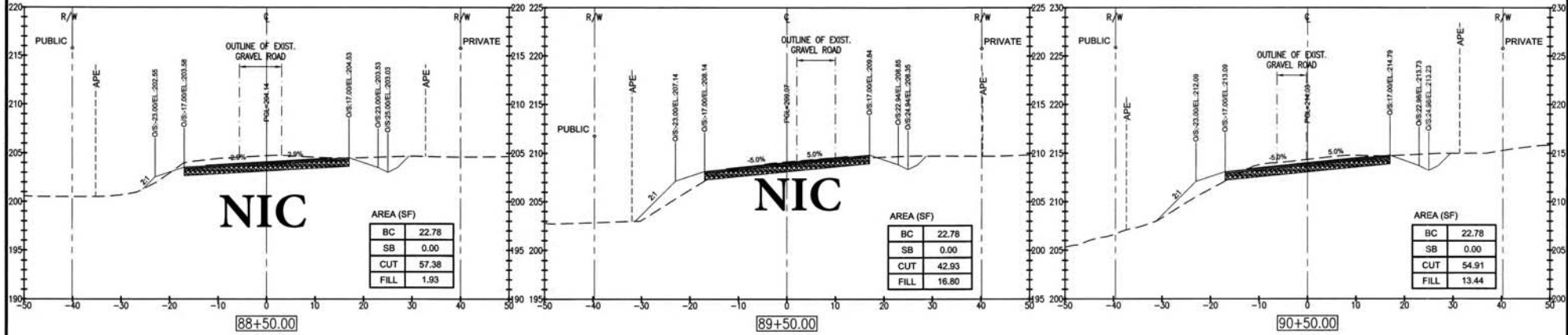
CONTENT:
RETAINING WALL PROFILES

C-54
SHEET NO.
SHEET 24 OF 184

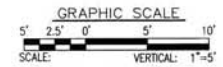
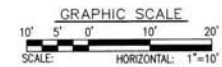
IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT; USE GRAPHIC SCALES ACCORDINGLY.

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: CM-NH-0036(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 ROAD SECTION (STA. 88+00.00 TO STA. 90+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT, USE GRAPHIC SCALES ACCORDINGLY.

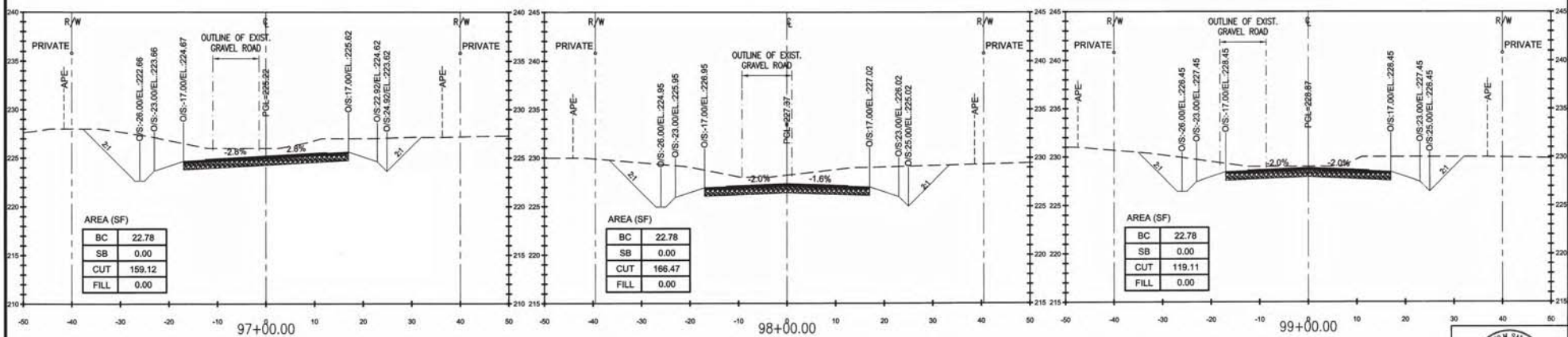
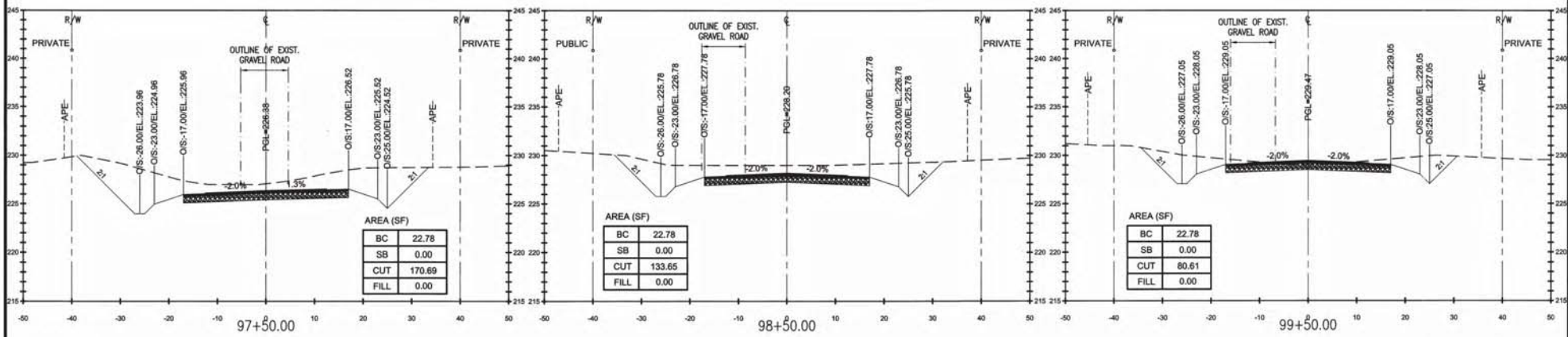
ROSEBUD M. SALAZAR
REGISTERED PROFESSIONAL ENGINEER
NO. 322
EXPIRATION: 02-18-2022
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: 03/01/2020

CONTENT:
ROAD CROSS SECTIONS
(STA. 88+00.00 TO STA. 90+50.00)

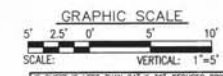
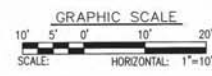
X-37
SHEET NO.
SHEET 112 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: CM-NH-0036(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



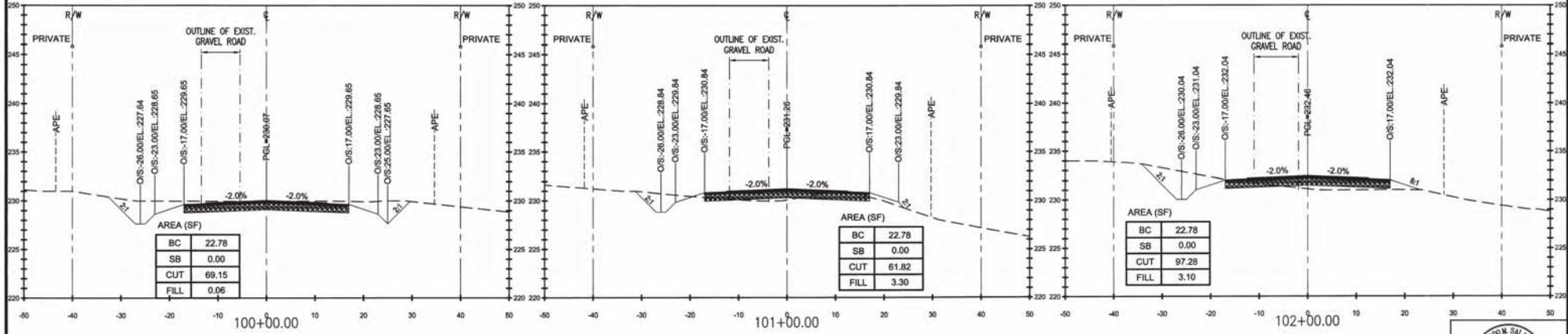
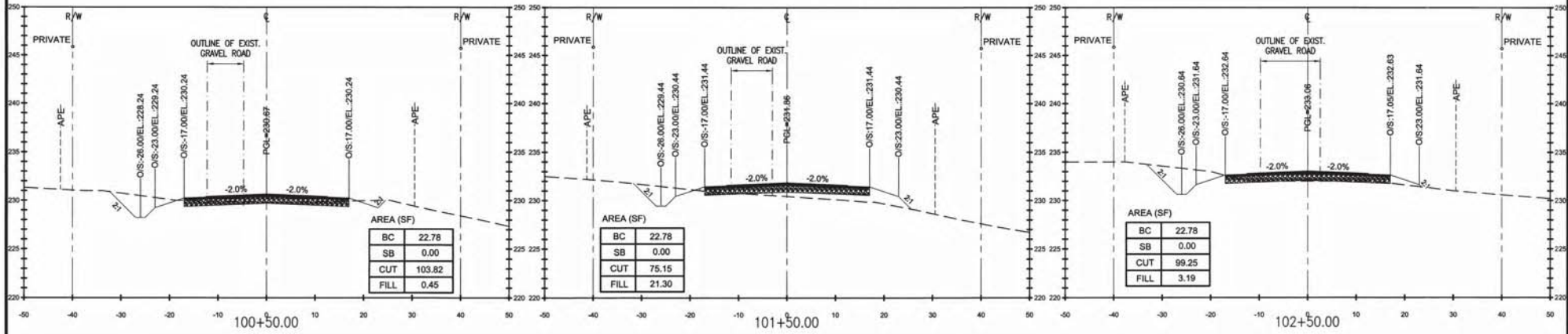
1 ROAD SECTION (STA. 97+00.00 TO STA. 99+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



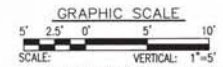
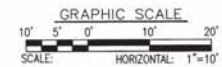
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
 03/11/2020
 DATE
 CONTENT:
 ROAD CROSS SECTIONS (STA. 97+00.00 TO STA. 99+50.00)
 X-41
 SHEET NO. 116 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: GM-NH-0036(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 ROAD SECTION (STA. 100+00.00 TO STA. 102+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT, USE GRAPHIC SCALES ACCORDINGLY.

