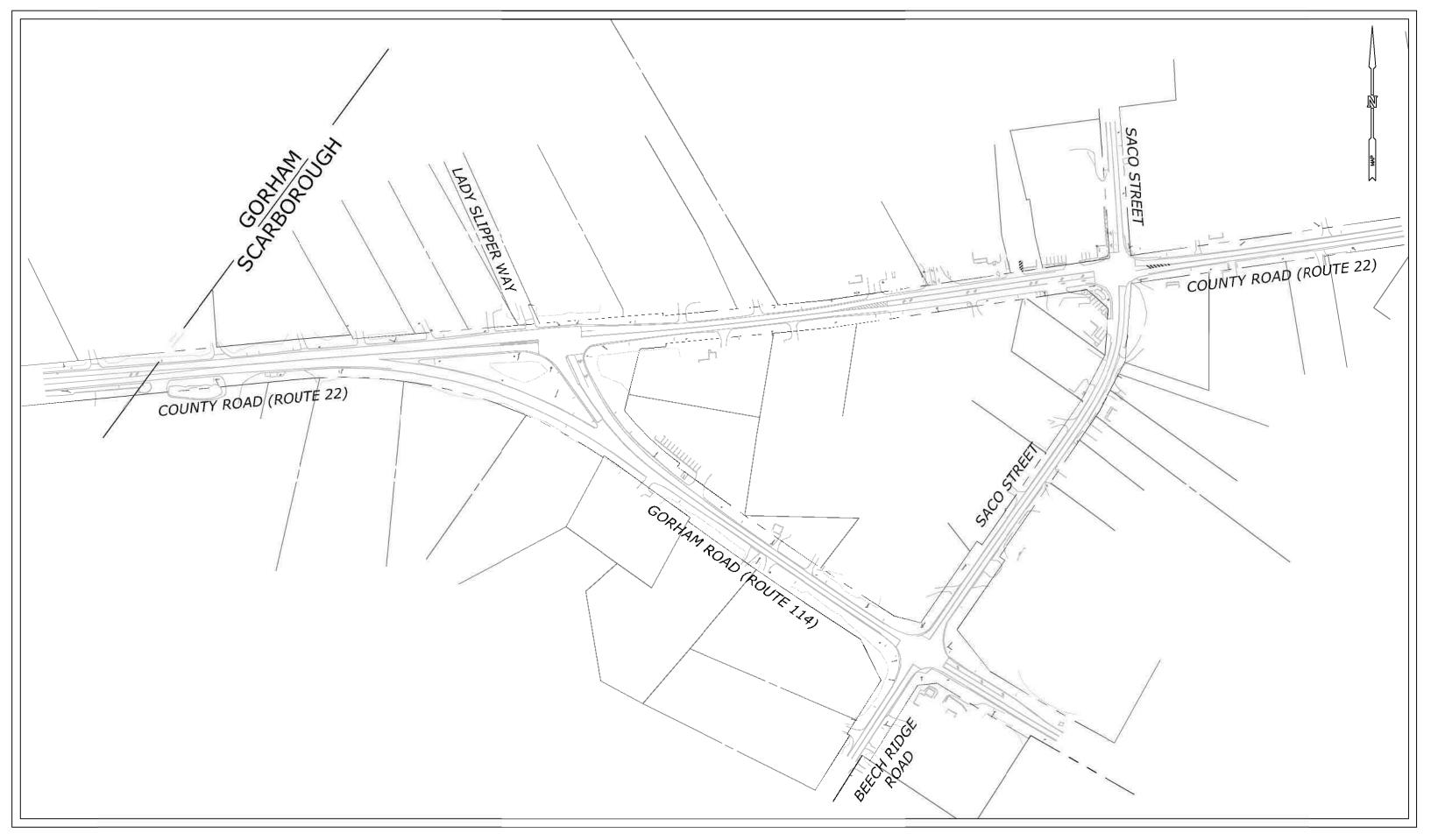
# NORTH SCARBOROUGH THREE INTERSECTION DESIGN

## COUNTY ROAD / GORHAM ROAD / SACO STREET SCARBOROUGH, ME

### FINAL DESIGN

MARCH, 2024

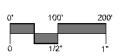
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### PREPARED FOR:

TOWN OF SCARBOROUGH P.O. BOX 360 SCARBOROUGH, ME 04070

### PROJECT SITE VICINITY MAP:



### SCOPE OF WORK:

THE INTENT OF THE WORK IS TO CONSTRUCT SIGNAL IMPROVEMENTS TO THE FOLLOWING 3 INTERSECTIONS; COUNTY ROAD AND GORHAM ROAD, GORHAM ROAD AND SACO STREET AND SACO STREET AND COUNTY ROAD. ADDITIONALLY ALA AND DRAINAGE IMPROVEMENTS: WILL BE CONSTRUCTED AT THE INTERSECTION OF SACO STREET AND COUNTY ROAD.

PREPARED BY:



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### NORTH SCARBOROUGH THREE INTERSECTIONS - COUNTY ROAD/GORHAM ROAD/SACO STREET

#### **GENERAL NOTES:**

- CONTRACTOR TO REMOVE ALL CONFLICTING SIGNS AND MARKINGS.
- PRIOR TO CONSTRUCTION, EXCAVATIONS, BORINGS, ETC., CONTRACTOR MUST NOTIFY DIGSAFE AND A SITE IDENTIFICATION NUMBER AND DIGSAFE DATE MUST BE OBTAINED.
- CONTRACTOR TO VERIFY THE LOCATION, DEPTH AND MATERIAL OF ALL SUBSURFACE UTILITIES.
- CONTRACTOR SHALL MEET ALL UTILITY SERVICE REQUIREMENTS FOR NEW ELECTRICAL SERVICE CONNECTIONS. TRAFFIC SIGNAL METER SHALL BE SUPPLIED WITH A GENERLINK METER COLLAR MODEL MA23/24-N/S OR APPROVED EQUAL.
- TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER THAT WILL CAUSE MINIMUM DISRUPTION TO TRAFFIC.
- A TRACE WIRE SHALL BE INSTALLED WITH ALL NON-METALLIC CONDUIT.
- ANY ITEMS THAT ARE PROPOSED AS EQUAL SHALL BE APPROVED THROUGH THE RESIDENT ENGINEER, DESIGN ENGINEER, AND THE TOWN OF SCARBOROUGH.
- ALL CONDUIT TO BE SCHEDULE 80 PVC, EXCEPT FROM POWER SOURCE TO CONTROLLER CABINET WHICH SHALL BE STEEL.
- ALL STRUCTURE LOCATIONS TO BE FIELD VERIFIED AND CONFIRMED WITH RESIDENT ENGINEER, SCARBOROUGH TOWN ENGINEER, AND THE DESIGN ENGINEER BEFORE STRUCTURE FOUNDATIONS ARE INSTALLED.
- 10. IT IS THE INTENT OF THIS WORK TO HAVE COMPLETE OPERATIONAL, TESTED AND ACCEPTED TRAFFIC SIGNALS UPON COMPLETION OF THIS CONTRACT.
- 11. THE RESIDENT ENGINEER, DESIGN ENGINEER, MAINE DOT, AND TOWN OF SCARBOROUGH SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED AND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
- 12. ANY CHANGES TO THE LOCATIONS OF MAST ARMS AND POLES INCLUDING THE MOUNTED TRAFFIC DEVICES AND SIGNS SHALL BE APPROVED BY THE RESIDENT ENGINEER, DESIGN ENGINEER, AND TOWN OF SCARBOROUGH.
- 13. ANY PROPOSED TRAFFIC SIGNAL TIMING AND PHASING PLAN CHANGES SHALL BE INPUT BY THE CONTRACTOR UNDER OBSERVATIONS BY THE RESIDENT ENGINEER, DESIGN ENGINEER, OR TOWN REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE TOWN. THOSE DRAWINGS SHALL BE A CLEAN SET OF PLANS SHOWING ALL CHANGES, MODIFICATIONS, AND ELEVATIONS TO THE BID PLANS.
- 15. TWO COPIES OF AS-BUILT PLANS, SIGNAL TIMING, AND CONTROLLER MANUALS SHALL BE LEFT IN THE CONTROLLER CABINET. ONE ELECTRONIC COPY OF EACH SHALL BE PROVIDED TO THE TOWN ENGINEER AND PUBLIC WORKS DIRECTOR.
- 16. CONTRACTOR SHALL PROVIDE AND INSTALL ALL JUNCTION BOXES PER MAINE DOT STANDARDS AT A MINIMUM.
- 17. THE CONTRACTOR SHALL PREPARE A MATERIAL SCHEDULE BASED UPON THEIR PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
- 18. CONTRACTOR SHALL CONTACT AND COORDINATE WITH UTILITIES UPON AWARD OF THE CONTRACT. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES SO THAT THE TRAFFIC SIGNAL INSTALLATION IS DONE AFTER THE UTILITIES HAVE BEEN RELOCATED BY THE RESPECTIVE UTILITY COMPANIES.
- 19. THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION AND/OR INSTALLATION OF POWER METERS IF REQUIRED AND ASSURING THE POWER METER LOCATION AND INSTALLATION CONFORMS TO THE LOCAL UTILITY REQUIREMENTS. THIS WORK WILL BE INCIDENTAL TO ITEM 643.80.
- 20. ALL CONDUIT CROSSING AREAS OF OVERLAY OR EXISTING PAVEMENT SHALL BE INSTALLED USING TRENCHLESS TECHNOLOGIES.
- 21. ALL CONDUIT SHALL BE A MINIMUM OF 3" UNLESS OTHERWISE APPROVED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE MAXIMUM FILL RATIOS ARE NOT EXCEEDED.
- 22. ALL NEW SIGNAL SECTIONS SHALL HAVE LED LENSES 12 INCHES IN DIAMETER, AND SHALL HAVE 5 INCH LOUVERED BACK PLATES WITH YELLOW RETROREFLECTIVE STRIP AROUND BORDER OF BACK PLATES.
- 23. ALL SPLICES WILL BE MADE IN THE CABINETS OR POLES MEETING MAINE DOT SPECIFICATIONS.
- 24. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY STREET/SIDEWALK OCCUPANCY OR OPENING PERMITS.
- 25. CONTROLLERS, DETECTION, AND OTHER RELATED COMMUNICATIONS EQUIPMENT SHALL BE EQUIPPED FOR FUTURE CONNECTION TO THE PACTS RTMS STREETWISE TRAFFIC CONTROL SYSTEM AND FULL COMMUNICATIONS ESTABLISHED.
- 26. CONTRACTOR TO CONFIRM AND COORDINATE WITH TOWN PUBLIC WORKS ON TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION
- 27. CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC CONTROL AS NECESSARY DURING INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT. TEMPORARY SIGNLAS SHALL BE INCIDENTAL TO ITEM 652.361
- 28. DETECTION SHALL BE INSTALLED AT THE OPTIMAL HEIGHT AND LOCATION BY THE CONTRACTOR AND APPROVED BY THE ENGINEER TO ENSURE OPTIMAL PERFORMANCE.
- 29. ALL DRAINAGE STRUCTURE CASTINGS TO BE MANUFACTURED BY REXUS.
- 30. ALL DETECTABLE WARNING FIELDS TO BE MANUFACTURED BY ADA SOLUTIONS.

### BACK-UP POWER NOTES:

- CONTRACTOR TO VERIFY LOCATIONS OF BACK-UP POWER WITH TOWN IN THE FIELD.
- BACK-UP POWER HAS BEEN PROVIDED BY THE TOWN FROM THE FIRE STATION ON SACO STREET ON UTILITY POLES NEAR EACH PROPOSED TRAFFIC SIGNAL CONTROLLER CABINET LOCATION, CONTRACTOR WILL CONNECT THE BACK-UP POWER TO THE NEW CABINET WITH APPROPRIATE TRANSFER SWITCH AND SHALL BE INCIDENTAL TO ITEM 643.80.

### TRAFFIC ADAPTIVE SYSTEM NOTES:

- CONTRACTOR SHALL COORDINATE WITH RHYTHM ENGINEERING AS NECESSARY TO ENSURE PROPER INSTALLATION OF THE IN SYNC TRAFFIC ADAPTIVE SYSTEM INCLUDING: HARDWARE, SOFTWARE, AND VEHICLE DETECTION SYSTEMS.
- 2. CONTRACTOR SHALL COORDINATE WITH RHYTHM ENGINEERING TO ENSURE PROPER EXISTING CONDITIONS DATA COLLECTION AND IMPLEMENTATION OF A FULLY FUNCTIONAL, OPTIMALLY OPERATING INSYNC TRAFFIC ADAPTIVE SYSTEM.
- 3. PURCHASING, IMPLEMENTATION, AND OPERATION OF THE INSYNC TRAFFIC ADAPTIVE SYSTEM SHALL BE INCIDENTAL TO ITEM 643.80.

### MAST ARM, STRAIN POLE, & FOUNDATIONS NOTES:

- 1. MAST ARMS AND STRAIN POLES SHALL BE VALMONT SM16 OR CB16 SERIES OR APPROVED EQUAL.
- 2. CONTRACTOR TO SUBMIT TO TOWN SHOP DRAWING STAMPED BY A STRUCTURAL ENGINEER FOR NEW FOUNDATIONS, STRAIN POLES, AND MAST ARMS DESIGNS.
- CONTRACTOR TO VERIFY EXISTING SOIL CONDITIONS AND PROPERTIES IN VICINITY OF ALL PROPOSED MAST ARMS AND FOUNDATIONS. SOIL BORING LOCATIONS AND LOGS ARE INCLUDED IN THE PLAN SET.
- 4. MAST ARMS TO BE PAINTED WITH ANODIZED MOSS GREEN PAINT. PAINT TYPE AND COLOR TO BE CONFIRMED WITH TOWN PUBLIC WORKS PRIOR TO APPLICATION.
- 5. STEEL STRAIN WIRE IS INCIDENTAL TO ITEM 643.93, STEEL STRAIN POLE.

#### PEDESTAL POLE NOTE

1. ALL PEDESTAL POLES SHALL BE ONE PIECE CONSTRUCTION WITH NO THREADED CONNECTIONS.

### SIGNS & MARKINGS NOTES:

- ALL SIGNS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE MUTCD AND THE TOWN OF SCARBOROUGH.
- MARKINGS SHOWN ON THE SIGNAL PLAN SHEET ARE APPROXIMATE ONLY, CONTRACTOR SHOULD REFER TO THE DESIGN PLANS SIGNS & MARKINGS SHEETS.
- 3. ITEM 645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION, AND ROUTE MARKER ASSEMBLY SIGN SHALL INCLUDE ALL REQUIRED WORK FOR REMOVING AND RESETTING EXISTING SIGNS AND SIGN POLES.
- 4. ALL OVERHEAD SIGNS SHALL BE A MINIMUM OF 17 FT. ABOVE GRADE

### SIGNAL HEADS NOTES:

- VEHICLE SIGNAL HEAD HOUSING SHALL BE MCCAIN MODEL MTSTA OR MTSTP SERIES OR APPROVED EQUAL.
- 2. ALL SIGNAL HEADS SHALL BE 12" DIAMETER LED.
- 3. ALL SIGNAL HEADS SHALL HAVE 5" LOUVERED BACKPLATES.
- 4. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH VISORS
- PEDESTRIAN SIGNAL INDICATIONS SHALL BE GELCORE MODEL PS7 SERIES, ACCESSIBLE PEDESTRIAN SIGNALS BE CAMPBELL ADVISOR SERIES ONLY.
- PEDESTRIAN SIGNAL INDICATIONS SHALL BE 1-WAY 1-SECTION 16"X18" HANDIMAN WITH COUNTDOWN MODULE AND APS PUSH BUTTON SHALL BE EOUIPPED WITH LOCATOR TONE AND WALK MESSAGE.
- 7. BACKPLATES TO BE EQUIPPED WITH 3" YELLOW RETROFLECTIVE BANDING.

### SIGNAL HEAD MOUNTING NOTES:

- 1. SIGNAL HEADS SHALL BE FIXED MOUNTED TO MAST ARMS WITH ASTRO BRACKETS.
- 2. BOTTOM OF SIGNAL HEAD HOUSING SHALL BE A MINIMUM OF 17 FT BUT NOT MORE THAN 19 FT ABOVE THE GRADE AT THE CENTER OF THE ROADWAY.

### CABINET AND CONTROLLER NOTES:

- 1. INSTALL A SIEMENS M60 ATC CONTROLLER WITH ETHERNET PORT IN AN ATC BASE MOUNTED CABINET WITH A 15" EXTENSION.
- 2. ALL MAJOR COMPONENTS OF THE CONTROLLER CABINET ASSEMBLY SHALL BE FROM THE SAME MANUFACTURER; INCLUDING CABINET ASSEMBLY, CONTROLLERS, MMU, BIU'S, AND CABINET POWER SUPPLY.
- CABINET SHALL BE EQUIPPED WITH APPROPRIATE SWITCH, FMU FIBER PATCH PANEL AND SPLICE BOX FOR INTERCONNECT WITH 12-STRAND FIBER OPTICS.
- 4. CONTROLLER, CABINET AND RELATED EQUIPMENT SHALL MEET LATEST MAINE DOT ATC 718 SPECIFICATIONS AND THE SPECIAL PROVISIONS IN THE CONTRACT DOCUMENTS.

### **DETECTION NOTES:**

- 1. INSTALL ONE HAWKEYE RADAR THERMAL DETECTION ON EACH OF THE THREE (3) INTERSECTION APPROACHES AS DEPICTED ON THE PLANS AND ASSOCIATED EQUIPMENT TO ALLOW FOR VEHICLE PRESENCE DETECTION, TRAFFIC COUNTING AND FUTURE REMOTE VIEWING AND ADJUSTMENT.
- 2. HAWKEYE RADAR THERMAL DETECTION SHALL BE INSTALLED AT THE OPTIMAL HEIGHT AND LOCATION WITH APPROPRIATE LENS (WIDE, MEDIUM, OR NARROW) ANGLE BY THE CONTRACTOR AND APPROVED BY RHYTHM ENGINEERING TO ENSURE OPTIMAL PERFORMANCE OF INSYNC TRAFFIC ADAPTIVE SYSTEM.
- CONTRACTOR SHALL SUPPLY LAPTOP COMPUTER, TABLET OR OTHER FIELD HARDENED DEVICE TO ALLOW FOR FULL FUNCTIONALITY AND INTERFACE WITH THERMAL DETECTION UNITS; CONTRACTOR TO CONFIRM PREFERRED OPTION WITH TOWN PUBLIC WORKS.
- 4. CONTRACTOR TO VERIFY TYPE, MAKE, AND MODEL OF DETECTION RECOMMENDED BY RHYTHM ENGINEERING.

### TREE TRIMMING NOTES:

TRIM ALL TREE BRANCHES TO 20 FEET ABOVE THE PAVEMENT AND 8 FEET ABOVE SIDEWALKS. A TREE SPECIALIST SHALL BE SUBCONTRACTED FOR THE WORK AND PAYMENT SHALL BE MADE BY INVOICE PLUS 5%. ANY TREE BRANCHES DAMAGED BY CONTRACTOR DURING CONSTRUCTION WILL BE TRIMMED AT THE CONTRACTOR'S EXPENSE.

#### INTERSECTION SPECIFIC NOTES:

- ALL SIGNAL EQUIPMENT INCLUDING CONTROLLER CABINET SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.
- ALL SIGNAL HEADS SHALL BE HEAVY DUTY POLYCARBONATE.
- THE NEW CONTROLLER CABINET SHALL BE ATC MECH, MAOT SPECIFICATION718 EQUIPPED FOR A MINIMUM OF 32 PHASES.
- CONTROLLER EQUIPMENT (IF APPLICABLE):
- SIGNAL CONTROLLERS SHALL BE SIEMENS M60 ATC MEETING MAINE DOT AND TOWN OF SCARBOROUGH SPECIFICATIONS. - TRAFFIC CONTROL CABINETS SHALL BE INSTALLED WITH 15" EXTENSION BASE
- SIGNAL EQUIPMENT (IF APPLICABLE):
- SIGNAL HOUSINGS SHALL BE MCCAIN MODEL MTSTA OR MTSTP SERIES OR APPROVED EQUAL
- LED MODULES FOR VEHICLE INDICATIONS SHALL BE GELCORE MODEL DR6 SERIES ONLY
- LED MODULES FOR PEDESTRIAN INDICATIONS SHALL BE GELCORE MODEL PS7 **SERIES ONLY**
- PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE POLARA iN3 NAVIGATOR -3 WIRE AUDIBLE-TACTILE PEDESTRIAN SIGNAL SYSTEM
- TRAFFIC STRUCTURES:

TO ITEM 643.80

- MAST ARMS SHALL BE VALMONT SM16 OR CB16 SERIES OR APPROVED EQUAL STRAIN POLES SHALL BE VALMONT SW56 SERIES OR APPROVED EQUAL - PEDESTAL POLES SHALL BE ONE PIECE
- UNLESS OTHERWISE NOTED ALL MAST ARMS AND UPRIGHTS SHALL BE **GALVANIZED**
- CONNECTION TO AND IMPLEMENTATION OF FULLY FUNCTIONAL FIBER CABLES AND BACK-UP POWER SYSTEMS AT EACH TRAFFIC SIGNAL SHALL BE INCIDENTAL

### COMMUNICATIONS AND SIGNAL INTERCONNECT NOTES:

- THE THREE PROJECT TRAFFIC SIGNALS SHALL BE INTERCONNECTED VIA 12-STRAND SINGLE MODE FIBER
- EACH CONTROLLER CABINET SHALL BE EQUIPPED WITH APPROPRIATE COMMUNICATIONS SWITCH, FMU, AND FIBER PATCH PANEL
- EACH CONTROLLER CABINET WILL BE SERVED BY AN AERIAL SPLICE ENCLOSURE (DROP) AND MESSENGER.
- THE THREE PROJECT TRAFFIC SIGNALS SHALL BE CONNECTED TO THE TOWN OF SCARBOROUGH NETWORK VIA A DROP AND CONNECTION AT THE EXISTING SCARBOROUGH FIRE STATION LOCATED AT SACO STREET.
- TOWN HAS PROVIDED FIBER OPTIC LINES ON UTILITY POLES NEAR EACH OF THE PROPOSED TRAFFIC SIGNAL CONTROLLER CABINETS, CONTRACTOR TO VERIFY LOCATIONS WITH THE TOWN IN THE FIELD AND CONNECT FIBER TO EACH OF THE SIGNAL CABINETS INCIDENTAL TO ITEM 643.80.

