#### GRADING NOTES

REMOVE TREES, SHRUBS, GRASS, AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE TREES AND OTHER VEGETATION. INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING. CUT OFF TREES AND STUMPS IN AREAS TO RECEIVE FILL MORE THAN THREE FEET IN DEPTH TO WITHIN EIGHT INCHES OF THE ORIGINAL GROUND SURFACE.

BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.

CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS

PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°C).

PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THEN 35°F (1°).

FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.

PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.

PLACE ALL FILL AND BACKFILL AS CONTROLLED FILL AS FOLLOWS: ESTABLISH SUITABLE SUBGRADE CONDITIONS PRIOR TO PLACING FILL BY PROOFROLLING.

UNDERCUTTING AND COMPACTING AS NECESSARY b. PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR HEAVY

COMPACTION EQUIPMENT, AND NOT MORE THAN 4" FOR HAND TAMPERS. PRIOR TO COMPACTION, PROVIDE MOISTURE CONTENT TO WITHIN 3% OF OPTIMUM BY MOISTENING OR AERATING EACH LAYER. DO NOT PLACE FILL MATERIAL ON SURFACES WHICH ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.

d. COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR):

i. 95% UNDER PAVEMENT ii. 85% UNDER LAWN OR UNPAVED AREAS

SPREAD TOPSOIL TO A DEPTH OF 4" OVER ALL DISTURBED AREAS NOT RECEIVING WALKS, PAVEMENT, WALLS OR BUILDING, INCLUDING TRENCHES. IMMEDIATELY FOLLOWING PLACEMENT OF TOPSOIL. DISK THE ENTIRE TOPSOILED AREA AND RAKE FREE OF STONES AND DEBRIS OVER 1/2" IN ANY DIMENSION. PROVIDE A FINISHED SURFACE FREE OF DEPRESSIONS OR HIGH SPOTS. SEED IMMEDIATELY.

OWNER (CONTRACTOR) SHALL EMPLOY QUALIFIED SOILS TESTING LABORATORY TO INSPECT EARTHWORK OPERATIONS. NOTIFY LABORATORY PRIOR TO PERFORMING EARTHWORK OPERATIONS.

#### GENERAL NOTES

PROVIDE NEW MATERIALS AND WORKMANSHIP IN CONFORMANCE WITH ALL APPLICABLE CODES, STATE AND FEDERAL LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND OTHER CRITERIA WHICH WOULD NORMALLY APPLY TO WORK OF THIS NATURE. NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERING A CONFLICT IN CODES, ORDINANCES, STANDARDS, OR OTHER CRITERIA. APPLICABLE CODES AND STANDARDS INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, THE FOLLOWING:

BOCA - BASIC CODES

ROANOKE CITY VDOT - VIRGINIA DEPARTMENT OF TRANSPORTATION.

ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS AND HANDBOOK

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

ASTM — AMERICAN SOCIETY FOR TESTING AND MATERIALS WVWA - WESTERN VIRGINIA WATER AUTHORITY

MAINTAIN A SET OF APPROVED PLANS ON SITE AT ALL TIMES DURING CONSTRUCTION.

OBTAIN EACH REQUIRED PERMIT PRIOR TO COMMENCING THAT PART OF THE WORK. PAY REQUIRED FEES.

NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF CONDITIONS WHICH DIFFER FROM THOSE SHOWN ON THE PLANS.

COMPLY WITH LOCAL ORDINANCES FOR BURNING OF WASTE. TRANSPORT WASTE MATERIALS AND UNSUITABLE MATERIALS FROM OWNER'S PROPERTY.

A PRECONSTRUCTION MEETING MUST TAKE PLACE PRIOR TO COMMENCING WORK. AS A MINIMUM, THE CONTRACTOR, OWNER'S AGENT AND CITY'S AGENT MUST ATTEND.