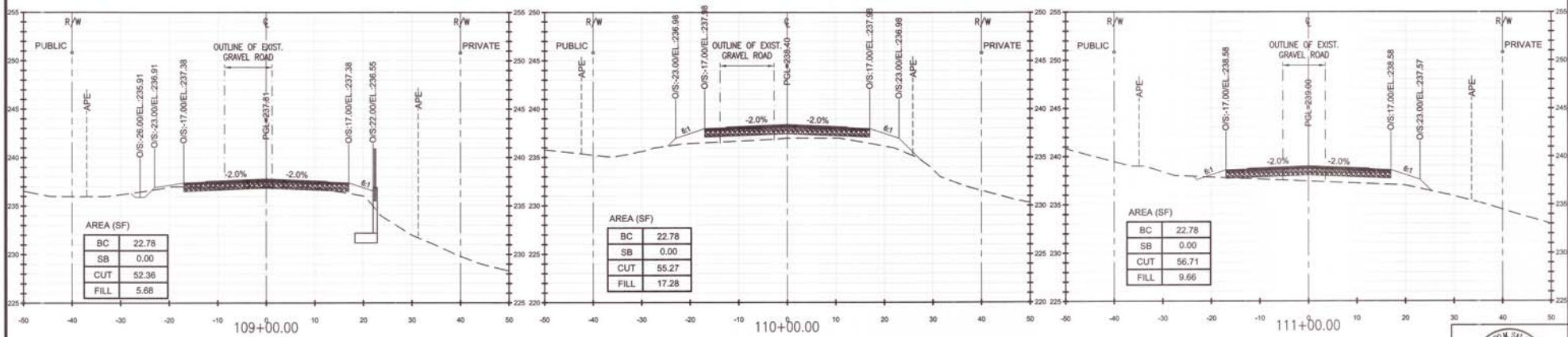
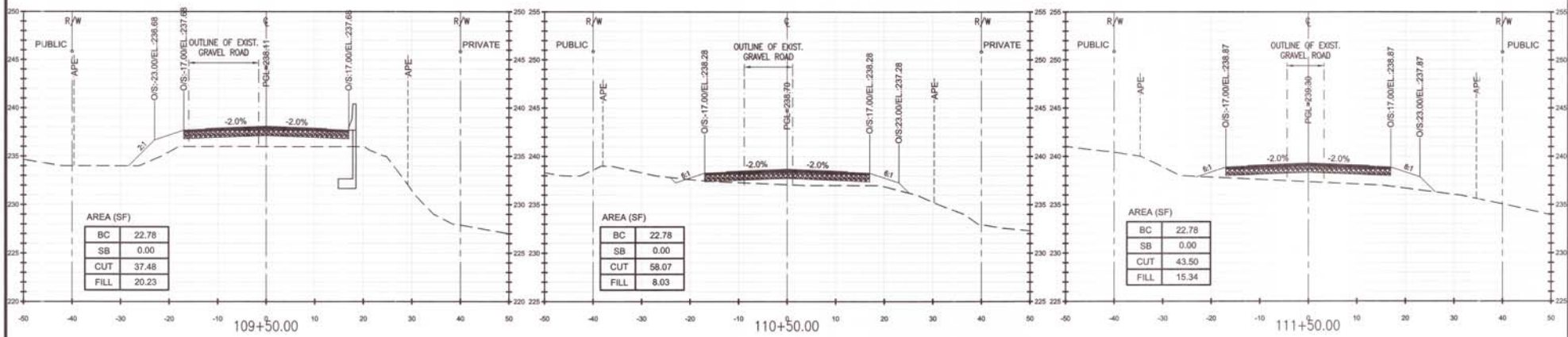
RODOLFO M. SALAZAR
REGISTERED PROFESSIONAL ENGINEER
EXPIRES ON: 02-18-2022
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
03/01/2020
DATE

CONTENT:
ROAD CROSS SECTIONS
(STA. 100+00.00 TO STA. 102+50.00)

X-42
SHEET NO.
SHEET 117 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: CM-NH-0056(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 ROAD SECTION (STA. 109+00.00 TO STA. 111+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'

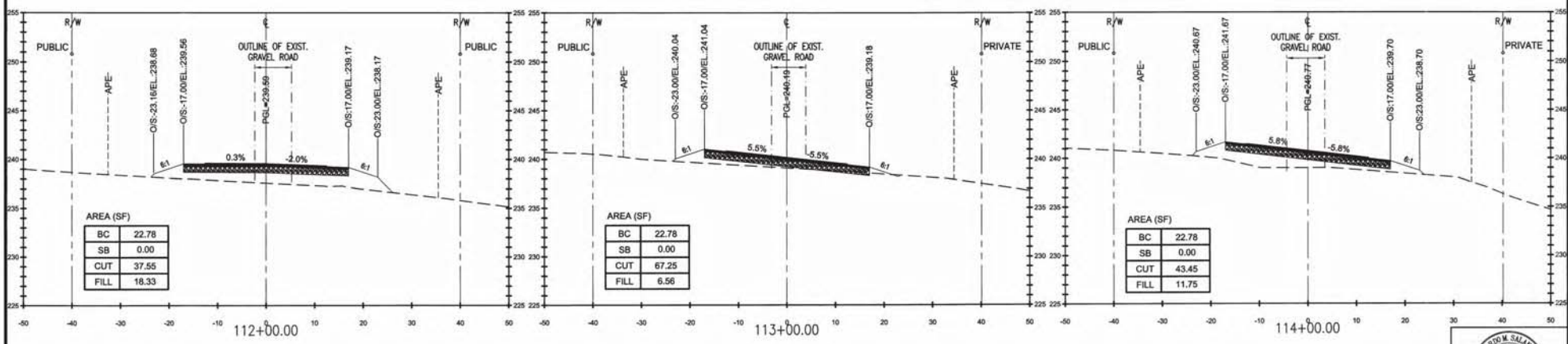
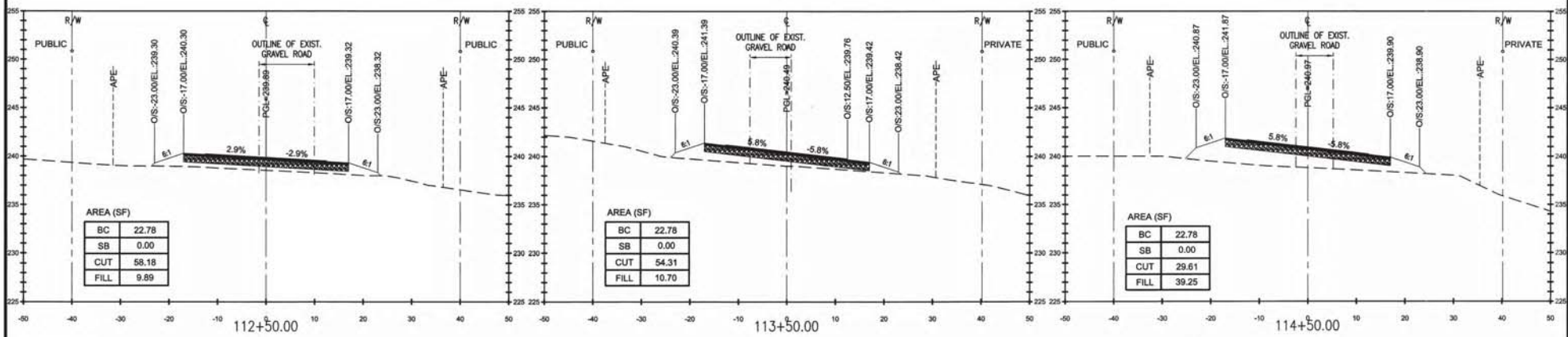


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: 03/01/2020

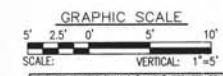
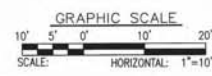
CONTENTS:
ROAD CROSS SECTIONS (STA. 109+00.00 TO STA. 111+50.00)

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: CM-NH-0036(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 ROAD SECTION (STA. 112+00.00 TO STA. 114+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'

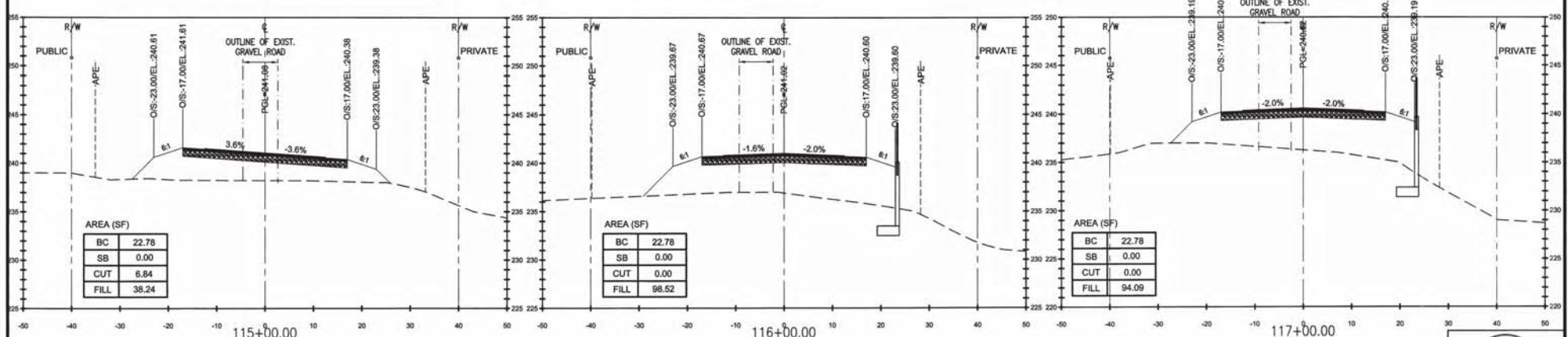
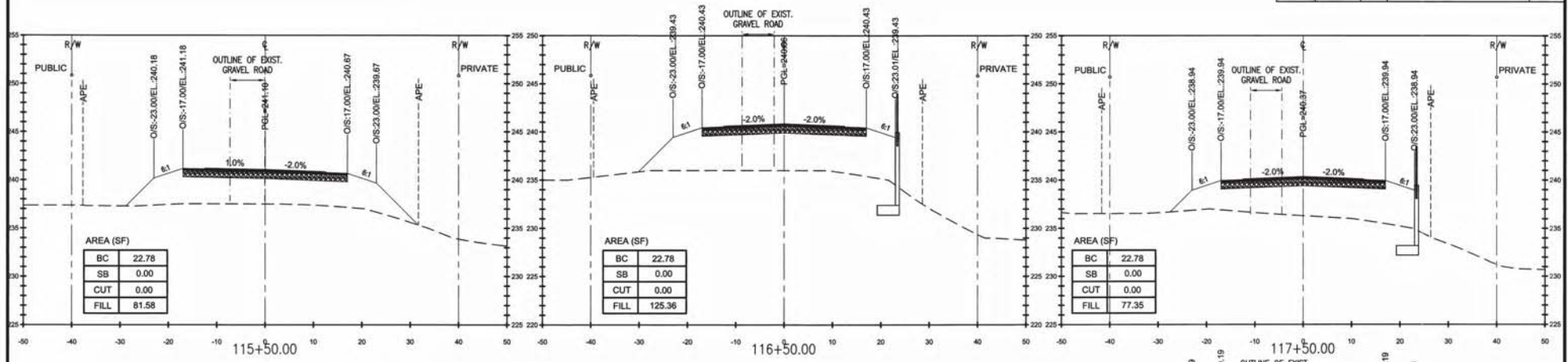


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DATE: 03/21/2020

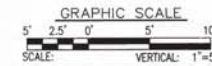
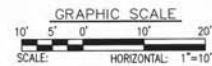
CONTENT:
ROAD CROSS SECTIONS (STA. 112+00.00 TO STA. 114+50.00)
X-46
SHEET NO. 121 OF 164