### **SURVEY NOTES:**

- BEARINGS ARE BASED ON MAINE WEST STATE PLANE COORDINATE SYSTEM NAD 83, DERIVED FROM POST PROCESSED STATIC GPS OBSERVATIONS.
- ELEVATIONS ARE BASED ON NAVD 88. DERIVED FROM POST PROCESSED STATIC GPS OBSERVATIONS.
- PORTIONS OF COUNTY ROAD (ROUTE 22), GORHAM ROAD (ROUTE 114), SACO STREET, AND BEECH RIDGE ROAD ARE BASED ON PLAN REFERENCE 1 AND FOUND MONUMENTS AS SHOWN ON SAID PLAN. FOR OTHER PORTIONS OF THESE ROADWAYS, THE RIGHT OF WAY LINES ARE ASSUMED AND ARE BASED ON RECORD PLANS, SURVEY MARKERS, AND OCCUPATION. THE DISTINCTION BETWEEN "ASSUMED" AND "PER PLAN" IS NOTED THROUGHOUT. THE WIDTH OF ROUTE 22 AND ROUTE 115 IN AREAS UNAFFECTED BY DOT TAKINGS IS 66 FEET. THE WIDTH OF SACO STREET AND BEECH RIDGE ROAD IN AREAS UNAFFECTED BY DOT TAKINGS IS 50 FEET.
- 4. 4. PARCEL LINES ARE BASED ON RECORD PLANS, TOWN GIS, AND FOUND SURVEY
- THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES 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 CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION

### PLAN REFERENCES:

- 1. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY '120', SCARBOROUGH, CUMBERLAND COUNTY, FEDERAL AID PROJECT NO. S-0120(7)," DATED JANUARY 1973, D.O.T. FILE NO. 3-217.
- 2. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY '120', SCARBOROUGH, CUMBERLAND COUNTY, FEDERAL AID PROJECT NO. M-0915(1)," DATED AUGUST 1981, D.O.T. FILE NO. 3-301.
- "STANDARD BOUNDARY SURVEY, 88 COUNTY ROAD, SCARBOROUGH, MAINE PREPARED FOR S.C.S. FAMILY REALTY," BY LAND SERVICES INC., DATED OCT., 1997. RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 198 PAGE 16.
- 4. "PLAN OF NORTH SCARBOROUGH FIRE STATION LOT ON SACO ROAD AND ROUTE 22, SCARBOROUGH, MAINE FOR THE TOWN OF SCARBOROUGH," BY OWEN HASKELL, INC., DATED FEB. 10, 1988. OHI JOB# 7895 SC.
- 5. "OTTAWA WOODS, BEECH RIDGE ROAD, SCARBOROUGH, MAINE FINAL SUBDIVISION PLAN FOR DOUGLAS A. TINSMAN AND DAVID W. PICKERING," BY LAND USE CONSULTANTS, DATED DEC. 11 1984 AND REVISED THROUGH 1/22/85. RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 149 PAGE 26.

### **LEGEND**

- **EMERGENCY PRE-EMPTION DETECTOR EMERGENCY PRE-EMPTION CONFIRMATION STROBE**
- TRAFFIC SIGN
- SIGNAL HEAD PROPOSED THERMAL DETECTION
- PROPOSED GROUND MOUNTED SIGNAL CONTROLLER
  - COUNTDOWN PEDESTRIAN HEAD WITH PUSH BUTTON ASSEMBLY AND SIGN
- PROPOSED 12"X12" ELECTRICAL JUNCTION BOX (ME DOT ITEM 626.11)
- 8' ALUMINUM SIGNAL POST

AND FOUNDATION

- PROPOSED DUAL PURPOSE STEEL MAST ARM
- 3" SCHEDULE 80 PVC CONDUIT
  - 2" STEEL CONDUIT (ONLY FOR POWER SOURCE TO **CONTROLLER CABINET)**
- THERMAL/RADAR DETECTION ZONE

PROPOSED 12" STOP BAR

- SINGLE WHITE LANE LINE MARKING
- DOUBLE YELLOW CENTER LINE MARKING
- UTILITY POLE
- MANHOLE
- ELECTRIC/GAS METER
- CATCH BASIN
- HYDRANT
- WATER VALVE OR SHUTOFF
- GAS VALVE
- LIGHT POLE
- **DECIDUOUS TREE**
- **FENCE CURB**
- GAS LINE
- **OVERHEAD WIRES**
- TELEPHONE LINE
- WATER LINE
- 1' CONTOUR #6 COPPER OVERHEAD
  - 12 SINGLE STRAND FIBER
  - SURVEY LEGEND
  - IRON PIPE OR ROD FOU<del>NDX X</del> MONUMENT FOUND Ø UTILITY POLE —— SD —— MANHOLE \_\_\_\_\_130 \_\_\_\_\_ 1' CONTOUR

OVERHEAD WIRES

LANDSCAPED AREA

REFLECTOR POST

**DECIDUOUS TREE** 

CONIFEROUS TREE

IRON PIPE OR ROD FOUND

STORM DRAIN

PARCEL LINES

CONCRETE

- ─o SIGN CATCH BASIN HYDRANT
- WATER VALVE OR SHUTOFF CONC. ☆ LIGHT POLE
- **М** мв MAILBOX ⟨⁻⟩ SHRUB
- **ABBREVIATIONS**
- SOLID YELLOW CENTER LINE DOUBLE YELLOW LINE DYL
  - **BROKEN WHITE LINE** SBL STOP BAR LINE

SOLID WHITE LINE

. . . . . . . .

SHEET NUMBER SHEET 2/37

### NORTH SCARBOROUGH THREE INTERSECTIONS - COUNTY ROAD/GORHAM ROAD/SACO STREET

### SIGNAL NOTES:

- 1. ALL MATERIALS AND WORK SHALL CONFORM TO THE TOWN OF SCARBOROUGH AND MAINEDOT STANDARD SPECIFICATIONS (LATEST EDITION) AND BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", U.S.D.O.T., F.H.W.A., LATEST EDITION.
- 2. CONTRACTOR IS DIRECTED TO REVIEW AND CONFIRM TOWN OF SCARBOROUGH TRAFFIC SIGNAL SPECIFICATIONS PRIOR TO BIDDING ON PROJECT.
- 3. ALL SIGNAL AND SIGNAL RELATED EQUIPMENT SHALL MEET OR EXCEED THE TOWN OF SCARBOROUGH TRAFFIC SIGNAL STANDARDS
- 4. THE PROPOSED TRAFFIC SIGNAL TIMING AND PHASING PLAN SHALL BE INPUT BY THE CONTRACTOR UNDER OBSERVATIONS BY THE ENGINEER OR MAINE DOT REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE ENGINEER.
- 5. TWO COPIES OF AS-BUILT PLANS, SIGNAL TIMING, WIRING DIAGRAMS, BOX PRINTS AND EQUIPMENT MANUALS SHALL BE LEFT IN THE CONTROLLER CABINET. ONE ELECTRONIC COPY OF EACH SHALL BE PROVIDED TO THE TOWN ENGINEER/PUBLIC WORKS DIRECTOR.
- 6. CONTRACTOR SHALL PROVIDE AND INSTALL ALL JUNCTION BOXES PER MAINE DOT STANDARDS AT A MINIMUM.
- 7. THE CONTRACTOR SHALL PREPARE A MATERIAL SCHEDULE BASED UPON THEIR PLAN REVIEW.
  ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING
  MATERIALS OR PERFORMING WORK. A COPY OF THE MATERIAL SCHEDULE AND ORDER SHALL BE
  SUBMITTED TO THE TOWN OF SCARBOROUGH FOR CONCURRENCE.
- 8. UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUBSURFACE ACTIVITIES.
- 9. THE CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE UTILITY COMPANIES WHEN MODIFYING THE EXISTING SERVICE CONNECTIONS AND WHEN INSTALLING EQUIPMENT ON THEIR POLES OR NEAR THEIR WIRES.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION AND/OR INSTALLATION OF POWER METERS IF REQUIRED AND ASSURING THE POWER METER LOCATION AND INSTALLATION CONFORMS TO THE LOCAL UTILITY REQUIREMENTS. THIS WORK WILL BE INCIDENTAL TO THE PROPOSED TRAFFIC SIGNAL.
- 11. ALL CONDUIT CROSSING AREAS OF EXISTING PAVEMENT SHALL BE INSTALLED USING TRENCHLESS TECHNOLOGIES, UNLESS OTHERWISE APPROVED.
- 12. ALL NEW SIGNAL SECTIONS SHALL HAVE LED LENSES 12 INCHES IN DIAMETER, AND SHALL HAVE 5-INCH LOUVERED BACK PLATES WITH 3"-YELLOW RETROREFLECTIVE STRIP AROUND THE BORDER OF THE BACK PLATE.
- 13. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY STREET/SIDEWALK OCCUPANCY OR OPENING PERMITS.
- 14. ALL SIGNAL HEADS AND SIGNS MOUNTED TO MAST ARMS SHALL BE SECURED WITH ASTROBRACKETS.
- 15. ALL CONFLICTING SIGNS AND PAVEMENT MARKINGS SHALL BE PERMANENTLY REMOVED BY THE CONTRACTOR USING METHODS APPROVED BY MAINEDOT'S STANDARD SPECIFICATIONS AND CONFIRMED WITH THE TOWN.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE TOWN. THOSE DRAWINGS SHALL BE A CLEAN SET OF PLANS SHOWING ALL CHANGES, MODIFICATIONS, AND ELEVATIONS TO THE BID PLANS
- 17. THE CONTRACTOR SHALL COORDINATE WITH THE INSPECTOR AND THE TOWN'S TRAFFIC ENGINEER FOR COMPLETION OF TESTING AND OBSERVATIONS OF TRAFFIC SIGNAL FUNCTION AND SAFETY. ADJUSTMENTS SHALL BE COMPLETED AS DIRECTED BY THE THE TOWN TRAFFIC ENGINEER.
- 18. ALL EXISTING SIGNAL EQUIPMENT THAT IS REMOVED SHALL BE RETURNED TO THE TOWN. CONTRACTOR SHALL COORDINATE WITH INSPECTOR AS REQUIRED.
- 19. PAYMENT FOR REMOVAL OF EXISTING SIGNS SHALL BE INCIDENTAL TO THE PROPOSED TRAFFIC
- 20. REMOVAL OF THE EXISTING SIGNAL SYSTEM SHALL BE INCIDENTAL TO THE PROPOSED TRAFFIC SIGNAL
- 21. A MINIMUM OF 17' OF VERTICAL CLEARANCE (ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY) SHALL BE PROVIDED TO THE BOTTOM OF THE SIGNAL HEAD ASSEMBLY (INCLUDING BACKPLATES). THE MAXIMUM CLEARANCE TO THE BOTTOM OF THE SIGNAL HOUSING SHALL NOT BE GREATER THAN 19 FEET, UNLESS OTHERWISE SPECIFIED.
- 22. THE CONTRACTOR IS DIRECTED TO THE MAINE DOT STANDARD SPECIFICATIONS SECTION 718
  AND STANDARD DETAILS SECTION 643 AND SPECIAL PROVISIONS IN THE CONTRACT
  DOCUMENTS FOR ADDITIONAL INFORMATION RELATED TO THE CONTROLLER AND CONTROLLER
  CABINET.
- 23. THE SIGNAL SYSTEM MUST BE FULLY FUNCTIONAL AND FREE OF COMMUNICATIONS OR EQUIPMENT FAILURES FOR A PERIOD OF SEVEN (7) DAYS. IF PROBLEMS OCCUR, THEY SHALL BE RECTIFIED BY THE CONTRACTOR AND THE START UP PERIOD RESTARTED FOR ANOTHER SEVEN (7) DAYS.
- 24. UPON DEMONSTRATING A SUCCESSFUL 7 DAY START UP TEST, THE TOWN AND MAINEDOT SHALL EVALUATE THE OPERATION OF THE SYSTEM FOR A PERIOD OF 30 DAYS. SHOULD THE SYSTEM MALFUNCTION DURING THIS PERIOD THE CONTRACTOR SHALL MAKE ANY REPAIRS OR CORRECTIONS AND THE ACCEPTANCE TEST PERIOD WILL START OVER AGAIN. ACCEPTANCE TESTING MUST DEMONSTRATE TO THE TOWN AND MAINEDOT THAT ALL HARDWARE AND EQUIPMENT FUNCTION IN ACCORDANCE WITH THESE SPECIFICATIONS, REQUIREMENTS, THROUGH-PUTS AND FUNCTIONALITY.
- 25. THE CONTRACTOR SHALL WARRANTY ALL WORK AND EQUIPMENT FOR A PERIOD OF ONE YEAR AFTER INSTALLATION AND ACCEPTANCE.
- 26. ALL REQUIRED OVERHEAD TRAFFIC SIGNAL WORK REQUIRED WITHIN ALL ROADWAY TRAVEL LANES SHALL BE COMPLETED BETWEEN 6 PM AND 6 AM UNLESS OTHERWISE APPROVED BY THE TOWN OF SCARBOROUGH PUBLIC WORKS DIRECTOR. CERTIFIED POLICE PRESENCE AND/OR CERTIFIED FLAGGERS ARE MANDATORY FOR THE DURATION OF THE TRAVEL LANE CLOSURES.

Barton & Toguidice

SHEET NUMBER SHEET 3 /37

NO

NI -2

### **ESTIMATE OF QUANTITIES**

Item No.	Item Description	Unit	Quantity - Town	Quantity - Crossroads	Quantity - Total
203.20	Common Excavation	СҮ	500	640	1140
203.21	Rock Excavation	СҮ	10	10	20
304.10	Aggregate Subbase Course - Gravel	СУ	300	330	630
304.14	Aggregate Base Course - Type A	СУ	100	210	310
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Т	80	110	190
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Т	50	80	130
409.15	Bituminous Tack Coat, Applied	Gal	19	27	46
502.341	Structural Concrete - Roadway Median	CY	0	32	32
603.159	12 inch Culvert pipe Option III	LF	4	0	4
604.16	Altering Catch Basin to Manhole	EA	0	1	1
604.18	Adjusting Manhole or Catch Basin to Grade	EA	0	2	2
604.247	Catch Basin Type F5-C	EA	0	1	1
609.21	Concrete Slipform Curb	LF	0	860	860
609.219	Concrete Slipform Curb - 4' Terminal End	EA	0	11	11
615.07	Loam	СҮ	7	46	53
618.13	Seeding Method Number 1	Unit	1	4	5
626.11	Precast Concrete Junction Box	EA	0	7	7
626.21	Metallic Conduit - 2" Steel	LF	0	26	26
626.22	Non-Metallic Conduit - 2" Sched 80Pvc (Traffic Signals)	LF	0	520	520
626.35	Controller Cabinet Foundation	EA	0	2	2
626.44	36" Diameter Foundation	EA	3	2	5
626.451	42" Diameter Foundation	EA	3	0	3
627.733	4" White or Yellow Painted Pavement Marking Line	LF	3,900	2,750	6650
627.75	White or Yellow Pavement & Curb marking	SF	550	190	740
627.77	Removing Existing Pavement Marking	SF	550	1800	2350
627.94	Preformed Thermoplasic Pavement Marking	SF	0	1,050	1050
643.80	Traffic Signal: County Road At Gorham Road (includes InSync Adaptive)	LS	0	1	1
643.80	Traffic Signal: Gorham Rd At Saco St/Beech Ridge Rd (includes InSync Adaptive)	LS	0	1	1
643.831	Radar/Thermal Detection Camera	EA	0	8	8
643.91	Dual Purpose Mast Arm Pole (With 25 Ft Arm)	EA	1	0	1
643.91	Dual Purpose Mast Arm Pole (With 30 Ft Arm)	EA	2	0	2
643.91	Dual Purpose Mast Arm Pole (With 35 Ft Arm)	EA	1	0	1
643.91	Dual Purpose Mast Arm Pole (With 40 Ft Arm)	EA	2	0	2
643.93	Steel Strain Poles	EA	0	2	
645.116	Reinstall Regulatory, Warning, Confirmation and Route Assembly Marker	EA	0	2	
645.271	Regulatory, Warning, Confirmation and Route Assembly Sign, Type I	SF	30	160	190
652.361	Maintenance of Traffic Control Devices*	LS	0.5	0.5	1
656.75	Temporary Soil Erosion and Water Pollution Control*	LS	0.5	0.5	1
658.20	Acrylic Green Paint	SY	0.5	30	30
659.10	Mobilization*	LS	0.5	0.5	1
832.07	Owner's Testing Allowance	LS	1	1	2
803.01	Test Pits	EA	1	1	2

\*Note: These lump sum items are to be divided between the Town of Scarborough and Crossroads Holdings, LLC. The percentage of the lump sum amount that each party is responsible for will be equal to the percentage calculated by the sum of the extended price for each item each party is responsible for divided by the sum of the extended price for all items excluding the lump sum items being shared between the Town and M&R.

### BID ALTERNATE 1 ESTIMATE OF QUANTITIES

Item No.	Item Description	Unit	Quantity - Town	Quantity - Crossroads	Quantity - Total
203.20	Common Excavation	CY	640	0	640
203.21	Rock Excavation	CY	10	0	10
304.10	Aggregate Subbase Course - Gravel	CY	410	0	410
304.14	Aggregate Base Course - Type A	CY	140	0	140
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Т	110	0	110
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Т	64	0	64
409.15	Bituminous Tack Coat, Applied	Gal	24	0	24
603.1311	8" PVC Pipe	LF	2	0	2
603.159	12 inch Culvert pipe Option III	LF	300	0	300
604.072	Catch Basin Type A1-C	EA	1	0	1
604.16	Altering Catch Basin to Manhole	EA	2	0	2
604.18	Adjusting Manhole or Catch Basin to Grade	EA	2	0	2
604.243	Catch Basin Type F3-C	EA	1	0	1
604.249	Catch Basin Type F6-C	EA	1	0	1
610.08	Plain Rip Rap	CY	1	0	1
615.07	Loam	CY	19	0	19
618.13	Seeding Method Number 1	Unit	2	0	2
627.733	4" White or Yellow Painted Pavement Marking Line	LF	1,250	0	1250
627.75	White or Yellow Pavement & Curb marking	SF	300	0	300
627.77	Removing Existing Pavement Marking	SF	310	0	310

### BID ALTERNATE 2 ESTIMATE OF QUANTITIES

Item No.	Item Description	Unit	Quantity - Town	Quantity - Crossroads	Quantity - Total
609.21	Concrete Slipform Curb	LF	270	0	270
609.219	Concrete Slipform Curb - 4' Terminal End	EA	4	0	4
609.31	Curb Type 3	LF	12	0	12

### BID ALTERNATE 3 ESTIMATE OF QUANTITIES

Item No.	Item Description	Unit	Quantity - Town	Quantity - Crossroads	Quantity - Total
201.23	Removing Single Tree Top Only	EA	2	0	2
201.24	Removing Stump	EA	2	0	2
202.15	Removing Manhole or Catch Basin	EA	2	0	2
203.20	Common Excavation	CY	270	0	270
203.21	Rock Excavation	СҮ	10	0	10
304.10	Aggregate Subbase Course - Gravel	CY	77	0	77
304.14	Aggregate Base Course - Type A	CY	67	0	67
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Т	22	0	22
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Т	33	0	33
409.15	Bituminous Tack Coat, Applied	Gal	5	0	5
603.159	12 inch Culvert pipe Option III	LF	46	0	46
609.21	Concrete Slipform Curb	LF	58	0	58
609.219	Concrete Slipform Curb - 4' Terminal End	EA	2	0	2
610.08	Plain Rip Rap	CY	1	0	1
615.07	Loam	CY	35	0	35
618.13	Seeding Method Number 1	Unit	3	0	3
627.733	4" White or Yellow Painted Pavement Marking Line	LF	320	0	320

