GENERAL GRADING NOTES:

1. THE CONTRACTOR SHALL REVIEW THE EROSION & SEDIMENT CONTROL NARRATIVE FOR PHASING OF EROSION & SEDIMENT CONTROL MEASURES. THE CONTRACTOR SHALL COMPLY WITH LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF THE SITE. REFER TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR DETAILS AND SPECIFICATIONS OF THOSE EROSION CONTROL ITEMS FOUND ON THESE DRAWINGS.

2. THE CONTRACTOR SHALL PROVIDE ALL GRADING, GENERAL EXCAVATION, AND FINISH GRADING AS INDICATED ON THE DRAWINGS. WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS. ALL FILLS AND BACKFILLS SHALL BE UNIFORMLY COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES.

3. A DEQ VSMP PERMIT IS REQUIRED FOR THIS PROJECT. A COPY OF THE DEQ PERMIT, STORMWATER POLLUTION PREVENTION PLAN, AND MAINTENANCE LOGS SHALL BE KEPT ON SITE AND AVAILABLE FOR REVIEW AS REQUESTED.

4. ALL EARTH SLOPES AND DENUDED AREAS SHALL BE SEEDED AND MULCHED AS REQUIRED FOR STABILIZATION WITHIN SEVEN (7) DAYS OF COMPLETION OF EXCAVATION OPERATIONS. REFERENCE IS DIRECTED TO THE SEEDING REQUIREMENTS.

FINAL EROSION AND SEDIMENT CONTROL MEASURES / CONSTRUCTION SEQUENCE:

CONSTRUCTION WILL BE SEQUENCED TO INSTALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO DEMOLITION.

- CONTRACTOR SHALL VERIFY THAT INITIAL ESC MEASURES ARE INSTALLED AS SHOWN ON PLANS. CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION ENTRANCE PER VA ESCH STD. & SPEC 3.02.
- AFTER THE INITIAL MEASURES ARE INSTALLED, THE CONTRACTOR MAY BEGIN EXCAVATION AND INSTALLATION OF ALL PROPOSED WATERLINE. CONTRACTOR SHALL INSTALL PROPOSED WATERLINE IN MANAGEABLE SECTIONS AND BACKFILL AS REQUIRED AFTER EACH SECTION IS COMPLETED TO AVOID HAVING EXTREMELY LONG LENGTHS OF OPEN TRENCHING AT ONE TIME. THE MAXIMUM LENGTH OF OPEN TRENCHING AT ONE TIME CAN BE NO MORE THAN 500 LINEAR FEET. THE SURFACE WHERE TRENCHING OCCURS SHALL BE RESTORED TO ORIGINAL CONDITIONS.
- CONTRACTOR SHALL AVOID ANY CONFLICTS WITH THE EXISTING WATERLINE AND OTHER UTILITIES DURING CONSTRUCTION OF THE PROPOSED WATERLINE. IF THE LOCATION OF THE PROPOSED WATERLINE CONFLICTS WITH THE EXISTING WATERLINE, THEN THE CONTRACTOR SHALL MAKE ANY NECESSARY ADJUSTMENTS TO AVOID THE CONFLICTS WHILE MAINTAINING A MINIMUM COVER OF 3'.
- FLOW SHALL BE MAINTAINED THROUGH THE EXISTING WATERLINE DURING INSTALLATION OF ALL PROPOSED WATERLINE. CONTRACTOR SHALL HAVE ALL PROPOSED WATERLINE INSTALLED JUST PRIOR TO SWITCHING OVER FROM THE EXISTING LINE. ONCE THE CONVERSION HAS BEEN MADE, ALL EXISTING WATERLINE IS TO ABANDONED IN PLACE. EXISTING FIRE HYDRANTS, AND OTHER EXISTING WATERLINE FEATURES EXTENDING ABOVE THE GROUND, SHALL BE REMOVED AND THE PIPES CAPPED OFF.
- TOPSOIL STOCKPILING MAY OCCUR IN SUITABLE LOCATIONS DETERMINED BY THE CONTRACTOR. SILT FENCE SHALL BE PLACED AROUND THE PERIMETER OF THE STOCKPILE. TEMPORARY SEEDING MEASURES APPLY TO STOCKPILES.
- ONCE INSTALLATION OF THE PROPOSED UNDERGROUND UTILITIES ARE COMPLETED, AS FINAL GRADES ARE MET, NECESSARY ESC MEASURES ARE TO BE INSTALLED.
- ONCE THE SITE HAS BEEN STABILIZED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED AND THOSE AREA BROUGHT TO FINAL GRADE AND STABILIZED. THE CONTRACTOR SHALL COORDINATE WITH LOCAL AUTHORITY PRIOR TO REMOVING THE EROSION AND SEDIMENT CONTROL MEASURES. ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. ALL ESC MEASURES TO BE ALTERED OR REMOVED REQUIRE AUTHORITY APPROVAL.
- THE SILT FENCE AND CONSTRUCTION ENTRANCE SHALL BE REMOVED FORM THE PROJECT ONCE ALL DISTURBED AREAS ARE STABILIZED AND PERMANENT VEGETATION IS ESTABLISHED. THE USE OF A FILTER DEVICE SHALL BE USED TO DEWATER SEDIMENT LADEN WATER.

