FCCD E&S Control Plan Technical Review Checklist/ and Standard Comments*

Project Name_____**Permit #**_____

Review Date _____ **Municipality** _____

_____ The plan preparer's name, address and phone number not on plan drawings.

_____ The plan designer's qualifications in preparing erosion and sediment pollution control plans have not been provided in the plan narrative.

_____ Plan drawing is not legible in all areas.

_____ A plan scale of 1" = 50' or larger scale has not been provided. The scale needs to be large enough to clearly depict the topography.

_____ Sheet match lines with overlap have not been provided on the plan drawing.

_____ Existing contour intervals exceed the maximum 2'.

_____ Existing contours have not been provided/identified on the plan drawing at 10 foot (max) intervals.

_____ Existing contour elevations have not been adequately labeled on the plan drawing.

_____ The parcel boundaries have not been provided on the plan drawing.

_____ All landmarks including the type and extent of existing vegetation (ex. tree lines, fencerows, pasture, field boundaries, existing properties, existing right-of -ways and vacant structures) have not been provided on the plan drawing.

_____ Sufficient surrounding area has not been provided upslope/downslope of the project boundaries

_____ Drainage areas & receiving waters need to be clearly shown on the plan drawing.

_____ All existing stream channels (defined bed and bank) within or adjacent to the site need to be shown on plan drawing

_____ The North arrow needs to be on all plan sheets.

_____ All symbols clearly identified in the mapping legend.

_____ The plan map(s), *(soil map, or location map)* should provide sufficient surrounding area to delineate the watershed areas for all proposed Erosion and Sediment Pollution Control BMPs and to identify all receiving waterways.

_____ The location map has not been provided on the plan drawing with the site location outlined.

_____ The types, depths, slopes, and locations of all soil types have not been provided on the plan drawing.

_____ A soil survey map has not been provided in the plan narrative.

_____ A soils legend has not been provided on the plan drawing.

_____ Soil use limitations are not identified in the Narrative. Please refer to Tables in the NRCS Soil Survey.

_____ The plan does not address the % compaction and maximum lift thickness for compacting fill for any proposed berms, streets, etc.

_____ The soil survey indicates soils with a high water table. The clean out elevation(s) for basin(s)/trap(s)_____ have not been located at or above the high water table elevation to allow for the required dewatering.

_____ Construction techniques or special considerations to address soil limitations to be noted on plan drawing.

Hydric Soils

_____ Since the Franklin County Soil Survey shows hydric soils occurring within the project/permit boundaries, the Conservation District requests that a wetland determination be conducted by a qualified consultant. If wetlands are determined to be present please submit a copy of the wetlands delineation report (<5 years old) and wetland mapping with the revised plans.

_____ Since the Franklin County Soil Survey shows hydric soils occurring within the project/permit boundaries, a note is needed **in bold** on the plan drawing stating, "*There is a high probability that this parcel contains watercourses and/or wetlands which are Waters of the United States regulated by the U.S. Army Corps of Engineers (Corps), Baltimore District, pursuant to Section 404 of the Clean Water Act. Discharges of dredged or fill material, grading, or mechanized land clearing within Waters of the United States, including jurisdictional wetlands, will require a permit from the Corps. This includes watercourses with drainage areas of less than 100 acres. It is highly recommended that a jurisdictional determination (JD and a determination of permit requirements be obtained from the Corps prior to any earthmoving activities. Violations of Section 404 of the Clean Water Act are subject to prosecution by the Attorney General of the United States.*"

_____ If wetlands will be directly impacted, provide copies of any federal permits issued for the proposed impacts and copies of any applications made for other DEP permits and/or permit waivers. If a separate encroachment permit is required for wetlands activity, the final work plan approved for permit must be incorporated into the Erosion and Sediment Pollution Control Plan. Any changes to the Erosion and Sediment Pollution Control Plan as a result of other permits or reviews should be submitted to and approved by this office as plan revisions before implementation begins.

_____ If the wetlands will not be directly impacted by proposed construction operations, the wetland delineation line along with the Erosion and Sediment Pollution Control BMPs that will be installed to protect the wetlands should be clearly shown on the Erosion and Sediment Pollution Control Plan map(s).

_____ All potentially hydric soils have not been identified

_____ The limits of earth disturbance have not been provided on the plan drawing.

_____ Phase boundaries were not shown on plan drawing

_____ The limits of earth disturbance do not include the areas to be disturbed to make final lawn.

_____ The proposed NPDES permit boundary has not been labeled on the plan drawing or provided on a smaller scale project overview sheet.

_____ The proposed NPDES permit boundary does not include the entire parcel/property boundaries and all offsite right-of-ways

_____ Since the project proposes 1 acre or more of earth a NPDES permit is required.

_____ The proposed contours/grades have not been provided on the plan drawing.

_____ Proposed contour intervals exceed the maximum 2'.

_____ The proposed contour elevations have not been adequately labeled on the plan drawing

_____ The proposed contours do not tie into the existing contours.

_____ Individual lot grades have not been provided on the plan drawing.

_____ All proposed grading has not been shown on the E&S plan drawings.

_____ Does the site balance? If not, then the plan should address where and how the excess fill material from the project will be disposed of or come from.

_____ The final grades have not been provided for removal/regrading of basin/trap/ channel(s)

_____ Previous land uses (Brownfields, mined areas, fruit orchards, etc) and locations not shown on plan drawing as well as being described in the narrative.

_____ All proposed utilities have not been shown on plan drawing.

_____ The propose land use of the land needs to be clearly defined in the plan narrative

Proposed waterways & stormwater management facilities

_____ All proposed stormwater management facilities (ex. stormwater swales, pipes, infiltration areas and inlets) required by the municipality and/or necessary for proper drainage have not been provided on the plan drawing.

_____ An analysis has not been provided demonstrating that the peak discharge of the 10 year 24 hour storm event from the permanent stormwater management basin/storm sewer outfall will not create accelerated erosion (and flooding of any adjacent downstream improvements) from the discharge point to a surface waters.

_____ Since earth disturbance is proposed within or along Waters of the Commonwealth and/or within the 100 year floodway the Conservation District requests that a photocopy(s) of any and all required DEP and/or Army Corp of Engineers permits (or) photocopies of all completed permit applications be submitted with the revised plans.

_____ All proposed PCSM improvements have not been provided on the plan drawing

_____ Need to show all transition points for all waterways

_____ All proposed outfalls need to be clearly labeled

_____ Need to show all infiltration BMP locations and how they will be protected during construction

_____ All proposed building foot prints need to be shown

_____ The lot numbers have not been provided on the plan drawing.

_____ All past, present and proposed land uses have not been adequately described in plan narrative.

_____ The location(s) of the topsoil stockpiles has/have not been provided.

_____ Adequate BMPs have not been provided for earth disturbance associated with the proposed road widening and/or excavation of offsite utility trenches in right-of-way(s).

_____ All symbols shown on the plan drawing have not been provided in the legend

_____ Has the proper Chapter 105 permits been applied for?

_____ Are all existing uses been clearly identified?

_____ The proposed activity is located in a HQ watershed, therefore all BMPs must be ABACT BMPs

Maximum *during construction drainage areas*

_____ *Maximum* during construction drainage area(s) for all BMP's has (have) not been outlined and labeled *on the plan drawing*. **Technical review of the BMP design can not be completed without correct drainage area(s).**

_____ The maximum during construction drainage area(s) *acreage* for all facilities has not been labeled on the plan drawing or on a separate drainage area sheet.