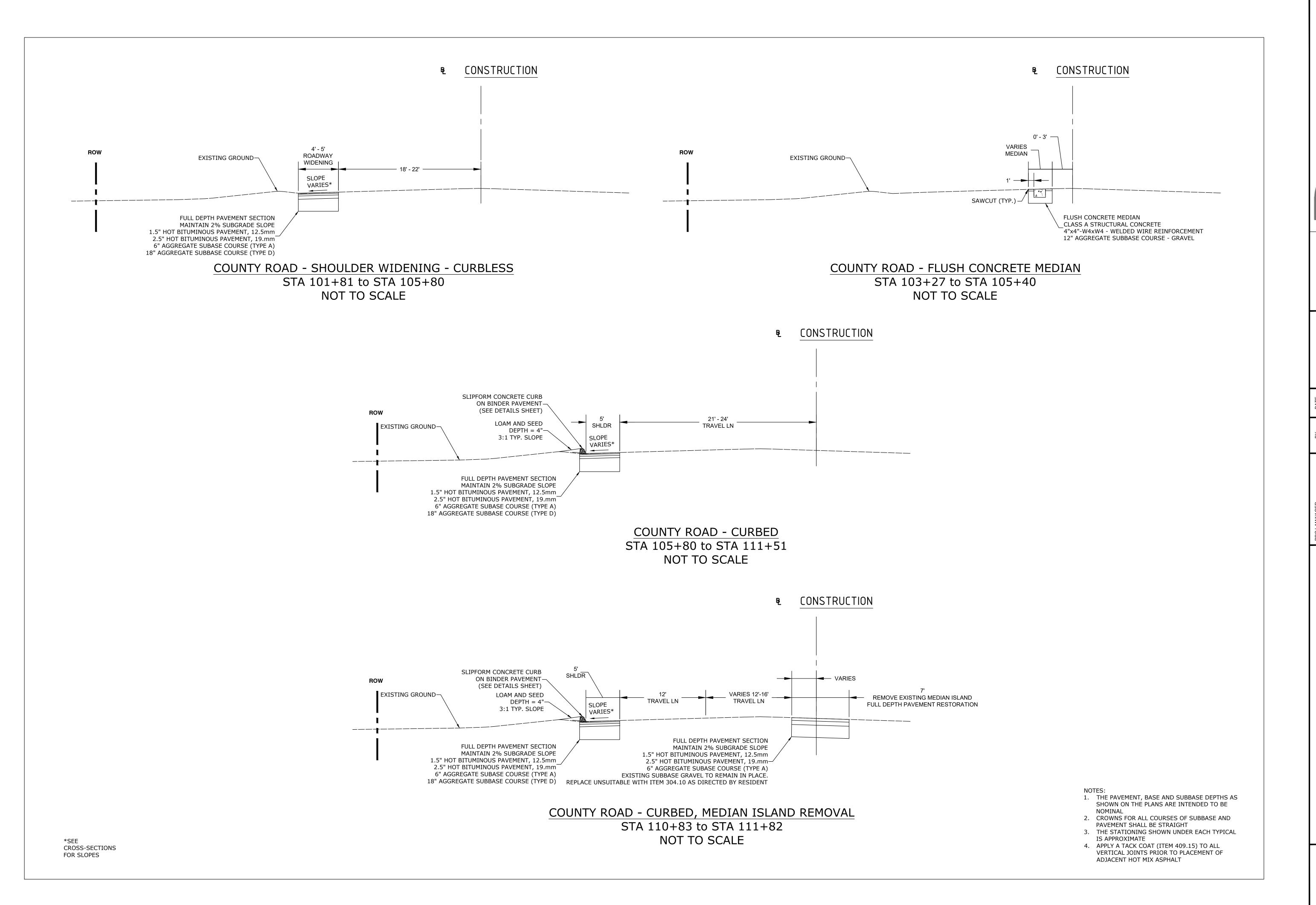
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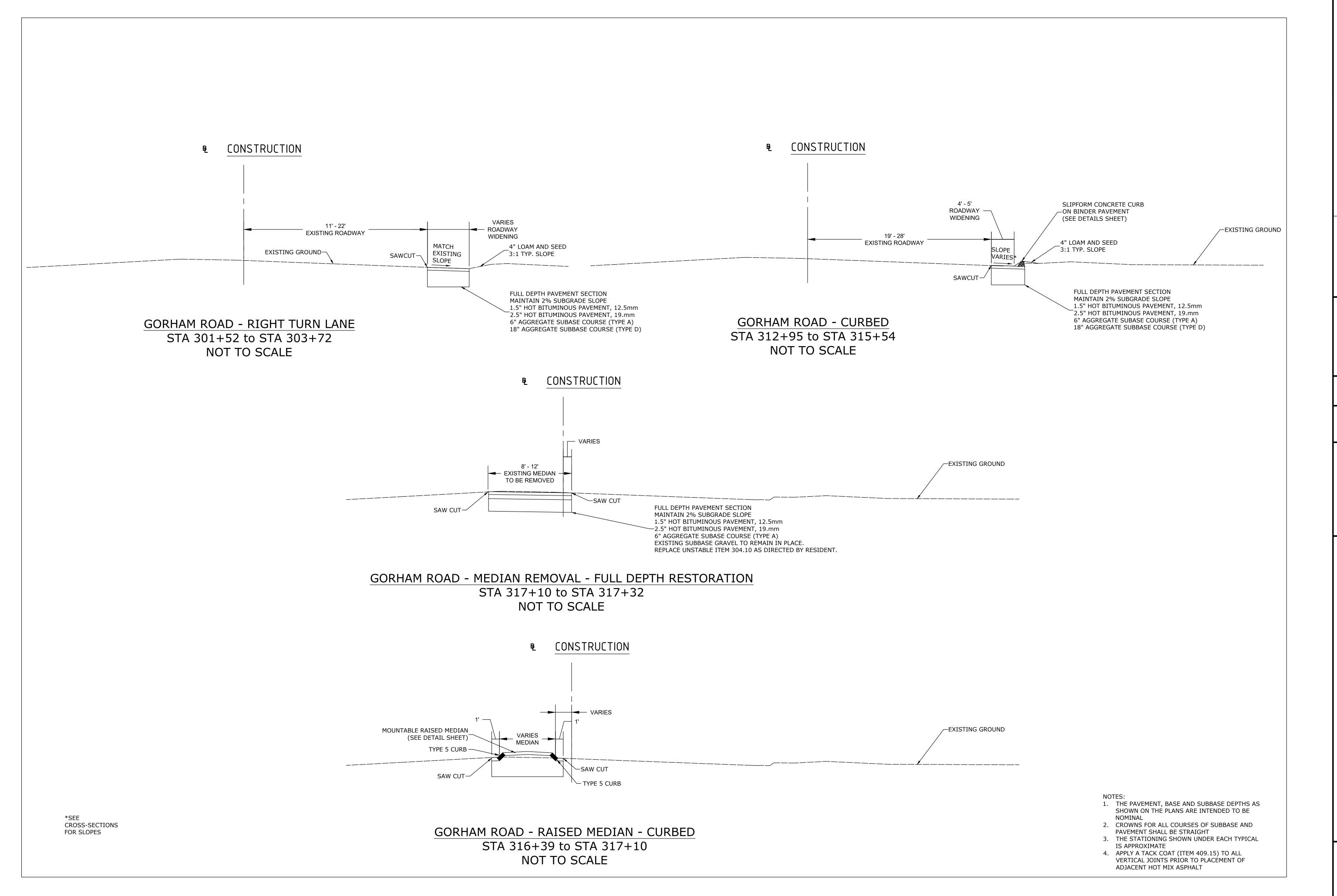
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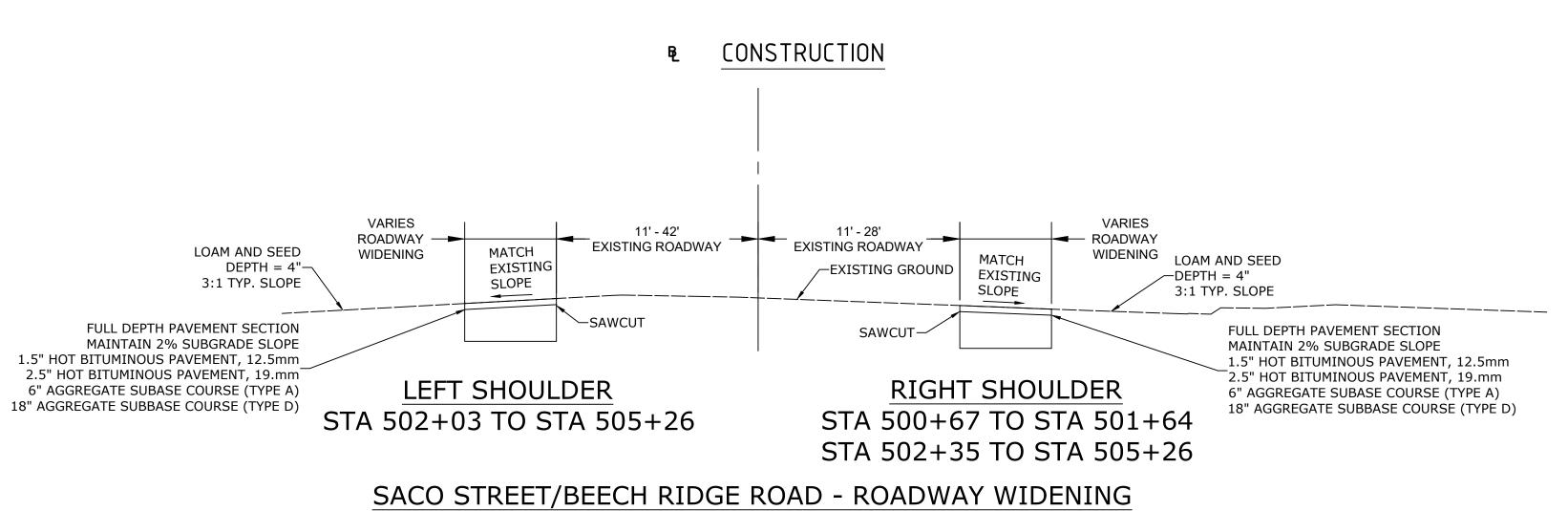
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THE DOWNS SECTION IMPROVEMENTS

SHEET NUMBER SHEET **6** /37

TS-2



NOT TO SCALE

\*SEE CROSS-SECTIONS FOR SLOPES NO

- 1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE
- 2. CROWNS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT
- 3. THE STATIONING SHOWN UNDER EACH TYPICAL IS APPROXIMATE
- IS APPROXIMATE
  4. APPLY A TACK COAT (ITEM 409.15) TO ALL
  VERTICAL JOINTS PRIOR TO PLACEMENT OF
  ADJACENT HOT MIX ASPHALT

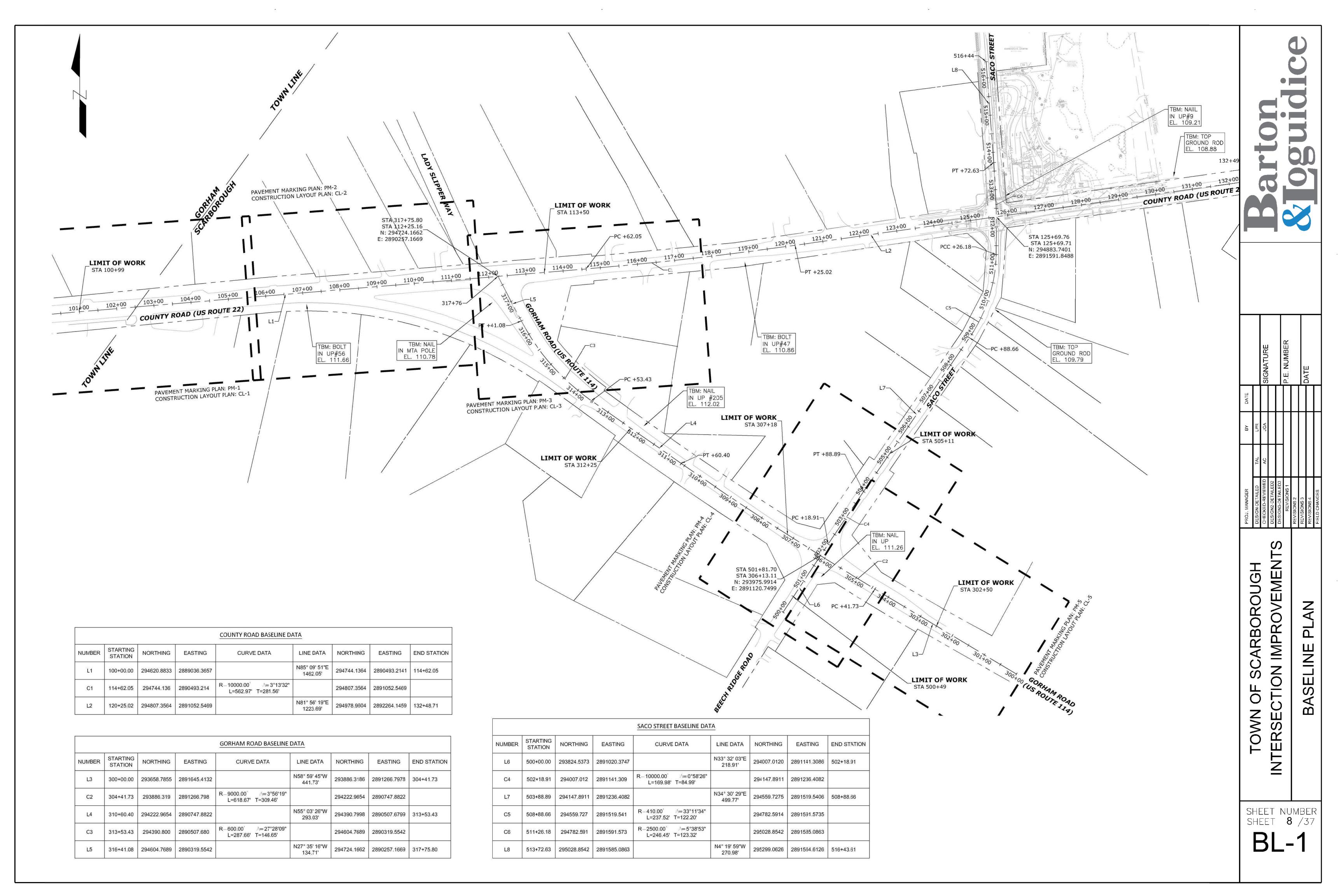
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THE DOWNS INTERSECTION IMPROVEMENT

SECTIONS

SHEET NUMBER SHEET 7/37

TS-3



### **EROSION AND SEDIMENTATION CONTROL NOTES**

IN ORDER TO EFFECTIVELY PREVENT AND CONTROL EROSION RELATED TO SOIL DISTURBANCE, THE FOLLOWING BEST

#### 1. TEMPORARY SOIL STABILIZATION BMPS

MANAGEMENT PRACTICES (BMPS) SHALL BE EMPLOYED:

TEMPORARY MULCHING SHALL BE APPLIED IMMEDIATELY TO ANY AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED. ANY DISTURBED SOIL WITHIN 100' OF A STREAM, WATER BODY OR WETLAND MUST RECEIVE TEMPORARY MULCH WITHIN 7 DAYS FOLLOWING DISTURBANCE AND BEFORE ANY STORM EVENT. ALL OTHER AREAS SHALL RECEIVE TEMPORARY MULCH WITHIN 14 DAYS OF DISTURBANCE. AREAS WHICH CANNOT BE SEEDED DURING THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION. THE FOLLOWING ARE ACCEPTABLE TEMPORARY MULCHING METHODS:

HAY OR STRAW MULCHES NEED TO BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SQ FT OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75-90% OF THE GROUND SURFACE. HAY OR STRAW CAN BE DRIVEN INTO THE GROUND WITH TRACKED EQUIPMENT IF SLOPES ARE LESS THAN 3%, OR CAN BE ANCHORED WITH JUTE, WOOD FIBER OR PLASTIC NETTING ON STEEPER SLOPES.

EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND WILL INCLUDE ANY OF THE FOLLOWING: HREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. WOOD OR BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS ARE NOT ACCEPTABLE. EROSION CONTROL MIX CAN BE USED AS A STAND-ALONE REINFORCEMENT ON SLOPES OF 2 HORIZONTAL TO 1 VERTICAL OR LESS AND DRAINING IN SHEET FLOW. IT CAN BE PLACED WITH A HYDRAULIC BUCKET, WITH A PNEUMATIC BLOWER OR BY HAND, AND MUST PROVIDE 100% SOIL COVERAGE.

#### EROSION CONTROL MIX SHALL MEET THE FOLLOWING SPECIFICATIONS:

-ORGANIC MATTER CONTENT SHALL BE BETWEEN 80-100%, DRY WEIGHT BASIS. -PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6 IN. SCREEN AND BETWEEN 70-85% PASSING 0.75 IN.

-ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED -LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX

WHEN USED AS MULCH, THE THICKNESS OF THE ERISION CONTROL MIX IS BASED UPON THE FOLLOWING:

LENGTH OF SLOPE	3:1 SLOPE OR LESS	BETWEEN 2:1 AND 3:1 SLOPE
LESS THAN 20 FT	2.0 IN.	4.0 IN.
BETWEEN 20 - 60 FT	3.0 IN.	5.0 IN.
BETWEEN 60 - 100 FT	4.0 IN.	6.0 IN.

HEMICAL MULCHES AND SOIL BINDERS MAY BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL CONSULT VITH THE MANUFACTURER TO DETERMINE ADEQUATE APPLICATION RATES AND METHODS.

EROSION CONTROL BLANKETS AND MATS SHALL BE USED ON STEEP SLOPES AND IN THE BOTTOM OF GRASSED WATERWAYS, OR AS OTHERWISE DIRECTED BY THE ENGINEER. THE MAT SHALL BE INSTALLED WITH FIRM CONTINUOUS CONTACT WITH THE SOIL AND STAPLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

TEMPORARY MULCH SHALL BE INSPECTED FOLLOWING ANY SIGNIFICANT RAINFALL EVENT. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. ERISION CONTROL MATS AND MULCH ANCHORING MUST BE INSPECTED AFTER RAINFALL EVENTS FOR DISLOCATION OR FAILURE, AND REPAIRED IMMEDIATELY. INSPECTIONS SHALL TAKE PLACE UNTIL 95% OF THE SOIL SURFACE IS COVERED WITH PERMANENT VEGETATION. WHERE MULCH IS USED WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE, AND REPAIR AS NEEDED.

TEMPORARY VEGETATION SHALL BE ESTABLISHED ON SOILS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS. IF TEMPORARY VEGETATION CANNOT BE ESTABLISHED PRIOR TO OCTOBER 15, TEMPORARY MULCH SHALL BE APPLIED THROUGH THE WINTER AND TEMPORARY VEGETATION SHALL BE PLANTED AT THE BEGINNING OF THE GROWING SEASON THE FOLLOWING YEAR. TO PREPARE THE SEEDBED, THE CONTRACTOR SHALL APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OF 10-10-10 (N-P205-K20) OR EQUIVALENT AND LIMESTONE AT A RATE OF 3 TONS PER ACRE, IF NECESSARY. LOOSEN SOIL TO A DEPTH OF 2 INCHES IN AREAS THAT HAVE BEEN COMPACTED BY CONSTRUCTION ACTIVITIES. GRASS SEED SHALL BE SELECTED BASED UPON THE TIME OF YEAR THE PLANTING WILL TAKE PLACE AS SUMMARIZED IN THE FOLLOWING

<u>SEED</u>	LB. PER ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	112	8/15 - 10/1
OATS	80	4/1 - 7/1 8/15 - 9/15
ANNUAL RYFGRASS	40	4/1 - 7/1

TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED TO MAINTAIN AT LEAST 95% VEGETATIVE COVER OF SOIL SURFACE. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES SHALL BE USED IN THE INTERIM SUCH AS TEMPORARY MULCH, FILTER BARRIERS, ETC.

### SEDIMENT BARRIER BMPS

TEMPORARY SEDIMENT BARRIERS ARE INSTALLED ACROSS OR ALONG THE TOE OF A SLOPE AND INCLUDE ANY OF THE

FILTER BARRIER FENCE, ALSO CALLED SILT FENCE, SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND IN PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL PROVIDE A MINIMUM OF 6 MONTHS USABLE CONSTRUCTION LIFE INCLUDING PROTECTION AGAINST ULTRA-VIOLET LIGHT. THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES INSTALLED AND POST SPACING SHALL NOT EXCEED 6 FEET. JOINTS IN THE FENCE SHALL BE AVOIDED TO THE EXTENT POSSIBLE, AND IF NECESSARY SHALL BE SPLICED TOGETHER AT A SUPPORT POST WITH A MINIMUM 6 INCH OVERLAP. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP, AND THE BOTTOM 6-8 INCHES OF FABRIC SHALL BE "TOED-IN" TO THE TRENCH AND COMPACTED. THE TRENCH SHOULD BE UPHILL OF THE FABRIC PRIOR TO

ROSION CONTROL MIX BERMS ARE LINEAR BARRIERS COMPOSED OF EROSION CONTROL MIX AS SPECIFIED ABOVE. THE BERM MUST BE A MINIMUM OF 12 INCHES TALL AND 24 INCHES WIDE AT THE BASE IF UPHILL SLOPES ARE LESS THAN 5%. STEEPER SLOPES OR SLOPES GREATER THAN 20 FEET LONG MAY REQUIRE A LARGER WIDTH BERM. EROSION CONTROL MIX BERMS AT THE BASE OF A LONG OR STEEP SLOPE MAY ALSO REQUIRE A FILTER FENCE TO BE INSTALLED ON THE DOWNHILL SIDE OF THE BERM TO PROVIDE ADDITIONAL STABILIZATION AGAINST HIGH RUNOFF FLOWS.

CONTINUOUS CONTAINED BERMS, WHICH ARE ALSO REFERRED TO AS A FILTER SOCK, PROVIDES ADDITIONAL STABILITY TO AN EROSION CONTROL MIX BERM AND SHOULD BE USED IN FROZEN GROUND CONDITIONS OR IN AREAS THAT RECEIVE

SEDIMENT BARRIERS SHALL BE INSPECTED AFTER ANY SIGNIFICANT RAINFALL EVENT AND REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE BARRIERS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR EDGES OF THE BARRIER, OR IF LARGE VOLUMES OF WATER ARE IMPOUNDED BEHIND THE BARRIER, IT MAY BE NECESSARY TO REPLACE THE BARRIER WITH A TEMPORARY STONE CHECK DAM. SEDIMENT SHALL BE REMOVED ONCE IT REACHES HALF THE BARRIER HEIGHT. AFTER THE BARRIER IS REMOVED, ANY REMAINING SILT SHALL EITHER BE REMOVED OR GRADED TO CONFORM

### 3. TEMPORARY CHECK DAMS

WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

STONE CHECK DAMS SHALL BE INSTALLED IN SWALES OR DRAINAGE DITCHES TO REDUCE STORMWATER VELOCITIES AS SHOWN ON THE PLANS. STONE CHECK DAMS ARE NOT EFFECTIVE IN REMOVING SEDIMENT AND SHOULD BE USED IN CONJUNCTION WITH SEDIMENT BARRIERS IDENTIFIED ABOVE. TEMPORARY CHECK DAMS MAY BE LEFT IN PLACE PERMANENTLY IN MOST CASES. CHECK DAMS SHOULD BE NO HIGHER THAN 24 INCHES, AND THE CENTER OF THE CHECK DAM MUST BE AT LEAST 6 INCHES LOWER THAN THE OUTSIDE EDGES. CHECK DAMS SHOULD BE SPACED SUCH THAT THE CREST OF TOWN OF SCARBOROUGHTREAM CHECK DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM CHECK DAM. CHECK DAMS IN A DRAINAGE DITCH OR WATERWAY SHOULD BE INSTALLED PRIOR TO DIRECTING RUNOFF TO THEM.

### 4. STORM DRAIN INLET PROTECTION

STORM DRAIN INLETS THAT ARE MADE OPERATIONAL BEFORE THEIR DRAINAGE AREA IS STABILIZED SHALL BE PROTECTED WITH A FILTER UNTIL THE DRAINAGE AREA IS EITHER PAVED OR STABILIZED WITH 95% VEGETATIVE GROWTH. THE FOLLOWING ARE ACCEPTABLE BMPS ASSOCIATED WITH STORM DRAIN INLET PROTECTION:

MANUFACTURED SEDIMENT FILTERS ARE THE PREFERRED METHOD FOR PROTECTING CATCH BASIN INLETS IN PAVED OR GRAVEL ROADWAYS. THE FILTERS TYPICALLY CONSIST OF A FABRIC OR OTHER PERVIOUS MATERIAL THAT IS PLACED ABOVE OR BELOW THE GRATE THAT TRAPS SEDIMENT ON THE SURFACE AND ALLOWS WATER TO FLOW THROUGH THE GRATE. CONSIDERATIONS SUCH AS WEATHER CONDITIONS, SLOPES, TRIBUTARY WATERSHED AREA AND EXPECTED SEDIMENT ACCUMULATION SHOULD BE FACTORED INTO MAKING A DECISION ON ANY PARTICULAR PRODUCT, AND THE MANUFACTURER'S RECOMMENDATIONS ON INSTALLATION AND MAINTENANCE SHALL BE STRICTLY ADHERED TO.

### 5. STABILIZED CONSTRUCTION EXIT

TO REDUCE THE TRACKING OF SEDIMENT ONTO ROADWAYS, A STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED AT ALL POINTS OF EGRESS WHERE VEHICLES MAY TRAVEL FROM THE PROJECT SITE TO A PUBLIC ROAD OR OTHER PAVED AREA. THE STONE PAD SHALL CONSIST OF A MINIMUM 6-INCH DEPTH OF 2-3 INCH CRUSHED STONE, AND SHALL BE PLACED ON A GEOTEXTILE FABRIC. THE PAD SHALL EXTEND AT LEAST 50 FEET INTO THE PROJECT SITE AND BE A MINIMUM OF 10 FEET WIDE. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, AND THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS THAT HAVE EXPERIENCED ANY MUD-TRACKING.

#### DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST ON THE PROJECT SITE AND ON ADJACENT ROADWAYS. EXPOSED SOIL SURFACES SHALL BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST. GRAVEL SURFACES SHALL EITHER BE TREATED WITH AN APPLICATION OF CALCIUM CHLORIDE OR COVERED WITH CRUSHED STONE IF DUST CONTROL BECOMES DIFFICULT WITH NORMAL WATER APPLICATIONS.

#### 7. LAND GRADING AND SLOPE PREPARATION

GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE NEXT PHASE. ANY EXPOSED AREA THAT WILL NOT BE FINISH GRADED WITHIN 14 DAYS SHALL BE TREATED WITH MULCH OR PLANTED WITH TEMPORARY VEGETATION PROVISIONS SHALL BE MADE TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR TO STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS. CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASS SHALL NOT BE STEEPER THAN 2:1. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS. FILL MATERIAL SHALL BE FREE OF STUMPS. BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

IF POSSIBLE, TOPSOIL SHALL BE STOCKPILED ON THE PROJECT SITE AND REUSED. HIGH OUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM), AND SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS AND NOXIOUS WEEDS. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING WITH SUBSOIL. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL, BUT UNDUE COMPACTION IS TO BE AVOIDED.