VERIFY THE LOCATION AND ELEVATION OF EACH EXISTING UNDERGROUND UTILITY IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF WORK. CONTACT ENGINEER IMMEDIATELY IF THERE APPEARS TO BE A CONFLICT, UPON DISCOVERY OF A UTILITY WHICH IS NOT SHOWN, AND UPON DISCOVERY OF A LOCATION OR ELEVATION WHICH DIFFERS FROM THAT SHOWN. TO LOCATE UTILITIES. CALL "MISS UTILITY" 1-800-552-7001. UTILITY LOCATIONS SHOWN ARE THE RESULT OF A COMBINATION OF FIELD LOCATION AND EXISTING INFORMATION. LOCATIONS ARE APPROXIMATE.

REPAIR ALL DAMAGE TO ANY UTILITY. PUBLIC OR PRIVATE, CAUSED AS A RESULT OF CONSTRUCTION ACTIVITIES, AT NO ADDITIONAL COST TO OWNER.

NOTIFY OWNERS OF UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO COMMENCEMENT OF EXCAVATION.

SIGNAGE SHALL COMPLY WITH THE APPLICABLE REGULATIONS OF THE CITY. A SEPARATE PERMIT IS REQUIRED.

ANY SITE DEVELOPMENT OUTSIDE OF THE SCOPE OF THIS PLAN WILL REQUIRE SITE PLAN REVIEW.

# WESTERN VIRGINIA WATER AUTHORITY NOTES

AVAILABILITY NUMBER: 08-015

**GENERAL NOTES:** A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE WESTERN VIRGINIA WATER AUTHORITY TO BE HELD AT LEAST ONE (1) DAY PRIOR TO ANY CONSTRUCTION OF THE APPROVED WATER AND SANITARY SEWER FACILITIES.

A MINIMUM COVER OF 1.5 FEET IS REQUIRED OVER PROPOSED SANITARY SEWER

ALL SANITARY SEWER AND WATER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.

CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING VALVE VAULTS, MANHOLES, ETC. AFTER PAVING AND ADJUSTING TO FINAL GRADE IF NECESSARY.

ALL EXISTING UTILITIES MAY NOT BE SHOWN OR MAY NOT BE SHOWN IN THE EXACT LOCATION. THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS, SECTION 12.05.03, WHERE LINES CROSS.

ALL TRENCHES IN EXISTING OR FUTURE HIGHWAY RIGHT-OF-WAYS SHALL BE COMPACTED ACCORDING TO VIRGINIA DEPARTMENT OF TRANSPORTATION'S STANDARDS. LINES SHALL BE STAKED PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL REFER TO THE WESTERN VIRGINIA WATER AUTHORITY STANDARD WATER AND SEWER REGULATIONS FOR CONSTRUCTION DETAILS AND INSTALLATION METHODS AS REQUIRED TO COMPLETE THE PROPOSED UTILITY FACILITIES AS INDICATED BY THESE DRAWINGS.

FIELD CORRECTIONS SHALL BE APPROVED BY THE WVWA ENGINEERING DIVISION PRIOR TO SUCH CONSTRUCTION.

THE CONTRACTOR SHALL PROVIDE THE WESTERN VIRGINIA WATER AUTHORITY WITH CORRECT AS-BUILT PLANS PRIOR TO SUBSTANTIAL COMPLETION OF ANY NEW PUBLIC EXTENSIONS.

WATER MAINS SHALL BE MINIMUM CLASS 350 DUCTILE IRON IN ACCORDANCE TO AWWA C151 OR DR-14 PVC IN ACCORDANCE WITH AWWA C-900.

WATER LATERALS FROM THE METER TO THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.

THE CONSTRUCTION OF THE PROPOSED PUBLIC WATER MAIN AND ALL COMMERCIAL SERVICES SHALL BE IN COMPLIANCE WITH THE CURRENT WESTERN VIRGINIA WATER AUTHORITY REGULATIONS. REFER TO THESE REGULATIONS FOR COMPLETE DETAILS AND INSTALLATION METHODS.

LATERALS FROM MANHOLES SHALL BE PVC OR DUCTILE IRON OF SUFFICIENT LENGTH TO PROVIDE TWO (2) FEET OF BEARING ON NATURAL GROUND.

THE LATERALS AND REQUIRED FITTINGS LOCATED WITHIN A PUBLIC RIGHT-OF-WAY OR PUBLIC EASEMENT SHALL BE OF THE SAME TYPE OF MATERIAL AS THE MAINLINE SEWER PIPELINE.