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: GM-NH-0036(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 ROAD SECTION (STA. 115+00.00 TO STA. 117+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
DATE: 03/01/2020

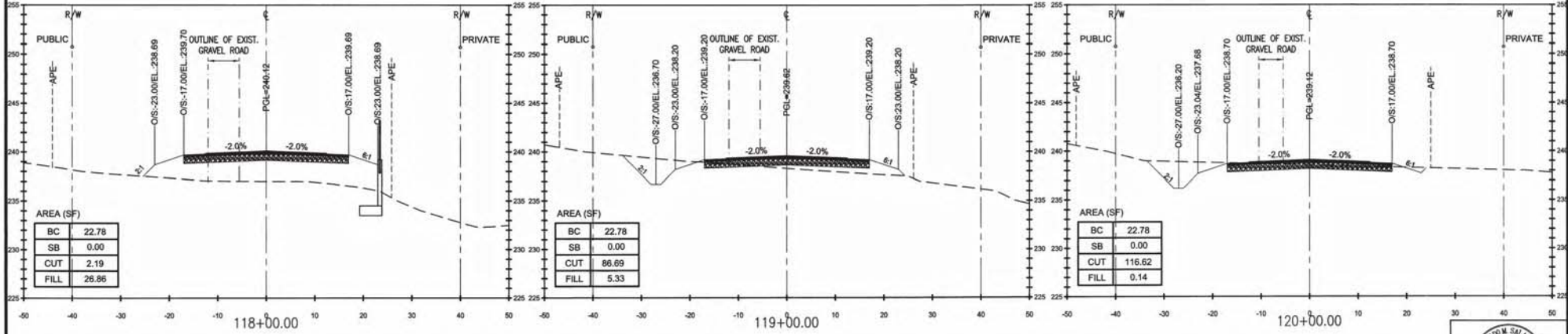
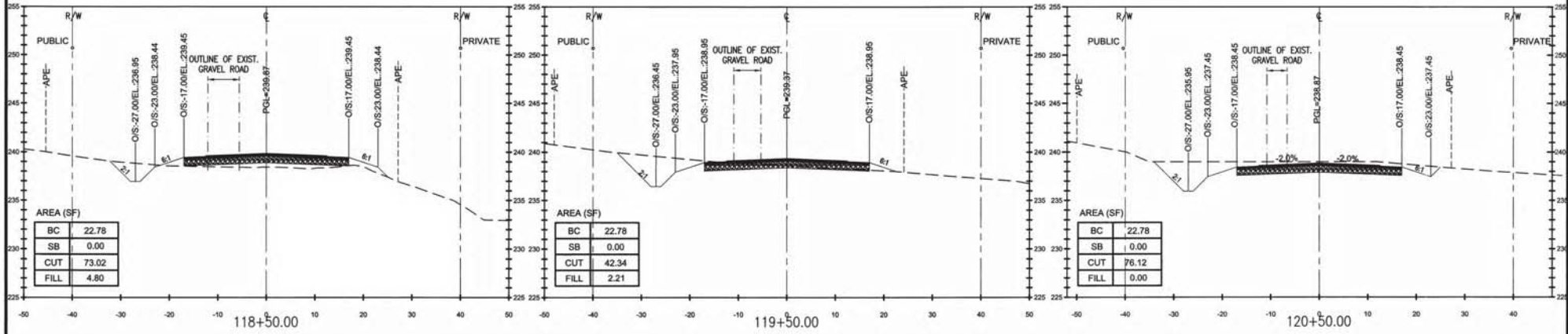
CONTENT:
ROAD CROSS SECTIONS (STA. 115+00.00 TO STA. 117+50.00)

X-47
SHEET 703
SHEET 122 OF 184

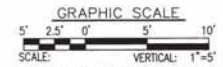
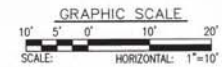
IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT, USE GRAPHIC SCALES ACCORDINGLY.

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: GM-NH-0036(004)-

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 ROAD SECTION (STA. 118+00.00 TO STA. 120+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT, USE GRAPHIC SCALES ACCORDINGLY.

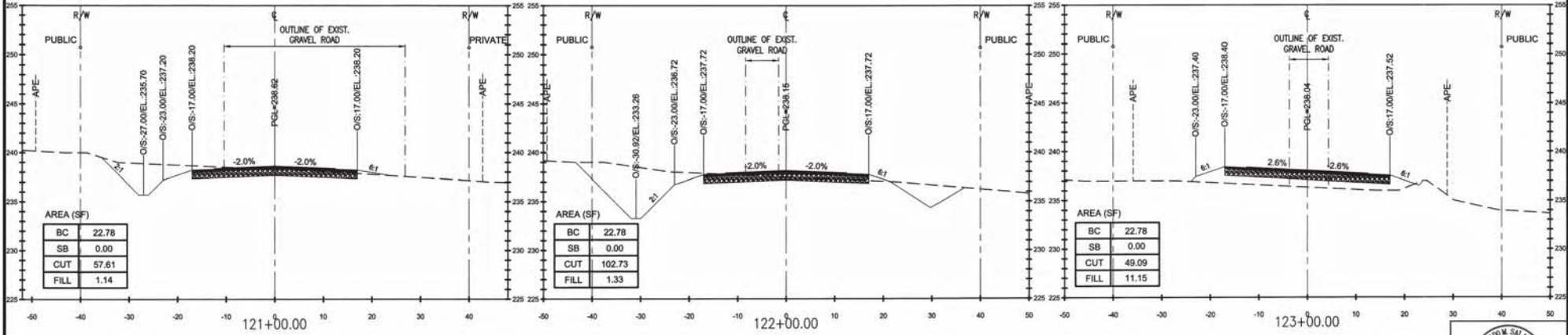
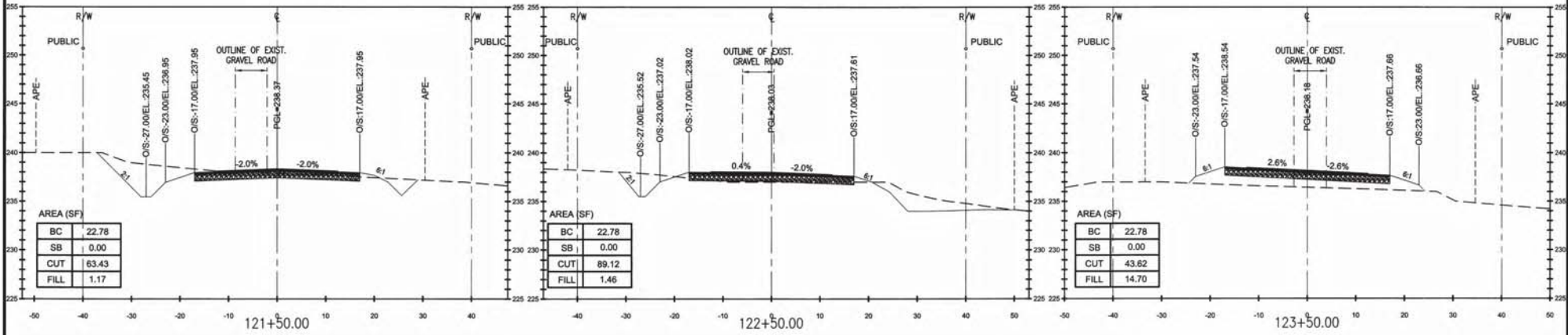
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
 DATE: 03/03/2000

CONTENT:
 ROAD CROSS SECTIONS (STA. 118+00.00 TO STA. 120+50.00)

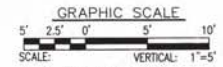
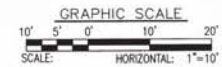
X-48
 SHEET NO. 123 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: CM-NH-0036(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



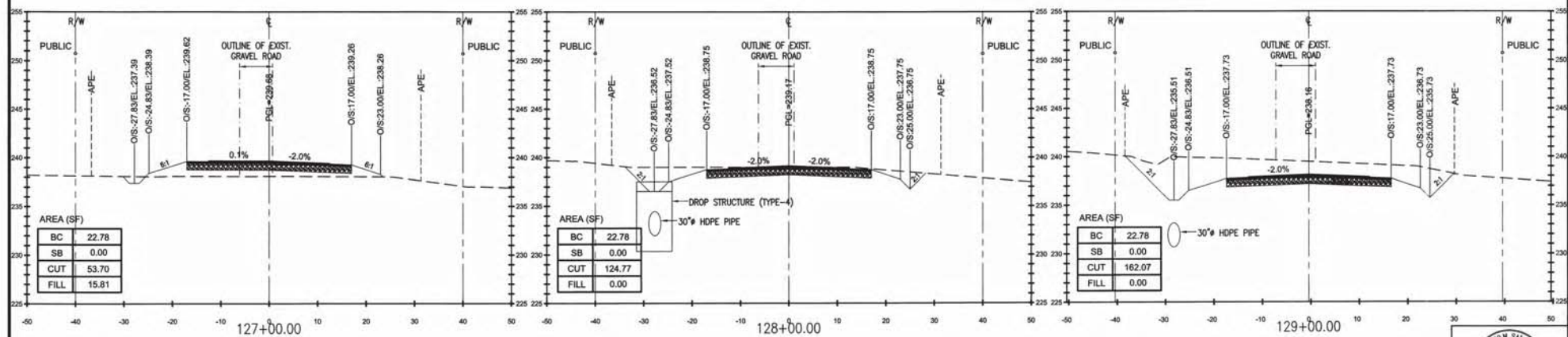
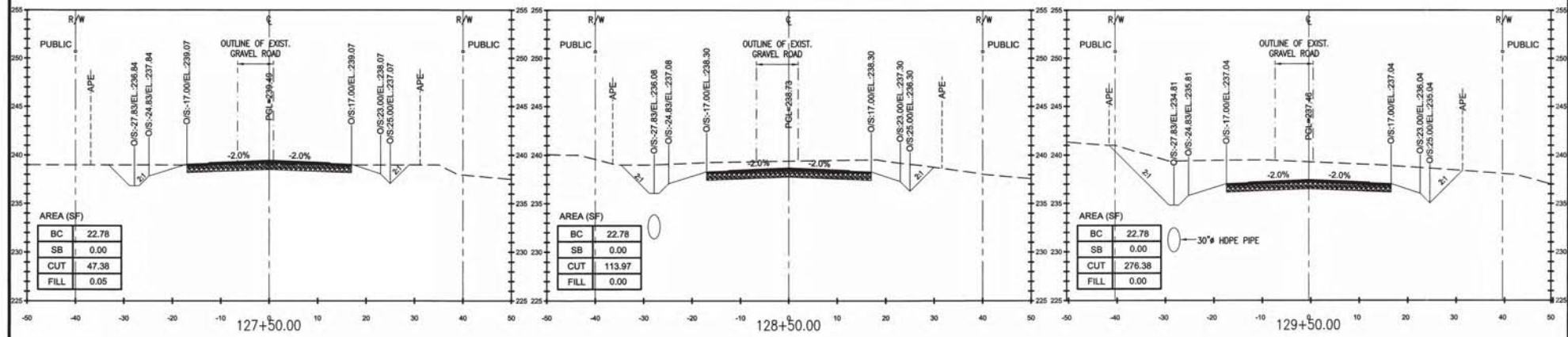
1 ROAD SECTION (STA. 121+00.00 TO STA. 123+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



