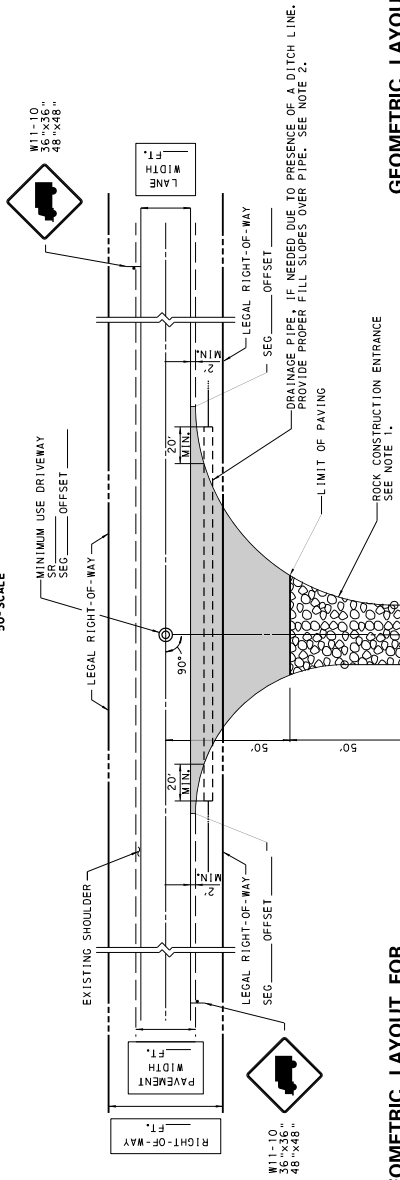


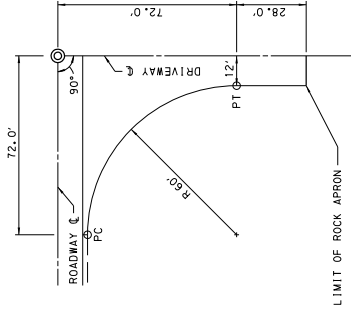
**APPENDIX C4 – MINIMUM USE DRIVEWAY DESIGN FOR UNCONVENTIONAL GAS DRILLING AND HYDROFRACKING WELL SITES**

The following page is the detail of the minimum use driveway design for unconventional gas drilling and hydrofracking well sites.

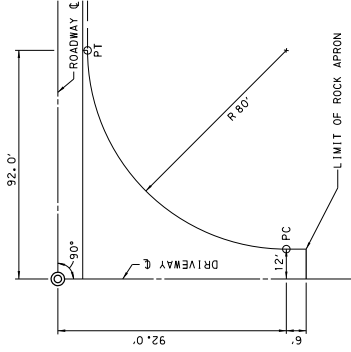
**MINIMUM USE DRIVEWAY PLAN**  
50-SCALE



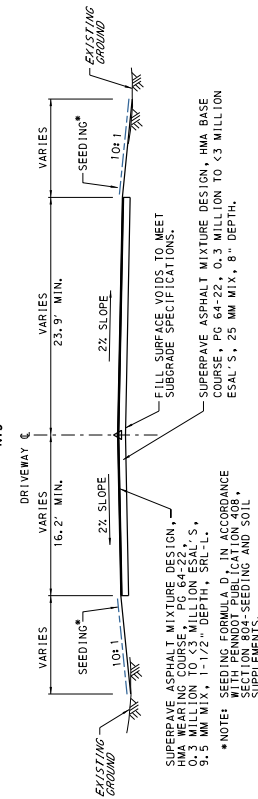
**GEOMETRIC LAYOUT FOR 60° RADIUS CURVE**  
50-SCALE



**GEOMETRIC LAYOUT FOR 80° RADIUS CURVE**  
50-SCALE



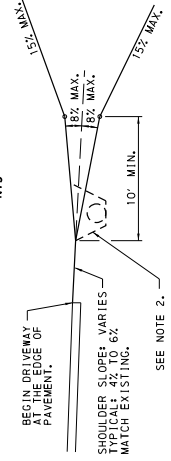
**DRIVEWAY TYPICAL SECTION**  
NTS



SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64-22, 0.3 MILLION TO 0.5 MILLION SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, 0.3 MILLION TO 0.3 MILLION

\*NOTE: SEEDING FORMULA D. IN ACCORDANCE WITH PENNDOT PUBLICATION 408. SECTIONS FOR SEEDING AND SOIL SUPPLEMENTS.