_____ The *maximum* during construction drainage area for _____ is incorrect.

_____ The entire offsite drainage area to the project has not been provided on the plan drawing or outlined on a separate smaller scale drainage area sheet (or) USGS quad map in the plan narrative.

Peak flow calculations for all channels (see Channels section check for "Q")

_____ Standard Worksheets were not provided which shows anticipated peak flows for design storms

_____ The location of the receiving stream(s) or other watercourse(s) has not been provided on the plan drawing or on a copy of a USGS topographic quad map.

_____ The PA Chapter 93 (Water Quality Standards) receiving stream designation(s) or existing use classification(s) (whichever is greater) has not been included in the plan narrative.

_____ All existing Waters of the Commonwealth have not been provided on the plan drawing (ex. including all define bed and banks)

_____ The delineated wetlands boundary has not been provided on the plan drawing. Documentation should be provided to state that a wetland determination was conducted by a qualified consultant.

_____ All existing wetland areas should be clearly shown on the plan map (including those outside the permit *[project]* boundaries which may be affected by the proposed earthmoving or Erosion and Sediment Pollution Control BMPs).

_____ The 100-year floodway boundary has not been provided on the plan drawing.

_____ The 100-year floodplain boundary has not been provided on the plan drawing.

_____ All receiving storm sewer systems need to be shown on plan drawing

_____ Downstream analysis was not provided for all proposed discharges in the plan narrative.

_____ Flowage easements and/or downstream landowner agreements were not submitted.

_____ All special protection and/or existing stream uses were not clearly identified in the plan narrative.

_____ Show perimeter controls for the entire downslope area of the project during all stages and phases of construction. Perimeter BMPs have not been provided for _____

_____ What control measures will be used for earth disturbance activities associated with any proposed wetland mitigation areas?

_____ What controls will be used for any in-stream work or wetland crossing?

_____ The construction sequence does not provide adequate perimeter BMPs for earth disturbance associated with the required initial clearing and grubbing of existing vegetation (ex. trees & brush).

_____ The construction sequence does not provide perimeter BMPs for the cut/fill required for the installation of _____

_____ Perimeter BMPs have not been provided at the proposed storm sewer outfall located _____

_____ The construction sequence does not address installation of earthen, stone, and asphalt inlet berms until the streets receive the final wearing course.

_____ How will sediment laden water get to perimeter facilities? The plan does not provide BMPs for rough-graded streets and disturbed areas up slope of the streets prior to the inlets being installed and becoming functional.

_____ E&S Plan drawing BMPs are not consistent with the Notice of Intent.

_____ BMP details do not include maintenance information.

_____ What suitable BMPs are in place for Clearing & Grubbing?

_____ Need to address runoff for access roads and utility lines

_____ Check plan notes for consistency with District standard plan notes

_____ Critical areas have proper erosion control matting, identify areas on plan drawing and sequence.

_____ All areas of concentrated flows(ie: stormwater swales, road side swales, roof downspouts) should have a temporary erosion control blanket installed immediately upon completion of final grade. Down spouts should have temporary roof leader connected and extended to an undisturbed area until the grass is well- established.

Complete and site-specific sequence of BMPs installation

_____ A detailed construction sequence should be provided. The sequence should be a step-by-step outline of the proposed project indicating what specific BMPs will be installed prior to each stage of construction. It should also describe the conditions of stabilization that will be achieved prior to removal of temporary BMPs. complete, detailed, site-specific construction sequence including installation and removal of all Best Management Practices (BMPs) during each stage of construction has not been provided.

_____ The construction sequence does not address stripping, stockpiling, installing silt fence and stabilization of the topsoil. Stockpiles should not exceed 35 feet in height and side slopes need to be 2:1 or flatter.

_____ Special Protection BMPs have not been proposed. See E&S Manual.

_____ BMPs have not been shown on the plan drawing per stage _____ of the construction sequence. (Such as access to site or construct BMPs; Clearing and grubbing; utility areas; outfall areas, etc)

_____ A separate detailed construction sequence has not been provided for the in-stream work associated with

_____ Plan sequence does not describe the proper handling of base flows during work within the waters of the commonwealth.

_____ Earth disturbance is occurring prior to installation of the proposed BMPs

_____ The construction sequence does not address placement of excess material excavated for construction of sediment basin(s) _____ in an area with adequate BMP's installed and limited area of disturbance.

_____ The construction sequence does not address where the material will come from to construct basin(s) _____ berm(s).

_____ The construction sequence does not address installation of _____

_____ The construction sequence does not address installing a compacted stone base over the entire length of the driveway and stabilizing the disturbed areas on both sides of the driveway immediately upon completion of grading.

_____ BMPs have not been provided for rough-graded street(s) down slope of the proposed broad-based dip(s)/inlet berm(s).

_____ The construction sequence does not address when rough-grading of the lots will take place.

_____ On-lot BMPSs should not be the primary BMP for higher density residential subdivisions.

_____ On-lot BMPs should only be provided as a secondary BMP to minimize sedimentation to roadways, sidewalks, and neighboring downslope lots/properties. Please provide specific on-lot scenarios and sequence for each lot, including a list of lot numbers with each scenario.

_____ The construction sequence does not address BMP's to be utilized during individual lot construction to protect down slope properties and minimize sediment discharge onto streets.

_____ The construction sequence does not address adequate BMPs for excavation of all utility trenches. The Conservation District suggests placing spoil material on the up slope side of the trench, limiting the length of open trench to that which will be backfilled the same day, immediately stabilizing, and immediately repairing any affected BMP's.

_____ Clarify how runoff from access roads, utility lines, etc will be addressed

_____ The construction sequence does not address replacing topsoil, soil amendments and stabilization of all disturbed areas upon completion of the streets, curbs, and utilities and prior to individual lot construction.

_____ The construction sequence does not address immediate **temporary** or **permanent** stabilization of the _____.

_____ Describe how the site will be accessed and what control measures will be installed.

Activities planned to limit exposed areas

_____ The construction sequence does not address field-marking all limits of disturbance, Waters of the Commonwealth boundaries (ex. stream buffers, wetland boundaries, spring seeps, and floodway) prior to proposed earth disturbance.

_____ The construction sequence does not address field-marking the limits of disturbance.

_____ The construction sequence does not address field-marking all limits of disturbance within the interior of the site (ex. any steep slopes, infiltration areas and trees selected to be saved).

_____ Appropriate BMPs (including perimeter controls and temporary stream crossings) should be installed and functioning prior to general site clearing and grubbing operations. Describe those BMPs.

_____ What is the duration and extent of the disturbance for each stage? Should be addressed in sequence.

_____ Information needed concerning cuts and fills to be stabilized in regular intervals.

_____ Information is need in sequence concerning stabilizing sub areas

_____ Erosion control matting is need for all critical areas (ie – 50 feet from stream areas)

Removal of temporary BMPs

_____ The construction sequence does not address removal and proper disposal/recycling of the BMPs.

_____ The BMPs may not be removed until a minimum uniform 70% perennial vegetative cover is well-established across the entire upslope project drainage area. All parking lots, driveways, and streets must be paved or have a compacted stone base in place.