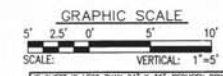
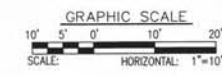
ROBERT M. SALAMON
NO. 322
REGISTERED
PROFESSIONAL
ENGINEER
EXPIRATION: 02-18-2022
I HEREBY CERTIFY THAT THIS PLAN
WAS PREPARED BY ME OR UNDER
MY DIRECT SUPERVISION
03/01/2020
DATE
CONTENT:
ROAD CROSS SECTIONS
(STA. 121+00.00 TO STA.
123+50.00)
X-49
SHEET NO.
SHEET 124 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: GM-NH-0036(004)

REVISION	DATE	BY	DESCRIPTION	APPROVED



1 ROAD SECTION (STA. 127+00.00 TO STA. 129+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



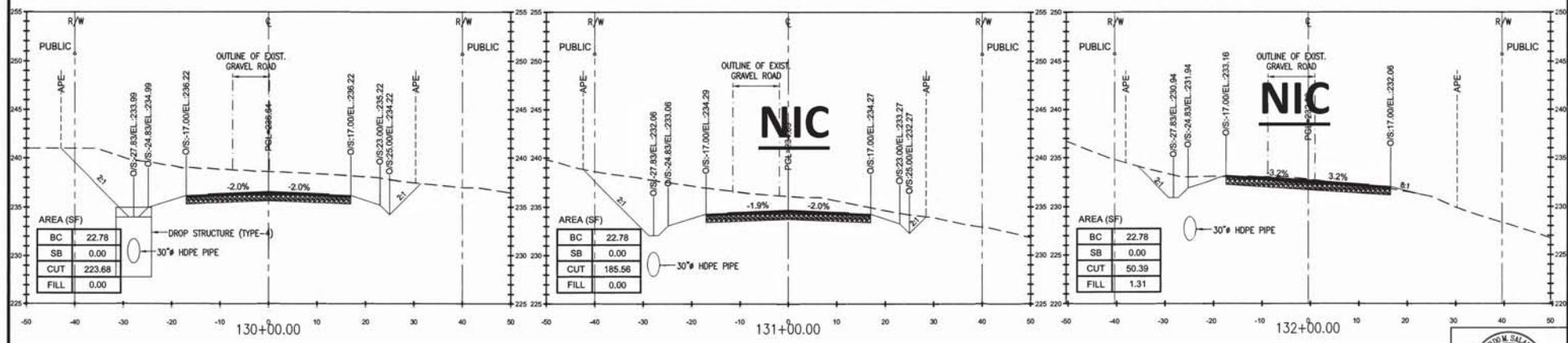
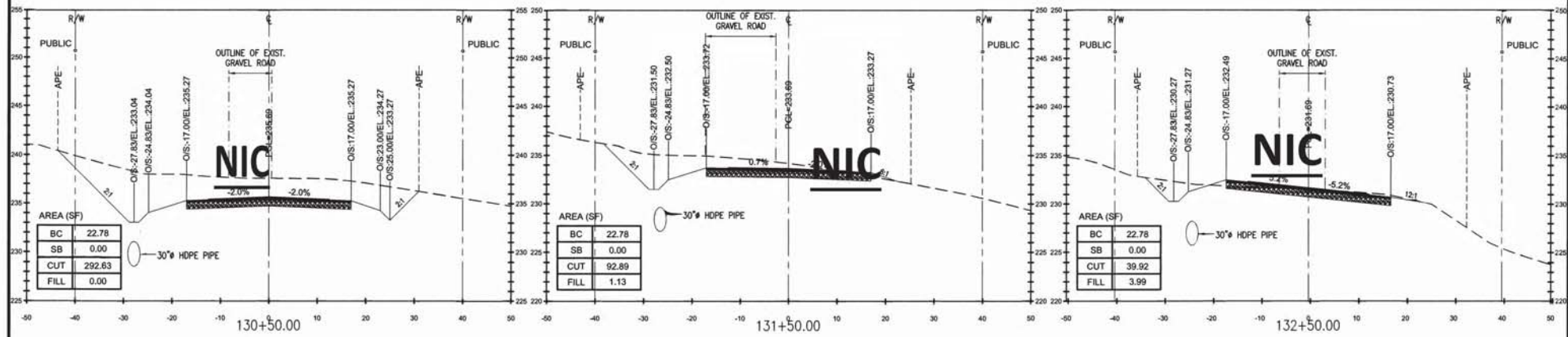
REGISTERED PROFESSIONAL ENGINEER
EXPIRATION: 06-30-2025
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
03/01/2020
DATE

CONTENT:
ROAD CROSS SECTIONS (STA. 127+00.00 TO STA. 129+50.00)

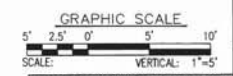
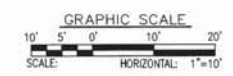
X-51
SHEET NO.
SHEET 126 OF 184

ROUTE 36 (WINDWARD/CHALAN KALABERA)
ROAD IMPROVEMENTS
PROJECT No.: TQ-THS-0038(301)

REVISION	DATE	BY	DESCRIPTION	APPROVED

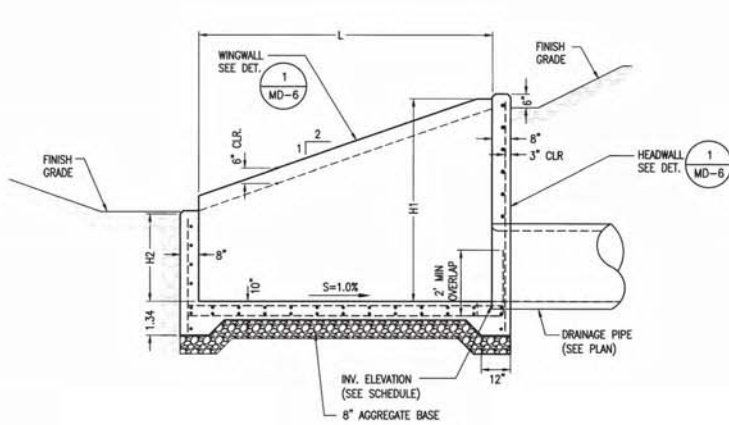


1 ROAD SECTION (STA. 130+00.00 TO STA. 132+50.00)
SCALE: HOR. 1"=10', VER. 1"=5'



Ghanshyam M. Salunke
 No. 232
 Registered Professional Engineer
 State of California
 License No. 50277
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
 03/21/2020
 DATE
 CONTENT:
 ROAD CROSS SECTIONS (STA. 130+00.00 TO STA. 132+50.00)
 SHEET NO. X-52
 SHEET 127 OF 124

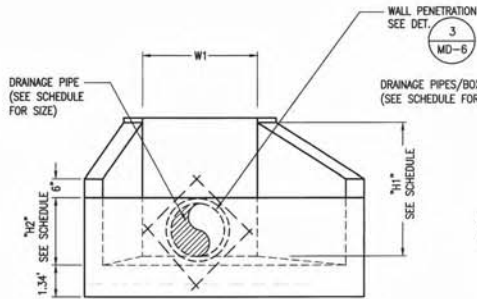
REVISION	DATE	BY	DESCRIPTION	APPROVED



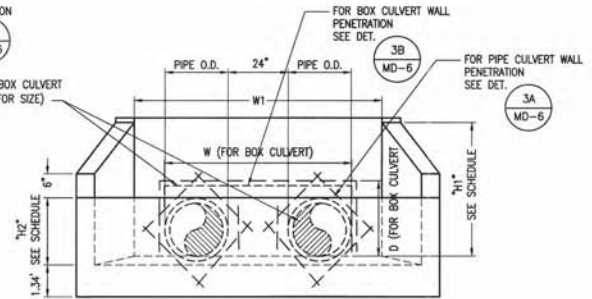
1E SECTION
NOT TO SCALE

HEADWALL (TYPE-2) SCHEDULE

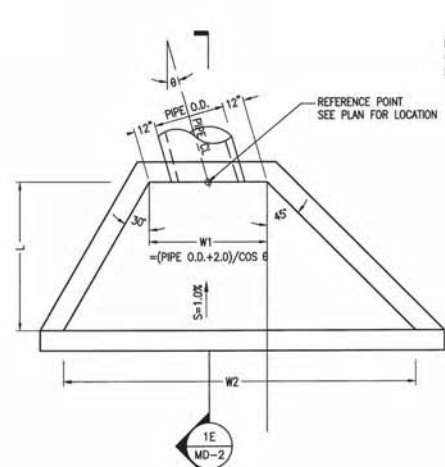
NO.	STATION	CULVERT	NO. OF PIPE	PIPE SIZE/ BOX CULVERT	DIMENSIONS				
					H1	H2	W1	W2	L
4	STA. 84+84.00	1	1	30"φ	4.50'	1.75'	5.00'	14.00'	5.00'
4A	STA. 109+35.00	2	2	30"φ	3.75'	1.00'	10.25'	16.00'	5.00'
6	STA. 134+85.00	1	1	5'W x 2'D BOX CULVERT	5.75'	2.50'	10.25'	16.00'	5.00'
7	STA. 149+84.00	2	2	30"φ	3.75'	1.00'	10.25'	16.00'	5.00'
8	STA. 186+54.00	1	1	5'W x 2.5'D DUAL BOX CULVERT	5.25'	2.50'	16.00'	20'-6"	5.00'



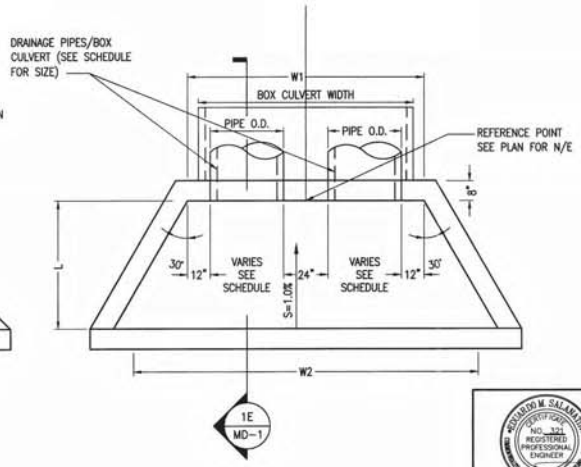
1D FRONT ELEVATION
NOT TO SCALE



1B FRONT ELEVATION
NOT TO SCALE



1C PLAN (SINGLE PIPE)
NOT TO SCALE



1A PLAN (MULTIPLE PIPES)
NOT TO SCALE

1 HEADWALL (TYPE-2) DETAILS
NOT TO SCALE

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.

