

# **GRADING NOTES**

ALL EROSION & SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST STEP IN GRADING OPERATIONS. REFER TO EROSION AND SEDIMENT CONTROL NARRATIVE AND DETAILS FOR MORE INFORMATION.

#### **GRADING MATERIAL:**

MATERIAL TO BE USED FOR EARTHWORK AND GRADING ON THIS PROJECT IS TO BE MATERIALS FROM WITHIN THE SITE OR OFFSITE MATERIALS CAPABLE OF ACHIEVING THE FOLLOWING PERFORMANCES AS DETERMINED BY THE SOILS ENGINEER, THE SOILS ENGINEER BEING A PROFESSIONAL ENGINEER, REGISTERED IN VIRGINIA, ROUTINELY ENGAGED IN THE TESTING AND ASSESSMENT OF SOILS AND OTHER FOUNDATION AND ROADWAY MATERIALS.

BUILDING AREAS: CAPABLE OF POSSESSING A SOIL BEARING CAPACITY OF 1500 PSF AFTER COMPACTION TO 95% MAXIMUM DENSITY, MODIFIED PROCTOR, ASTM D1557..

### PREPARATION OF SITE FOR EXCAVATION OR PLACEMENT OF FILL:

PRIOR TO EXCAVATION OR FILLING OPERATIONS THE AFFECTED AREA OF THE SITE SHALL BE STRIPPED OF TOPSOIL, IF ANY IS PRESENT, AND THE RESULTING VOLUME OF TOPSOIL SHALL BE STOCKPILED FOR LATER USE AT A LOCATION APPROVED BY THE OWNER.

PRIOR TO PLACEMENT OF FILL THE STRIPPED AREA TO RECEIVE FILL SHALL BE PROOFROLLED WITH A LOADED DUMP TRUCK. IF AREAS EXIST WHERE THE SOIL DEPRESSES OR "PUMPS" BELOW THE TRUCKS WHEELS AFTER A FEW PASSES, THE AREAS ARE TO BE EXAMINED BY THE SOILS ENGINEER FOR ASSESSMENT AND DETERMINATION OF REMEDIAL MEASURES.

### PLACEMENT OF FILL:

MATERIAL TO BE USED AS FILL SHALL BE SOIL MATERIAL, ONSITE OR FROM OFFSITE WHICH CAN MEET THE ABOVE CRITERIA, AND SHALL BE FREE OF PLANTS, GRASS, TREE ROOTS, TRASH, OR OTHER ORGANIC OR OTHERWISE DELETERIOUS MATERIAL. TOPSOIL IS NOT TO BE USED FOR FILL MATERIAL. FILL MATERIAL SHALL BE FREE OF ICE. FILL MATERIAL SHALL BE OF SUCH A MOISTURE CONTENT THAT SUCCESSFUL COMPACTION CAN BE ACHIEVED. ROCK MATERIAL WITH LARGEST DIMENSION OF NO MORE THAN 12" IS ALLOWED IN THE FILL MATERIAL. LARGER ROCKS MAY BE INCLUDED ONLY WITH SPECIFIC DIRECTIONS FROM THE SOILS ENGINEER AS TO PLACEMENT IN THE FILL AND SPECIAL COMPACTION AROUND THEM. ROCKS LARGER THAN 12" SHALL NOT BE PLACED IN FILL BENEATH BUILDING AREAS.

THE SURFACE OF SUBGRADES TO RECEIVE FILL SHALL BE SCARIFIED IMMEDIATELY PRIOR TO PLACEMENT OF FILL. FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12" IN THICKNESS WITH ANY ROCK MATERIAL UNIFORMLY DISTRIBUTED WITHIN THE LIFT. COMPACTION SHALL PROCEED, USING COMPACTION EQUIPMENT COMPATIBLE WITH THE MATERIAL. UPON COMPLETION OF COMPACTION THE LIFT SHALL BE TESTED FOR COMPACTION WITH THE FOLLOWING TEST DISTRIBUTION:

ROADWAY AND BUILDING AREAS: ONE TEST PER 3000 SQUARE FEET YARD AREAS: ONE TEST PER 10000 SQUARE FEET.

ANY LIFT WHICH DOES NOT MEET COMPACTION REQUIREMENTS SHALL BE SCARIFIED TO A DEPTH EQUAL TO ITS THICKNESS AND RECOMPACTED.

#### FINE GRADING:

YARD AREAS AND SUBGRADE TO RECEIVE PAVEMENT SHALL BE FINE GRADED WITH MACHINERY COMPATIBLE WITH THE MATERIAL AND LOCATION WITHIN THE SITE. CUTTINGS FROM GRADING SHALL BE SPOILED ONTO YARD AREAS AND NOT ONTO ROADWAY OR BUILDING AREAS.