_____ The construction sequence does not define "permanent stabilization." Permanent stabilization should be defined as "*a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements."*

_____ The construction sequence does not address how and when the lot(s) proposed in the location off sediment basin/trap(s) ____ will be completed and what BMP's will be used for construction of the lot(s).

_____ The construction sequence does not adequately address BMPs for conversion of the sediment basin to a permanent stormwater management basin. When the temporary riser must be removed to allow for establishment of the permanent grass cover, the Conservation District suggests that: 1) a minimum 2' high horseshoe-shaped stone filter berm be installed around the permanent outlet structure with permanent seeding and straw-mulching (or) installation of an erosion control blanket with permanent seeding over the entire interior of the basin. Sediment basins should not be converted to the permanent stormwater management basin during

non-germinating periods. All sediment deposited within storm sewers should be removed prior to converting the sediment basin.

_____ The permanent stormwater management basin concrete low flow channels/ infiltration trenches may not be installed in basin(s) until the entire drainage area is permanently stabilized and the basin is in the process of being converted to the permanent stormwater management facility.

_____ The construction sequence does not address repair, adding soil amendments and permanent stabilization of the areas disturbed during removal of the temporary BMP's.

Installation of PCSM BMPs

_____ The construction sequence does not address installation & stabilization of all Post Construction Stormwater Management (PCSM) BMPs shown on the PCSM plan.

_____ The construction sequence does not address avoiding compaction of proposed post construction stormwater infiltration areas.

_____ The construction sequence does not address the installation of sediment control BMPs to keep sediment from clogging the post construction stormwater infiltration BMPs and/or underground storage facilities.

_____ The construction sequence proposes the PCSM BMPs to be installed prior to permanent stabilization of the upslope drainage area (ex. _____).

_____ Details for each BMP noted on the NOI, ownership, operation and maintenance information not shown on the PCSM plan drawing.

_____ The sequence need to indicate when the design professional needs to be on site. (ie – during sed basin/trap if will be used for PCSM)

Other

_____

_____

_____

_____

_____

Channel Capacity & freeboard calculations

_____ For vegetated channels the Erosion and Sediment Pollution Control Program Manual requires separate calculations showing sufficient capacity and adequate protection both before and after establishment of the vegetation.

_____ The Erosion and Sediment Pollution Control Program Manual requires that wherever channels encounter significant changes in slope, they should be broken into segments for design purposes or use the minimum slope within each reach to determine channel depth and the maximum slope to determine the anticipated velocity or shear stress.

_____ Channel design information has not been provided for channel(s)

_____ The channel design information in the plan narrative is inconsistent with the channel detail provided for channel(s).

_____ Channel(s) ___does/do not provide the required discharge capacity. If an alternative design method is used the standard worksheets for that method must be provided

_____ A check of the channel design information provided revealed that the Manning's "n" value is incorrect for vegetated channel(s) _____

_____ The Erosion and Sediment Pollution Control Program Manual requires that channels having steep bed slopes (≥ 0.10 ft/ft) should be analyzed for shear stress. Please provide calculations to show that all channels with a slope of greater than 10% meet shear stress limitations

_____ The long term manufacturer's specifications (ex. Manning's N, allowable velocity & shear stress) have not been provided in the narrative for all proposed channel linings.

_____ Temporary and permanent lining design information has not been provided for channel(s).

_____ The design velocity for channel(s) _ exceeds the permissible velocity for the proposed **temporary** or **permanent** lining.

_____ The design shear stress for channel(s) __ exceeds the permissible shear stress for the proposed **temporary** or **permanent** lining.

_____ The design discharge capacity provided for **temporary** or **permanent** channel(s) is inadequate.

_____ The minimum 6" freeboard has not been provided for channel(s)

_____ Flow width to depth ratios exceeding 12:1 is not realistic. Under these conditions, the flows tend to concentrate within the channel. Revise the dimensions of *the channel* so that the flow width to depth ratios are less than 12:1.

_____Runoff coefficients consistent with table

_____ 2 yr/ 1 hr storm used for temporary channels

_____ 5 yr/ 1 hr storm used for temporary channels in HQ watershed

_____ 10 yr/ 1 hr storm used for permanent channels

_____ Overland flow ≤ 150 feet

_____ Q ≥ Qr

_____ D ≥ d + minimum required freeboard

_____ V ≤ Va

_____ td ,≤ ta

_____ Temporary liner and vegetated calculations for channels

Basin Capacity information

_____ The total storage capacity provided for sediment basin(s) _ is inadequate.

_____ All sediment basin(s) __ storage information has not been provided in the plan narrative.

_____The minimum 1,000 cu. ft. of sediment storage per disturbed acre has not been provided for sediment basin(s).

_____ Sediment basin(s) ___ sediment storage is inadequate. The required sediment storage needs be calculated based on the total number of acres disturbed over the life of the project.

_____ The minimum 1 foot of sediment storage has not been provided for sediment basin(s) ___.

_____ The minimum 3600 cu. ft. per acre settling volume has not been provided for sediment basin(s) _.

_____ Sediment basin(s) ___ surface areas (at each contour elevation) provided on the plan drawing are inconsistent with the surface areas provided in the narrative stage storage information.

_____ Sediment basin(s) ___ surface area at the temporary riser crest elevation has not been provided on Standard Worksheet

_____ Total Storage Volume ≥ total required storage volume

Basin Discharge calculations

_____ The discharge capacity provided for sediment basin(s) ___is inadequate. Minimum 2cfs/acre discharge is required.

_____The discharge information for sediment basin(s) __ has/have not been provided in the plan narrative.

_____ The calculations used to determine the discharge capacity of the permanent concrete outlet structure(s) for sediment basin(s) ___ have not been provided.

_____ Channel design information (capacity & protective lining) for sediment basin(s) emergency spillway channel (on outside slope of the basin berm) has/have not been provided in plan narrative.

_____ Basin discharge is to a non-surface water. Need to provide calculations to show that accelerated erosion will not be a problem. (Also will need to indicate the permittee has the right to discharge in this location.)

_____ Principal spillway discharge capacity ≥ 10 yr/hr storm

Basin Dewatering calculations

_____ The dewatering information for sediment basin(s) ___ has not been provided.

_____ The dewatering information does not provide for dewatering of sediment basin(s)___settling volume from the crest of the temporary riser down to the required sediment-storage (clean-out) elevation within the required 2 to 7 day time frame (or) **4 to 7** day time frame.

_____ Sediment basin(s) ___riser dewatering perforations may not be placed below the required sediment-storage (clean-out) elevation unless designed as a dry basin (see Figure 10 E&S Manual).

_____ Using the basin dewatering Rule of Thumb (maximum drainage area / 0.785 = number of 1” diameter perforations equally spaced vertically along the riser starting at the clean out elevation) the number and/or spacing of perforations provided on the basin riser detail is incorrect.

_____ The discharge of the sediment basin riser dewatering perforations may not be included in the required 2 cfs/ac. discharge.

_____ Discharge capacity for the 100 year starm

Trap Capacity Information

_____ The total storage capacity provided for sediment trap(s) ____ is inadequate.

_____ The minimum 2’ storage depth has not been provided for sediment trap(s) ___.

_____ The minimum 1’ sediment storage depth has not been provided for sediment trap(s) __.

_____ Stage storage information for sediment trap(s) ____ has not been provided in the plan narrative.

_____ Sediment trap(s) ___ surface area at the temporary riser crest elevation has not been provided on Standard Worksheet #14.