 DATE: 03/31/2020

 CONTENT: DRAINAGE STRUCTURE DETAILS

 MD-2

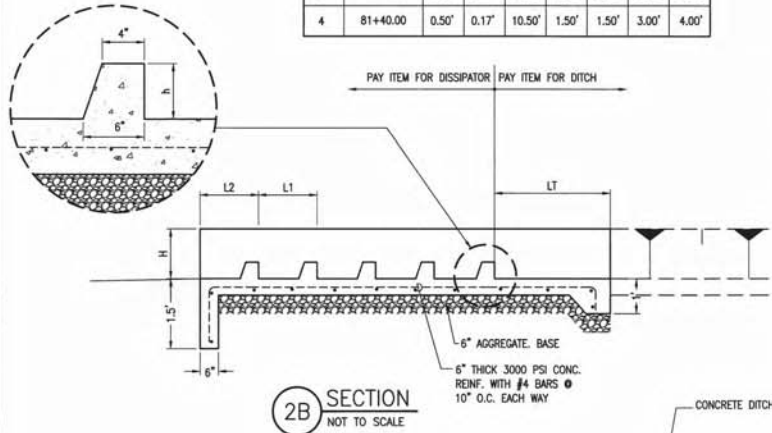
 SHEET NO. 150 OF 184

IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT. USE GRAPHIC SCALES ACCORDINGLY.

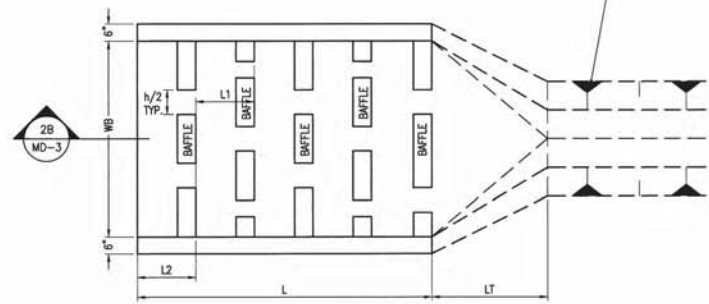
REVISION	DATE	BY	DESCRIPTION	APPROVED

ENERGY DISSIPATOR SCHEDULE
ON CONCRETE DITCH

NO.	STATION	H	h	L	L1	L2	LT	WB
1	54+00.00	2.00'	0.33'	14.00'	3.00'	2.00'	4.00'	6.00'
2	56+75.00	1.00'	0.17'	7.50'	1.50'	1.50'	4.00'	6.00'
3	68+40.00	0.50'	0.17'	10.50'	1.50'	1.50'	3.00'	4.00'
4	81+40.00	0.50'	0.17'	10.50'	1.50'	1.50'	3.00'	4.00'

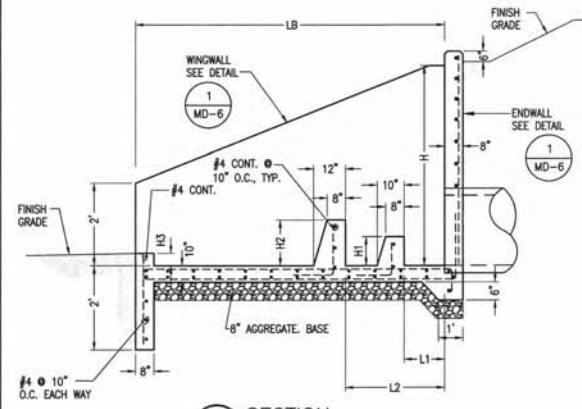


2B SECTION
NOT TO SCALE

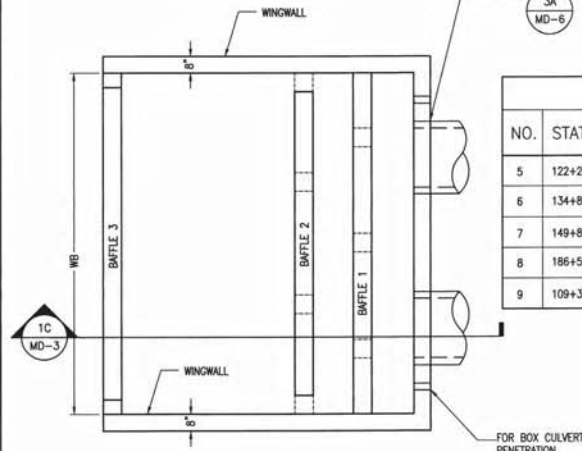


2A PLAN
NOT TO SCALE

2 ENERGY DISSIPATOR ON CONCRETE DITCH
NOT TO SCALE

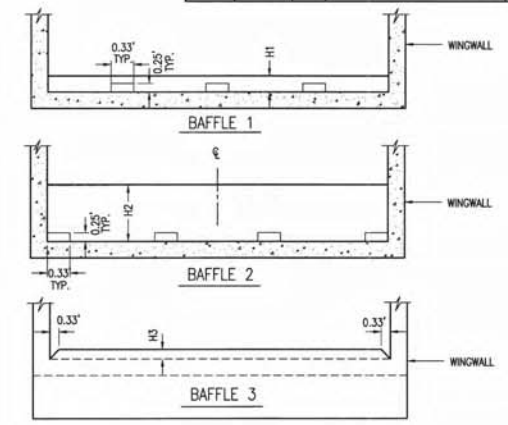


1C SECTION
NOT TO SCALE



1A PLAN
NOT TO SCALE

1 ENDWALL WITH ENERGY DISSIPATOR (TYPE-1)
NOT TO SCALE



1B BAFFLE ELEVATIONS
NOT TO SCALE

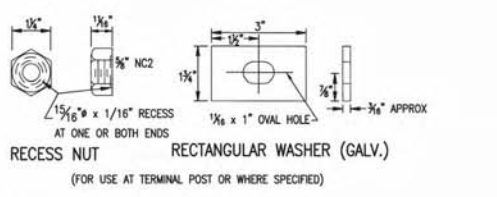
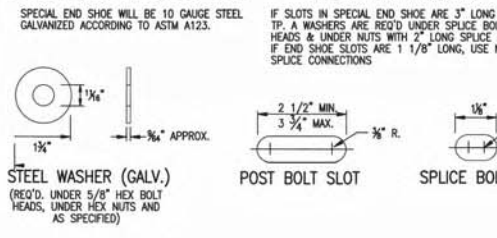
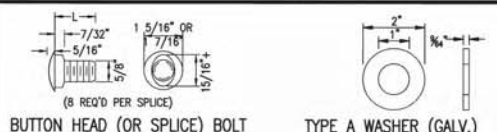
ENERGY DISSIPATOR SCHEDULE ON ENDWALL

NO.	STATION	CULVERT		ENERGY DISSIPATOR DIMENSIONS							
		NO. OF PIPE	PIPE SIZE/ BOX CULVERT	H	H1	H2	H3	L1	L2	LB	WB
5	122+26.18	1	30"	3.75'	0.50'	1.00'	0.25'	1.50'	3.00'	8.00'	5.00'
6	134+85.00	1	5'W x 2'D BOX CULVERT	7.25'	0.75'	1.50'	0.33'	2.67'	5.33'	14.00'	10.00'
7	149+84.00	2	30"	4.25'	0.67'	1.33'	0.33'	2.33'	4.75'	12.67'	10.00'
8	186+54.00	1	5'W x 2.5'D DUAL BOX CULVERT	6.00'	0.50'	1.00'	0.25'	1.33'	3.00'	12.67'	14.00'
9	109+35.00	2	30"	4.00'	0.33'	0.67'	0.25'	1.25'	2.50'	6.50'	10.00'

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
 03/21/2020
 DATE
 CONTENT:
 DRAINAGE STRUCTURES DETAILS
 MD-3
 SHEET NO.
 SHEET 161 OF 184

IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT. USE GRAPHIC SCALES ACCORDINGLY.

REVISION	DATE	BY	DESCRIPTION	APPROVED



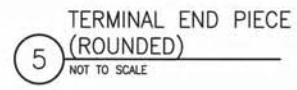
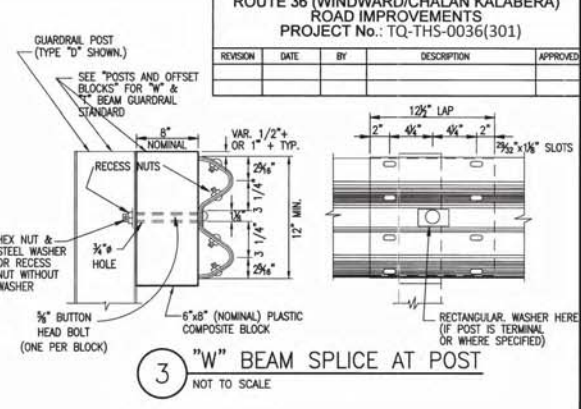
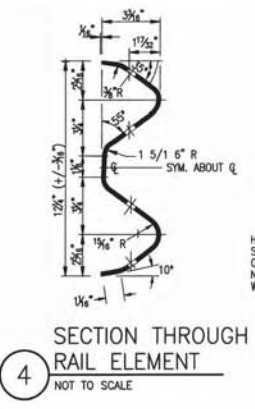
GENERAL NOTES:

1. NUTS, BOLTS, WASHERS, RAIL TERMINAL SECTIONS, END SHOES, BACKUP PLATES, END SECTIONS AND OTHER GUARDRAIL HARDWARE ARE IN ACCORDANCE WITH THE CURRENT ARIBA TECHNICAL BULLETIN NO. 288-B UNLESS SPECIFIED OTHERWISE. DIMENSIONS FOR POSTS AND OFFSET BLOCKS WILL BE ACCORDING TO "POSTS AND OFFSET BLOCKS FOR 'W' & 'T' BEAM GUARDRAIL STANDARD."
2. FOR DETAILS OF GUARDRAIL ANCHORAGES, SEE APPLICABLE STANDARDS AND/OR CONSTRUCTION DETAILS.
3. FOR LOCATION OF GUARDRAIL SEE APPLICABLE LOCATION STANDARDS.
4. ALL STEEL HARDWARE COMPONENTS WILL BE GALVANIZED AFTER FABRICATION. GALVANIZING REPAIR COMPOUND WILL BE FIELD APPLIED TO ANY COATINGS DAMAGED.
5. WHEN GUARDRAIL IS REQUIRED ON CURVES WITH RADI LESS THAN 150', PRE-CURVED RAIL WILL BE REQUIRED.
6. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
7. STANDARD NET LENGTH OF RAIL ELEMENTS MAY BE EITHER 12'-6" OR 25'-0". THESE LENGTHS SHALL BE ARRANGED TO PROVIDE AS NEARLY AS POSSIBLE THE REQUIRED LENGTH FOR EACH INSTALLATION.