THE CONSTRUCTION OF THE PROPOSED PUBLIC SEWER MAIN AND ALL COMMERCIAL SERVICES SHALL BE IN COMPLIANCE WITH THE CURRENT WESTERN VIRGINIA WATER AUTHORITY REGULATIONS. REFER TO THESE REGULATIONS FOR COMPLETE DETAILS AND INSTALLATION METHODS.

ALL SANITARY SEWER PIPING SHALL BE PVC (POLYVINYL CHLORIDE) MANUFACTURED IN ACCORDANCE WITH ASTM DESIGNATION 3034-77 (SDR 35) UNLESS OTHERWISE NOTED ON THE PLANS/PROFILES.

ALL MANHOLE FRAMES AND COVERS SHALL BE WATERTIGHT AND ALL COVERS SHALL BE BOLT-DOWN MANHOLE COVERS (SEE DETAIL S-05 AND S-06) WHERE APPLICABLE.

### SHEET INDEX

SHEET TITLE C-1COVER SHEET

C-2LAYOUT & GRADING PLAN

WVWA DETAILS

**APPROX** 

ASPH

BLDG

BLK

CONC

COR

DBL

DEFL

DI

DIA

DE

ELEC

ELEV

**ENTR** 

**EXIST** 

HPT

INV

ASPHALT

BUILDING

CORNER

DOUBLE

ELECTRIC

**ELEVATION** 

**ENTRANCE** 

ENDWALL

EXISTING

**FOUNDATION** 

HIGH POINT

INTERSECTION IRON PIN

INVERT

FINISHED FLOOR

HOMEOWNERS ASSOCIATION

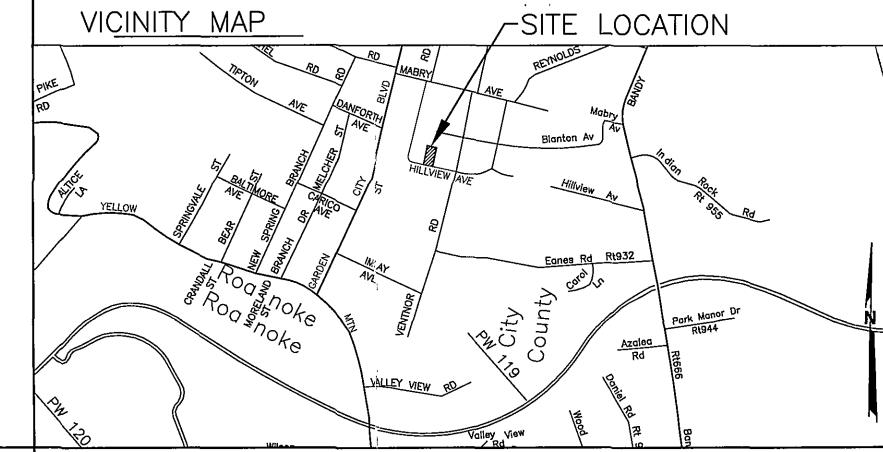
MINIMUM BUILDING LINE

FINISH GRADE

DRAINAGE EASEMENT

EDGE OF PAVEMENT

BLOCK



# **LEGEND**

**ABBREVIATIONS** ARROW HEAD TOP OF MANHOLE CONCRETE EX. POWER POLE YARD LIGHT (S.M.H.) FIRE HYDRANT MIN MINIMUM APPROXIMATE MONUMENT MON EX. TELEPHONE ASPHALT PAVING TYPICAL YARD HYDRANT NORTH BOUND LANE NBL BOTTOM OF CURB **PROP** PROPOSED PROP. FIRE HYDRANT PUE PAVEMENT REPLACEMENT EX. LIGHT POLE BITUMINOUS PUBLIC UTILITY EASEMENT **PVMT PAVEMENT** K-SS OFFE RADIUS BENCHMARK PROP. SIAMESE CONNECTION GRAVEL BENCHMARK RIGHT R.O.W. BOTTOM OF WALL RIGHT OF WAY PROP. GATE VALVE REQD CINDER BLOCK REQUIRED CURB & GUTTER RAILROAD CORRUGATED METAL PIPE RYS REAR YARD SETBA SAN CONCRETE SANITARY SBL SOUTH BOUND LA STORM DRAIN **SECT** DEFLECTION SECTION DROP INLET SLOPE EASEMENT DIAMETER SANITARY SEWER