_____ The tributary drainage area exceeds the 5 acre threshold for traps.

_____ Surface area of trap does not meet the minimum requirements.

Trap Discharge Calculations

_____ The discharge capacity provided for riser sediment trap(s) __ is inadequate (minimum 1.5 cfs per acre required).

_____ Riser sediment trap(s) ___discharge information has not been provided in the plan narrative.

_____ Riser sediment trap(s) __top of berm does/do not provide for required 1' freeboard above the 1.5 cfs/ac. discharge elevation.

_____ Trap discharge is to a non-surface water. Need to provide calculations to show that accelerated erosion will not be a problem. (Also will need to indicate the permittee has the right to discharge in this location.)

Outlet Design Calculations

_____ Complete outlet protection design calculations for all pipe discharge points have not been provided in the plan narrative.

_____ An analysis has not been provided at outfall demonstrating that the peak discharge of the 10 year 24 hour storm event from will not create accelerated erosion (and flooding of any adjacent downstream improvements) from the discharge point to a surface waters.

_____ Outlet details are not consistent with plan narrative

_____ Stormsewer discharge is to a non-surface water. Need to provide calculations to show that accelerated erosion will not be a problem. (Also will need to indicate that the permittee has the right to discharge in this location.)

_____ Flow transition mat lenghs

102.4(b) (5) (ix) "Plan Drawings"

CHANNELS

_____ How will channel area be accessed to construct the channel?

_____ Diversion channel(s) does not outlet to a stable area.

_____ Diversion channel(s) is not located up slope of all proposed disturbance.

_____ Collector channel(s) is not located down slope of all proposed disturbance.

_____ Channel(s) is shown on top of proposed fill. Adequate perimeter BMP's have not been provided prior to placement of fill and completion of channel(s).

_____ Channel(s) run(s) through an area of proposed improvements.

_____ Proposed contours/grades have not been provided for channel/berm(s) ___.

_____ Channel(s) ____ bed slope is less than the minimum 1%. Please note collector channels with very flat slopes tend to accumulate sediment; fallen leaves & woody debris; and construction debris during construction resulting in the reduction of the required channel capacity and increased maintenance.

_____ Channel/stormsewer outfall(s) ___ does/do not extend to the bottom elevation of basin/trap(s) ___ and at least 10 feet beyond the toe of slope.

_____ Channel(s) __bed slope on the plan drawing is inconsistent with the bed slope provided in the channel design information provided.

_____ The Erosion and Sediment Pollution Control Program Manual requires that wherever channels encounter significant changes in slope, they should be broken into segments for design purposes or use the minimum slope within each reach to determine channel depth and the maximum slope to determine the anticipated velocity or shear stress.

_____ It appears there is conflict with utility poles, roadways, buildings, cuts and fills to construct this channel. Please clarify

_____ How will sharp bends be analyzed?

CHANNEL DETAILS

_____ Channel cross-section details have not been provided on the plan detail sheet(s) for channel/berm(s) .

_____ The channel cross-section detail provided is inadequate (ex.____.)

- _____ The lining has not been shown extending to the top of the channel side slopes
- _____ The total depth has not been provided
- _____ The bottom width has not been provided
- _____ The top width has not been provided
- _____ The side slopes have not been provided
- _____ The type of lining has not been provided
- _____ The rock-lined channel detail does not provide the depth of excavation required for proper placement of the rock lining.
- _____ The minimum channel(s) rip-rap thickness is not 1.5 times the maximum stone size (dmax).
- _____ The rock-lined channel detail underlying geotextile fabric has not been shown.
- _____ Identify the transition zones

_____The channel cross-section details are inconsistent with the cross-section details provided in the plan narrative

_____ Channel(s) (with a drainage area of 1acre or more) should not be less than 1 foot total depth for practical considerations (ex. ease of construction and buildup of sediment, sod, leaves and other debris).

_____ Channel(s) has/have not been provided with an adequate temporary lining.

_____ The manufacturer's installation detail(s) and instructions for the proposed channel lining(s) have not been provided on the plan detail sheet(s).

_____ The manufacturer's installation detail(s) appears to be incomplete.
Ex: _____Trenched in _____ Staple pattern _____ Overlap

_____ Please clarify the transition zone. (changes in lining)

Channel Outlet

_____ Channel(s) has/have not been provided with adequate outlet protection.

_____ There does not appear to be sufficient room to construct the proposed *(specify riprap apron, outlet basin, etc.)* at the location shown on the plan map. Either verify that this structure can be constructed at the location shown or make the necessary corrections.

_____ The Erosion and Sediment Pollution Control Program Manual indicates that rock filters are not an acceptable substitute for an appropriate protective channel lining. Revise the design of *(channel number[s]s)* to provide suitable protective lining and remove the rock filters.

_____ Due to the length and steepness of slope, a level spreader is not a suitable outlet for *(identify channel number[s])*.

_____ All areas of concentrated flows (for example, stormwater swales) need to have a temporary erosion control blanket installed immediately upon completion of final grade. The Conservation District suggests placing a note on the plan drawing and highlighting the areas to be blanketed.

_____ Proposed contours, construction detail and temporary/permanent design information has not been provided for all channels with a drainage area of 1 acre or more. All channels must have a temporary lining prior to establishment of permanent grass cover.

_____ A construction detail and temporary erosion control blanket has not been provided for all channels with a drainage area < 1 acre.

_____ Channel(s) can not be constructed to the dimensions provided due the location of existing/proposed improvements obstructing the area necessary for the required channel(s) top width.

_____ An adequately sized pipe and clean rock fill or other stable crossing has not been provided for equipment access across channel(s) .

_____ Explain how *(specify channel number)* will remain functional during installation of *(identify sewer or utility line)*.

_____ How will the outlet channels be protected from sediment laden runoff.

Other

_____

_____

_____

_____

_____

SEDIMENT BASINS

_____ Sediment basin(s) may not be located within Waters of the Commonwealth.

_____ Sediment basin(s) has/have not been located down slope all proposed disturbance.

_____ Sediment basin(s) clean out elevation is lower than the adjacent wetland, spring seep, stream, pond elevation. The plan needs to address how a constant discharge will be eliminated from the lowest row of dewatering perforations.

_____ Sediment basin(s) principal and/or emergency spillway discharge does not extend to waters of the Commonwealth, an adequately-sized stable channel, or an adequately-sized storm sewer.

_____ An analysis has not been provided for basin(s)/traps demonstrating that the greater of the 2 cfs. /acre sediment basin discharge (or) the peak discharge of the 10 year 24 hour storm event from the permanent stormwater management basin will not create accelerated erosion (and flooding of any adjacent downstream improvements) from the discharge point to a surface waters. Photographs of the discharge area may be helpful to the plan reviewer.

_____ Provide calculations showing that the discharge from *(indicate sediment basin number)* will be safely conveyed to a natural waterway without causing erosion.

_____ Provide supporting evidence that the roadside ditch to which *(basin number)* discharges has sufficient capacity to handle the additional flow due to the basin discharge without flooding the roadway. Also show that the ditch has a suitable lining so that accelerated erosion will not result.

_____ Please submit a photocopy of the PA DEP General Permit-4 for Intake & Outfall Structures or a photocopy of the completed permit application for basin(s) outfall(s).

_____ The existing/proposed ground elevation at the end of sediment basin barrel will not allow for positive drainage of the basin.