SPECIAL NOTE:
ALL GUARDRAIL SPLICES WILL BE PROPERLY SECURED WITH EIGHT SPLICE BOLT CONNECTIONS. ALL NUTS WILL BE TIGHTENED. LOOSE NUTS, OMITTED BOLTS, OR OMITTED NUTS WILL BE CAUSE FOR REJECTION.
GUARDRAIL NOT ERCTED AT A 27" TOP OF RAIL HEIGHT MAY BE CAUSE FOR REJECTION.

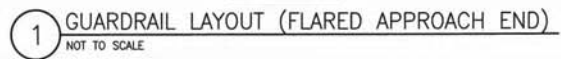
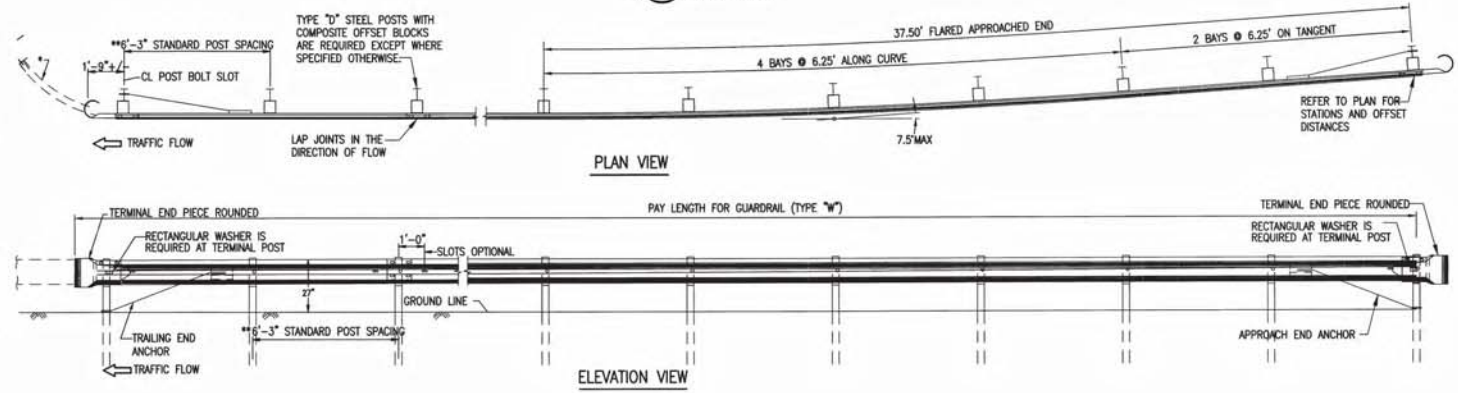
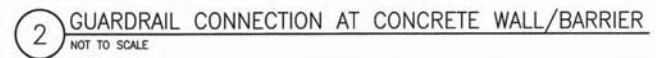
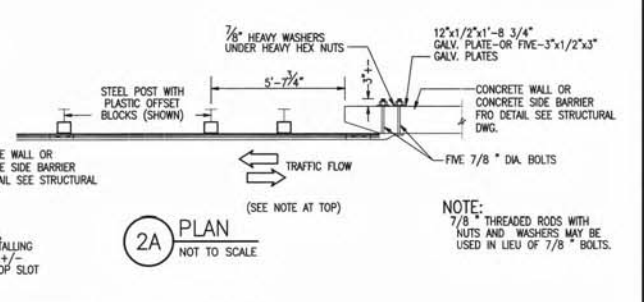
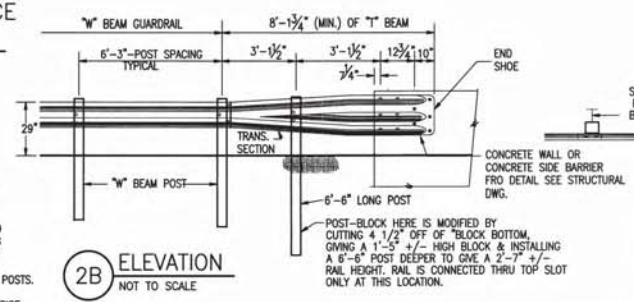
L	THREAD LENGTH
1 1/4"	FULL LENGTH
2"	1 1/2" MIN.
9 1/2"	1 3/4" MIN.
18"	2 1/2" MIN.
25"	2" MIN.

NOTE:
* A PRE-CURVED GUARDRAIL SECTION WILL BE REQUIRED WHERE "GUARDRAIL ANCHORAGE TRAILING END" IS PERMITTED AT GUARDRAIL TERMINAL IF TRAFFIC FLOW IS TWO-WAY. SEE APPLICABLE STANDARDS.
** REDUCED POST SPACING WILL BE REQUIRED AT TURNOUTS AROUND PAD AT REDUCED OFFSETS TO FACE OF FIXED OBJECTS OR AT OTHER SPECIFIED LOCATIONS. SEE PLAN DETAILS OR APPLICABLE STANDARDS. PAYMENT FOR GUARDRAIL WILL INCLUDE THE ADDITIONAL POSTS REQUIRED.



NOTE:

1. FOR DETAILS OF GUARDRAIL HARDWARE, POST, OFFSET BLOCKS, END SHOE, TRANSITION SECTION, ETC., SEE SEPARATE STANDARDS AS APPLICABLE.
2. GUARDRAIL INSTALLATIONS, INCLUDING ANCHORAGES AND CONNECTIONS, ARE TO BE COMPLETED BEFORE BEING SUBJECT TO TRAFFIC UNLESS OTHERWISE APPROVED.
3. OFFSET BLOCKS SHALL BE PLASTIC UNLESS SPECIFIED OTHERWISE. OFFSET BLOCKS ARE REQUIRED AT ALL POSTS.
4. THE COST FOR DRILLING HOLES FOR THE END SHOE CONNECTION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE GUARDRAIL.



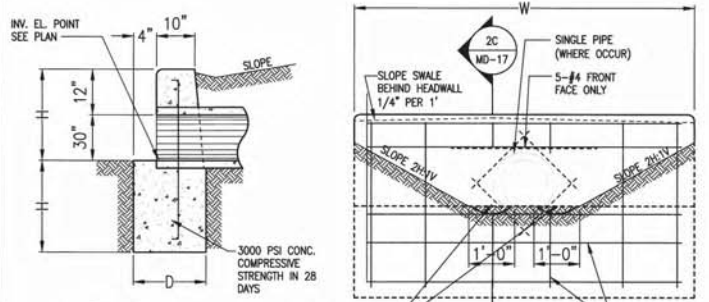
IF SHEET IS LESS THAN 24" x 36"-REDUCED PRINT. USE GRAPHIC SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
NO. 322
RESIDENTIAL
EXPIRES 03/18/2022
03/01/2022
DATE

CONTENT:
GUARDRAIL DETAILS

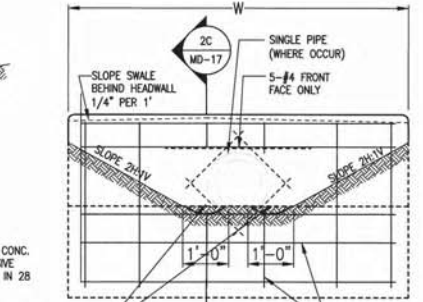
MD-14
SHEET NO.
SHEET 162 OF 184

REVISION	DATE	BY	DESCRIPTION	APPROVED

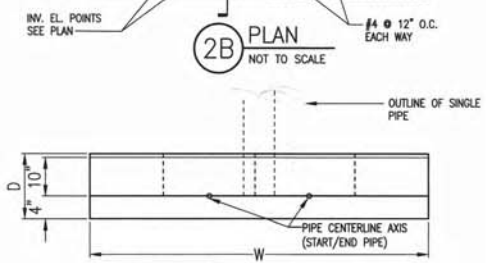


2C PLAN
NOT TO SCALE

NO. OF 12" PIPE	W
SINGLE PIPE	5'-6"
DOUBLE PIPE	7'-0"