#### PARKING PAVEMENT CONSTRUCTION

#### PREPARATION OF SUBGRADE:

SUBGRADE SHALL BE FINE GRADED BY CUTTING DOWN SURFACES LEFT FROM ROUGH GRADING OPERATIONS. PRIOR TO PLACEMENT OF BASE MATERIAL ROADWAY AND PARKING SUBGRADES SHALL BE PROOFROLLED WITH A LOADED DUMP TRUCK TO CHECK FOR SOFT AREAS. UPON DISCOVERY OF A SOFT AREA THE SOILS ENGINEER SHALL DIRECT THE CONTRACTOR AS TO REMEDIAL MEASURES.

#### PLACEMENT OF BASE:

NO. 21A CRUSHED STONE BASE SHALL BE PLACED AND IMMEDIATELY COMPACTED TO A 100% DENSITY, MODIFIED PROCTOR, OR TO ANOTHER MEASURE OF COMPACTION RECOGNIZED BY THE SOILS ENGINEER.

#### PLACEMENT OF PAVEMENT:

ALL BITUMINOUS CONCRETE PAVING MATERIAL SHALL CONFORM TO THE VDOT "ROAD AND BRIDGE SPECIFICATIONS" WITH REGARD TO BITUMINOUS MATERIAL, AGGREGATES, AND MIXING METHODS. PAVEMENT PLACED IN THE VDOT RIGHT—OF—WAY SHALL BE DONE UNDER THE SUPERVISION OF A REPRESENTATIVE OF VDOT AND APPROVED FOR ACCEPTANCE BY VDOT. PAVEMENT PLACED IN PARKING AREAS SHALL BE WARRANTED BY THE PAVING CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE POINT IN TIME WHICH TRAFFIC COMMENCES UPON IT.

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| STATIC PRESS.=76psi FLOW RATE=829gpm CONC 20psi 100 640 6 CO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | FIRE SERVICE ADDED GN 2-20-08                                     |
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| 97H STREET, S.E. 999 95 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CURB INLET TOP 90.45 6" INV 87.72 18" INV 86.07 NEW 12" INV 87.00 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                   |

| ID | INLET TYPE                   | TOP                          | TOP EL. | STRUCTURE<br>PIPE             | STRUCTURE<br>INVERT EL. | PIPE SIZE, MATERIAL<br>AND LENGTH |
|----|------------------------------|------------------------------|---------|-------------------------------|-------------------------|-----------------------------------|
| 1  | NYLOPLAST 24"<br>DRAIN BASIN | STD. 24"<br>SOLID<br>COVER   | 91.90   | 12" IN=88.00<br>12" OUT=87.90 | 87.40                   | 12" HDPE, 60If                    |
| 2  | NYLOPLAST 24"<br>DRAIN BASIN | STD. 24"<br>DROP-IN<br>GRATE | 91.30   | 12" OUT=88.32                 | 87.82                   | 12" HDPE, 20If                    |

## **UTILITY SHEET NOTES:**

AFTER INLET IS CLEANED OUT, DETERMINE LOCATION AND OUTFALL OF PIPES OUT OF INLET. IF PIPES ARE ALREADY ABANDONED, & NOT FUNCTIONAL, THEN REMOVE EXISTING INLET AND PIPES WITHIN THE FOOTPRINT OF THE NEW ADDITION, PROPERLY BACKFILL WITH SELECT MATERIAL AND COMPACT TO 95% MAX. DENSITY. IF EXISTING PIPES ARE ABANDONED, THEN PROCEED WITH INSTALLATION OF NEW YARD INLET AND PIPING AS SPECIFIED ON THIS SHEET. CORE HOLE IN SIDE OF EXISTING CURB INLET AND PATCH ANNULAR SPACE BETWEEN NEW PIPE AND SIDES OF INLET WITH HYDRAULIC CEMENT. NEW 12" HDPE INVERT IN=87.00.

REMOVE INLET AND SEDIMENT FILLED PORTIONS OF EXISTING PIPES. JOIN REMAINING SECTIONS OF EXISTING PIPES WITH NEW PIPE OF LIKE SIZE AND MATERIAL. SPLICE BETWEEN OLD AND NEW PIPES SHALL BE MADE WITH WATERTIGHT MATERIALS AND CONNECTORS. WHERE DEVIATIONS IN ALIGNMENT ARE NECESSARY, INSTALL A FITTING WITH A CLEANOUT. CLEANOUTS SHALL EXTEND TO FINISHED SLAB ELEVATION AND A BRASS COVER/CAP SHALL BE INSTALLED.