#### 9 PERMANENT VEGETATION

TO PREPARE THE SEEDBED, APPLY 10-20-20 FERTILIZER AT A RATE OF 800 POUNDS PER ACRE AND GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE. WORK THE FERTILIZER AND LIMESTONE INTO THE TOPSOIL TO A DEPTH OF 4 INCHES AND REMOVE ANY STONES ROOTS OR OTHER VISIBLE DEBRIS. SELECT A SEED MIXTURE THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, AND FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. REFER TO THE USDA SOIL CONSERVATION SERVICE OR THE LOCAL SOIL AND WATER CONSERVATION DISTRICT FOR APPROPRIATE SEED MIXTURES. APPLY SEED UNIFORMLY IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS AND IMMEDIATELY COVER WITH MULCH AS DESCRIBED IN THE TEMPORARY MULCHING SECTION OF THIS PLAN.

### HYDROSEEDING SHALL BE DONE IN ACCORDANCE WITH SUPPLIERS RECOMMENDATIONS.

SOD STRIPS SHALL BE LAID AT RIGHT ANGLES TO DIRECTION OF SLOPE OR FLOW OF WATER STARTING AT LOWEST ELEVATION. JOINTS SHALL BE STAGGERED, AND ALL STRIPS SHALL BE ROLLED OR TAMPED INTO PLACE. ON SLOPES, SOD SHALL BE ANCHORED WITH STAPLES, WIRE OR PINS. IRRIGATE SODDED AREA IMMEDIATELY AFTER INSTALLATION.

### 10. PERMANENT MULCHING

PERMANENT MULCH IS A LONG TERM COVER THAT PROVIDES A GOOD BUFFER AROUND DISTURBED AREAS. THE EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS OR COMPOSTED BARK. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS ARE NOT ACCEPTABLE. THE FROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAINMANTS AND MATERIAL TOXIC TO PLANT GROWTH.

### 2 FACH DUMP EXPANSION RESTRAINT (1/4" NYLON ROPE, 2" FLAT WASHERS) **INSTALLATION DETAIL BAG DETAIL** DUMP STRAP 1" REBAR FOR BAG REMOVAL FROM INLET OPTIONAL METAL HANGING FRAME FOR TRAFFIC CONDITIONS

**INLET PROTECTION (IP)** 

NOT TO SCALE

### TYPICAL FENCE POST AMOCO PROPEX SILT STOP - SEDIMENT CONTROL FABRIC OR APPROVED EQUAL BURY END OF FILTER FABRIC



CONSTRUCTION ENTRANCE PAD SHALL BE INSTALLED AND MAINTAINED DURING OPERATIONS WHICH PROMOTE VEHICULAR

TRACKING OF MUD

GEOTEXTILE FABRIC

ON COMPACTED

SUBGRADE

### **CONSTRUCTION ENTRANCE PAD (CE)** NOT TO SCALE

(2"-4") BROKEN OR

THICKNESS

CRUSHED STONE 8" MIN.

### WINTER EROSION AND SEDIMENTATION CONTROL NOTES

THE WINTER CONSTRUCTION PERIOD TYPICALLY BEGINS IN EARLY NOVEMBER AND ENDS IN MID APRIL. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AN AREA SHALL BE CONSIDERED DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN THE ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. A COVER OF EROSION CONTROL MIX IS THE PREFERRED TEMPORARY MULCH DURING WINTER CONDITIONS.

#### NATURAL RESOURCE PROTECTION

ANY AREAS WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH AN EROSION CONTROL COVER. DURING WINTER CONSTRUCTION, A DOUBLE ROW OF SEDIMENT BARRIERS (FOR EXAMPLE, SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY REGULATED NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE REGULATED NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON ÉITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

### 2. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAY MULCH SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE (TWICE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCHES THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERTY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WITH THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

#### 4. SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STACKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCE.

### 5. SEEDING BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED

MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOOMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF DORMANT SEEDING IS USED, ALL DISTURBED AREAS SHALL RECEIVE 4 INCHES OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS PER 1,000 S.F. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75%) IN THE SPRING SHALL BE REVEGETATED.

#### 6. OVER-WINTER STABILIZATION OF DITCHES AND CHANNELS

ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED BY NOVEMBER 15. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED BY SEPTEMBER 1. IF A GRASS-LINED DITCH OR CHANNEL IS STABILIZED BY SEPTEMBER 1, THEN EITHER A SOD LINING SHALL BE INSTALLED PRIOR TO OCTOBER 1 OR THE DITCH MUST BE LINED WITH STONE RIPRAP PRIOR TO NOVEMBER 15.

#### 7. OVER-WINTER STABILIZATION OF DISTURBED SLOPES

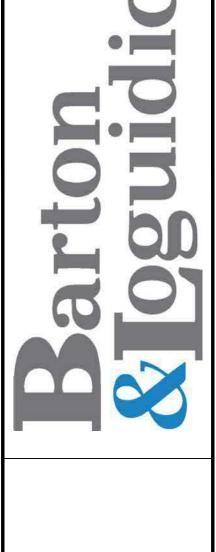
ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. ALL AREAS HAVING A GRADE STEEPER THAN 15% SHALL BE CONSIDERED A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN THE SLOPE SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS BY OCTOBER 1, SOD BY OCTOBER 1, EROSION CONTROL MIX BY NOVEMBER 15 OR STONE RIPRAP BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

#### 8. OVER-WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN THE AREA SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION BY OCTOBER 1, SOD BY OCTOBER 1, OR MULCH BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.

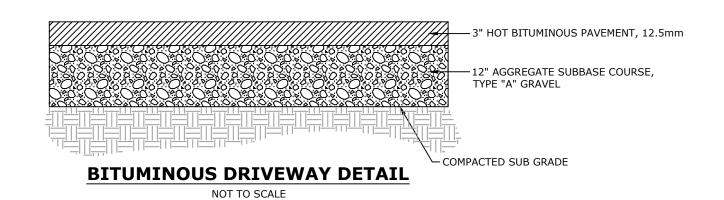
#### MAINTENANCE

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85% OF AREAS VEGETATED WITH VIGOROUS GROWTH.



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EME **IMPROV** OR OF NMO.



1.5" HOT BITUMINOUS PAVEMENT, 12.5mm

2.5" HOT BITUMINOUS PAVEMENT, 19.0mm

2.5" HOT BITUMINOUS PAVEMENT, 19.0mm

6" AGGREGATE SUBBASE COURSE, TYPE "A" GRAVEL

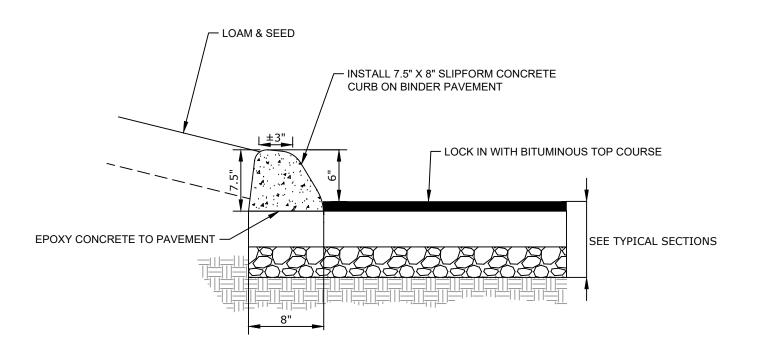
18" AGGREGATE SUBBASE COURSE, TYPE "D" GRAVEL

18" AGGREGATE SUBBASE COURSE, TYPE "D" GRAVEL

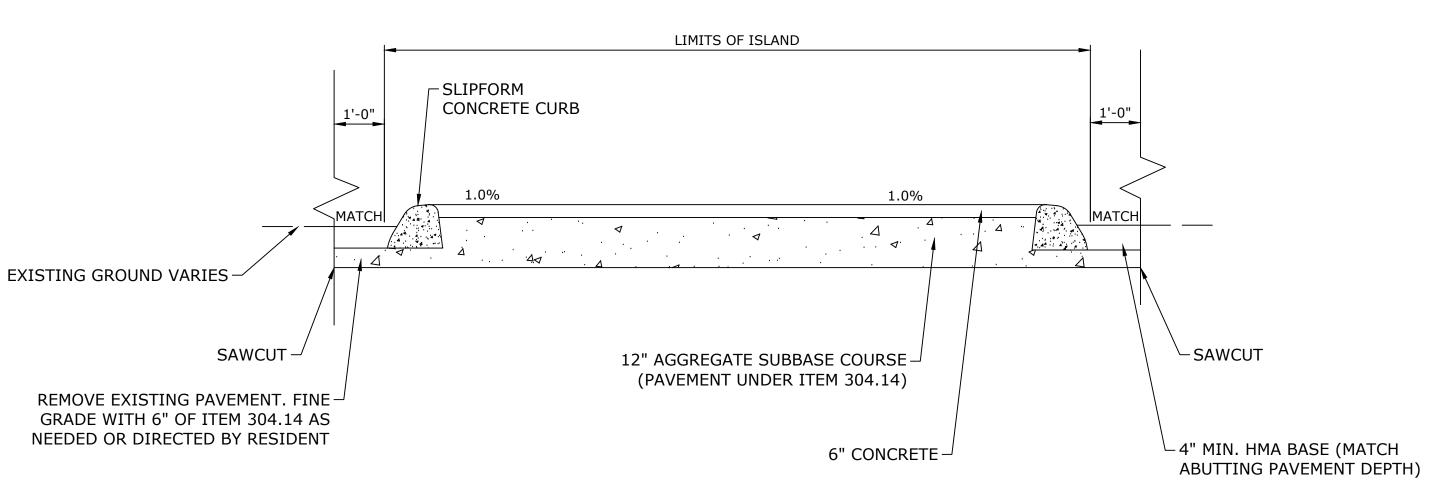
18" AGGREGATE SUBBASE COURSE, TYPE "D" GRAVEL

UNDISTURBED SUB GRADE

### FULL-DEPTH CONSTRUCTION DETAIL

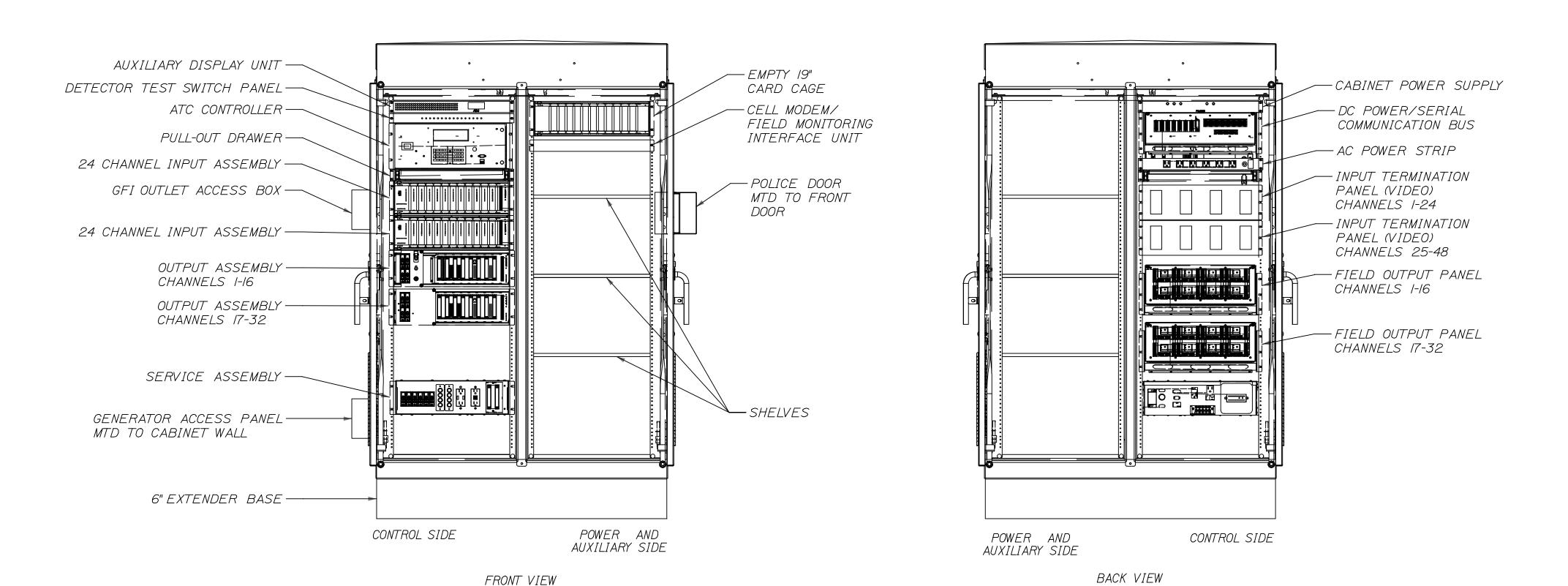


### SLIPFORM CONCRETE CURB DIRECT ON BINDER PAVEMENT NOT TO SCALE

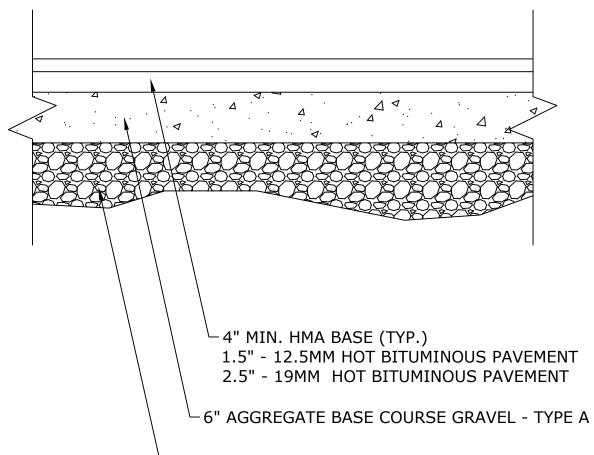


### RAISED ISLAND SECTION (GORHAM ROAD)

NOT TO SCALE



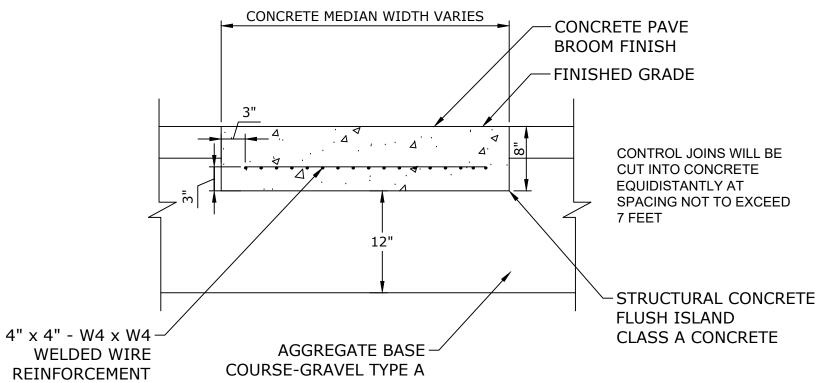
MaineDOT 32/48 ATC CABINET
NOT TO SCALE



EXISTING SUBBASE GRAVEL TO REMAIN IN PLACE. REPLACE UNSUITABLE WITH ITEM 304.10 AS DIRECTED BY RESIDENT

### TYPICAL FULL DEPTH PAVEMENT RESTORATION AT ISLANDS

NOT TO SCALE



### FLUSH CONCRETE ROADWAY MEDIAN

NOT TO SCALE

### CONCRETE NOTES:

- APPLY A TACK COAT (ITEM 409.15) TO ALL VERTICAL JOINTS PRIOR TO PLACEMENT OF ADJACENT HOT MIX ASPHALT.
- 2. CONSTRUCT CONCRETE MEDIAN WITH CLASS A CONCRETE CONFORMING TO SPECIFIED SUBGRADE AS DIRECTED BY THE RESIDENT. CONCRETE SHALL CONTAIN HIGH-RANGE WATER REDUCING ADMIXTURE (SUBSECTION 701.0401)
- AND SILICA FUME ADDITIVE.

  3. FILL ALL EXPANSION JOINTS AND SEAL WITH AN APPROVED JOINT SEALANT.

  4. ALL WORK DESCRIBED, INCLUDING REINFORCEMENT, WILL BE INCIDENTAL TO ITEM 502.341 STRUCTURAL CONCRETE ROADWAY MEDIAN. UNLESS
- OTHERWISE NOTED.
  5. CONSTRUCT EXPANSION JOINTS AT 10' SPACING.

### ATC CABINET NOTES:

- DRAWING SHOWN IS A SCHEMATIC REPRESENTATION OF THE ATC CABINET DEPICTING THE RELATIVE LOCATION OF VARIOUS IN-CABINET DEVICED AND SUBASSEMBLIES. THE EXACT SIZE OF VARIOUS ELEMENTS MAY VARY PER MANUFACTURER.
- 2. INPUT TERMINATION PANEL SHOWN IS FOR VIDEO BASED INPUTS.
- 3. DRAWING DEPICTS TWO INPUT PANELS AND TWO OUTPUT PANELS. THIS QUANTITY MAY BE REDUCED DEPENDING ON APPLICATION: SEE SPECIAL PROVISIONS FOR NUMBER OF PANELS TO BE SUPPLIED.
- 4. FAN AND THERMOSTAT SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR.
- 5. LED LIGHT STRIPS SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR AND ON THE UNDERSIDE OF THE LOWER SHELF.
- 6. ATC CABINETS TO BE SIEMENS MODEL. SEE ADDITIONAL NOTES SHEET NL-1.

NOMINAL TERMINAL PANEL SIZE PER 24 INPUT RACK: LOOP = 6U HIGH (10.5") VIDEO = 3U HIGH (5.25")

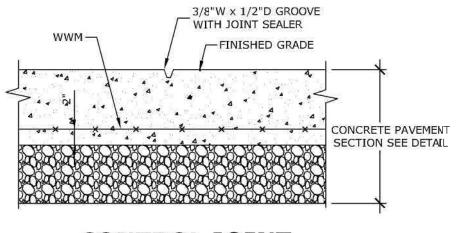
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TOWN OF SCARBOROUGH NTERSECTION IMPROVEMEN

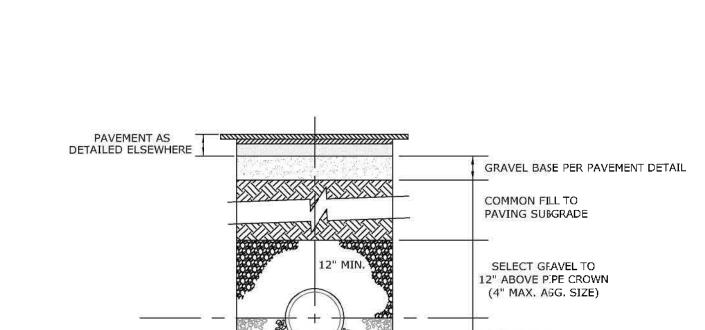
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**D-1** 



CONTROL JOINT



3/4" STONE PIPE BEDDING CRUSHED AND WASHED

NOTES:

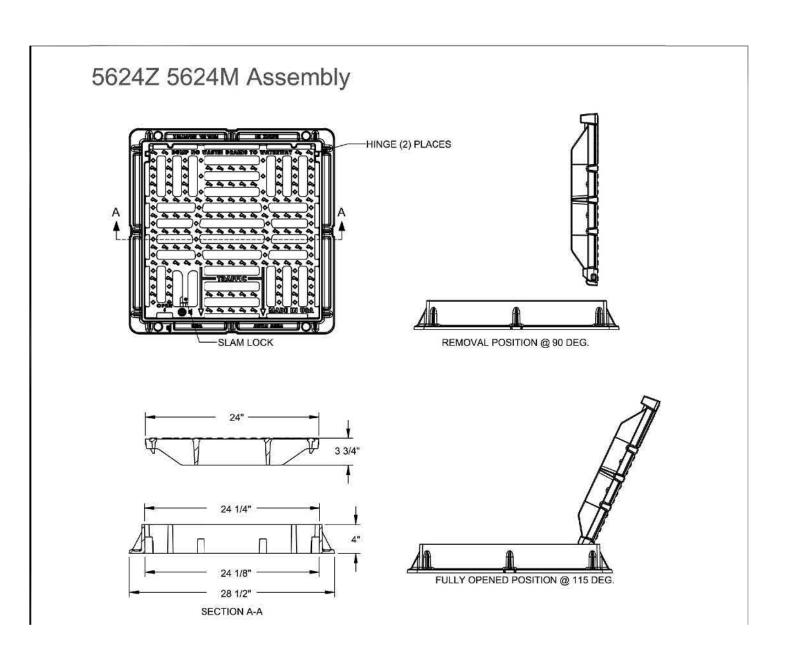
- INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAMS IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100 FEET TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNELED ALONG BEDDING/INITIAL BACKFILL
- GRAVEL BORROW AND CRUSHED STONE ARE INCIDENTAL TO CULVERT PIPE PAY ITEM.

TRENCH WIDTH
PIPE DIAMETER + 2'-0"

3. BID ALTERNATE 1 ONLY.

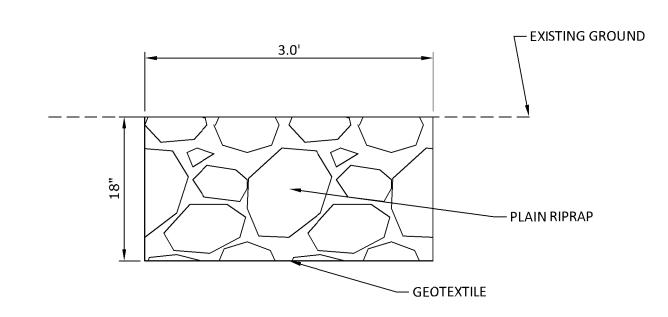
TYPICAL TRENCH SECTION

NOT TO SCALE



### **REXUS CATCH BASIN GRATE DETAIL**

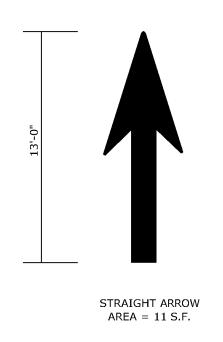
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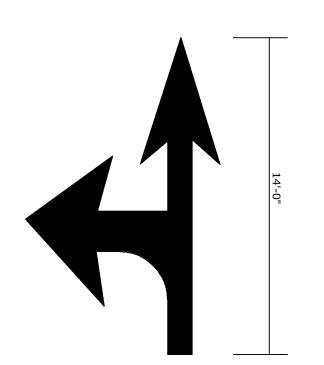


NOTE: BID ALTERNATES 1 & 3 ONLY.

### 3' X 3' RIPRAP PAD

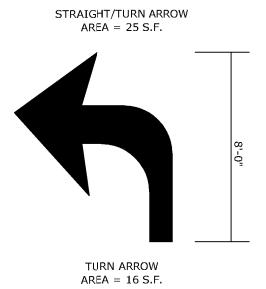
NOT TO SCALE





.0-,8

LEGEND ONLY AREA = 22 S.F.