_____ Sediment basin(s) may not outlet to another sediment basin.

_____ How will basins be accessed to be able to maintain and/or convert the basin.

Basin Complete berm & outlet detail

_____ Complete basin berm and outlet details for sediment basin(s) ___ have not been provided on the E&S plan detail sheets.

_____ The required 2' freeboard above the 2cfs/acre flow elevation has not been provided for sediment basin(s).

_____ The basin berm and outlet details provided for sediment basin(s) ___ are inadequate. (For example, _____)

- _____ Minimum 8' top of berm width has not been provided
- _____ Top of berm elevation not provided
- _____ Side slopes not provided (Z1 + Z2 > or = 5, no steeper than 2:1)
- _____ Key trench not provided
- _____ Clay core not provided
- _____ Anti-seep collars including # and dimensions have not been provided
- _____ Emergency spillway crest is not minimum 6" above the temporary riser crest elevation
- _____ A note has not been provided indicating watertight seals on all joints and connections.
- _____ A note has not been provided indicating that all permanent riser orifices below the temporary riser crest elevation will be sealed watertight
- _____ Temporary riser diameter and/or type of material not provided (min. 15")
- _____ The riser diameter is not 1.25X the barrel diameter.
- _____ Temporary riser crest elevation not provided
- _____ Clean out elevation not provided
- _____ Basin bottom elevation not provided
- _____ The permanent riser detail has not been provided
- _____ Number of holes per row and the vertical spacing between rows not provided
- _____ The permanent riser crest elevation has not been provided
- _____ The permanent riser has not been extended to the temporary riser crest elevation
- _____ The permanent riser opening length and width have not been provided
- _____ The concrete riser base & dimensions have not been provided
- _____ Trash rack & anti-vortex details & dimensions have not been provided for the permanent and/or temporary risers
- _____ The permanent riser/outlet structure grate has been shown. DEP requires the grate to be temporarily removed until the sediment basin is converted to the permanent stormwater management basin.
- _____ Barrel diameter and/or type of material not provided (min. 12")
- _____ Barrel length not provided
- _____ Barrel inlet invert and/or outlet invert elevation not provided
- _____ Temporary stub barrel diameter and/or material has not been provided
- _____ Temporary stub barrel length has not been provided
- _____ The correct number of 1" dewatering perforations at each elevation has not been provided
- _____ Details for typical filter diaphragm

_____ A sediment basin dewatering facility detail has not been provided.

_____ The top opening of the permanent riser should not be sealed off. The Conservation District recommends extending the riser with a watertight open-top plywood box.

_____ Please submit a photocopy of required PA DEP dam permit or a photocopy of the completed permit application for sediment basin ___ with a water storage level of 15 feet or more.

_____ Sediment basin(s) ___ elevation(s) on the construction detail is/are inconsistent with the elevation(s) provided on the plan drawing and/or in the plan narrative.

_____Clean out marker locations have not been provided on the plan drawing halfway between all incoming channels/berms/storm sewer pipes and the basin outlet structure for sediment basin(s).

_____ A clean out marker detail has not been provided for sediment basin(s) on the plan detail sheets.

_____ A standard note is needed with the clean out marker detail stating, "*When sediment has accumulated to the clean out elevation on any stake, all accumulated sediment shall be removed from the entire basin bottom."*

_____ The clean out elevation(s) provided on the construction detail for sediment basin(s) is/are inconsistent with the clean out elevation(s) provided in the plan narrative.

Emergency Spillway

_____ An emergency spillway has not been provided for sediment basin(s) _. All sediment basins must have a minimum 8' bottom width and 1' deep stable emergency spillway (assume 6" flow depth).

_____ The emergency spillway details for sediment basin(s) ___have not been provided on the plan detail sheets.

_____ The emergency spillway details (crest & channel) for sediment basin(s) are inadequate (ex._____).

_____ 5' minimum width earthen plug
_____ Lining not trenched in
_____ Underlying geotextile not provided
_____ Crest not minimum 6" above the riser crest
_____ Side slopes not provided
_____ Weir section with all dimensions not provided
_____ Outside embankment channel section with all dimensions not provided
_____ Outlet dissipater with all dimensions not provided

_____ The proposed channel grading for basin(s) emergency spillway(s) has not been shown or labeled on the plan drawing.

_____ The emergency spillway(s) for sediment basin(s) _ constructed on fill material does/do not have an adequate riprap or other adequate permanent protective lining (for example, turf reinforcement mat).

18" deep permanent pool

_____ Sediment basin(s) ___ does not provide an 18" (or greater) average deep permanent pool below the required sediment-storage (clean-out) elevation.

Skimmer

_____ Sediment basin(s) ___ does (do) not skim water from the top 6" of the dewatering zone.

_____ A skimmer detail has not been provided for sediment basin(s) ____.

_____ Sediment basin(s) __skimmer detail(s) is/are inadequate (ex._____).

_____ Orifice size not provided
_____ Arm length not provided = 1.41 X (2 cfs elevation – skimmer stub invert elevation)
_____ Arm diameter not provided
_____ Flexible pipe not provided
_____ Watertight connections not provided
_____ Stone berm to prop skimmer at clean out elevation not provided
_____ Skimmer rope not provided
_____ Skimmer stub invert elevation not provided (should be lower than cleanout elevation)
_____ Skimmer stub barrel length (max. 1') not provided
_____ Manufacturer not specified (Faircloth holds patent)
_____ The detail provided is not a Faircloth skimmer
_____ Maintenance notes have not been provided

_____ The manufacturer's specifications and design information have not been provided on the plan drawing and in the narrative for sediment basin(s) skimmer dewatering device.

_____ A standard note is needed with the skimmer construction detail stating, "*Approval of the use of skimmer(s) does not approve use of any skimmer(s) in violation of any patent, patent rights, and/or patent laws.*"

Basin Flow length

_____ Sediment basin(s) __does (do) not provide the required flow length to basin width ratio of 2:1 or greater. To calculate the minimum 2:1 flow length multiply 1.41 by the square root of the surface area at the temporary riser crest elevation.

_____ Sediment basin(s) ___does not provide the necessary flow length to basin width ratio of 4:1 or greater. To calculate the required 4:1 flow length multiply 2.0 by the square root of the surface area at the temporary riser crest elevation.

_____ An adequate sediment basin baffle detail has not been provided on the plan detail sheets (ex._____).

- _____ 7' or TRCE
- _____ Trenched in 1'
- _____ Marine grade plywood material not provided
- _____ Type of geotextile not provided
- _____ Chainlink fencing not provided for geotextile baffle
- _____ Not tied into embankment on one side (if applicable)
- _____ Not capable of standing up to high velocity flows at end of pipes/ channels

_____ The location of the baffles does not allow for sediment clean out between the baffles.

_____ The permanent low flow channels located in the basin(s) need to be removed from the E&S plan drawing.

Structurally sound

_____ A note is needed stating, "Sediment basins must be protected from unauthorized acts of third parties" on the plan drawing.

_____ The plan does not address compacting sediment basin(s) ____ berm(s) in layered lifts.

SEDIMENT TRAPS

_____ The drainage area to sediment trap(s) __ exceeds 5.0 acres, the maximum permissible.

_____ Sediment trap(s) ___ outlet does not extend to waters of the Commonwealth, an adequately-sized stable channel, or an adequately-sized storm sewer.