REAR YARD SETBACK SANITARY	WEI	TLAND AREA		
SOUTH BOUND LANE STORM DRAIN		PROPERTY LINE	T	PROP. TELEPHONE LINE
SECTION SLOPE EASEMENT	OHP	EXIST. OVERHEAD POWER	G	PROP. GAS LINE
SANITARY SEWER SANITARY SEWER EASEMENT	8"w	EXIST. WATER LINE	——— P ———	PROP. UNDERGROUND POWER
STATION STANDARD	o.h.tv:	EXIST. OVERHEAD CABLE	8"W	PROP. WATERLINE
STORAGE SIDE YARD SETBACK		EXIST. CENTERLINE OF ROAD .	8"SS	PROP. SANITARY SEWER LINE
TEMPORARY BENCHMARK TOP OF CURB	18"rcp	EXIST. STORM SEWER		PROP. STORM SEWER LINE
TELEPHONE TRANSFORMER		EXIST. SANITARY SEWER	<del>348</del>	PROP. CONTOURS
TOP OF WALL TYPICAL	~~~~	EXIST. TREELINE	<b>-348</b>	EXIST, INTERMEDIATE CONTOURS
VIRGINIA DEPARTMENT OF TRANSPORTATION	<del></del>	EXIST. EDGE OF PAVEMENT		EXIST. INDEX CONTOURS
VERTICAL WEST BOUND LANE	<u> </u>	WETLAND BOUNDARY	× <i>348.55</i>	EXIST. SPOT ELEVATION
WESTERN VIRGINIA WATER AUTHORITY YARD	RMA	RESOURCE MANAGEMENT AREA BOUNDARY	TC=351.95 BC=351.45	PROP. TOP & BOTTOM OF CURB

## STANDARD CITY OF ROANOKE CONSTRUCTION PROCEDURE REQUIREMENTS

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NOTICE TO ALL LANDOWNERS, DEVELOPERS, AND CONTRACTORS: FAILURE TO COMPLY WITH THE CONSTRUCTION PROCEDURE REQUIREMENTS LISTED ABOVE MAY RESULT IN THE COSTLY REMOVAL OF STRUCTURES, TIME DELAYS, OR THE ISSUANCE OF A STOP WORK ORDER.

RIGHT-OF-WAY EXCAVATION PERMIT: PRIOR TO THE COMMENCEMENT OF ANY DIGGING, ALTERATION, OR CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY (STREETS, ALLEYS, PUBLIC EASEMENTS). A RIGHT-OF-WAY EXCAVATION PERMIT SHALL BE APPLIED FOR AND OBTAINED BY THE CONTRACTOR FROM THE CITY OF ROANOKE.

LAND DISTURBANCE PERMIT: AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR ANY BORROW/FILL SITES ASSOCIATED WITH THE PROJECT MUST BE SUBMITTED PRIOR TO THE ISSUANCE OF A LAND DISTURBANCE PERMIT

PLANS AND PERMITS: A COPY OF THE PLANS AS APPROVED BY THE CITY OF ROANOKE (SIGNED BY THE PROPER CITY OFFICIALS) AND ALL PERMITS ISSUED BY THE CITY SHALL BE MADE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES OF ONGOING CONSTRUCTION.

LOCATION OF UTILITIES: THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

CONSTRUCTION ENTRANCE: THE CONTRACTOR SHALL INSTALL AN ADEQUATE CONSTRUCTION ENTRANCE FOR ALL CONSTRUCTION RELATED EGRESS FROM THE SITE. SIZE AND COMPOSITION OF THE CONSTRUCTION ENTRANCE SHALL BE AS SHOWN ON THE PLANS.