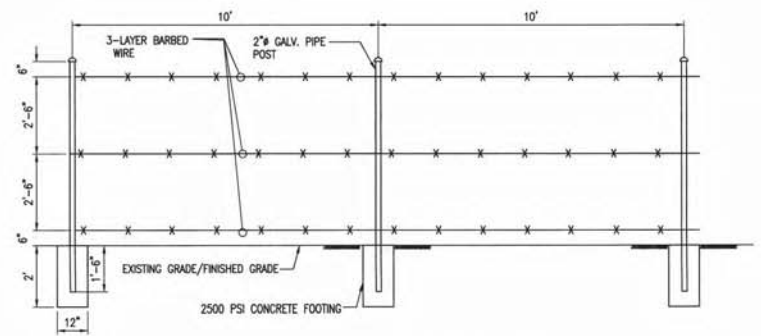


2B PLAN
NOT TO SCALE

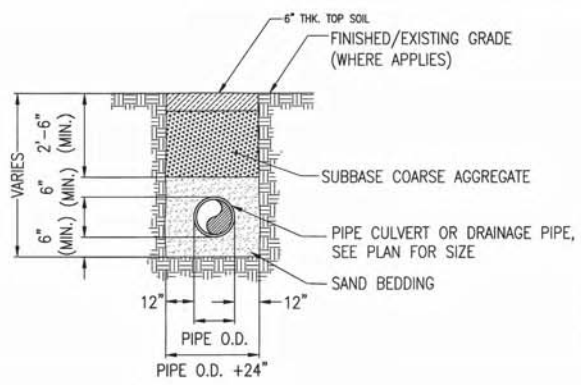


2A PLAN
NOT TO SCALE

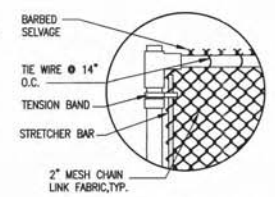
2 CONCRETE HEADWALL/ENDWALL (TYPE-3) DETAIL
NOT TO SCALE



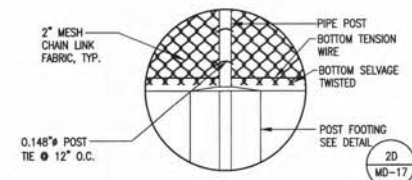
1 BARBED WIRE FENCE DETAIL
NOT TO SCALE



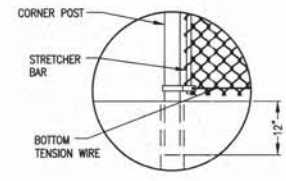
4 SINGLE DRAINAGE PIPE TRENCH DETAIL
NOT TO SCALE



4C DETAIL
NOT TO SCALE

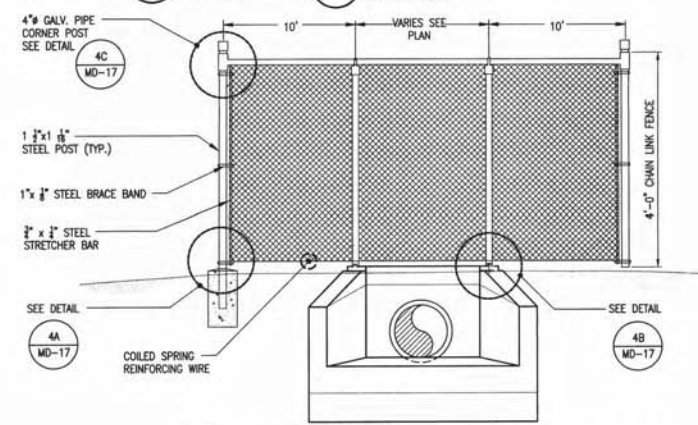


4A DETAIL
NOT TO SCALE

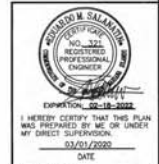


4B DETAIL
NOT TO SCALE

4 FENCING DETAILS
NOT TO SCALE



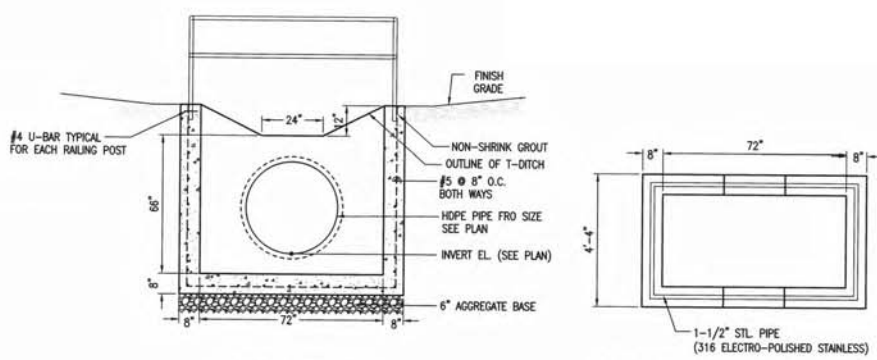
3 TYPICAL 4'-0" HIGH CHAIN LINK FENCE
NOT TO SCALE



CONTENT:
MISCELLANEOUS DETAILS

IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT.
USE GRAPHIC SCALES ACCORDINGLY.

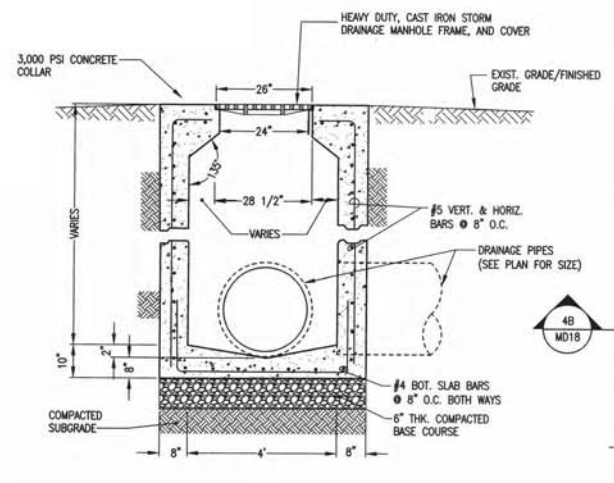
REVISION	DATE	BY	DESCRIPTION	APPROVED



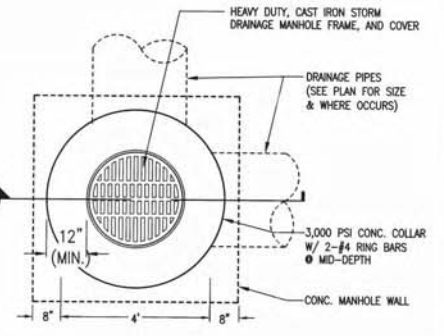
2B SECTION
NOT TO SCALE

2A PLAN
NOT TO SCALE

2 DROP STRUCTURE (TYPE-4) DETAIL
NOT TO SCALE

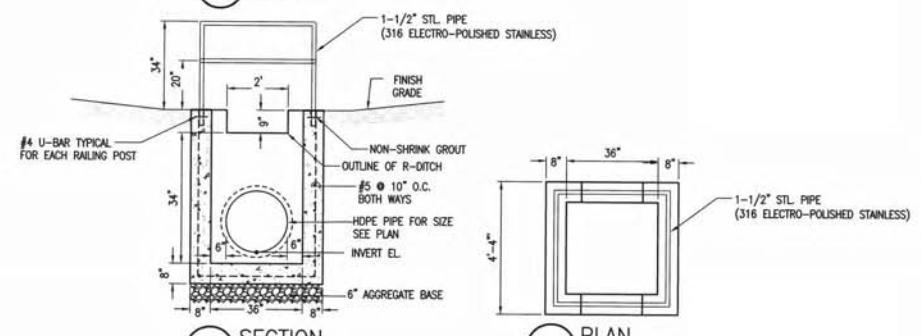


4B SECTION
NOT TO SCALE



4A PLAN
NOT TO SCALE

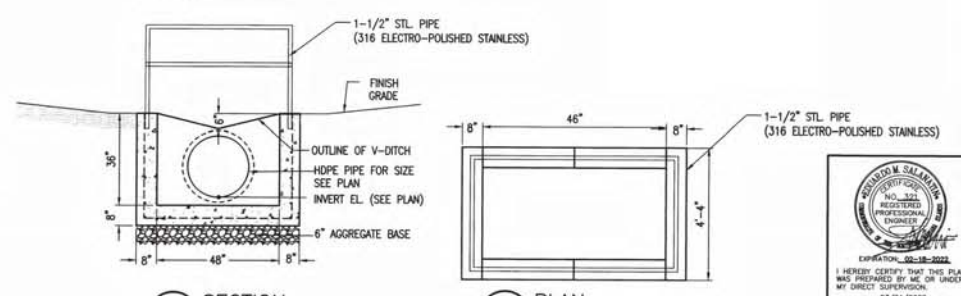
4 SQUARE DRAINAGE MANHOLE
NOT TO SCALE



1B SECTION
NOT TO SCALE

1A PLAN
NOT TO SCALE

1 DROP STRUCTURE (TYPE-3) DETAIL
NOT TO SCALE



3B SECTION
NOT TO SCALE

3A PLAN
NOT TO SCALE

3 DROP STRUCTURE (TYPE-5) DETAIL
NOT TO SCALE

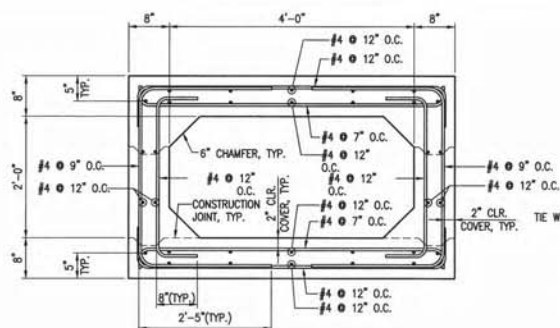
W. M. SALAMBA
REGISTERED PROFESSIONAL ENGINEER
EXPIRATION: 02-18-2022
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
DATE: 03/01/2020

CONTENT: MISCELLANEOUS DETAILS

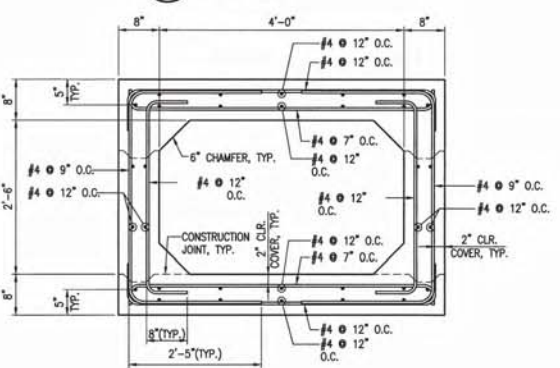
MD-18
SHEET NO. 166 OF 184

IF SHEET IS LESS THAN 24" X 36" - REDUCED PRINT, USE GRAPHIC SCALES ACCORDINGLY.