_____ An analysis has not been provided demonstrating that the greater of the sediment trap discharge (1.5 cfs/acre) or the peak discharge of the permanent stormwater facility from the 10 year/ 24 hour storm event will not create accelerated erosion of the downstream area.

_____ Sediment trap(s) __ has/have not been located down slope of all proposed disturbance.

_____ Sediment trap(s) __ may not outlet to another sediment trap.

Trap Complete berm & outlet details

_____ Complete sediment trap berm and outlet details for sediment trap(s) ___have not been provided on the plan detail sheets.

_____ Sediment trap berm and outlet detail(s) provided for sediment trap(s) ____ is/are inadequate (ex._____).

- _____ Min. 5' top width not provided
- _____ Top of berm not minimum 1 foot above stone outlet crest
- _____ 1 dewatering perforation per vertical foot of riser above the clean out elevation not provided
- _____ Trash rack & anti-vortex details & dimensions have not been provided for the permanent and/or temporary risers
- _____ The permanent riser/outlet structure grate has been shown. DEP requires the grate to be temporarily removed until the sediment trap is converted to the permanent stormwater management basin.
- _____ Anti-seep collars not provided
- _____ R-3 min. / min 6" of max #57 filter stone/filter cloth not provided
- _____ Side slopes are steeper than 2:1
- _____ Stone outlet width not = 2 x # of drainage acres or 2 x spillway crest height whichever is greater
- _____ Stone outlet width not = 6 x # of drainage acres

_____ Sediment trap(s) _____ embankment height exceeds the maximum 5' allowable.

_____ Sediment trap(s) _____ elevation(s) provided on the construction detail is/are inconsistent with the elevation provided on the plan drawing and/or in the plan narrative.

_____ Compost sock trap details are needed on the E&S plan draw drawing

_____ Cross section of traps not shown (missing elevations, slopes, etc)

_____ Compost soc trap details are needed on the plan drawing

Trap Clean out information

_____ Clean out marker locations have not been provided on the plan drawing halfway between <u>all</u> incoming channels/berms/storm sewer pipes and the trap outlet structure for sediment trap(s) ___.

_____ A standard note is needed with the clean out marker detail stating, "*When sediment has accumulated to the clean out elevation on any stake, all accumulated sediment shall be removed from the entire trap bottom."*

_____ A clean out marker detail has not been provided for each sediment trap on the plan detail sheets.

Trap Flow length

_____ Sediment trap(s) __does/do not provides the minimum flow length to trap width ratio of 2:1 or greater. The minimum length of flow through a trap is 10'. To calculate the minimum 2:1 flow lengths multiply 1.41 by the square root of the surface area at the temporary riser crest elevation.

_____ Sediment trap(s) Standard Worksheet #8 has not been provided in the plan narrative.

SILT FENCING /Filter Soc

_____ The location of the silt fence/filter soc per stage #____ has not been provided on the plan drawing.

_____ The silt fence/filter soc located ___ has not been shown within the limits of disturbance.

_____ The silt fence type/filter soc has not been provided for the silt fence located _____.

_____ The plan drawing does not show the silt fence/filter soc placed at the toe of the fill slope above the end of the pipe and/or tying into the sides of the pipe or headwall.

_____ The silt fence/filter soc has not been shown down slope of all proposed disturbance.

_____ The silt fence/filter soc has not been shown at least 8 feet from the toe of the fill slope.

_____ The silt fence/filter soc located ____ is proposed in an area(s) of concentrated flow, rocky soils.

_____ The proposed silt fence/filter soc is inadequate. The existing and/or proposed slope length draining to the silt fence exceeds the maximum allowable slope length for the percent slope provided

_____ Multiple rows of silt fence/filter soc may not be placed across the slope to break up the slope length.

_____ The silt fence/filter soc has not been shown parallel to the existing contours/grades.

_____ The plan drawing does not show the silt fence/filter soc end sections extended 8' upslope at 45 degrees to the main silt fence\filter soc alignment.

Complete details

_____ Standard worksheets for all sediment barriers need to be included in plan narrative (compost filter soc, filter berms, siltfence, rock filter, strawbales, inc)

_____ The sediment barriers need to be included on the plan drawing (compost filter soc, filter berms, siltfence, rock filter, strawbales, inc)

_____ The silt fence detail provided is inadequate (ex.).

_____ Correct fabric height not shown
_____ Stake spacing not shown
_____ Stakes not shown on down slope side
_____ Stakes/posts type and size not shown
_____ Stakes not shown minimum 18" in ground
_____ Reinforcing mesh not shown
_____ Minimum 10 gauge reinforcement wire not shown
_____ Fabric not trenched in 6" deep by 6" wide trench
_____ Compacted backfill not shown
_____ Installation & maintenance notes not provided
_____ Type and spacing of fasteners not shown
_____ No. 7 Ga. tension wire not shown

_____ Compost filter soc detail

Correct soc diameter
Maximum stake spacing
Stake type and size
Minimum depth of stakes
Compost mulch blown/wedge along upslope sied of sock to prevent runoff from undermining the soc
Installation and maintenance notes
Filter soc netting type

_____ The silt fence detail does not show the end sections being wrapped together and stapled.

_____ Filter soc details need to show proper size, staking and placement of mulch on the flow side.

Rock Filter Outlet Repair detail

_____ The rock filter outlet detail for silt fence blow out repair has not been provided on the plan detail sheets.

_____ The rock filter outlet detail provided is inadequate (ex. ___).

_____ Minimum 6" of #57 filter stone not shown
_____ R-3 rock not shown
_____ Rock filter height not shown
_____ Rock filter height is not 5/6th height of silt fence
_____ Minimum 1' overlap with silt fence not shown

_____ Maintenance note not provided.

_____ Rock filters may not be shown on the plan drawings. Rock filters should only be used when silt fence has failed due to unanticipated concentrated flows.

OUTLET PROTECTION

_____ Adequate outlet protection has not been provided at all pipe discharge points.

_____ All pipe discharge points have not been labeled/identified on the plan drawing.

_____ Adequate pipe outlet protection has not been provided at the pipe outlet(s) located in sediment basin(s)/trap(s).

_____ Is there sufficient room to construct all the proposed structures (ex: wing walls, energy dissipaters, etc) for each outlet?

_____ How will the area be accessed to construct the proposed outlet?

Outlet Complete Details

_____ Outlet protection details have not been provided for all pipe discharge points and/or diversion channel outlet(s).

_____ The rock apron detail provided is inadequate (ex:___).

- _____ 0% level bottom not provided
- _____ Rock not extended up side slopes
- _____ Rock size not provided
- _____ Velocity exceeds maximum allowable for rock size provided
- _____ All required dimensions not provided
- _____ Min. depth not = to dmax

_____ The stilling basin detail provided is inadequate (ex:___).

- _____ Rock size not provided
- _____ All required dimensions not provided

Level Spreaders

_____ The level spreader detail provided is inadequate (ex:___).

- _____ Lip protected with a permanent turf reinforcement mat or concrete curbing
- _____ Total depth (6 inches min)
- _____ 6 foot width
- _____ 0% grade

_____ Maximum drainage area for level spreader is 5 acres.

_____ Discharge of spreader needs to be undisturbed and well – established minimum uniform 90% perennial grass cover. (ie: woods are not consider stable areas) The last 20 feet of a diversion channel to earthen level spreader needs a smooth transition is less than or = to 1%

_____ Should be parallel to existing contour and 0% grade and should not be made of fill.

_____ Earthen spreaders not allowed below a trap, basin or stormwater pipe discharge only structural level spreaders.

_____ The maximum design discharge to an earthen level spreader =1 cfs per foot of length based on peak rate of flow from a 10 year frequency storm or minimum 5 feet length per acre of drainage area not be less the 5 feet and to exceed 25 feet in length.