TRAFFIC PAVEMENT MARKINGS

NOT TO SCALE

LENGTH VARIES - SEE PLANS

STOP BAR PAVEMENT MARKINGS

NOT TO SCALE

Barton & Toguidic

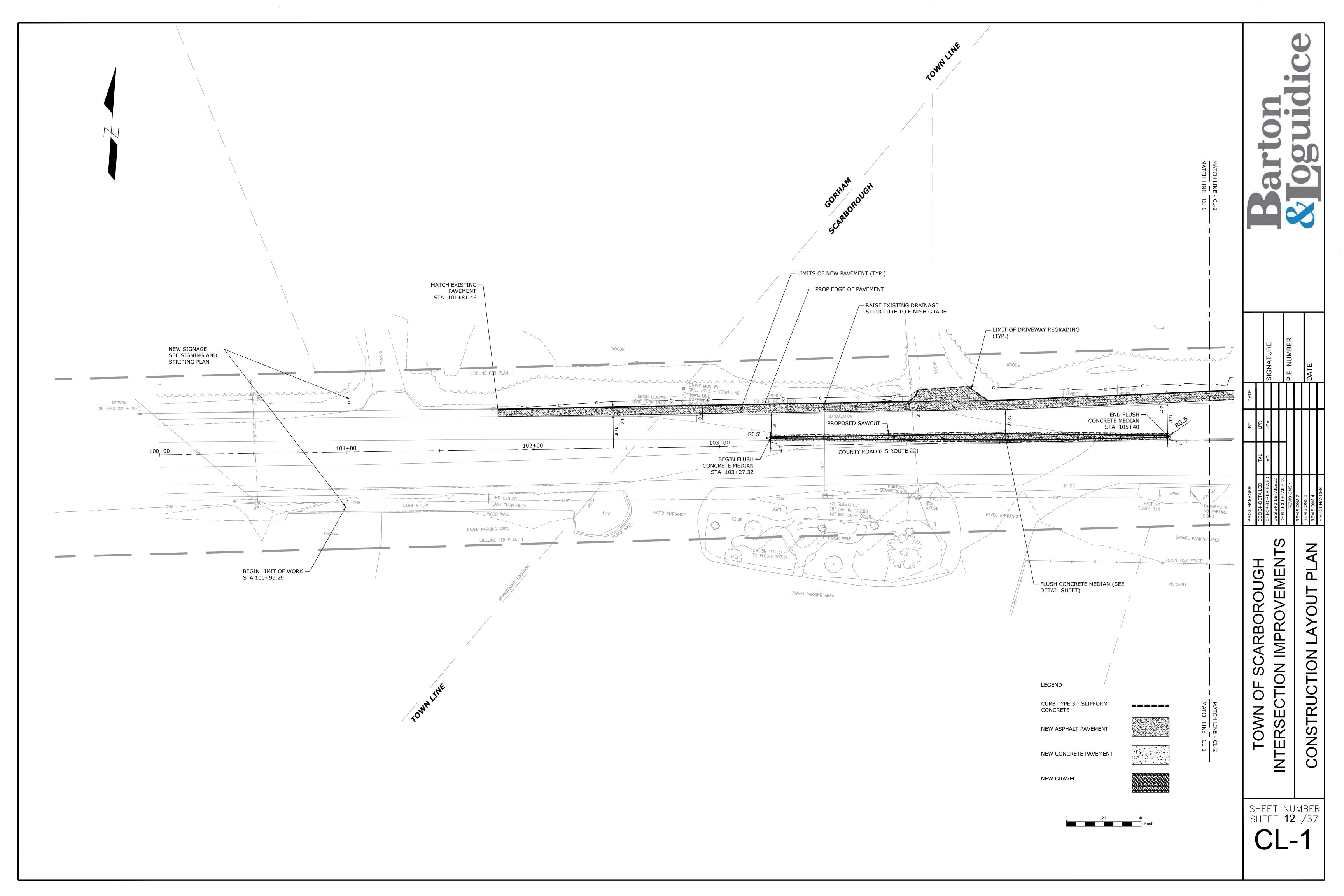
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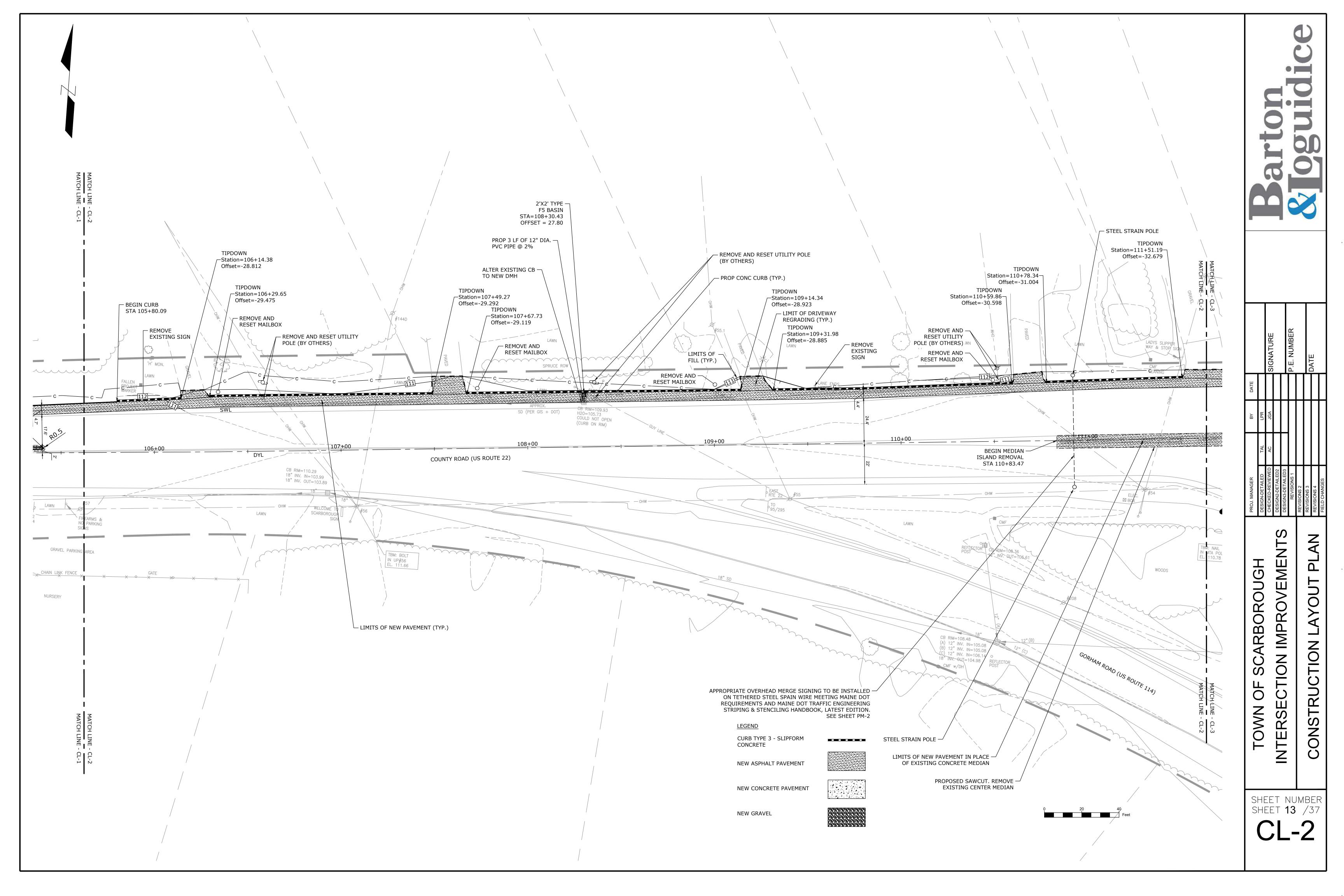
TOWN OF SCARBOROUGH TERSECTION IMPROVEMENTS

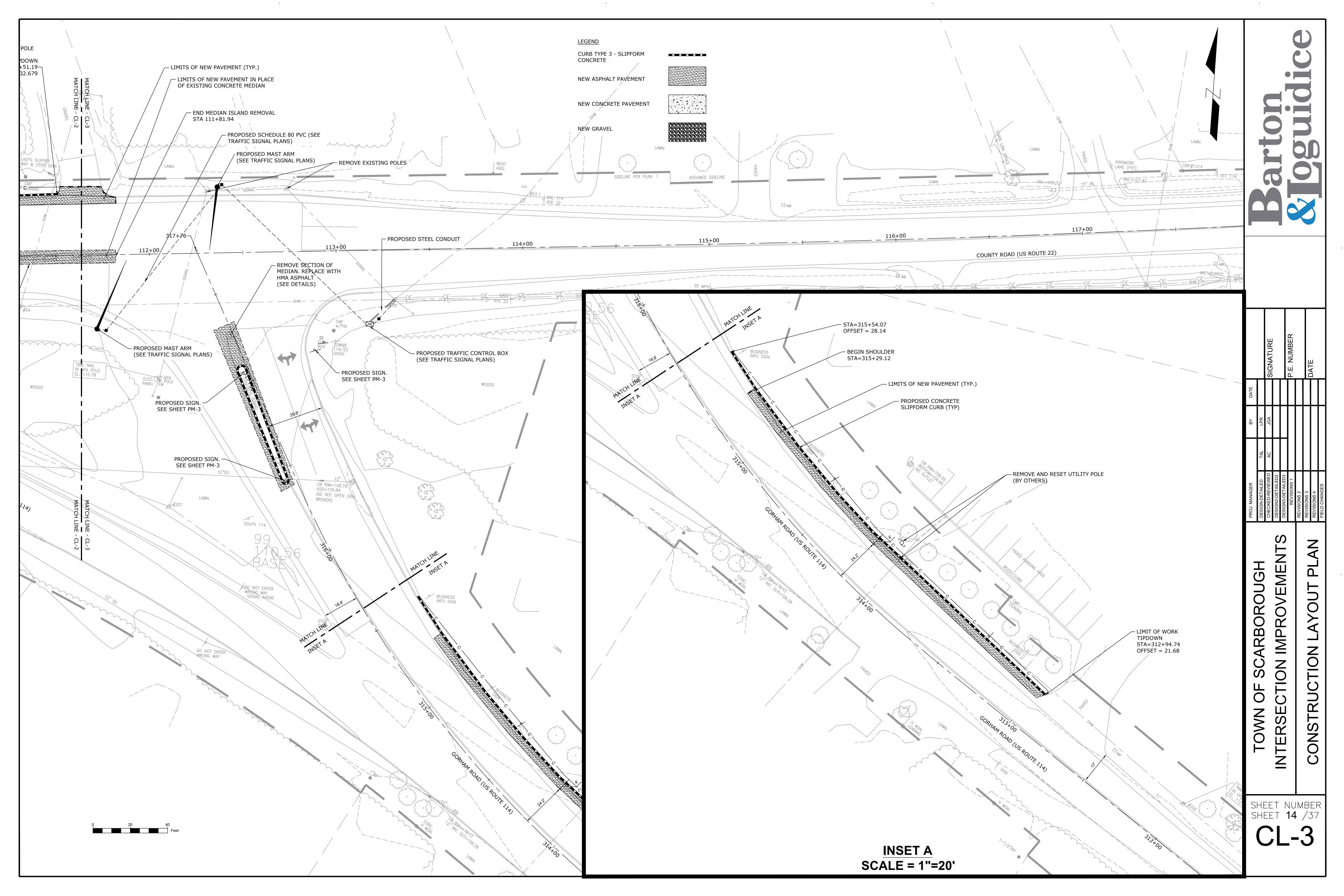
DETAILS

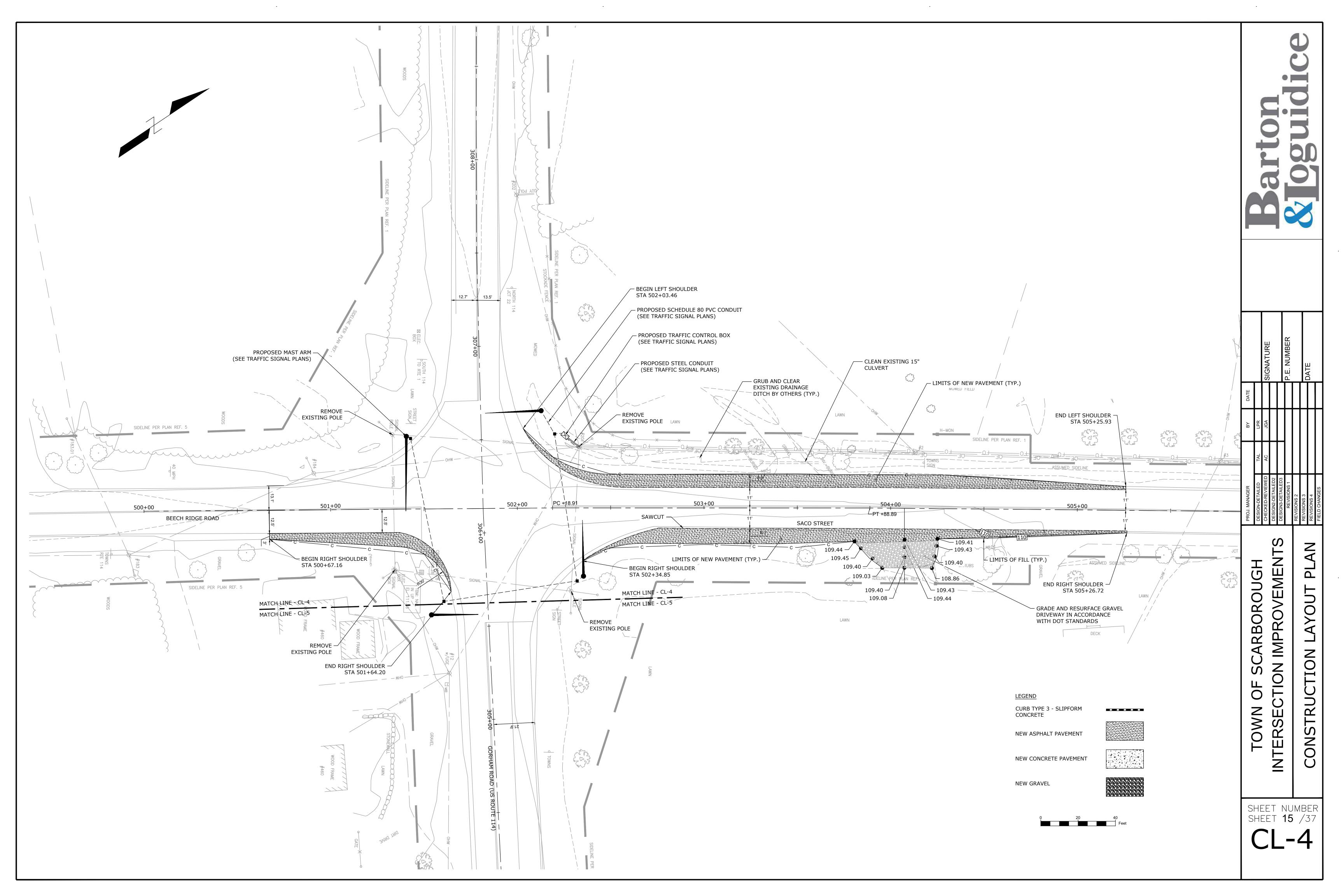
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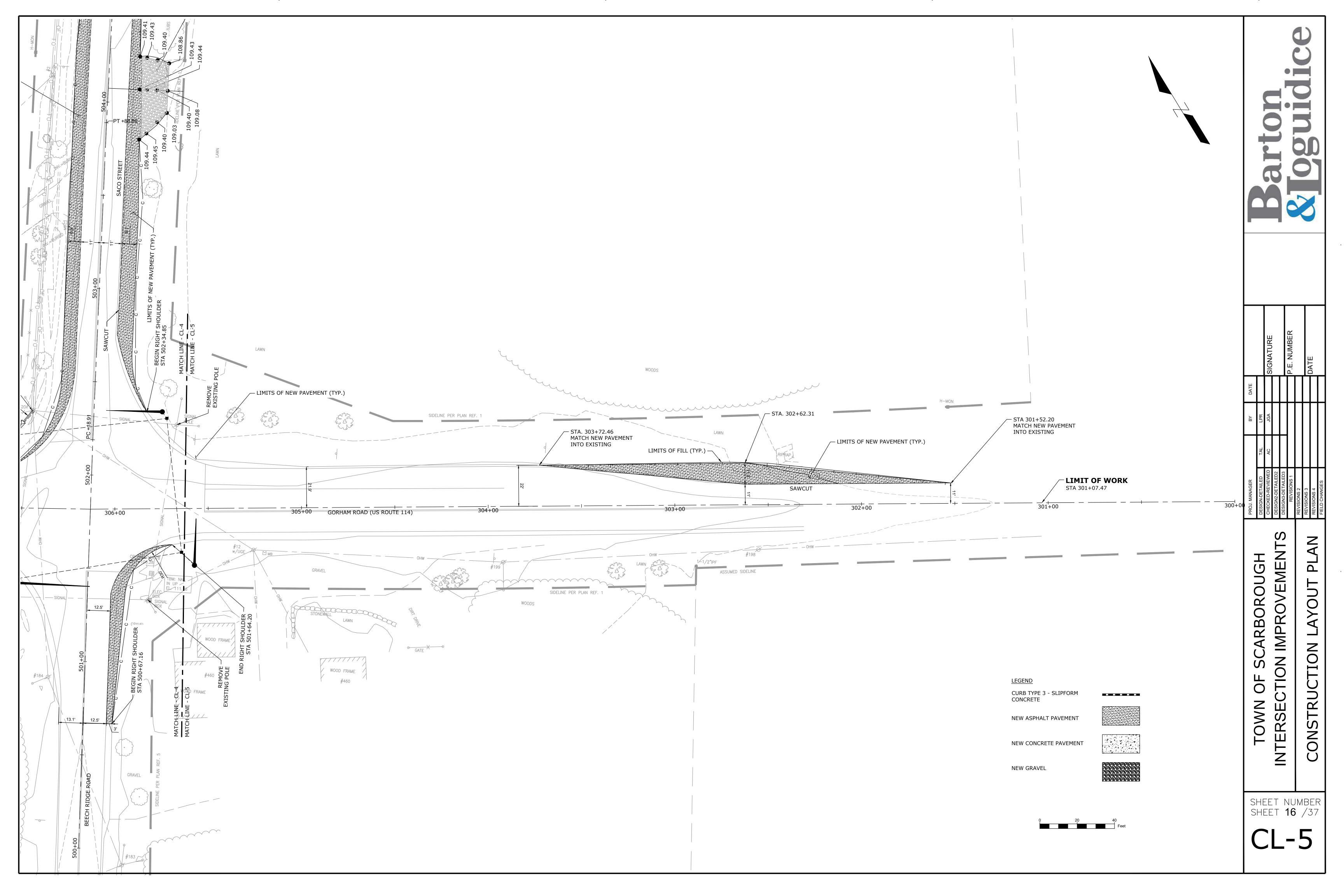
D-2

