**Minimum Design Criteria (MDC) Team  
06/23/2014  
Triangle J COG, Durham**

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| **Attendees** | | | | | |  |
| ***Team Members*** | |  | | |  | ***Others*** |  |
| Eban Bean  Bradley Bennett  Jonathan Bivens Tim Clinkscales Tracy Davis Boyd Devane Hunter Freeman Mike Gallant Joe Hinton  Marc Houle Ron Horvath Bill Hunt  Linda Lewis |  | | Brian Lipscomb Annette Lucas  Mike MacIntyre Todd Miller  Cameron Moore Tom Murray Robert Patterson Derek Pielech Peter Raabe Larry Ragland  JD Solomon Virginia Spillman Toby Vinson Rob Weintraub |  | | Julie Ventaloro, NC DEMLR  Mike Randall, NC DEMLR |

**Logistics**  
Team voted to meet November 17th and December 15th.  
  
**General MDC#7**  
Todd Miller- Use wording in existing 2H .1008(j) regulation with caveat that permit holder doesn’t request CO until certifications are completed because DENR can only enforce against permit holder. This helps address issue of compliance. Wording talks about system rather than individual BMPs- we are concerned that system is being inspected and installed in compliance with requirements so they function as designed from Day One.  
Larry R – Would this apply to temporary CO as well?   
Todd M – Might not make too much difference, whatever’s workable.  
Virginia – Add word “final” certificate of occupancy.  
Rob W – How does CO work on large residential cases or huge Wal-mart?   
Robert P – If there’s multiple COs, we’ll hold up last couple until they finish up.  
Todd M – Is that punishing homeowner if you’ve got a slug of a developer?  
Marc – When we convert erosion control basin to wet pond in residential setting, that doesn’t happen until last couple houses built. We post a surety until pond is completed to guarantee construction of pond happens. Suggest we add a surety.  
Ron H – Agree on major commercial projects, the BMP needs to be operational when the majority of site is developed. But what about outparcels that aren’t sold/developed? Seeding and mulching on the outparcel stabilizes. When they develop, that’s when they can put in devices. But single-family development, punishing the last in because somebody didn’t finish, so that’s a big stumbling block.   
Virginia – We have 90%. First certification is with first CO. At 90%, we require the final certification. There are some subdivisions if you buy lot next door, will never develop and never finish pond. On commercial, do initial cert, then owner gives letter saying will take care of it at end of project.  
Tim – State doesn’t issue CO’s, so how will state handle it? We don’t want another level to get a CO in addition to local government.  
Annette- I think intent is to let everyone know what expectation is for state’s permit, but not for the state to take over COs.  
Todd-It’s been in the rule for 20 years already.  
Mike G – There’s no partial certification. With a wet pond if you excavate and outlet structure is in, and it’s seeded, but you haven’t planted vegetated shelf. It will function on some level. At that point, if you can have a partial certification and certify is in as plan, list what still needs to be completed. If I have to wait until is completely built before I certify, there would be projects I would never certify.  
Todd M – We’re talking about certifying stormwater system, not the whole development.  
Rob W – Not always possible to phase a project, so we need to consider whether it’s phased, partial completed, surety. Residential projects are the issue.   
Annette- Excellent points. More work needs to be done outside the meeting. We should benefit from the wisdom of some of our local governments. Might be good to say a permittee can come up with another way – post surety that BMP will be built. Let’s keep working on this.  
Larry R-Even under the existing rule with CO, the convening authority is the local government. Many LGs will issue a CO whether it’s in line with state’s rule or not.   
Annette – Permit holder is out of compliance if he asks for CO before BMP is built. Is anyone interested in joining the general MDC#7 committee to meet in between meetings? Marc Houle and Virginia Spillman volunteered.  
Todd M – We need to make it clear that this will require a regulation change.  
Brian L – Proposed that we change “designer” to “qualified professional.”  
  
**Wet Ponds – MDCs  
*Item #17 Basin Contours***   
Mike G – From permitting standpoint, what would criteria be that your contours do not reduce the velocity? Isn’t this addressed by length/width ratio? What tool would you use to say that contours do or don’t reduce velocity? It’s a good guiding suggestion to have in the BMP Manual.  
Team agreed with Mike G.  
Annette – Delete it or move to bottom of list as recommendation?  
Larry R – Example of one that creates a problem?  
Annette – We already discuss the issue of short circuiting in Item 5. So should we delete 17 or make it a recommendation?  
Team – Voted to delete 17, Basin Contours. It is addressed elsewhere.

