# STANDARD aNCHORED WALL NOTES ON PLANS (3-17-15)

(Instructions for use are in parentheses after each note, if applicable and choices are in italics.)

FOR ANCHORED RETAINING WALLS, SEE ANCHORED RETAINING WALLS PROVISION.

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

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

A CONCRETE BARRIER RAIL WITH MOMENT SLAB IS REQUIRED ABOVE RETAINING WALL NO. \_\_\_\_. SEE PLANS FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS. (When using this note, add a concrete barrier rail with moment slab plan sheet from the geotechnical design cell library to the wall plans).

A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. \_\_\_\_. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.

AT THE CONTRACTOR’S OPTION, USE DRIVEN H-PILES FOR RETAINING WALL NO. \_\_\_\_. (Use this note to allow driven piles for anchored walls.)

A \_\_\_\_\_\_\_\_\_\_\_\_ ARCHITECTURAL FINISH IS REQUIRED FOR THE CAST-IN-PLACE REINFORCED CONCRETE FACE FOR RETAINING WALL NO. \_\_\_\_.

A BRICK VENEER IS REQUIRED FOR RETAINING WALL NO. \_\_\_\_ AS SHOWN. SUBMIT BRICK SAMPLES FOR APPROVAL BEFORE BEGINNING ANCHORED WALL CONSTRUCTION.

BEFORE BEGINNING ANCHORED WALL DESIGN FOR RETAINING WALL NO. \_\_\_\_, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. \_\_\_\_ FOR THE FOLLOWING:

1. H = DESIGN HEIGHT + WALL EMBEDMENT
2. DESIGN LIFE = *75 or 100* YEARS
3. MINIMUM WALL EMBEDMENT ELEVATION = \_\_\_\_ FT
4. MINIMUM PILE PENETRATION INTO ROCK = \_\_\_ FT
5. IN-SITU ASSUMED MATERIAL PARAMETERS *ABOVE ELEVATION \_\_\_\_ FT*:

UNIT WEIGHT, $γ$ = \_\_\_ LB/CF

FRICTION ANGLE, $ϕ$= \_\_ DEGREES

COHESION, c = \_\_\_ LB/SF

1. *IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION \_\_\_\_ FT:*

*UNIT WEIGHT,* $γ$ *= \_\_\_ LB/CF*

*FRICTION ANGLE,* $ϕ$*= \_\_ DEGREES*

*COHESION, c = \_\_\_ LB/SF*

1. *IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION \_\_\_\_ FT:*

*ROCK MASS SHEAR STRENGTH, Sm = \_\_\_ LB/SF*

(Use 100 year design life for anchored walls supporting or adjacent to structures not owned by the Department or walls for routes or bridges (abutment walls) classified as Regional Tier facilities or higher per the North Carolina Multimodal Investment Network (NCMIN). Use 75 year design life for all other anchored walls. Modify No. 3 through 7 as necessary for variable wall heights and conditions. No. 3, 4, 6, 7 and “ABOVE ELEVATION \_\_\_\_ FT” in No. 5 are optional. Use No. 3 when more than the minimum embedment in accordance with the provision is necessary such as anchored walls subject to scour. Replace “ELEVATION” with “DEPTH” in No. 3 to require a constant embedment depth below the bottom of wall elevation instead of a fixed top of leveling pad elevation. Use No. 6 and “ABOVE ELEVATION \_\_\_\_ FT” in No. 5 when different materials are present above and below an elevation. Use No. 4 and 7 when piles will penetrate hard rock and be designed for passive resistance of the rock. Recommended values for rock socket with one row of anchors and Sm are 5 ft and 3,000 psf, respectively.)

THE MINIMUM WALL EMBEDMENT ELEVATION FOR RETAINING WALL NO. \_\_\_\_ INCLUDES EMBEDMENT FOR SCOUR.

DESIGN RETAINING WALL NO. \_\_\_\_ FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN RETAINING WALL NO. \_\_\_\_ FOR THE *POINT, LINE or STRIP* SURCHARGE LOAD SHOWN.

DESIGN RETAINING WALL NO. \_\_\_\_ FOR A PIPE EXTENDING UNDER OR THROUGH THE WALL AS SHOWN. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING ANCHORED WALL DESIGN OR CONSTRUCTION.

FOUNDATIONS FOR *SIGNS, LIGHTING or SIGNALS* WILL BE LOCATED BEHIND RETAINING WALL NO. \_\_\_\_ AND *WILL or MAY* INTERFERE WITH GROUND ANCHORS. SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS WITH THE ANCHORED WALL CONSTRUCTION PLAN.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES *WILL or MAY* INTERFERE WITH GROUND ANCHORS FOR RETAINING WALL NO. \_\_\_\_.

FOUNDATIONS FOR END BENT NO. \_\_\_\_ LOCATED AT STATION \_\_\_\_\_\_\_\_\_\_\_\_ *WILL or MAY* INTERFERE WITH GROUND ANCHORS FOR RETAINING WALL NO. \_\_\_\_. SEE “FOUNDATION LAYOUT” SHEET FOR FOUNDATION LOCATIONS.

DESIGN RETAINING WALL NO. \_\_\_\_ FOR A LATERAL LOAD FROM FOUNDATIONS LOCATED BEHIND THE WALL APPLIED AS A FACTORED UNIFORM PRESSURE OF \_\_\_\_ LB/SF TO THE BACK OF THE CAST-IN-PLACE REINFORCED CONCRETE FACE.

“TEMPORARY SHORING” *IS or MAY BE* REQUIRED FOR RETAINING WALL NO. \_\_\_\_ IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE *ROADWAY, STRUCTURE or TRAFFIC CONTROL* PLANS.