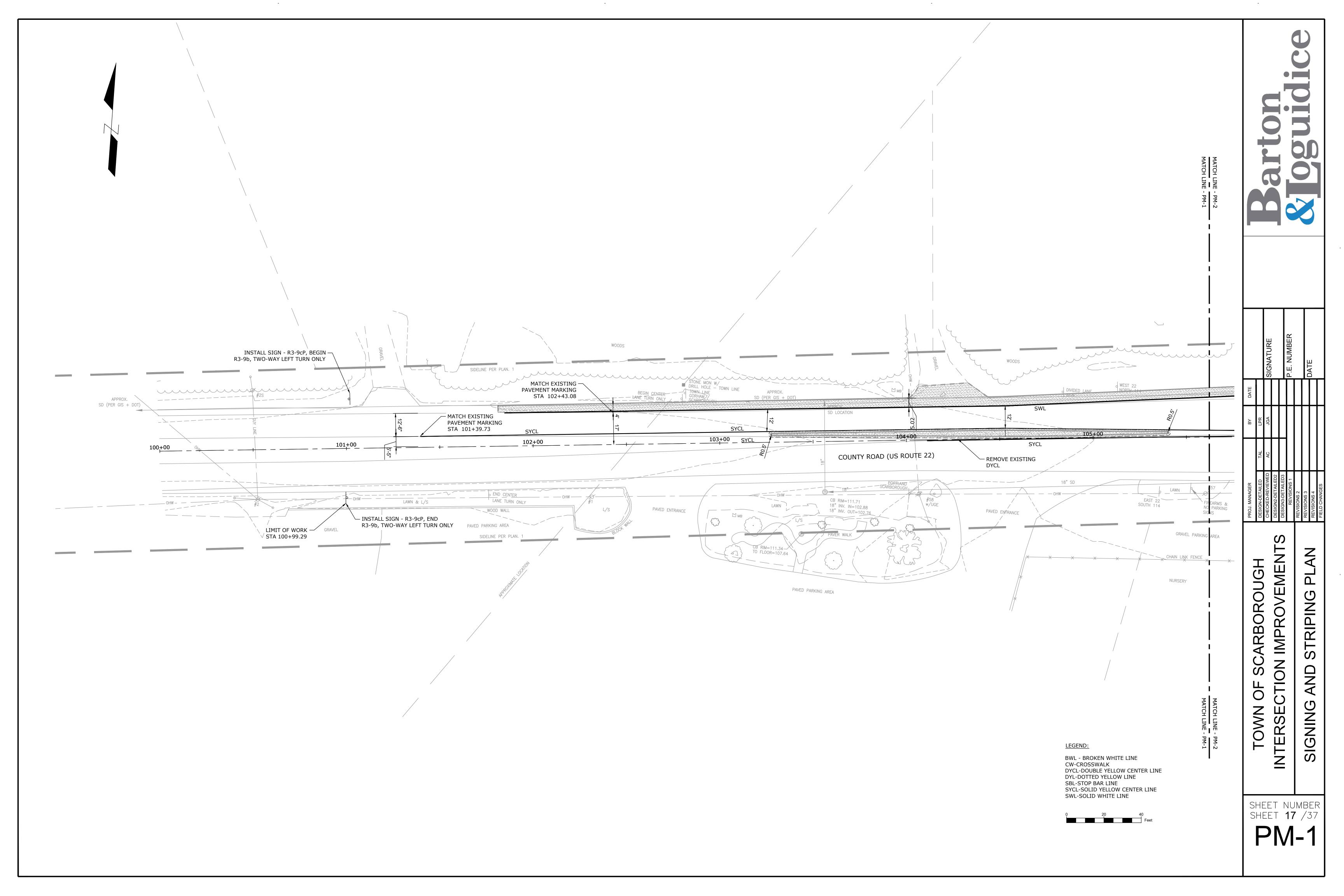


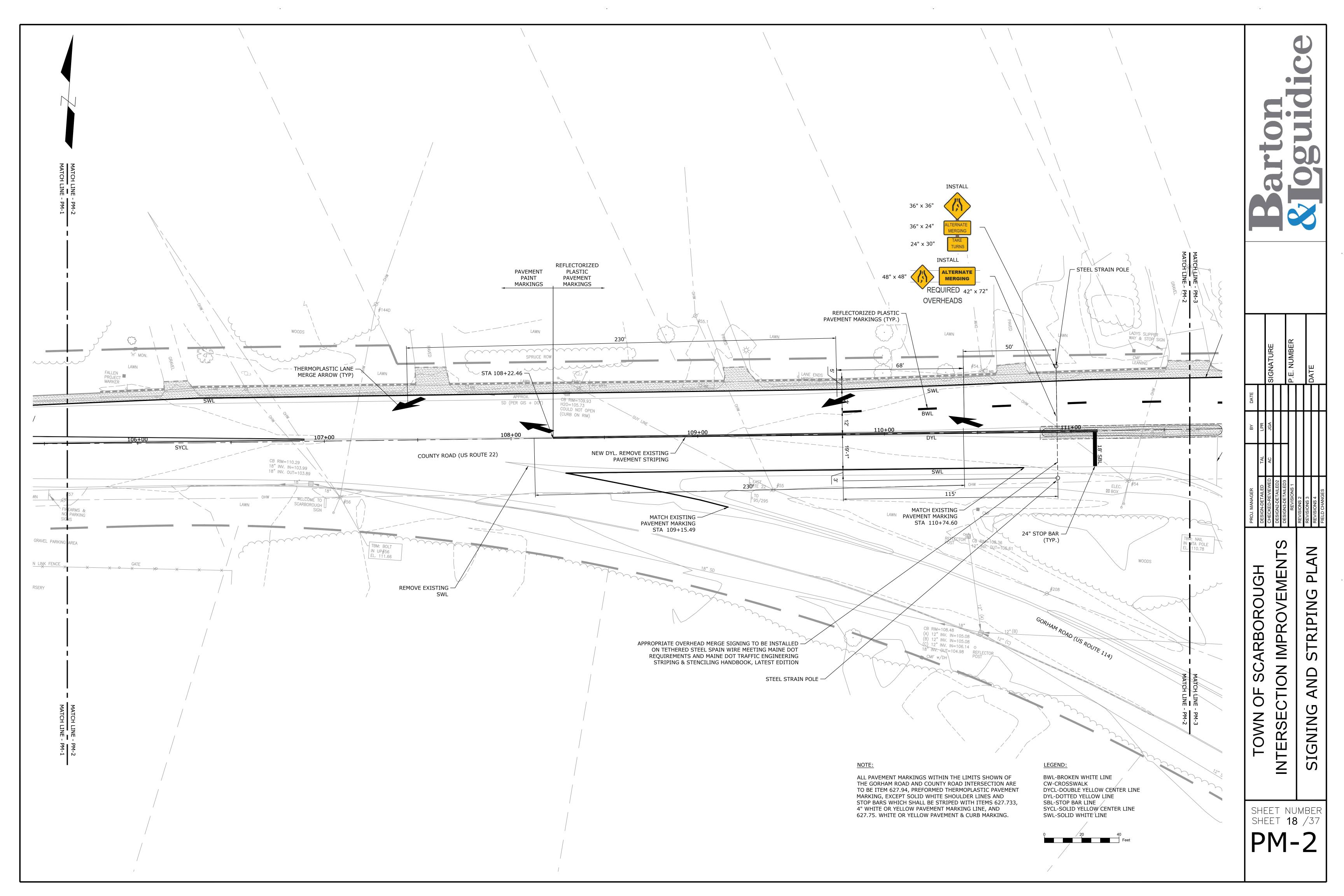


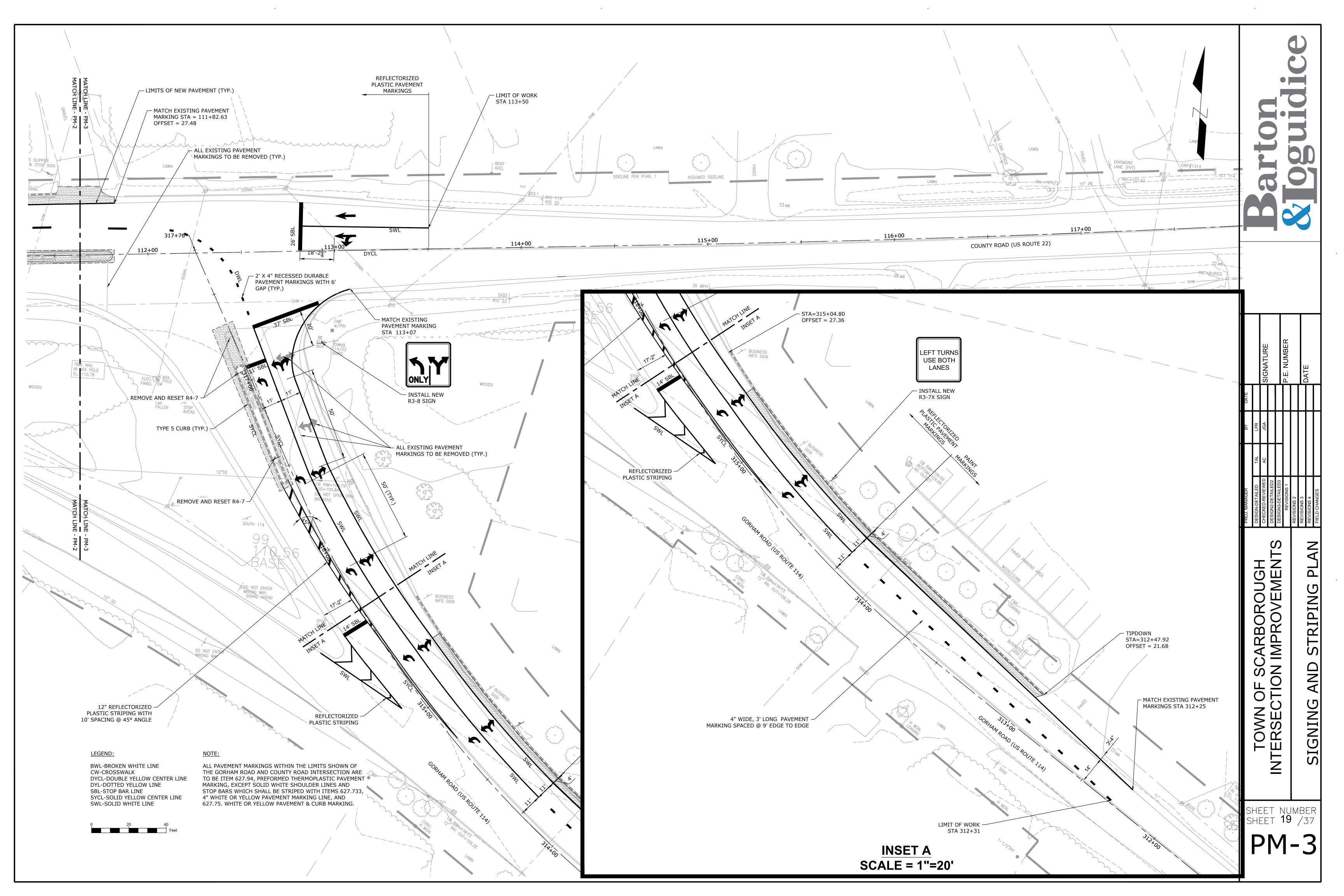


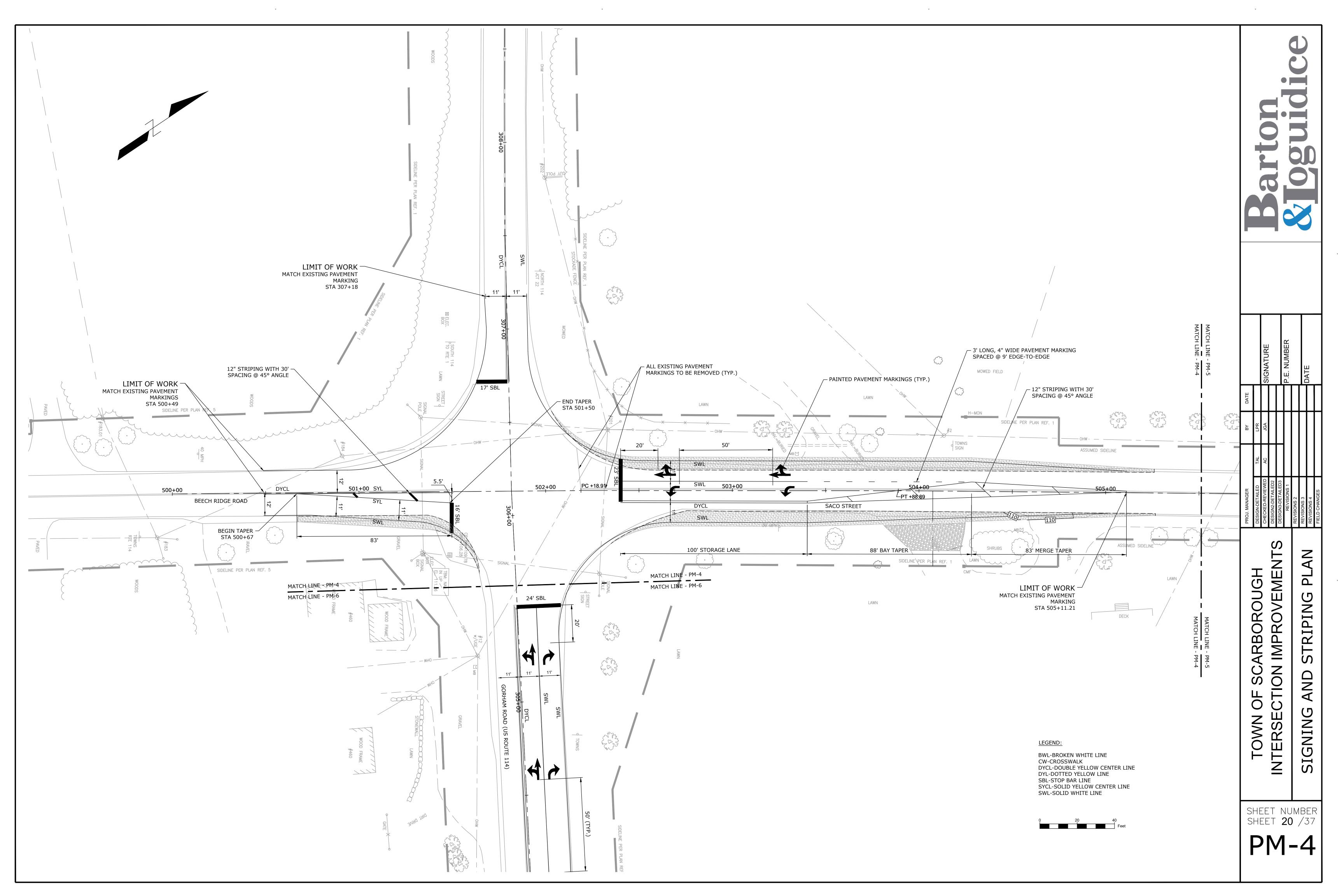


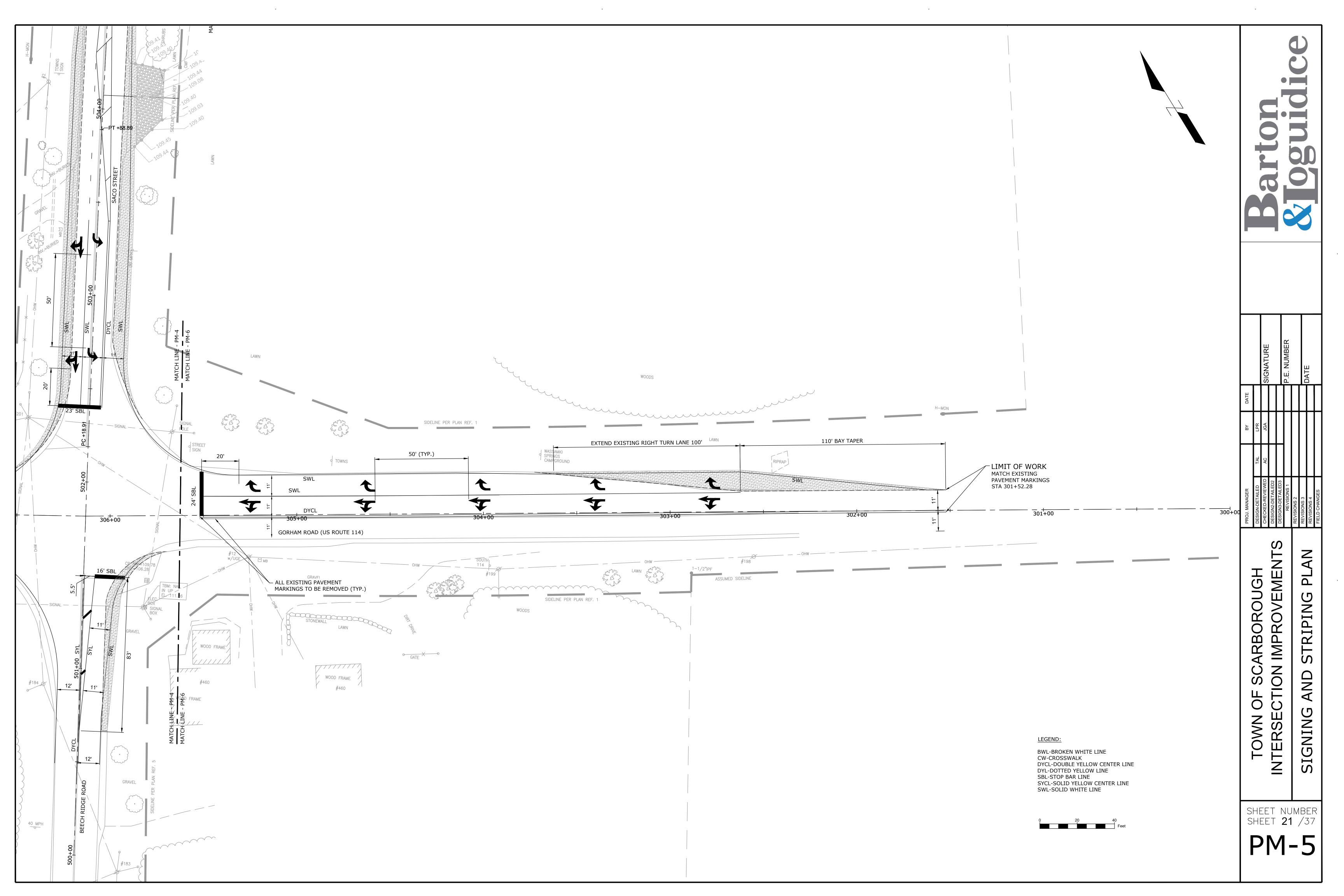


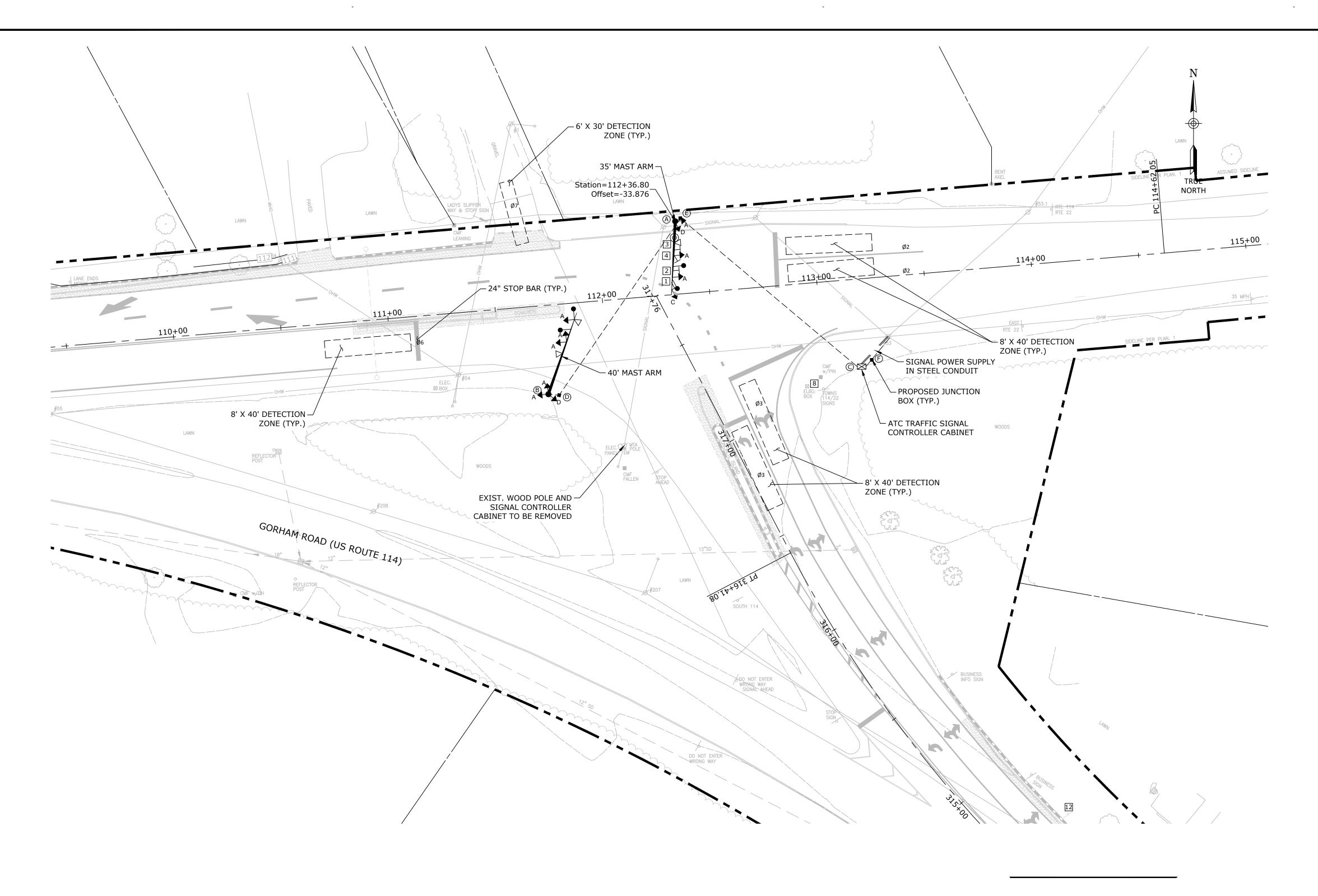












1. CONTRACTOR TO VERIFY ALL UTILITIES PRIOR TO START OF

2. INSTALL NEW STREET LIGHTS ON TOP OF ALL NEW MAST ARM

AND CONNECTION TO BACK-UP POWER LINES.

A PROPOSED 35' MAST ARMS ON NEW FOUNDATION:

(B) PROPOSED 40' MAST ARM ON NEW FOUNDATION:

D PRE-CAST CONCRETE JUNCTION BOX

E PRE-CAST CONCRETE JUNCTION BOX

F PRE-CAST CONCRETE JUNCTION BOX

© PROPOSED ATC TRAFFIC SIGNAL CONTROLLER CABINET

STRUCTURES PER TOWN OF SCARBOROUGH STANDARDS.

DISCREPANCIES.

STRUCTURE TABLE:

CONSTRUCTION AND SHALL NOTIFY THE ENGINEER IF THERE ARE ANY

3. CONTRACTOR TO COORDINATE WITH TOWN STAFF ON CONNECTION TO TRAFFIC SIGNALS WITH EXISTING FIBER OPTIC COMMUNICATION LINES

4. ALL PROPOSED MAST ARMS WILL BE DUAL PURPOSE WITH STREET LIGHT.

LOCATION

STA: 112+36.7, OFFSET: 33.8 L

STA: 111+71.3, OFFSET: 41.2 R

STA: 113+17.3, OFFSET: 40.8 R

STA: 111+76.2, OFFSET: 42.1 R

STA: 112+39.3, OFFSET: 35.0 L

STA: 113+22.4, OFFSET: 37.8 R

### SIGNAL TIMING

	Ø1	Ø2	Øз	Ø4	Ø5	Ø6	Ø7	Ø8
MIN GREEN		5	5			5	3	
EXTENSION		3	3			3	3	
MAX I		40	40			40	6	
VEH. CLEAR		3.5	3.5			3.5	3	
RED CLEAR		2.5	2.5			2.5	5.0	
ADVANCE WALK*								
WALK								
PED CLEAR								
DYNAMIC MAX								
DYNAMIC STEP								
RECALL		SOFT				SOFT		
DET. MEMORY		OFF	OFF			OFF	OFF	
FLASH		R	R			R	R	
DUAL ENTRY		ON				ON		

### SIGNAL TIMING NOTES

- SIGNAL TO OPERATE ON COLORS AT ALL TIMES
- FLASH MODE IS FOR EMERGENCIES ONLY.
- TIMES SHOWN ARE FOR FREE OPERATION ONLY.
- INTENT IS FOR TRAFFIC SIGNAL TO OPERATE IN TRAFFIC ADAPTIVE MODES, USING INSYNC TRAFFIC ADAPTIVE SYSTEM, BY RHYTHM ENGINEERING, IN COORDINATION WITH TRAFFIC SIGNALS AT GORHAM RD AND SACO ST, AND COUNTY RD AT SACO ST.

### **LEGEND**

- TRAFFIC SIGN
- SIGNAL HEAD
- PROPOSED HAWKEYE RADAR DETECTION
- PROPOSED GROUND MOUNTED ATC SIGNAL CONTROLLER
- PROPOSED 12"X12" ELECTRICAL JUNCTION BOX (ME DOT ITEM 626.11)
- PROPOSED DUAL PURPOSE STEEL MAST ARM

3" SCHEDULE 80 PVC CONDUIT

2" STEEL CONDUIT (ONLY FOR POWER SOURCE TO CONTROLLER CABINET)

EMERGENCY PRE-EMPTION DETECTOR

**EMERGENCY PRE-EMPTION INFRACTION STROBE** 

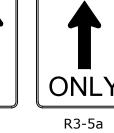
PROPOSED SIGN LEGEND

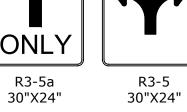
R3-5L 30"X24"

QTY: 1

30"X24"

QTY: 1





QTY: 1 QTY: 1

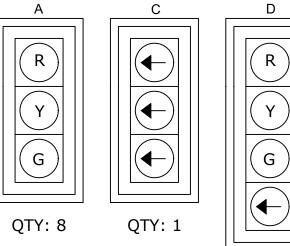


LANES

36"X36" 36"X36" (WITH CUSTOM MESSAGE)

NOTE: SIGNS 8 AND 12 TO BE MOUNTED ON BREAKAWAY WOOD POSTS MEETING MDOT SPECIFICATIONS.

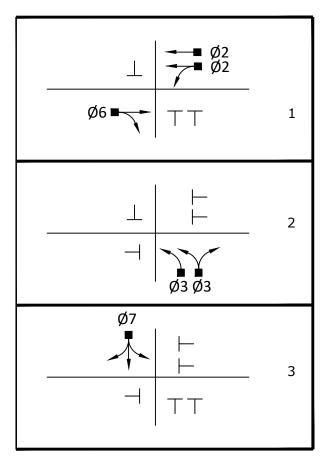
### PROPOSED SIGNAL INDICATIONS



QTY: 2

NOTE: ALL INDICATIONS SHALL BE 12 INCH LIGHT EMITTING DIODES, RIGID MOUNTED AND INCLUDE 5" LOUVERED BACK PLATES WITH 3" YELLOW REFLECTIVE TAPE BORDERS. THE RETRO REFLECTIVE TAPE SHALL NOT EXTEND INTO OR COVER ANY PART OF THE LOUVERED AREA.

