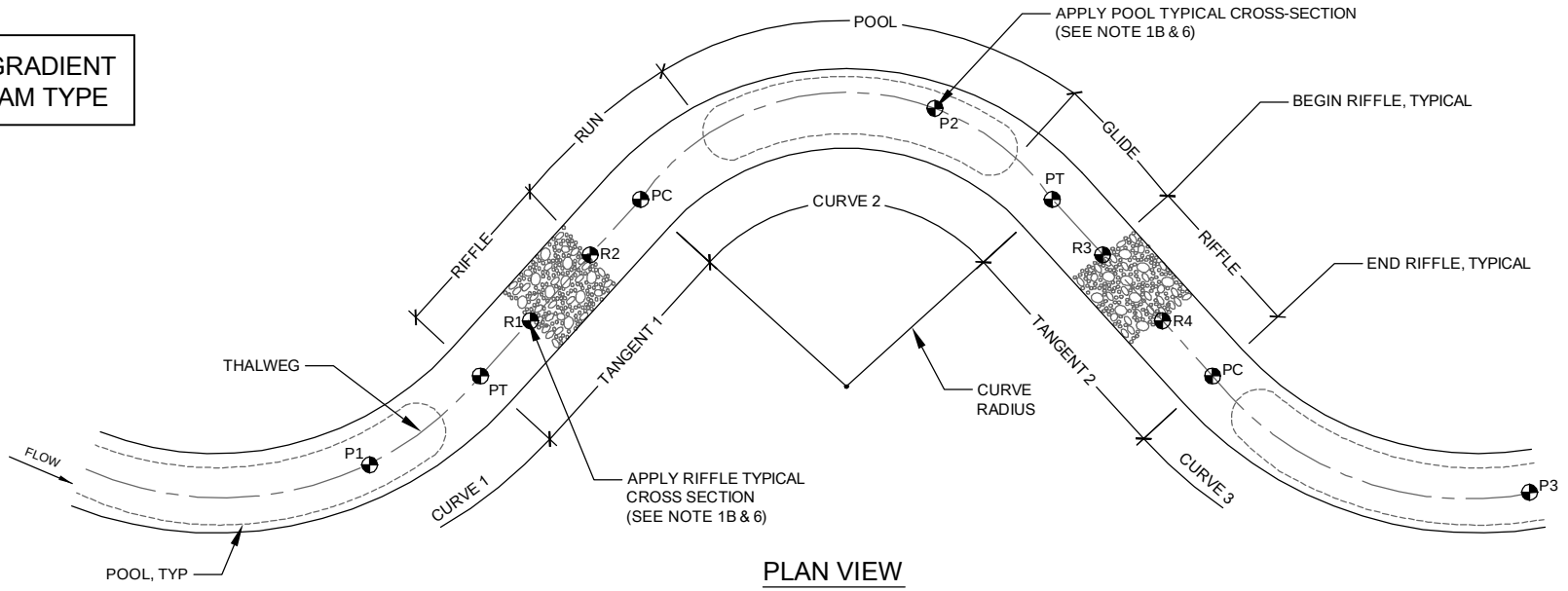
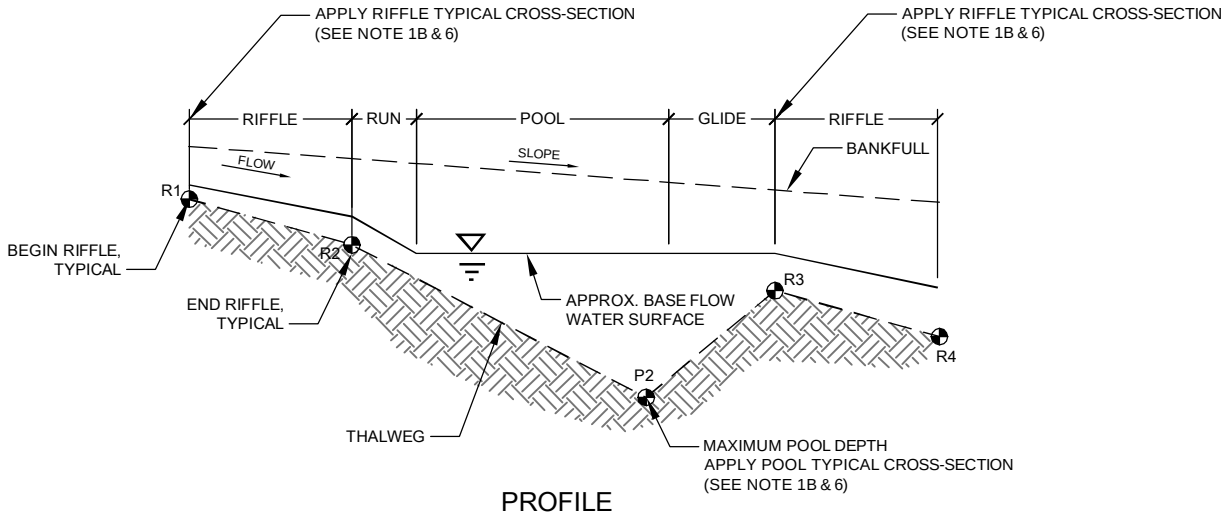
LOW GRADIENT STREAM TYPE