GENERAL UTILITY NOTES:

1. THE LOCATION, DEPTH, AND ALIGNMENT OF EXISTING UNDERGROUND UTILITIES IS BASED UPON VISUAL FIELD FEATURES AND AVAILABLE RECORDS AND SHOULD BE CONSIDERED APPROXIMATE. THERE MAY BE UTILITIES WHICH AFFECT THE PROPERTY NOT SHOWN HEREON. CONTRACTOR SHALL CALL "MISS UTILITY" TO VERIFY LOCATION OF ANY UNDERGROUND UTILITIES PRIOR TO ANY CONSTRUCTION.

2. CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO WVWA AND ROANOKE COUNTY STANDARDS.

3. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND INVERTS OF ALL EXISTING MANHOLES, GAS LINES, AND OTHER UTILITY LINES PRIOR TO THE START OF CONSTRUCTION.

4. CONTRACTOR TO COORDINATE WITH SALEM UTILITY COMPANIES FOR SERVICE LINES.

5. CONTRACTOR SHALL USE EXTREME CAUTION DURING CONSTRUCTION TO NOT DISTURB EXISTING UTILITIES TO REMAIN.

6. ALL NEW UTILITIES TO BE INSTALLED UNDERGROUND. CONTRACTOR SHALL VERIFY LOCATIONS OF UTILITY ENTRANCE/EXITS TO BUILDING WITH ARCHITECTURAL PLANS.

WATERLINE NOTES:

WL#1: CONTRACTOR SHALL COORDINATE WITH WVWA PRIOR TO CONSTRUCTION.

WL#2: CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING 8" WATER LINE PRIOR TO CONSTRUCTION. (ASSUMED 4.0' DEPTH).

WL#3: MAINTAIN MINIMUM 3.0' COVER ON PROPOSED WATER LINE.

WL#4: THE WATER SERVICE FOR THIS PROJECT WILL REQUIRE A CONCRETE VAULT. PLEASE CONTACT CLEAR FLOW AT (540) 942-3300 TO ORDER THE VAULT. THE APPLICANT IS RESPONSIBLE FOR PAYMENT, DELIVERY AND COORDINATION OF THE VAULT, AND INSTALLATION OF THE WATER SERVICE BETWEEN THE AUTHORITY MAIN AND THE VAULT INCLUDING ALL FITTINGS TO ATTACH TO EXISTING 8" MAIN.

Hydrants All 2017 A0 8848-5

CONSTRUCTION NOTES:

1. PIPING MATERIALS WILL BE DRISCOPLEX 1500 (OR APPROVED EQUAL), 12 INCH NPS, HDPE PIPE AND FITTINGS FOR MIXED PROCESS AND FIRE WATER USE. PIPE TO PIPE CONNECTIONS WILL BE BUTT FUSION WELDED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROCEDURES. ALL UNDERGROUND PIPE AND FITTING TO BE FACTORY MUTUAL APPROVED FOR UNDERGROUND INSTALLATIONS. ALL FUSION WELDED PIPE AND FITTINGS WILL BE FROM THE SAME MANUFACTURER AND FABRICATED TO THE SAME SPECIFICATION. DIFFERENT BRANDS OF FITTINGS AND PIPE SHALL NOT BE FUSION WELDED TOGETHER.
2. HYDRANTS ARE READY TO BE DRY COLUMN AWWA C-502 COMPLIANT, UL LISTED AND FM APPROVED, 5 1/4 SIZE WITH TWO HOSE CONNECTIONS AND ONE PUMPER CONNECTIONS EACH.
3. THERE WILL BE AN UNDERGROUND ISOLATION VALVE WITH A POST INDICATOR ACTUATOR FOR EACH BRANCH IN THE UNDERGROUND PIPING SYSTEM. THE POST INDICATOR VALVE WILL BE LOCATED NEAR THE HYDRANT AND IN A LOCATION WHERE IT IS NOT IN THE NORMAL TRAFFIC PATTERN.
4. CONNECTIONS BETWEEN METALLIC OR OTHER NON-HDPE COMPONENTS AND HDPE PIPING ARE TO BE BY A FULLY THRUST RESTRAINING FLANGED JOINT. HDPE FLANGES ARE TO HAVE BACKING RINGS AND HEAVY WASHERS ARE TO BE USED UNDER THE BOLT HEADS AND NUTS. FLANGED JOINTS ARE TO BE TIGHTENED AT TIME OF INSTALLATION ACCORDING TO THE TORQUE VALUES AND TIGHTENING PATTER SPECIFIED BY THE HDPE FLANGE MANUFACTURER'S INSTRUCTIONS. FLANGED JOINTS ARE TO BE RE-TIGHTENED A MINIMUM OF ONE HOUR AFTER INITIAL TIGHTENING, AGAIN ACCORDING TO THE MANUFACTURER'S TORQUE REQUIREMENT AND THE MANUFACTURER'S TIGHTENING PATTERN.
5. FOUR BOLLARDS MADE FROM STEEL SIX INCH NPS PIPE WILL BE INSTALLED TO PROTECT EACH HYDRANT AND EACH POST INDICATOR VALVE. BOLLARDS WILL HAVE A CONCRETE POST HOLE FOUNDATION AND WILL BE FILLED WITH CONCRETE. FOUNDATION FOR BOLLARDS WILL BE 48 INCHES DEEP AND BOLLARDS WILL PROJECT 42 INCHES ABOVE FINISHED GRADE.
6. TOP OF UNDERGROUND PIPE TO BE 12 INCHES BELOW FROST DEPTH. FROST DEPTH FOR SALEM VA IS 24 INCHES. TOP OF PIPE IS TO BE 36 INCHES BELOW FINISHED GRADE. 12 INCH PIPE INVERT IS TO BE 48 INCHES BELOW FINISHED GRADE.
7. SEE "TYPICAL TRENCH SECTION" DETAIL FOR TRENCH AND PIPE INSTALLATION DETAILS.
8. THE REQUIREMENTS OF "PROCESS INDUSTRIAL PRACTICES, PIP PNSC0036 HIGH DENSITY POLYETHYLENE (HDPE) PIPING INSTALLATION SPECIFICATIONS," SHALL BE FOLLOWED AS THEY PERTAIN TO FM APPROVED UNDERGROUND PIPING.
9. THE REQUIREMENTS OF THE WESTERN VIRGINIA WATER AUTHORITY AND THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS (WVRDCS MUST BE FOLLOWED. THIS PERTAINS IN GENERAL AND SPECIFICALLY TO THE LOCATION WHERE THE UNDERGROUND LINE CROSSES THE STREAM BED. SEE CONSTRUCTION SPECIFICATION CS-7 OF WVRDCS REGARDING STREAM BED CROSSING.
10. AT THE THREE INDICATED LOCATIONS WHERE THE PIPE CROSSES THE RAILROAD TRACKS JUST INSIDE THE PLANT GATE, INSTALL CASING PIPES IN COMPLIANCE WITH CS-7 OF WVRDCS. SEE NOTE REGARDING OPTION FOR HDD VERSUS CONVENTIONAL EXCAVATION AND RE-INSTALLATION OF THE RAILROAD TRACKS.