### TYPICAL PHASE SEQUENCE



0 25 50 Feet SCALE 1" = 25'

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PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN2-DETAILED2	DESIGN3-DETAILED3	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

SIGNAL

ARBOROUGH

OF

TOWN

SHEET NUMBER SHEET **22** /37



### NOTES:

- CONTRACTOR TO VERIFY ALL UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL NOTIFY THE ENGINEER IF THERE ARE ANY DISCREPANCIES.
- INSTALL NEW STREET LIGHTS ON TOP OF ALL NEW MAST ARM STRUCTURES PER MAINE DOT AND TOWN OF SCARBOROUGH STANDARDS.
- 3. CONTRACTOR TO COORDINATE WITH TOWN STAFF ON CONNECTION TO TRAFFIC SIGNALS WITH EXISTING FIBER OPTIC COMMUNICATION LINES AND CONNECTION TO BACK-UP POWER.
- 4. ALL PROPOSED MAST ARMS WILL BE DUAL PURPOSE WITH STREET LIGHT.

STRU	CTURE TABLE:	LOCATION
A	PROPOSED 30' MAST ARM ON NEW FOUNDATION:	STA: 306+64.6, OFFSET: 32.6 R
$\bigcirc$ B	PROPOSED 30' MAST ARM ON NEW FOUNDATION:	STA: 305+74.9, OFFSET: 52.5 R
<b>©</b>	PROPOSED 25' MAST ARM ON NEW FOUNDATION:	STA: 305+57.3, OFFSET: 29.7 L
<b>(D)</b>	PROPOSED 40' MAST ARM ON NEW FOUNDATION:	STA: 306+52.9, OFFSET: 39.9 L
E	PROPOSED ATC TRAFFIC SIGNAL CONTROLLER CABINET	STA: 306+50.9, OFFSET: 45.1 R
F	PRE-CAST CONRETE JUNCTION BOX	STA: 306+52.0, OFFSET: 39.5 R
G	PRE-CAST CONCRETE JUNCTION BOX	STA: 305+72.5, OFFSET: 48.9 R
$\bigcirc$	PRE-CAST CONCRETE JUNCTION BOX	STA: 305+64.2, OFFSET: 22.9 L
	PRE-CAST CONCRETE JUNCTION BOX	STA: 306+51.7, OFFSET: 37.5 L

### SIGNAL TIMING

	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
MIN GREEN		5		5		5	5	5
EXTENSION		3		3		3	3	3
MAX I		40		20		40	15	20
VEH. CLEAR		3.5		3		3.5	3	3
RED CLEAR		2		2		2	2	2
ADVANCE WALK*								
WALK								
PED CLEAR								
DYNAMIC MAX								
DYNAMIC STEP								
RECALL		SOFT				SOFT		
DET. MEMORY		OFF		OFF		OFF	OFF	OFF
FLASH		R		R		R	BLANK	R
DUAL ENTRY		ON		ON		ON		

### SIGNAL TIMING NOTES

- 1. SIGNAL TO OPERATE ON COLORS AT ALL TIMES
- 2. FLASH MODE IS FOR EMERGENCIES ONLY.
- 3. TIMES SHOWN ARE FOR FREE OPERATION ONLY.
- 4. INTENT IS FOR TRAFFIC SIGNAL TO OPERATE IN TRAFFIC ADAPTIVE MODES, USING IN SYNC TRAFFIC ADAPTIVE SYSTEM, BY RHYTHM ENGINEERING, IN COORDINATION WITH TRAFFIC SIGNALS AT GORHAM RD AT COUNTY RD, AND COUNTY RD AT SACO ST.

### LEGEND

- TRAFFIC SIGN
- SIGNAL HEAD
- PROPOSED HAWKEYE RADAR DETECTION
- COUNTDOWN PEDESTRIAN HEAD WITH PUSH BUTTON ASSEMBLY AND SIGN (SUPPLIED BY CITY)
- PROPOSED 12"X12" ELECTRICAL JUNCTION BOX (ME DOT ITEM 626.11)
  - ALUMINUM SIGNAL POST AND FOUNDATION (SEE LABELS)
  - PROPOSED DUAL PURPOSE STEEL MAST ARM
- ---- 3" SCHEDULE 80 PVC CONDUIT
  - 2" STEEL CONDUIT (ONLY FOR POWER SOURCE TO
  - CONTROLLER CABINET)
- EMERGENCY PRE-EMPTION DETECTOR
- © EMERGENCY PRE-EMPTION INFRACTION STROBE

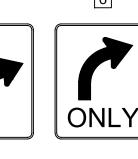
### PROPOSED SIGN LEGEND

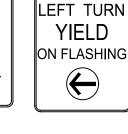
R3-6L

30"X24"

QTY: 1

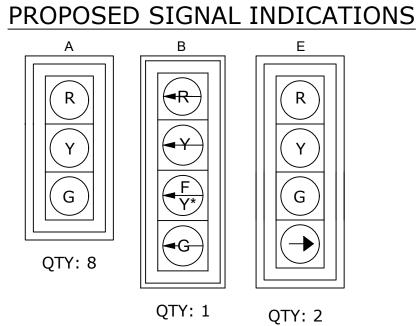






R3-5L 30"X24" QTY: 1 R3-6R 30"X24" QTY: 1 R3-5R 30"X24" QTY: 1 R10-12a 30"X36" QTY: 1

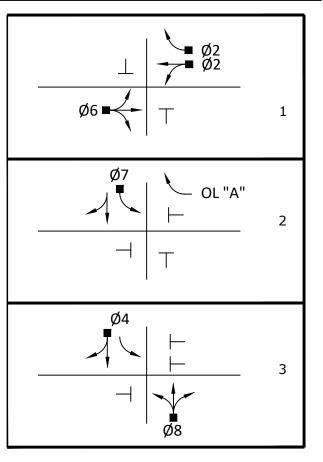
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NOTE: ALL INDICATIONS SHALL BE 12 INCH LIGHT EMITTING DIODES, RIGID MOUNTED AND INCLUDE 5" LOUVERED BACK PLATES WITH 3" YELLOW REFLECTIVE TAPE BORDERS. THE RETRO REFLECTIVE TAPE SHALL NOT EXTEND INTO OR COVER ANY PART OF THE LOUVERED AREA.

\*SHALL NOT BE DISPLAYED WHEN OPERATING IN PROTECTED ONLY MODE

### TYPICAL PHASE SEQUENCE



SHEET NUMBER SHEET 23/37

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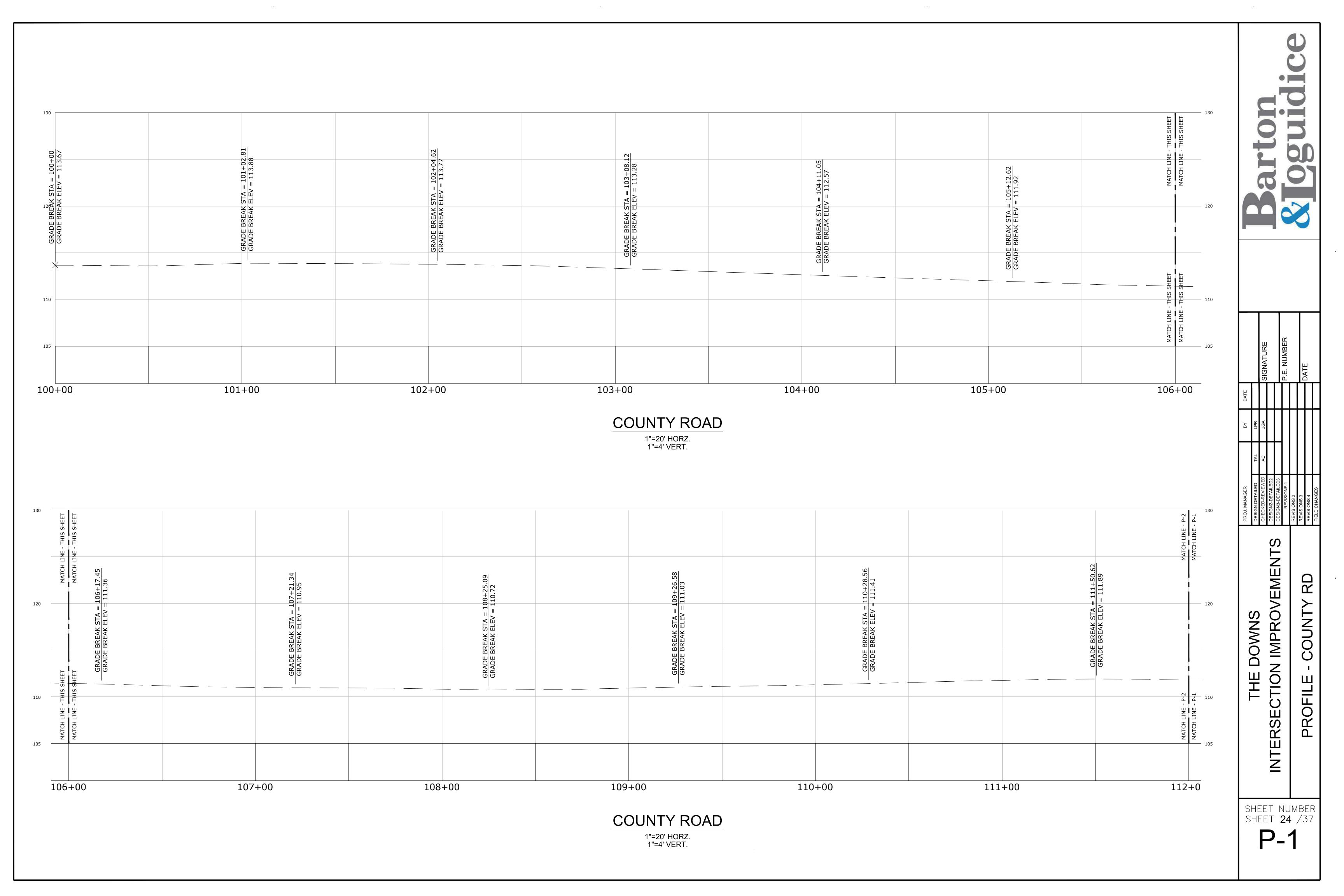
SIGNAL

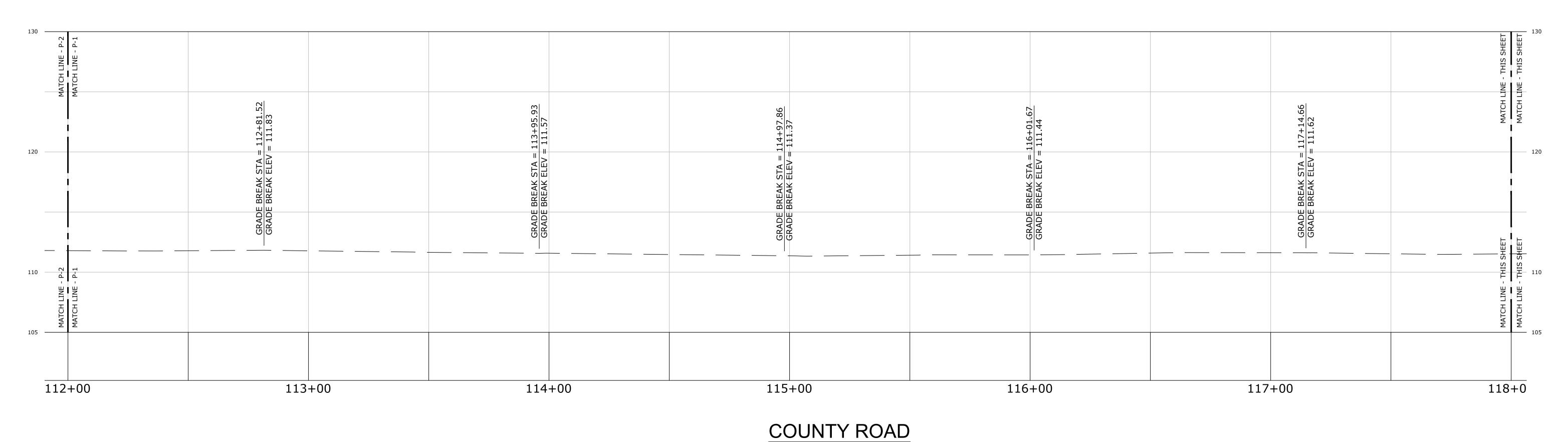
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SCALE 1" = 25'



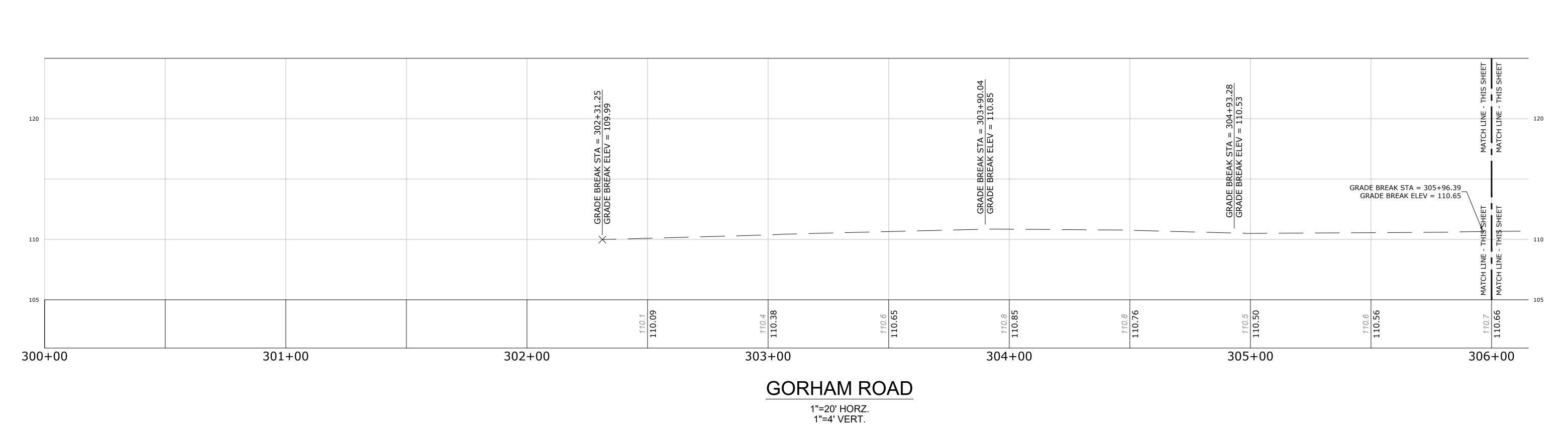


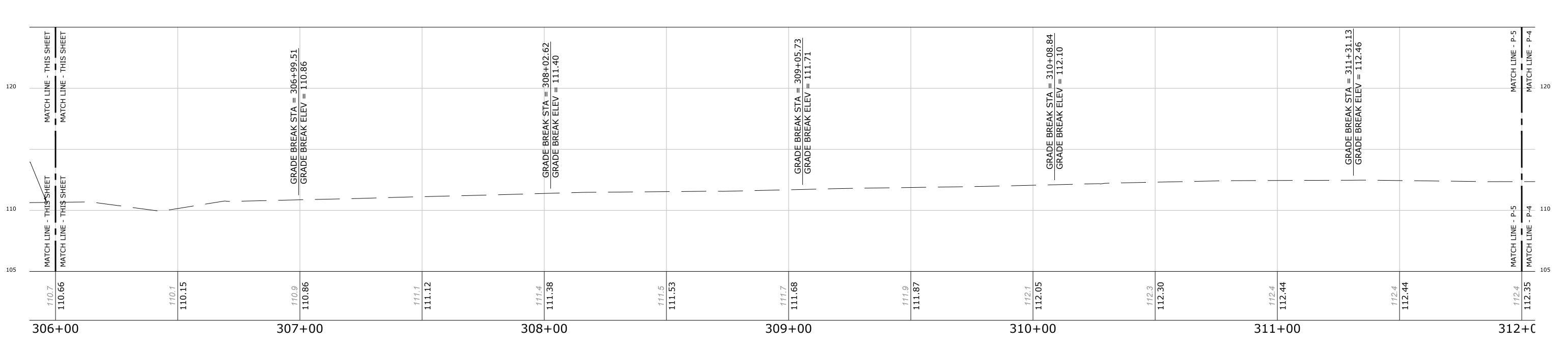
1"=20' HORZ. 1"=4' VERT.

COUNTY PROFILE

INTERSECTION IMPROVEMENTS THE DOWNS

SHEET NUMBER SHEET **25** /37





### GORHAM ROAD

1"=20' HORZ. 1"=4' VERT.

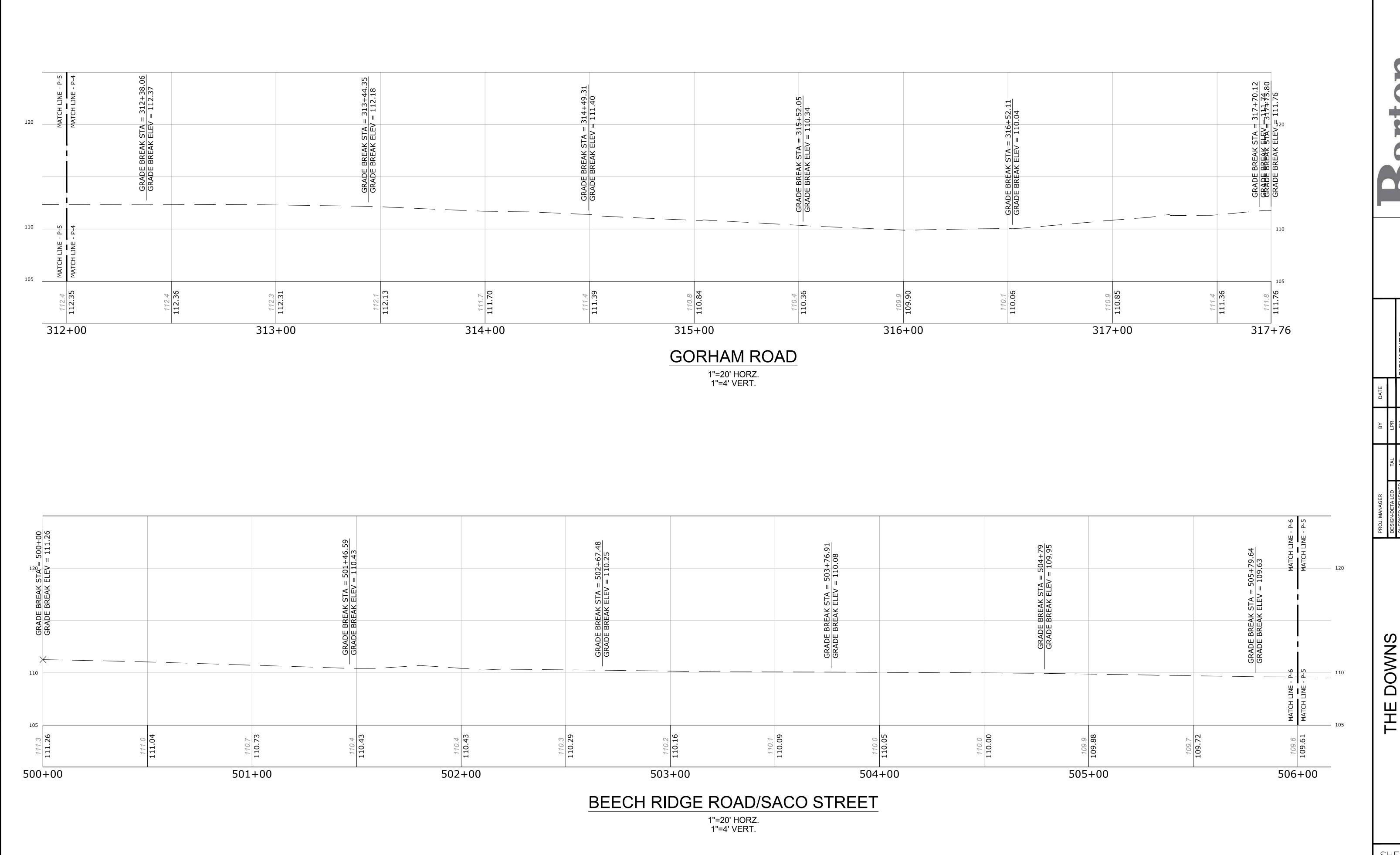
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	TAL	AC							
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INTERSECTION IMPROVEMENTS
PROFILE - COUNTY RD