PLAN VIEW



PROFILE

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THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

NOT TO SCALE

Charlotte-Mecklenburg STORM WATER Services

CHARLOTTE–MECKLENBURG
STORM WATER SERVICES
GENERIC DETAIL REQUIREMENTS

RIFFLE - TO - POOL TRANSITION

DRAFT - NOT TO BE USED FOR CONSTRUCTION

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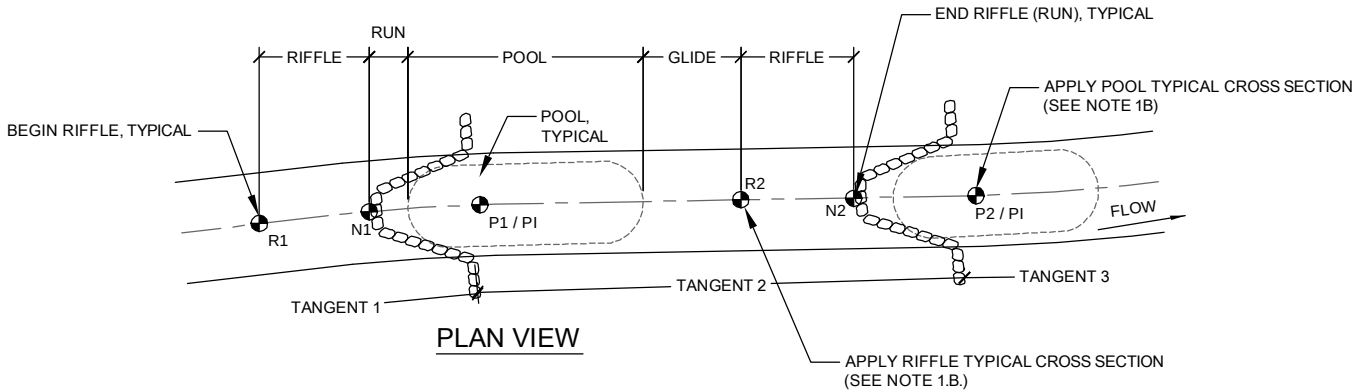
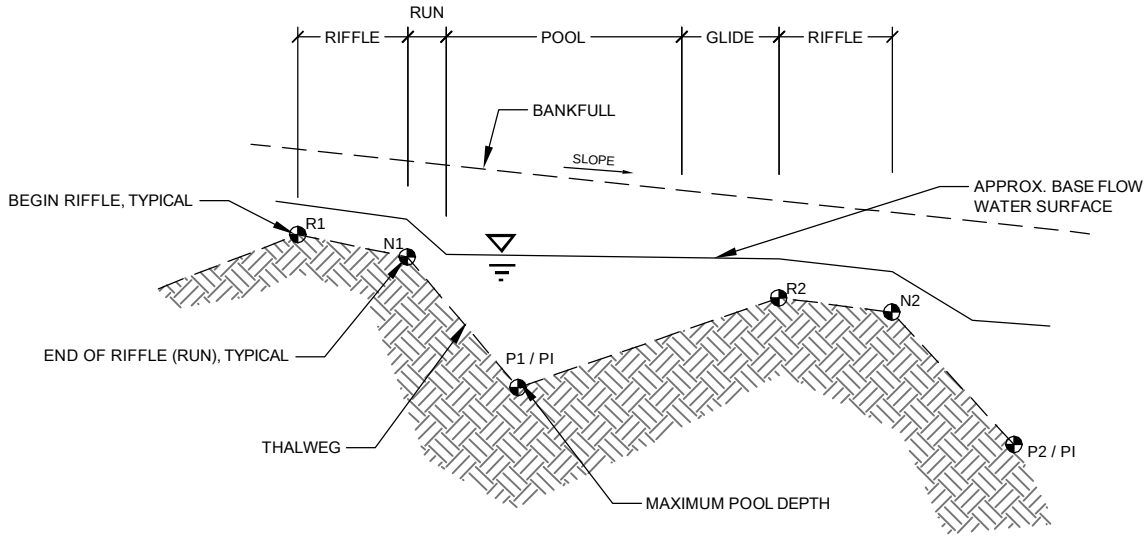
HIGH GRADIENT STREAM TYPE