STREETS TO REMAIN CLEAN: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT THE PUBLIC STREET ADJACENT TO THE CONSTRUCTION ENTRANCE REMAINS FREE OF MUD, DIRT, DUST, AND/OR ANY TYPE OF CONSTRUCTION MATERIALS OR LITTER

BARRICADES/DITCHES: THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXCAVATED DITCHES AND SHALL FURNISH AND ENSURE THAT ALL BARRICADES PROPER AND NECESSARY FOR THE SAFETY OF THE PUBLIC ARE IN PLACE.

SEWER AND PAVEMENT REPLACEMENT; CONSTRUCTION OF SANITARY SEWERS AND THE REPLACEMENT OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPROVED STANDARDS AND SPECIFICATIONS OF THE CITY OF ROANOKE AND THE WESTERN VIRGINIA WATER AUTHORITY.

APPROVED PLANS/CONSTRUCTION CHANGES: ANY CHANGE OR VARIATION FROM CONSTRUCTION DESIGN AS SHOWN ON THE OFFICIALLY APPROVED PLANS SHALL BE APPROVED BY THE EROSION AND SEDIMENT CONTROL AGENT PRIOR TO SAID CHANGES OR VARIATION IN CONSTRUCTION BEING MADE.

FINAL ACCEPTANCE/CITY: THE OWNER OR DEVELOPER SHALL FURNISH THE CITY OF ROANOKE'S PLANNING BUILDING AND DEVELOPMENT DEPARTMENT WITH A FINAL CORRECT SET OF AS-BUILT PLANS PRIOR TO FINAL ACCEPTANCE BY THE CITY.

## ENGINEERS NOTES

---- RPA---- RESOURCE PROTECTION AREA BOUNDARY

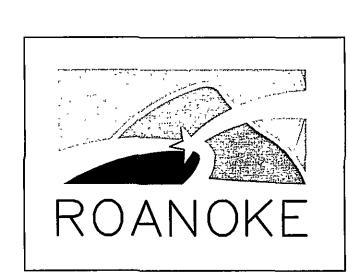
BALZER AND ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ADEQUACY OF PLANS OR FOR INFORMATION ON PLANS UNTIL SUCH PLANS HAVE BEEN APPROVED BY THE REQUIRED PUBLIC AGENCIES.

ANY WORK COMMENCED ON A PROJECT PRIOR TO PLAN APPROVAL IS AT SOLE RISK OF THE DEVELOPER. BALZER AND ASSOCIATES, INC. WILL NOT BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE PLANS OR WILL NOT BE RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING

SOURCE OF TOPOGRAPHIC MAPPING AND BASE INFORMATION IS A SURVEY PERFORMED BY LUMSDEN AND

SIGNATURE:  PRINTED NAME:  CERTIFICATE DATE:  TELEPHONE NUMBER:	AM CERTIFIED BY THE STATE OF VIRGINIA AS A "RESPONSIBLE LAND DISTURBER." I SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN AS SHOWN.
CERTIFICATE DATE:	SIGNATURE:
TELEPHONE NUMBER:	PRINTED NAME:
	CERTIFICATE DATE:
ADDDECC.	TELEPHONE NUMBER:
ADDRESS:	ADDRESS:

REGISTERED LAND DISTURBER



DRAWN BY: BTC DESIGNED BY: BTC CHECKED BY: SMH DATE: 9-4-08

9-23-08

SCALE: N/A

R0800332.00

APPROVAL BLOCK

15871 City View Drive Midlothian, Virginia 23113 Phone 804/794-0571 FAX: 804/794-2635 880 Technology Park Drive Suite 200 Glen Allen, Virginia 23059 Phone: 804/553-0132 FAX: 804/553-0133 448 Peppers Ferry Road, NW Christiansburg, Virginia 24073 Phone 540/381-4290 FAX: 540/381-4291 1561 Commerce Road Sulte 401 Verona, Virginia 24482 Phone: 540/248-3220 FAX: 540/248-3221 フー

PROGER I. STURGILL

Lic. No. 033058

9/27/08

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Roanoke, Virginia 24018 Phone: 540/772-9580

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SHEET NO.

JOB NO.