Checklist for Designing Level Spreader Discharges

Project Name: _____

Project No.: _____

Location: _____

Date: _____

Prior considerations:

- ☐ Avoid and minimize discharge to non-surface waters
- ☐ Consider less impacting alternatives
- ☐ Maximize volume control BMPs throughout the site
- ☐ Prevent concentrating flow

Site Evaluation/Limitations:

- ☐ Site Assessment performed to determine site constraints (including a **site visit**)
- ☐ Level area – along existing contour

Have fully evaluated and considered:

- ☐ Topography
- ☐ Vegetative cover
- ☐ Soil type(s)
- ☐ Geologic conditions

Meets optimum conditions:

- ☐ Land surface shape
- ☐ Max. Soil slope = ____%
- ☐ Slope length = _____ ft.

H&H Considerations:

- ☐ Designed for 100-year storm. $\mathbf{Q}_{100}$ = _____ cfs
- ☐ Drainage Area $\leq$ 5 acres
- ☐ Suitable weir length using guidance in Section V. **L** = _____ ft.
- ☐ Not exceeding 200 feet long
- ☐ Inflow less than 1% slope
- ☐ Proper Lip - Rigid Lip, if Q > 4cfs
- ☐ Smooth transition – both inflow and outflow.
- ☐ Proper orientation – T-shaped
- ☐ Infiltration capacity preserved

Avoids short-circuiting and/or overloading

- ☐ Sufficient **X** = ____', **Y** = ____' and **h** =____'. (surface discharges)
- ☐ Optional Raised Section (surface discharges)
- ☐ Ends keyed upslope (surface discharges)
- ☐ Includes adequately sized riprap (surface discharges)
- ☐ Equipped to drain the plunge pool
- ☐ Includes end treatments on perforated pipe. (subsurface discharges)
- ☐ Includes fabric or TRM on down slope (both surface and subsurface)

Soils Stabilization Issues:

- ☐ Located on undisturbed ground (no fill)
- ☐ Achieves minimum of 90% vegetative cover down slope
- ☐ Includes rigid measures to prevent erosion just below
- ☐ Down slope area clear of elevated ground, debris or any other obstructions

Other Items:

- ☐ O&M Considerations per **Section V.8**.
- ☐ "Adequacy of Off-Site Discharge" Analysis completed per **Section VI.1**.
- ☐ Municipal Coordination per **Section VI.2**.
- ☐ Authorization from Off-Site Property Owner(s) per **Section VI.3**.
- ☐ Outfall Design, if applicable, per **Section VIII**.

Other BMPs

Slopes 3:1 or steeper

_____ Slopes 3:1 or steeper should erosion control matting (show locations, details)

_____ Stair step grading
_____ Grooving details

Benches

_____ Slopes more than 40 feet high need benches at 30 feet vertical intervals.

_____ Drainage slope min. 2% and max: 5%

_____ Bench spacing (see table 20)

_____ Discharge to an adequately sized and stabilized conveyance facilities (storm drain, swale/channel)

_____ Standard Construction Detail #24 was not provided

_____ Maintenance notes were not provided.

Trench Plugs

_____ Trench plugs required at all stream/wetland crossing

_____ Type of material in sacks

_____ Spacing and details

ROCK CONSTRUCTION ENTRANCES

_____ A rock construction entrance has not been provided at the ___ entrance.

_____ All temporary and permanent roads need to be shown on plan drawing

Complete Details

_____ A rock construction entrance detail (Standard Construction Detail #16) has not been provided.

_____ The rock construction detail provided is inadequate (ex._____)

_____ AASHTO #1 rock size not provided
_____ Minimum 50' length not provided
_____ Minimum width not provided
_____ Minimum 8" depth not provided
_____ Underlying geotextile fabric not provided
_____ Maintenance note has not been provided

_____ Wash Rack details

BROAD-BASED DIPS/WATERBARS

_____ The broad-based dip has not been shown on a 30 degree angle to the main road alignment.

_____ Broad based dip/waterbar is needed to be shown across rough-graded roadways to direct runoff into basins and/or traps.

_____ The spacing of the broad-based dip/waterbar(s) is inadequate given the % slope and length of slope shown.

_____ A broad-based dip construction detail has not been provided.

_____ The broad-based dip construction detail provided is inadequate (ex._____).

_____ Minimum 2' depth not provided
_____ Minimum 20'length not provided

_____ Open top culverts details for active haul roads are needed on the E&S plan drawing. Show locations on plan drawing

_____ Water deflector details for active haul roads are needed on the E&S plan drawing. Show locations on plan drawing.

_____ Ditch relief culverts for active haul roads are needed on the E&S plan drawing. Show locations on plan drawing.

_____ Show locations of turnouts for haul roads.

INLET PROTECTION

_____ All inlets have not been identified (by number) on the plan drawing.

_____ The inlets receiving the proposed inlet protection have not been identified on the plan drawing.

_____ Inlet protection may not be used as the only (primary) BMP between a disturbed area and waters of the Commonwealth.

_____ FYI - Inlet protection is not required for inlets draining to a sediment trap or basin.

_____ Inlet protection should not be used on major paved roadways where ponding may cause traffic hazards. The inlets should drain to an adequate sediment trap or basin.

_____ Inlet protection in HQ/EV watersheds need to use ABACT measures

Inlet Drainage area

_____ The drainage areas to the inlet(s) receiving inlet protection have not been outlined and labeled on the plan drawing.

_____ The drainage area to inlet(s) exceeds the maximum ½ acre allowable for inlet sac protection or 1 acre for the stone filter.

Inlet Complete details

_____ Inlet protection construction details have not been provided on the plan detail sheet(s).

_____ Compacted earthen, stone, and asphalt inlet berm details have not been provided on the plan detail sheet(s). Minimum 6” high above the grate, 1’ top width inlet berms are required for all inlets not located in a minimum 6” sump condition until the final wearing course is installed.

_____ The inlet protection detail(s) provided is inadequate (ex. ____.)

- _____ Sandbags not shown over throat of inlet
- _____ Rebar not shown
- _____ 6” of #57 filter stone not shown
- _____ Overflow pipe with minimum 4” head not shown
- _____ Galvanized ¼” maximum opening wire mesh not shown
- _____ Geotextile fabric over grate may not be used
- _____ Maintenance notes have not been provided requiring clean out or replacement after every runoff event

PUMPED WATER FILTER BAGS

_____ A pumped water filter bag construction detail has not been provided on the plan detail sheet(s).

_____ The pumped water filter bag construction detail provided is inadequate (ex. _____).

- ____ Pumping rate not specified
- ____ Stable discharge area not provided
- ____ Hose clamps not shown

_____ Filter bag needs to be located at a minimum 50 feet from any waters of the commonwealth.

VEGETATIVE FILTER STRIPS

_____ Photo documentation has not been provided to verify the suitability of the *existing* vegetative filter strip. Vegetative filter strips must occur on the project site.