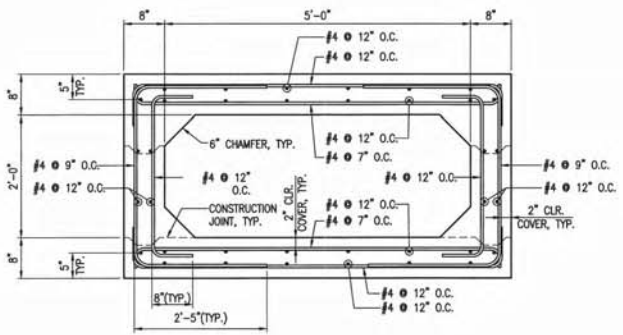
REVISION	DATE	BY	DESCRIPTION	APPROVED



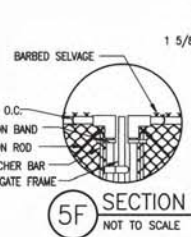
3 4'X2' BOX CULVERT
NOT TO SCALE



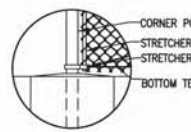
2 4'X2'-6" BOX CULVERT
NOT TO SCALE



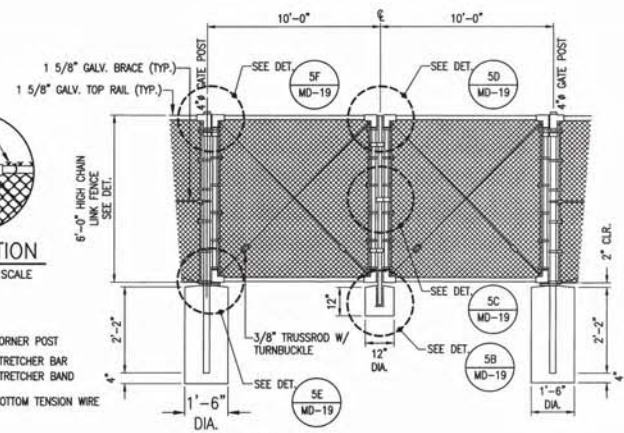
1 5'X2' BOX CULVERT
NOT TO SCALE



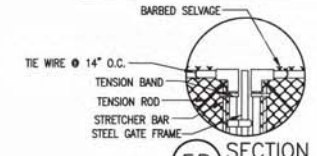
5F SECTION
NOT TO SCALE



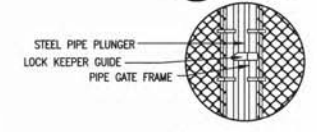
5E SECTION
NOT TO SCALE



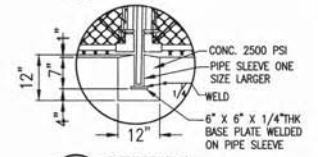
5 VEHICULAR GATE
NOT TO SCALE



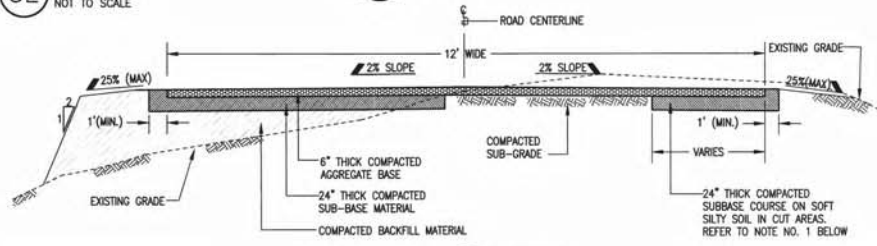
5D SECTION
NOT TO SCALE



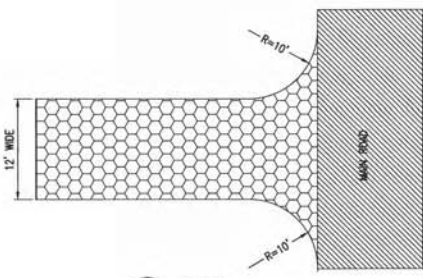
5C SECTION
NOT TO SCALE



5B SECTION
NOT TO SCALE

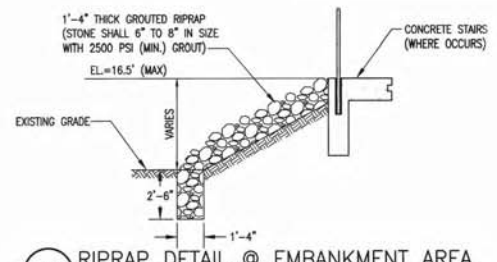


4B SECTION
NOT TO SCALE



4A PLAN
NOT TO SCALE

4 TYPICAL AGGREGATE DRIVEWAY DETAIL
NOT TO SCALE



6 RIPRAP DETAIL @ EMBANKMENT AREA
NOT TO SCALE

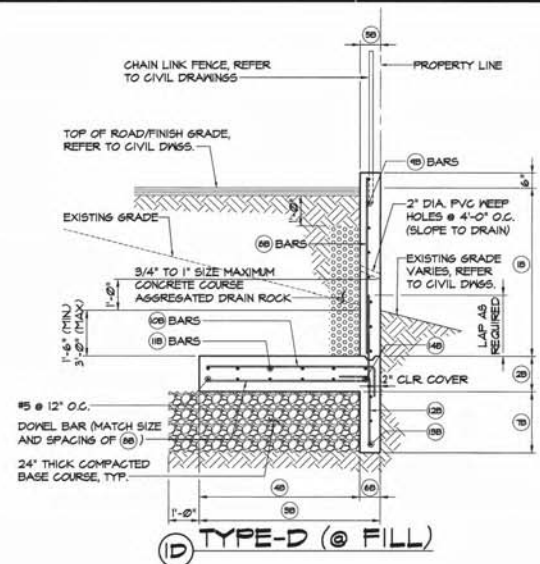
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 03/31/2022
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
03/31/2020
DATE

CONTENT:
MISCELLANEOUS DETAILS

MD-19
SHEET NO. 167 OF 184

IF SHEET IS LESS THAN 24" X 36"-REDUCED PRINT. USE GRAPHIC SCALES ACCORDINGLY.

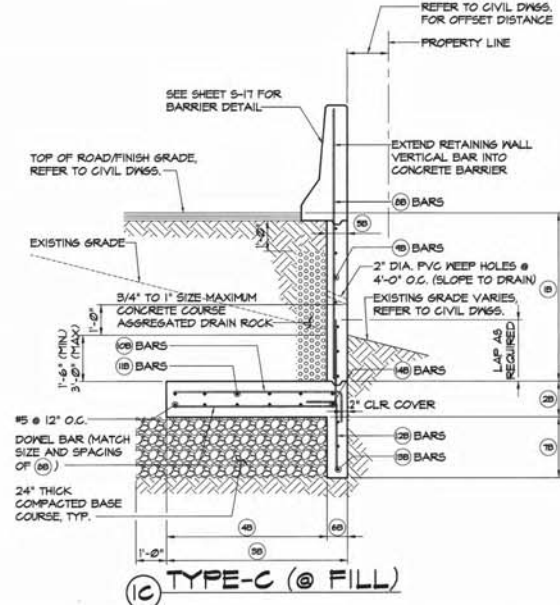
REVISION	DATE	BY	DESCRIPTION	APPROVED



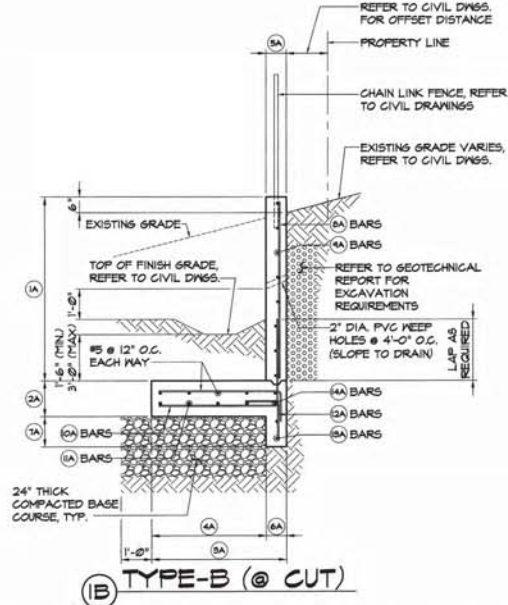
(D) TYPE-D (@ FILL)

RETAINING WALL SCHEDULE (@ CUT)													
(1A)	(2A)	(3A)	(4A)	(5A)	(6A)	(7A)	(8A) BARS	(9A) BARS	(10A) BARS	(11A) BARS	(12A) BARS	(13A) BARS	(14A) BARS
4'-0"	1'-0"	4'-5"	3'-5"	1'-0"	1'-0"	1'-0"	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5
6'-0"	1'-0"	5'-7"	4'-7"	1'-0"	1'-0"	1'-0"	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5
8'-0"	1'-0"	7'-1"	6'-1"	1'-0"	1'-0"	2'-0"	#5 @ 10" O.C.	#5 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5
10'-0"	1'-0"	11'-1"	10'-1"	1'-0"	1'-0"	2'-6"	#5 @ 6" O.C.	#5 @ 12" O.C.	#5 @ 6" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5
12'-0"	1'-6"	13'-3"	12'-4"	1'-2"	1'-5"	3'-1"	#7 @ 12" O.C.	#6 @ 12" O.C.	#6 @ 8" O.C.	#6 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 10" O.C.	#6
14'-0"	1'-6"	15'-3"	14'-4"	1'-4"	2'-0"	4'-1"	#7 @ 9" O.C.	#6 @ 12" O.C.	#7 @ 7" O.C.	#6 @ 12" O.C.	#6 @ 10" O.C.	#6 @ 10" O.C.	#7
16'-0"	1'-10"	16'-7"	15'-1"	1'-6"	2'-2"	5'-0"	#7 @ 7" O.C.	#6 @ 12" O.C.	#7 @ 6" O.C.	#6 @ 10" O.C.	#6 @ 8" O.C.	#6 @ 8" O.C.	#7
18'-0"	2'-0"	18'-8"	16'-8"	1'-8"	2'-4"	5'-4"	#8 @ 7" O.C.	#6 @ 10" O.C.	#8 @ 6" O.C.	#6 @ 10" O.C.	#6 @ 6" O.C.	#6 @ 6" O.C.	#7
20'-0"	2'-2"	21'-10"	20'-0"	1'-10"	3'-7"	6'-7"	#8 @ 6" O.C.	#6 @ 10" O.C.	#8 @ 6" O.C.	#7 @ 12" O.C.	#7 @ 6" O.C.	#7 @ 6" O.C.	#7
22'-0"	2'-6"	24'-0"	22'-0"	2'-0"	4'-6"	7'-5"	#8 @ 6" O.C.	#7 @ 12" O.C.	#8 @ 5" O.C.	#7 @ 10" O.C.	#7 @ 6" O.C.	#7 @ 6" O.C.	#8

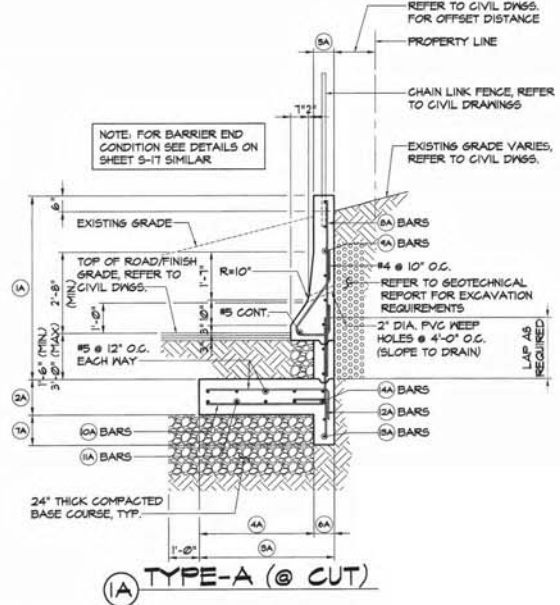
RETAINING WALL TYPE-C SCHEDULE (@ FILL)													
(1B)	(2B)	(3B)	(4B)	(5B)	(6B)	(7B)	(8B) BARS	(9B) BARS	(10B) BARS	(11B) BARS	(12B) BARS	(13B) BARS	(14B) BARS
2'-0"	1'-0"	4'-2"	3'-6"	8'	8'	-	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	-	#5
4'-0"	1'-0"	4'-6"	3'-8"	10'	10'	-	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	-	#5
6'-0"	1'-0"	5'-2"	4'-4"	10'	10'	1'-0"	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#4 @ 10" O.C.	#4 @ 10" O.C.	#5
8'-0"	1'-0"	6'-3"	5'-5"	10'	10'	1'-0"	#5 @ 10" O.C.	#5 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 12" O.C.	#4 @ 10" O.C.	#4 @ 10" O.C.	#5
10'-0"	1'-2"	7'-5"	6'-5"	1'-0"	1'-0"	1'-0"	#6 @ 12" O.C.	#5 @ 12" O.C.	#6 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 10" O.C.	#5
12'-0"	1'-2"	8'-3"	8'-3"	1'-0"	1'-0"	1'-0"	#6 @ 12" O.C.	#5 @ 12" O.C.	#6 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 10" O.C.	#5
14'-0"	1'-4"	11'-5"	10'-3"	1'-2"	1'-2"	1'-6"	#7 @ 8" O.C.	#6 @ 12" O.C.	#7 @ 8" O.C.	#6 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 10" O.C.	#5



(C) TYPE-C (@ FILL)



(B) TYPE-B (@ CUT)



(A) TYPE-A (@ CUT)

(1) RETAINING WALL ALONG PROPERTY LINE
S-16 NOT TO SCALE

PROFESSIONAL ENGINEER
STATE OF MISSISSIPPI
EXPIRES 12/31/2020
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.
3/27/2020
DATE

CONTENT:
TYPICAL CUT AND FILL RETAINING WALL SCHEDULE AND DETAIL.

S-16
SHEET NO.
SHEET 183 OF 184

IF SHEET IS LESS THAN 22" X 34" - REDUCED PRINT
USE GRAPHING SCALERS ACCORDINGLY