SHEET NUMBER SHEET **26** /37

P-3



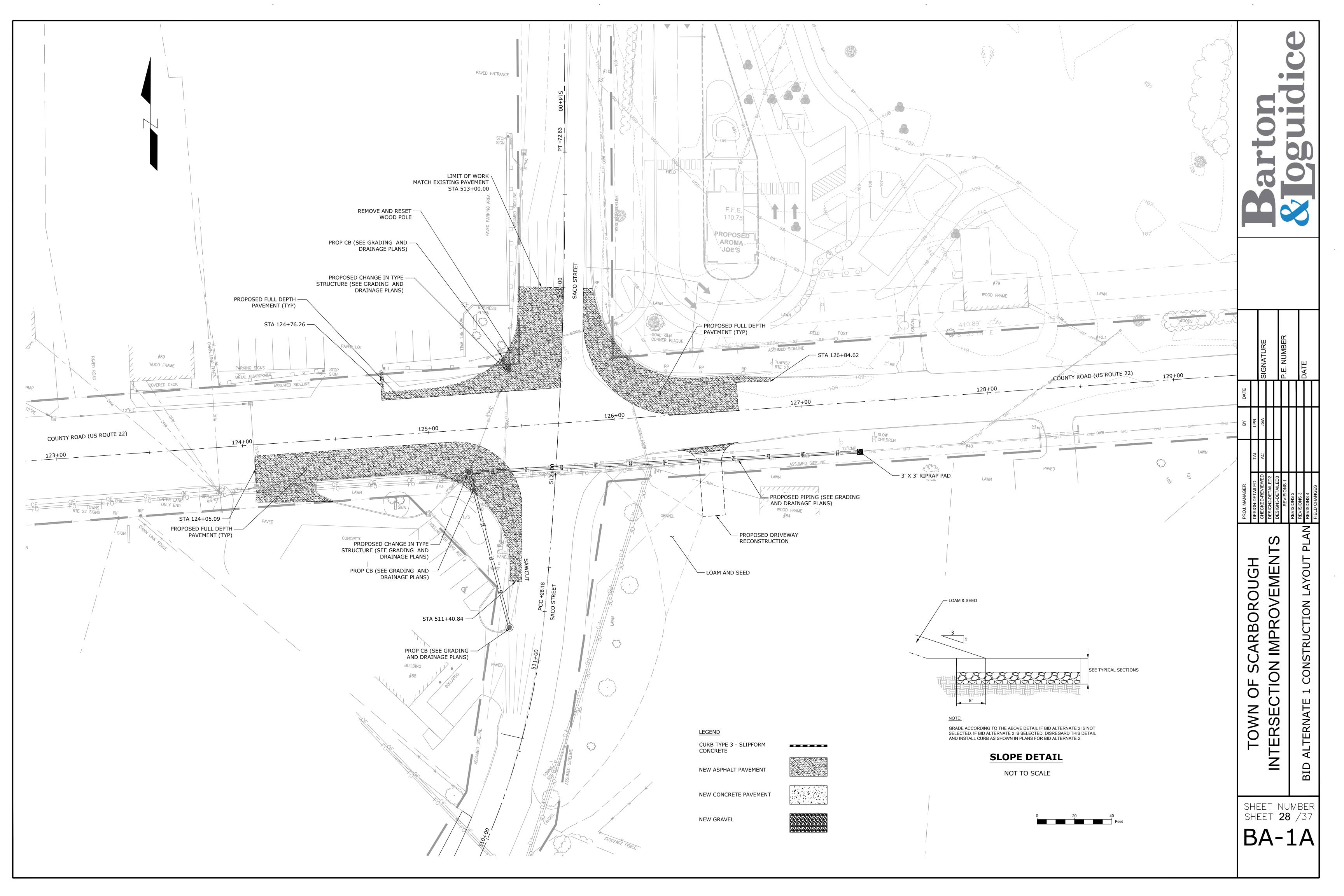
Barton & Joguice

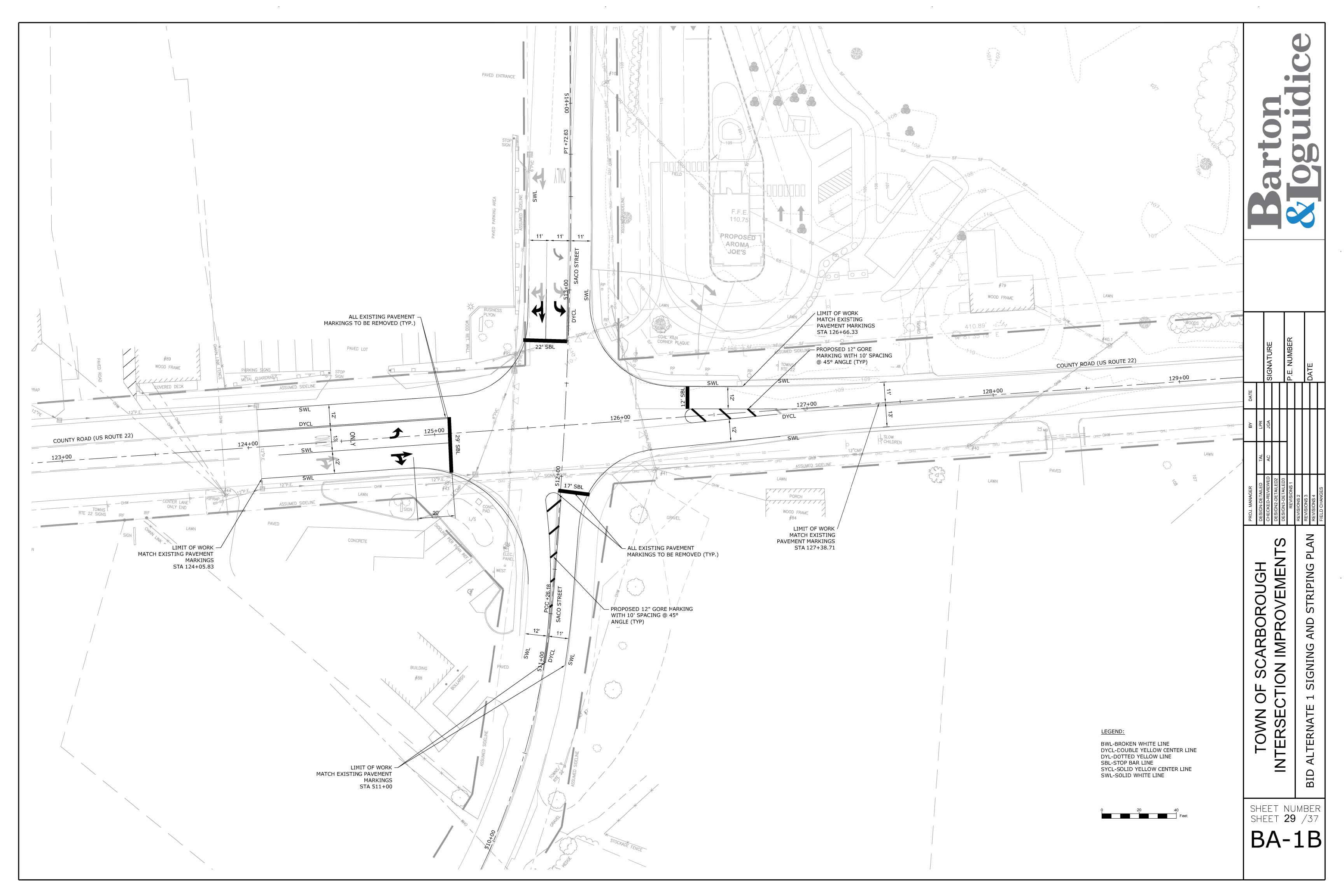
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DESIGN-DETAILED	TAL	LPR		
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DESIGN3-DETAILED3				
REVISIONS 1				P.E. NUMBER
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REVISIONS 3				LH
REVISIONS 4				DAIE
FIELD CHANGES				

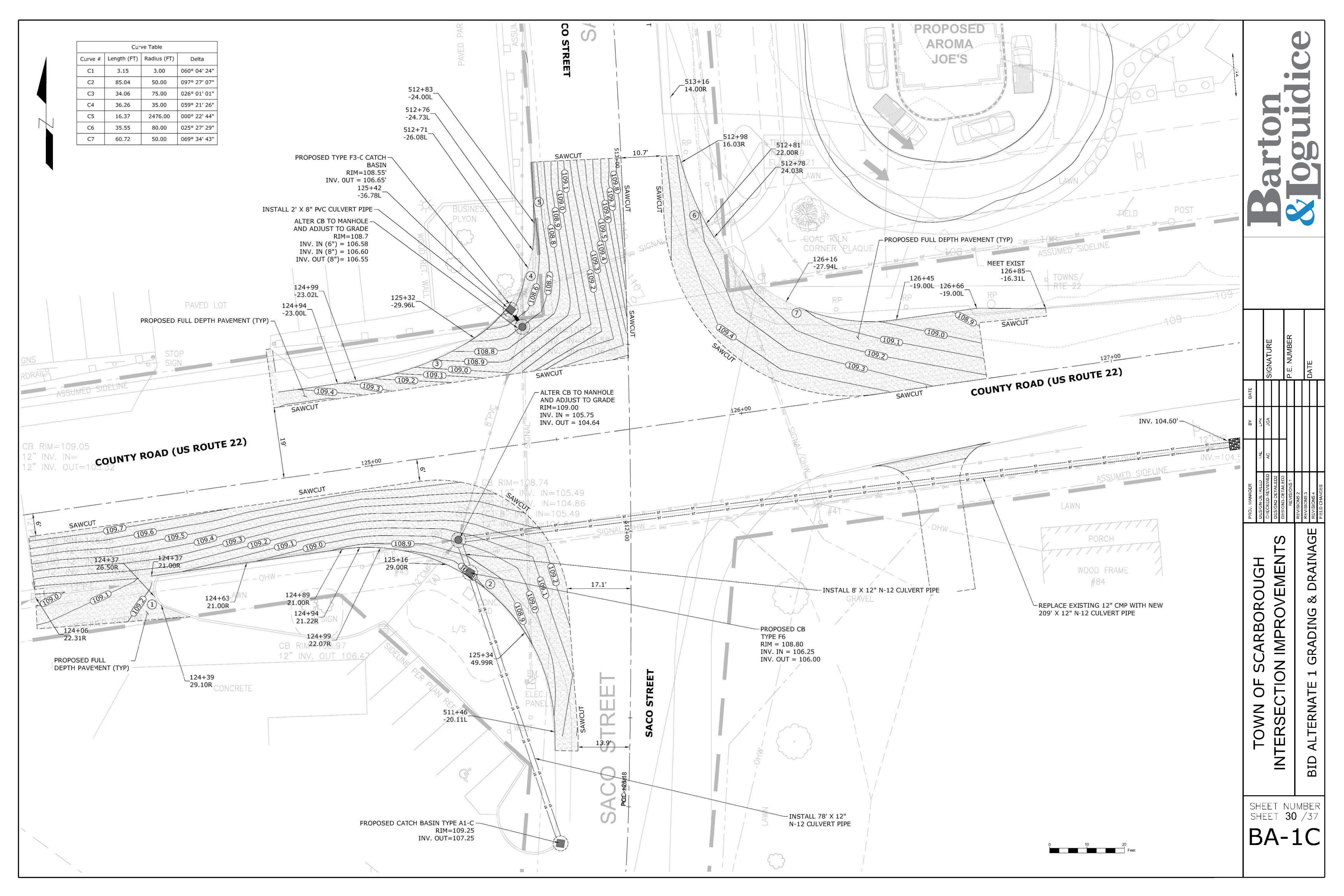
INTERSECTION IMPROVEMENTS

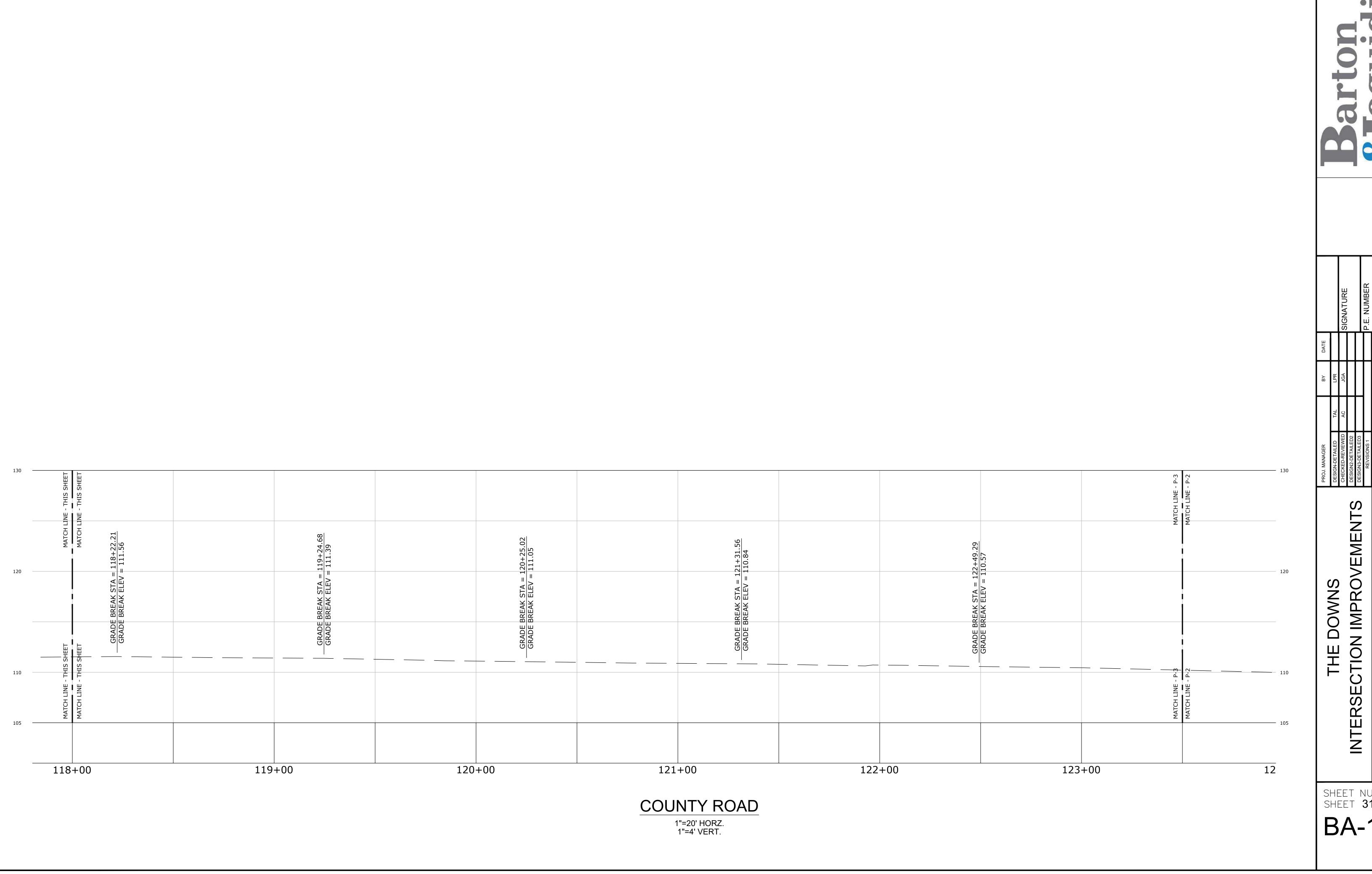
SHEET NUMBER SHEET **27** /37

P-4







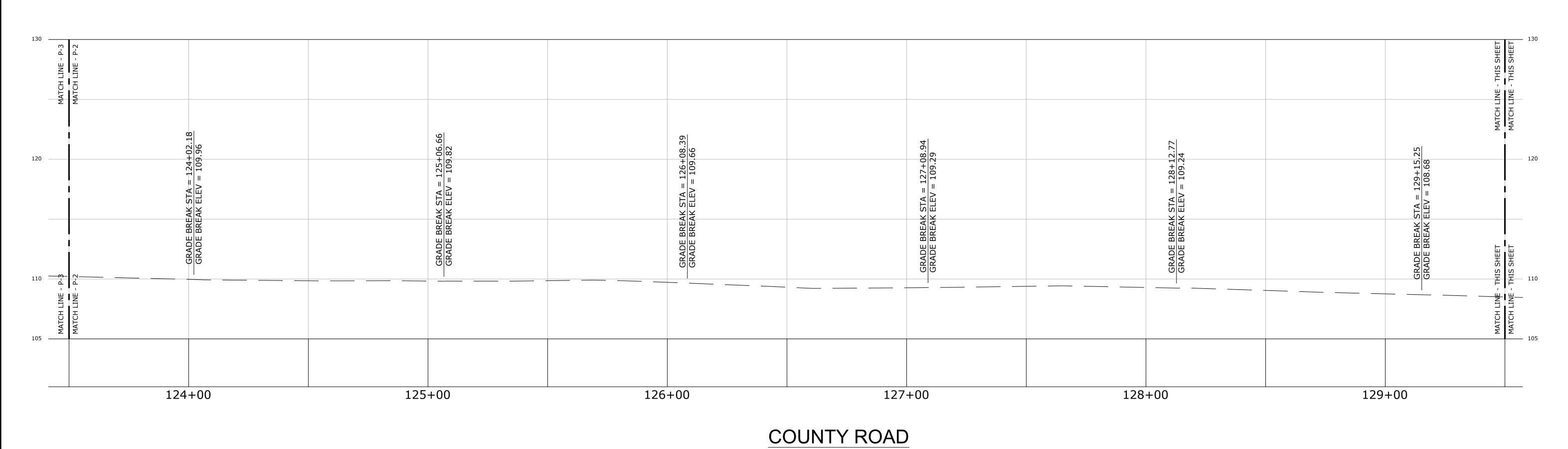


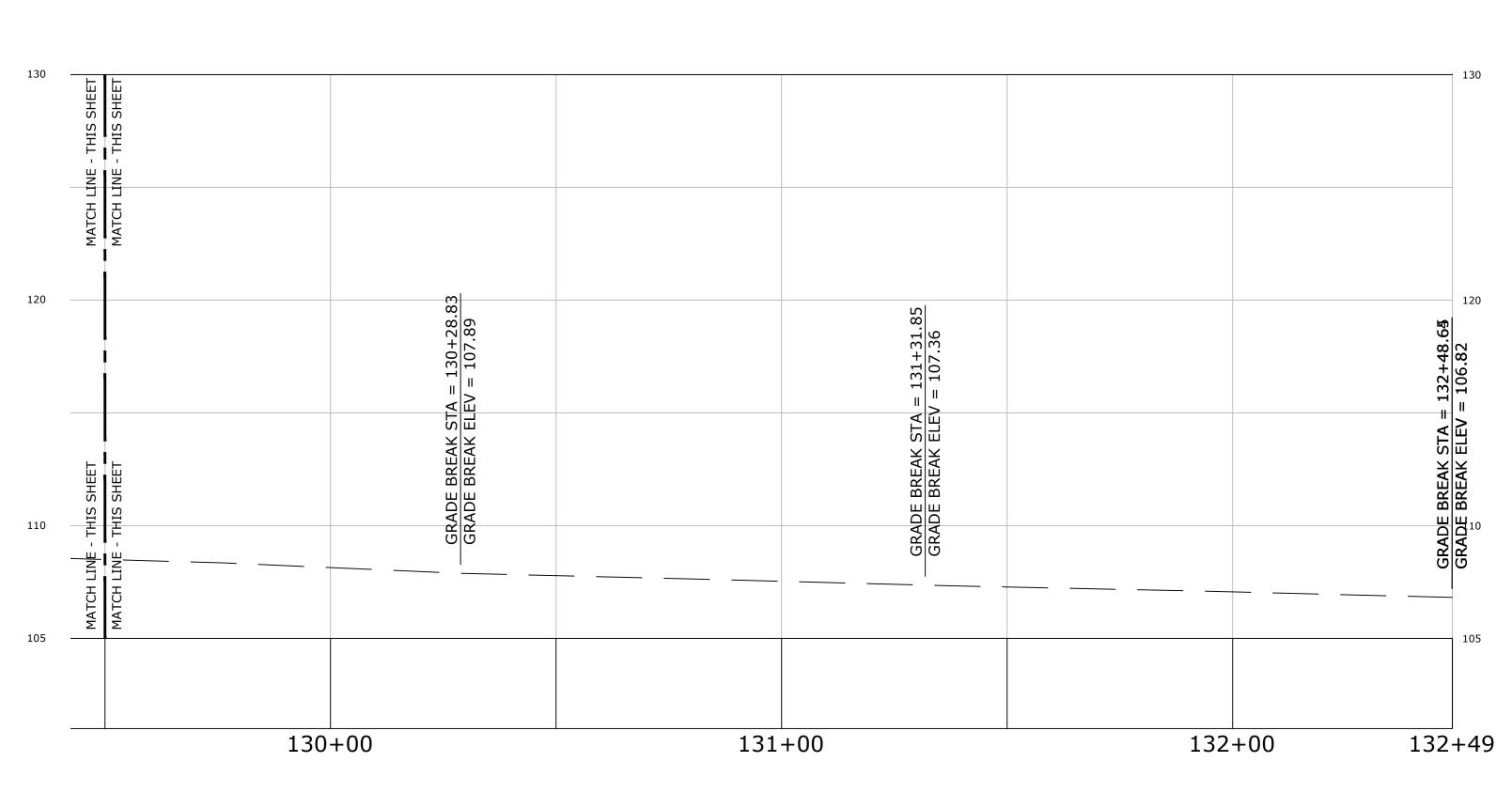


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ALIEKNAIE 1 - PROFILE - COUNIY KD	REVISIONS 4			DAIE
	FIELD CHANGES			

SHEET NUMBER SHEET **31** /37

BA-1D





1"=20' HORZ. 1"=4' VERT.

COUNTY ROAD

1"=20' HORZ.
1"=4' VERT.

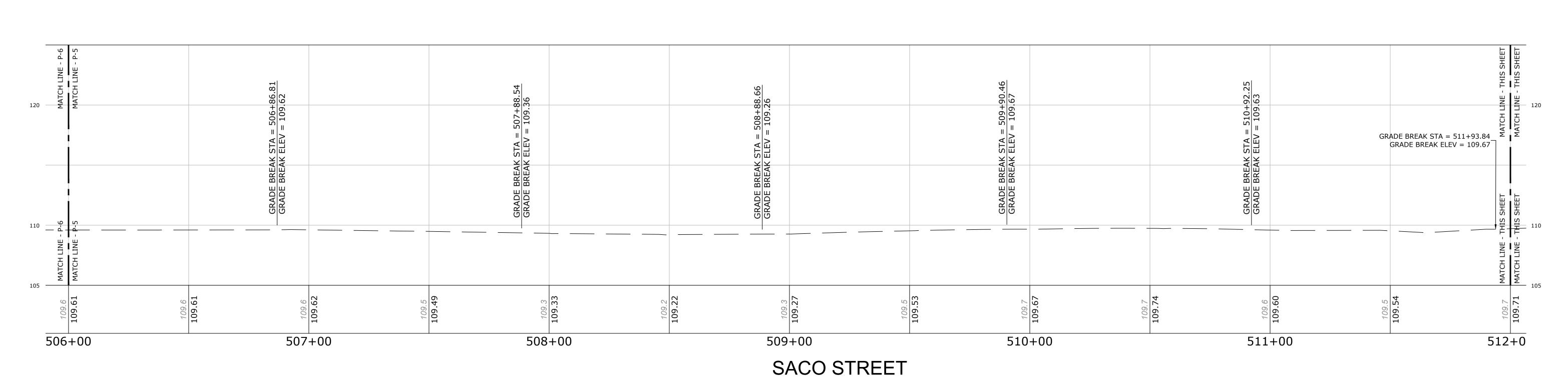
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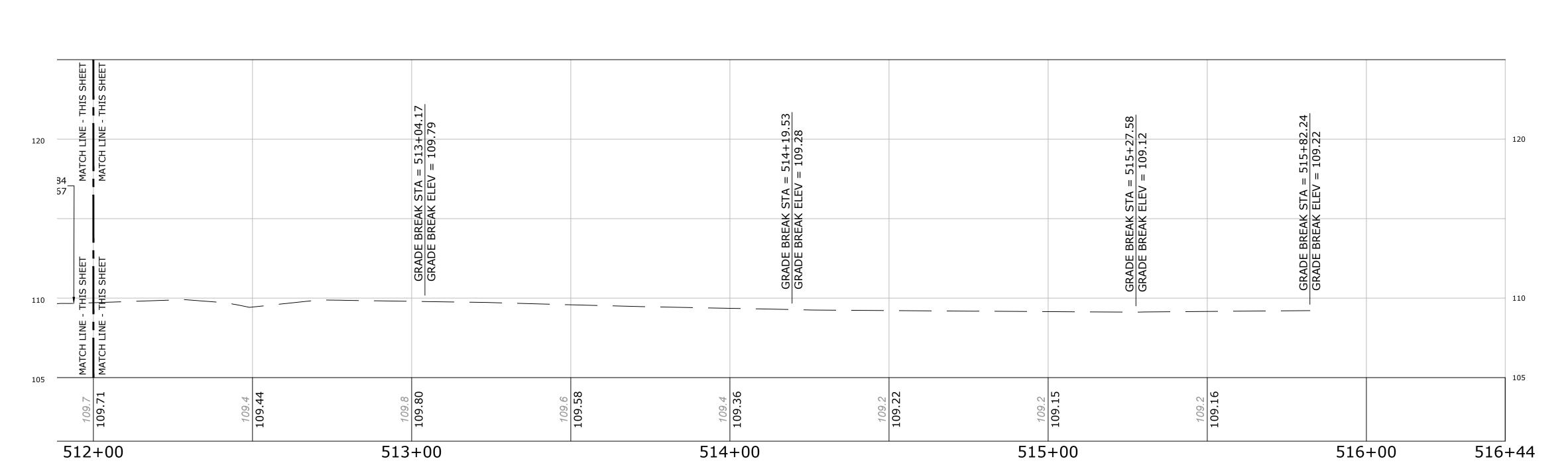
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INTERSECTION IMPROVEME

SHEET NUMBER SHEET **32** /37

**BA-1E** 





1"=20' HORZ. 1"=4' VERT.

SACO STREET

1"=20' HORZ. 1"=4' VERT. Barton Sarton Sarton

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SHEET NUMBER SHEET **33** /37

INTERSECTION IMPROVEMENT

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BA-1F