**DRIVEWAY PROFILE**  
NTS



**LEGEND**

- = DRIVEWAY PAVEMENT
- = ROCK CONSTRUCTION ENTRANCE (AASHTO NO. 1 COARSE AGGREGATE)

**NOTES**

1. ROCK CONSTRUCTION ENTRANCE TO BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN STANDARDS FROM PENNDOT PUBLICATION T2M, STANDARDS FOR ROADWAY CONSTRUCTION, RC-77M, WITH ACCEPTIONS DUE TO THE GEOMETRIC DESIGN OF THE DRIVEWAY.
2. DRIVEWAY SHALL BE CONSTRUCTED SO AS NOT TO IMPAIR DRAINAGE FROM THE ADJACENT ROADWAY. PROVIDE A DRAINAGE PIPE UNDER THE IMPROVED AREA OR CHANGE THE DRAINAGE OF ADJACENT AREAS. WHERE A DRAINAGE DITCH OR SWALE EXISTS, INSTALL ADEQUATE PIPE UNDER THE DRIVEWAY IN ACCORDANCE WITH PENNDOT PUBLICATION T2M, RC-30M AND PUBLICATION 408. SECTION 601-PIPE CULVERTS, DRAINAGE PIPE UNDER DRIVEWAYS SHALL MATCH EXISTING PIPE SIZE OR BE A MINIMUM OF 15" IN DIAMETER, WHICHEVER IS GREATER.
3. IF THE DRIVEWAY DESIGN IS ANTICIPATED TO CAUSE AN INCREASE IN FLOW RATE OR FLOW VELOCITY OF WATER ONTO THE HIGHWAY OR INTO DEPARTMENT DRAINAGE FACILITY, A DRAINAGE IMPACT REPORT (IN ACCORDANCE WITH PUBLICATION 282, HIGHWAY OCCUPANCY GUIDELINES) SHALL BE SUBMITTED FOR REVIEW TO THE APPROPRIATE PENNDOT ENGINEERING DISTRICT CONCURRENTLY WITH THE HIGHWAY OCCUPANCY PERMIT APPLICATION.
4. TRAFFIC CONTROL DURING CONSTRUCTION OF THE SITE DRIVEWAY SHALL BE IN ACCORDANCE WITH PENNDOT PUBLICATION 213, TEMPORARY TRAFFIC CONTROL GUIDELINES.
5. TRAFFIC CONTROL DURING NORMAL DRILLING AND HYDROTRACKING OPERATIONS SHALL INCLUDE AT A MINIMUM:
  - A. INSTALL TRUCK CROSSING SIGN (W10-11) ON THE STATE HIGHWAY IN ADVANCE OF THE SITE DRIVEWAY IN ACCORDANCE WITH PENNDOT PUBLICATION 213, TEMPORARY TRAFFIC CONTROL GUIDELINES.
  - B. PROVIDE A FLAGGER WITHIN THE DRIVEWAY APPROACH TO CONTROL ENTERING AND EXITING SITE TRAFFIC WITHOUT IMPAIRING THE FREE MOVEMENT OF NORMAL HIGHWAY TRAFFIC.
6. NO STAGING FOR OPERATIONS WILL OCCUR IN THE DEPARTMENT RIGHT-OF-WAY.
7. IMMEDIATELY REMOVE ANY MUD AND/OR DEBRIS THAT HAS BEEN TRACKED ONTO DEPARTMENT ROADWAYS.
8. REPAIR, WITHIN 24 HOURS, ANY DAMAGE TO DEPARTMENT ROADWAYS CAUSED AS A RESULT OF VEHICLES USING THE DRIVEWAY.
9. PROVIDE TYPE R4 ROCK (OR DEPARTMENT APPROVED MATERIAL) IN AREAS WHERE WHEELS TRACK OFF THE DRIVEWAY TO A MAXIMUM WIDTH OF 3' FROM THE DRIVEWAY EDGE. SHOULDERS SHALL BE INSTALLED PER THE REGULATIONS IN TITLE 67, CHAPTER 41.8 (P) OF THE TRANSPORTATION CODE.
10. SIGHT DISTANCE VALUES AT THE PROPOSED DRIVEWAY, FOR THE THREE CONDITIONS INDICATED ON PENNDOT FORM M-9505, SHALL MEET OR EXCEED THE REQUIREMENTS PER THE REGULATIONS IN TITLE 67, CHAPTER 41.8 (P) OF THE TRANSPORTATION CODE.

**MINIMUM USE DRIVEWAY DESIGN FOR UNCONVENTIONAL GAS DRILLING AND HYDROFRACKING WELL SITES**  
**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**

COUNTY : \_\_\_\_\_

TOWNSHIP/BORO. : \_\_\_\_\_

ROUTE NO. : \_\_\_\_\_

SEG./OFF. : \_\_\_\_\_

APPLICANT/OWNER : \_\_\_\_\_

ADDRESS : \_\_\_\_\_

POST OFFICE : \_\_\_\_\_

ZIP CODE : \_\_\_\_\_