PLAN VIEW



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ABBREVIATIONS (SEE NOTES 2 AND 3)	
ABBREVIATION	**DESCRIPTION**
R	RIFFLE CONTROL POINT
P	MAXIMUM POOL DEPTH
N	RUN CONTROL POINT
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
PI	POINT OF INTERSECTION

NOTES:

1. THE RIFFLE-TO-POOL TRANSITION DETAIL IS A SCHEMATIC (GENERALIZED) DRAWING OF:

   A. THE RELATIONSHIP BETWEEN THE STREAM CHANNEL HORIZONTAL ALIGNMENT (MEANDER GEOMETRY) AND VERTICAL ALIGNMENT (PROFILE).

   B. THE PLACEMENT OF THE POOL AND RIFFLE TYPICAL CROSS SECTIONS WITH RESPECT TO THE STREAM CHANNEL HORIZONTAL ALIGNMENTS (MEANDER GEOMETRY) AND VERTICAL ALIGNMENT (PROFILE).

2. THE VERTICAL CONTROL POINTS SHOWN ARE THE ELEVATIONS USED TO ESTABLISH THE VERTICAL ALIGNMENT (PROFILE). THEY INCLUDE:

   A. R - RIFFLE CONTROL POINTS

      (1) HEAD OF (BEGIN) RIFFLE

      (2) TAIL OF (END) RIFFLE

   B. P - MAXIMUM POOL DEPTH

3. THE HORIZONTAL CONTROL POINTS SHOWN ARE THE BEGINNING AND ENDING LOCATIONS OF THE STRAIGHT SEGMENTS AND CURVES USED TO ESTABLISH THE HORIZONTAL ALIGNMENT (MEANDER GEOMETRY). THEY INCLUDE:

   A. LOW-GRADIENT STREAM GEOMETRY (MEANDERING ROSGEN C- AND E-STREAM TYPES):

      (1) PC - POINT OF CURVATURE - BEGINNING OF A CURVE (MEANDER BEND, POOL), END OF A STRAIGHT SEGMENT (TANGENT, RIFFLE)

      (2) PT - POINT OF TANGENCY - BEGINNING OF A STRAIGHT SEGMENT (TANGENT, RIFFLE), END OF A CURVE (MEANDER BEND, POOL)

   B. HIGH-GRADIENT STREAM GEOMETRY (RELATIVELY STRAIGHT ROSGEN B-STREAM TYPES) INCLUDES PC'S AND PT'S AS DESCRIBED ABOVE AND ALSO:

      (1) PI - POINT OF INTERSECTION - TRANSITION BETWEEN STRAIGHT SEGMENTS WITH LITTLE CHANGE IN DIRECTION (BEARING)

4. CONSTRUCTION OF THE CHANNEL (ALIGNMENT, PROFILE AND CROSS SECTION) SHALL BE DONE IN A MANNER TO CREATE SMOOTH TRANSITIONS BETWEEN THE CONTROL POINTS AND TYPICAL RIFFLE AND POOL CROSS SECTIONS.

5. THE DESIGNER SHALL SPECIFY HORIZONTAL AND VERTICAL TOLERANCES FOR ALL CONTROL POINTS. REGARDLESS, THE DOWNSTREAM HEAD OF (BEGIN) RIFFLE ELEVATION SHALL NOT EXCEED THE UPSTREAM TAIL OF (END) RIFFLE ELEVATION (CREATING AN ADVERSE BANKFULL SLOPE).

6. THE RIFFLE TYPICAL CROSS SECTION SHALL BE APPLIED IN STRAIGHT (TANGENT) SEGMENTS. THE POOL TYPICAL CROSS SECTION SHALL BE APPLIED IN CURVES (MEANDER BENDS). THE STREAM CROSS SECTION SHALL SMOOTHLY TRANSITION DIMENSIONS FROM THE UPSTREAM RIFFLE TYPICAL CROSS SECTION TO THE NEXT (DOWNSTREAM) POOL TYPICAL CROSS SECTION TO THE NEXT (DOWNSTREAM) RIFFLE TYPICAL CROSS SECTION, ETC.

7. IF SITE CONDITIONS (E.G. - BEDROCK, LARGE TREES, ETC.) DO NOT ALLOW FOR CONSTRUCTION OF THE FULL RIFFLE OR POOL TYPICAL CROSS SECTION AND/OR SMOOTH TRANSITIONS BETWEEN TYPICAL SECTIONS, THE TYPICAL SECTION AND/OR TRANSITION SHALL BE ADJUSTED TO INCORPORATE THE NATURAL VARIATION. THE DESIGNER SHALL BE NOTIFIED OF SUCH SITE CONDITIONS AND DETERMINE THE APPROPRIATE MEANS OF ADJUSTMENT/INCORPORATION.

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