_____ The proposed vegetative filter strip is inadequate (ex. ___).

- ____ Not composed of well-established perennial grass
- ____ Not located within the property boundaries
- ____ Upslope area exceeds maximum slope length for required sheet flow conditions
- ____ The minimum filter strip width has not been provided
- ____ Width of filter strip (Wmin=2S +25ft) (50 feet min.)

TEMPORARY SLOPE PIPES

_____ Temporary slope pipe construction detail

- _____ Minimum 10' wide top of slope berm
- _____ Minimum berm height (see table 21)
- _____ Minimum pipe diameter (see table 21)
- _____ Stakes to secure pipe to the slope (Max. distance between stakes is 10')
- _____ Drainage area Max. = 5 acres

_____ Should be sized to convey anticipated peak flow from the designed storm.

_____ How will you prevent the formation of gullies on the out slope of the fill *(describe fill location)*? A top-of-slope berm should be considered at *(indicate location[s])* to prevent runoff from creating gullies on the out-slope of the proposed fill. Please show locations

_____ Provide an installation typical on a detail sheet for the proposed top-of-slope berm at *(location)*.

_____ Indicate the location(s) of all proposed top-of-slope berms on the plan map(s).

_____ A temporary slope pipe should be considered at *(location)* to safely convey runoff to the bottom of the proposed fill slope.

_____ A temporary slope pipe should be installed at the low point on the top-of-slope berm at *(location)* to convey runoff to *(channel, basin, or trap number)*.

_____ Indicate how the proposed temporary slope pipe(s) will be anchored.

_____ The slope pipe at (give location) is smaller that the minimum required in Table 21 of the Erosion and Sediment Pollution Control Program Manual. Please Correct.

_____ Outlet protection should be provided at the end of the pipe. Please provide details.

DYNAMIC/TOP-OF-SLOPE BERMS

STILLING WELLS – sump pits details

PIPELINE & UTILITY PROJECTS

IN-CHANNEL WORK – temporary by pass details, silt curtain details,

STREAM RESTORATION

SINGLE LOTS – Need to show all scenarios and label which lot goes with which scenario. (Check silt fence length and construction entrance.)

COMPOST FILTER BERMS – filter tubes, filter logs

TEMPORARY STABILIZATION

_____ The temporary stabilization specifications have not been provided with the plan drawing (See the "Erosion Control & Conservation Plantings on Noncropland" or the PennDOT 408 specs.) (**ex. seed type and rate, lime type and rate, fertilizer type and rate, mulch type and rate**).

_____ The Penn DOT 408 specifications referenced on the plan do not provide the specific seed types & rates (i.e. Table A).

_____ The temporary seeding application rate provided is inadequate (See the "Erosion Control & Conservation Plantings on Noncropland" or the PennDOT 408 specs.).

_____ The temporary fertilizer application rate provided is inadequate (See the "Erosion Control & Conservation Plantings on Noncropland" or the PennDOT 408 specs.).

_____ The temporary liming application rate provided is inadequate (See the "Erosion Control & Conservation Plantings on Noncropland" or the PennDOT 408 specs.).

_____ The temporary mulch application rate provided is inadequate ("Erosion Control & Conservation Plantings on Noncropland," Table 16 or the PennDOT 408 specs.).

_____ Wood cellulose fiber hydromulch alone is an inadequate BMP. Straw mulch at a rate of 3 tons per acre may be utilized alone or in conjunction with the application of a wood cellulose fiber hydromulch.

_____ The temporary stabilization specifications do not provide for anchoring of straw-mulch

_____ Need to indicate if there will be a period of cessation longer than 4 days, all disturbed areas need to be temporary seeded and mulched.

PERMANENT STABILIZATION

_____ The permanent stabilization specifications have not been provided with the plan drawing (See the "Erosion Control & Conservation Plantings on Noncropland" publication or the PennDOT 408 specs.). (ex. **seed type and rate, fertilizer type and rate, mulch type and rate**).

_____ The Penn DOT 408 specifications referenced on the plan do not provide the specific seed types & rates (i.e. Table A).

_____ The permanent seeding application rate provided is inadequate (See the "Erosion Control & Conservation Plantings on Noncropland" publication or the PennDOT 408 specs.) in the absence of soil test results.

_____ The permanent fertilizer application rate provided is inadequate (See the "Erosion Control & Conservation Plantings on Noncropland" publication or the PennDOT 408 specs.) in the absence of soil test results.

_____ The permanent liming application rate provided is inadequate (See the "Erosion Control & Conservation Plantings on Noncropland" publication or the PennDOT 408 specs.) in the absence of soil test results.

_____ The permanent mulching application rate provided is inadequate (See the "Erosion Control & Conservation Plantings on Noncropland," publication Table 16 or the PennDOT 408 specs.).

_____ Wood cellulose fiber hydromulch alone is an inadequate BMP. Straw mulch at a rate of 3 tons per acre may be utilized alone or in conjunction with the application of a wood cellulose fiber hydromulch.

_____ The permanent stabilization specifications do not provide for anchoring of straw-mulch

_____ The plan does not address replacing topsoil and the depth of topsoil to be placed (suggest *minimum* 6" to promote stormwater infiltration and permanent vegetative stabilization) on all disturbed areas to be permanently revegetated.

_____ The permanent seed type provided does not perform well in **(acidic, low fertility, excessively dry, excessively wet, steep slope)** soil conditions

_____A temporary nurse crop (ex. annual ryegrass, spring oats, winter rye) has not been provided in the permanent perennial seed mix provided (See the "Erosion Control & Conservation Plantings on Noncropland" publication or the PennDOT 408 specs.).

OTHER STABILIZATION

_____ Chapter 102 requires stabilization of all disturbed areas *immediately* upon completion of an earth disturbance activity or any stage or phase of an activity. Please remove all references to allowing 20 days to pass before stabilizing idle disturbed areas.

_____ The plan does not address installation of an erosion control blanket on all disturbed areas within 50 feet of Waters of the Commonwealth (ex. streams, ponds, wetlands

_____ The plan does not address stabilization of the agricultural fields within the project boundaries that are not proposed to be developed or are part of a future phase of development. If the fields are to be abandoned and remain idle and are not planted in a perennial hay crop (ex. corn and soybean fields) they need to be permanently stabilized

Inspection *schedule*

_____ BMP maintenance information needs to include inspection, timeframes, repair parameters and sediment disposal guidance to ensure effective and efficient operation weekly and after each measurable rainfall event.

Maximum sediment storage elevation/level in BMPs

_____ The maintenance notes and clean out instructions have not been located with each BMP's construction detail.

Disposal directions for sediment removed from BMP's

_____ Disposal directions have not been provided for removal of sediment from BMP's. The Conservation District suggests a standard note stating, "*Any sediment removed from BMPs during construction will be returned to upland areas on site and incorporated into the site grading*."

_____ Project wastes identified

Project construction wastes are identified (See PPC plan and standard note below)

_____ A standard note is needed on the plan stating, "*All building materials and wastes must be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1., and 287.1 et seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.*"

Soil/rock disposal areas provided with BMPs

_____ Off site waste and borrow areas need to be identified. E&S plans are required for these areas.

_____ Soil/rock disposal and borrow areas indicated showing proper BMPs

_____ Plan notes for Clean fill requirements need to be on the E&S plan drawing

_____ Are there any potential for any geologic or soil conditions that may cause pollution during construction. Please identify and address how this will be handled.

OTHER