EXISTING BUILDING LEGEND

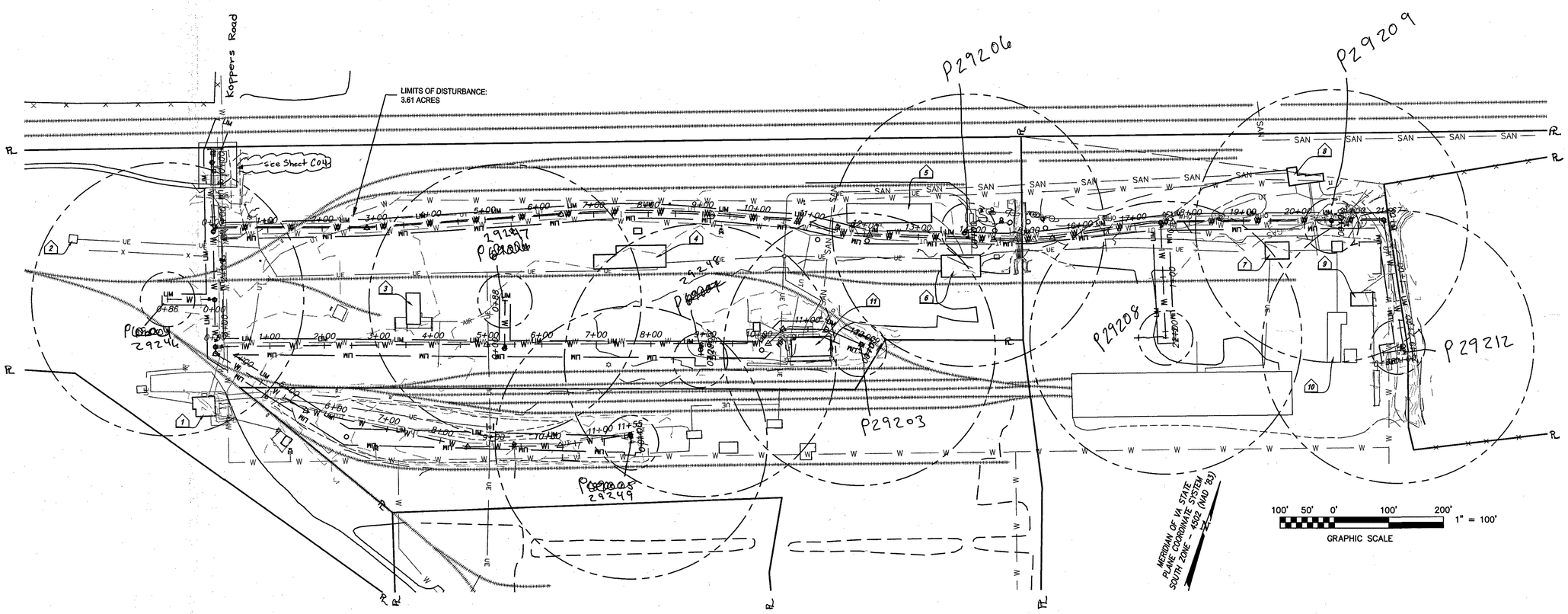
1. OFFICE BUILDING
2. SWITCHMILL BUILDING
3. PRE PLATER BUILDING
4. FRAME MILL BUILDING
5. SHOP BUILDING
6. STORAGE BUILDING
7. BOILER BUILDING
8. TREATMENT SERVICE BUILDING
9. CHEMICAL BUILDING
10. TREATING BUILDING
11. MAIN SERVICE BUILDING

EROSION AND SEDIMENT CONTROL MEASURES:

PROVIDE THE FOLLOWING:

- CE — CONSTRUCTION ENTRANCE MEETING VA ESCH STD. & SPEC. 3.02
- SF — SILT FENCE MEETING VA ESCH STD. & SPEC. 3.05
- TO — TOPSOILING MEETING VA ESCH STD. & SPEC. 3.30
- TS — TEMPORARY SEEDING MEETING VA ESCH STD. & SPEC. 3.31
- PS — PERMANENT SEEDING MEETING VA ESCH STD. & SPEC. 3.32
- DC — DUST CONTROL MEETING VA ESCH STD. & SPEC. 3.39

R = Property Line



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COMMONWEALTH OF VIRGINIA
SIMON L. RUTROUGH
Lic. No. 050774
08/2/2017
PROFESSIONAL ENGINEER

Koppers Waterline Extension for Koppers Industries, Inc.

4020 Koppers Road
Catawba Magisterial District
Roanoke County, Virginia

REVISIONS:

APPROVED

DESIGNED BY:	JPA
DRAWN BY:	JPA
CHECKED BY:	SLR
SCALE:	1" = 100'
DATE:	07 April 2017

SHEET TITLE:

OVERALL LAYOUT & ESC PLAN

C03

03 OF 09

PROJECT NUMBER: 16-0151-03