TRANSITION FROM 4" SCH40 PVC TO 6" SCH40 PVC LATERAL AFTER CLEANOUT NEAR SIDEWALK. CLEANOUT INVERT ELEVATION=85.55. EXTEND 6" LATERAL TO EXISTING MANHOLE. CORE HOLE IN SIDE OF MANHOLE AND INSERT FLEXIBLE BOOT TO FORM WATERTIGHT CONNECTION. ALL PVC PIPING SHALL BE FULLY BEDDED FROM 4" BELOW PIPE TO 1" ABOVE PIPE WITH #68 STONE. SANITARY SEWER PIPING SHALL BE INSTALLED AT 1% MIN. SLOPE.

FIELD LOCATE EXISTING GAS SERVICE LINE PRIOR TO INSTALLATION OF NEW YARD DRAIN PIPING. COORDINATE DEPTHS TO PREVENT LINE CROSSING CONFLICTS.

S5 EXTEND UNDERGROUND ELECTRIC POWER TO NEW POLE MOUNTED PARKING LOT LUMINAIRE. SEE SHEET C5 FOR LIGHTING SPECIFICATIONS.

S6 RELOCATE GAS SERVICE AS NECESSARY FOR WALL INSTALLATION. COORDINATE UNDERGROUND ELECTRIC LINE LOCATION WITH GAS SERVICE LINE LOCATION.

\$7 ALL UTILITY SERVICE LATERALS/LINES, INCLUDING ELECTRIC, SHALL BE INSTALLED UNDERGROUND.

S8 EXISTING PUBLIC UTILITY EASEMENT TO BE MODIFIED (REDUCED) TO ACCOMODATE NEW BUILDING ADDITION AND FOUNDATION. THE OWNER/DEVELOPER SHALL PREPARE A SEPARATE PLAT OR DEED WITH THE REDUCTION IN COORDINATION WITH WESTERN VIRGINIA WATER AUTHORITY.

S9 SANITARY SEWER LATERAL SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH WVWA STANDARDS AND SPECIFICATIONS.

## STORM DRAIN NOTES

STORM DRAIN SHOWN IS TO BE PRIVATELY OWNED, CONNECTED TO EXISTING PUBLIC STORM DRAIN AS SHOWN. STORM DRAIN LENGTHS ARE BASED ON CL STRUCTURE TO CL STRUCTURE DISTANCE.

## STORM DRAIN MATERIALS:

STORM DRAIN PIPING: PIPING SHALL BE SMOOTH INTERIOR WALL HDPE (ADS N-12) OR APPROVED EQUAL

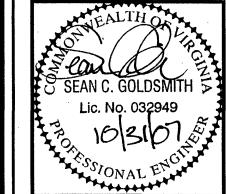
YARD INLETS: NYLOPLAST 24" DRAIN BASIN WITH STD. 24" DROP—IN GRATE
MANHOLE RIM AND COVERS: NYLOPLAST 24" DRAIN BASIN WITH STD. SOLID 24" COVER

## STORM DRAIN INSTALLATION:

STORM PIPE SHALL BE LAID IN STRAIGHT LINES, AT UNIFORM GRADE BETWEEN STRUCTURES. PIPE SIZES SHALL BE AS SHOWN. PIPE SHALL PLACED ON 4" MIN. #68 STONE BEDDING. STONE BEDDING SHALL EXTEND TO 1" ABOVE TOP OF PIPE. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 IN COMPACTED THICKNESS, COMPACTED WITH SMALL MOBILE COMPACTOR ("WACKER"). BACKFILL MATERIAL SHALL NOT BE MUDDY IN CONSISTENCY AND TRENCHES TO BE BACKFILLED SHALL NOT CONTAIN WATER. CURB INLETS SHALL BEAR ON UNDISTURBED CUT SURFACES OF EXCAVATIONS IN ORIGINAL SOIL OR COMPACTED FILL, BEDDED ON A LEVELING BED OF CRUSHED STONE OR SAND.

# **EXTERIOR LIGHTING**

1. ALL EXTERIOR LIGHTING FIXTURES SHALL BE DESIGNED, LOCATED AND ARRANGED SO AS NOT TO DIRECT GLARE ON ADJOINING STREETS OR ADJACENT PROPERTIES. THE INTENSITY AT ADJOINING STREETS OR ADJACENT PROPERTIES SHALL NOT EXCEED 0.5 FOOT CANDLES.



Revisions By Date
SCG - RkeCityCmmts 10/31/0

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Scale: 1"=20'
Date: 9/18/07
Design By: SCG

CAD By: SCG Checked By: Comm. No.: 07107

Sheet No.

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