***Item #18 Emergency Spillway***Bill H- Watershed that’s draining to it needs to have a spillway.  
Tim-Above the design storm, state should only review pre/post. I don’t think a spillway on a pond is not a water quality deal.   
Peter- If you’re above design storm, would that not cause potential failure of the structure?   
Tim –I agree with that. That’s up to professional ethics.  
Peter-Spillway will help to avoid a failure.   
Eban-Should we not say 100 year?  
Tim – Should be up to designer, not a regulation.  
Mike G-Jurisdictions have different requirements for the design storm.  
Ron H-It’s needed for the functionality of the system. Emergency spillway can be through the structure. It doesn’t have to be a weir. Anything above design storm, must be a method for passing that storm so it doesn’t negatively impact the structure.  
Tim – But it doesn’t need to be explicitly listed. Just another level of review we shouldn’t have to do.  
Ron H-I disagree.  
Mike G-Is it currently spelled out in the BMP Manual?  
Marc-If you’re designing a storm drain system for 10-year storm, how do you analyze what’s going to happen in 100 year? Will get a lot of bypass and a lot of water may not make it to the basin? I think there’s judgment there if water will even get to basin.  
Tim –Your owner won’t want the liability with that.  
Mike G-Why did we pick the 100-year storm?  
Ron H-I believe the language is “up to” the 100-year storm? Minimum is your design.  
Mike G-I thought 50 year storm was the standard?  
Annette – Doesn’t see anything in our Manual or supplement forms that specify 100-year or 50-year storm. Add “there must be a method for conveying storm events exceeding the design storm that will not negatively impact the structure.”??  
Bill H- Laws are here to protect people. An engineer should absolutely make sure that some water is conveyed safely beyond the design storm. I think it is something that should be looked at. It does tie into water quality and has to do with functioning in perpetuity.  
Annette – Should we strike this and should be handled as engineering practice, or should we keep it for public safety? Team voted to keep it, but modify it.  
Larry R- Does it have to say “emergency spillway” or can it say “safely pass the storm”?Mike M- What is the origin of the ‘up to’ qualifier? We have a 50-year requirement. Durham as 100-year.  
Ron H- Problem is it comes back to the engineer’s judgment the way it is now. It’s not a big jump from 50-year to 100-year.   
Larry R-It’s not a stabilized emergency spillway, but it’s a safely pass.  
Rob W-What about ‘prevent catastrophic failure’?  
Marc – You don’t want erosion of the dam structure. We usually take it out the outlet structure.  
Tim – How does a regulator interpret this?  
Mike G-Right now it’s a checkbox on the supplement. I don’t know that anybody at the state has ever asked for calculations for the emergency spillway.  
Larry R-Has had one reviewer require a weir because of this very regulation.  
Ron H-That’s what we’re trying to prevent.  
Annette – How about this: “There must be a method for safely conveying storm events exceeding the design storm in a manner that prevents catastrophic failure of the device.”  
Tim-This is so open ended.  
Boyd –We are leaving it to the engineer.   
Ron H- There’s always going to be somebody that thinks they know better and wants to go outside the law. Can’t entirely avoid that.  
Team voted that they like the suggested language.

***Item #19 Forebay***Ron H – Get rid of it. It doesn’t work.  
Joe H-Only device that works only works for a little while.  
Team voted to get rid of it. ***Item #20 Elevation of separation structure***Linda L-Intent was to have it a permanent pool b/c people don’t like to see bare earthen thing sticking up.  
Brian L-This is making the weir more visible.  
Linda L-If you go below the temporary pool elevation, you are bringing it up.  
Mike G-I’ve always put it as permanent pool level.  
Bill H-In Piedmont, sometimes you want it perched up.  
Annette-Some of the designers in here are saying match weir elevation with permanent pool elevation, but this could cause weir elevation to go up because they pond more than 1 foot of water. Do we really enforce this one?  
Linda L-It’s not high on the list, let’s put it that way.  
Team voted to get rid of this item. It’s not eliminating forebay dam or non-erosive velocity, is it?  
Annette-Do most of you check velocities over weir?  
Team said no.  
Mike M- We want to catch fines as early as possible, so we have a higher berm.  
Linda L-When you’re trying to show the State that you’ve sized your forebay appropriately (20%), if you set your weir wall too low, that’s where you cut off will be for the size of your forebay, so you need to keep your weir a little higher to claim more of that volume.  
Annette – What if we keep the second sentence about keeping flow nonerosive?  
Team voted to keep the second sentence.  
  
***Item #21 Basin Side Slopes***Boyd-Rule says all side slopes shall be no steeper than 3:1 horizontal:vertical.  
Larry R- That’s written around grass. Some slopes could be built around 2:1. Also maintenance/mowing issue.  
Mike M-In summers, our wet ponds can get to 1 foot below normal perm pool, we have a problem with stabilization there. We also want to encourage their use for irrigation. Does anybody have idea what to do with that 1-foot area? Wetland vegetation not working.   
Annette – Maybe they need to spec some different plants.  
Brian L-The first one we scratched because we put it into the MDCs for all.  
Annette – Scratch this item because we already have general MDCs that say 3:1?  
Team agreed.

***Item #22 Basin Side Slopes below vegetated shelf***Mike M-We’re not seeing failures, but our vegetation isn’t surviving in hottest months. What do you do when people do want to have irrigation?  
Marc –Do those plants go dormant and come back when water levels come back up?  
Larry R-No, they just die.  
Ron H-When they establish it’s going to be a re-use pond, do they set that up year round? It then becomes like a cistern, so why do you need wetland plants?  
Bill H-I will say that we are working to devise a list of plants that can handle a broader range of water levels. We’re doing it for Fayetteville actually because they have such an issue with ponds leaking.  
Larry R-Zoysia sod handles it as well as any grass I know.  
Joe H-Has anybody run into that when synthetic liner is exposed to sun?  
Mike M – Recommend aboveground sand filter instead of liner because if soil is set up for water, let the water go down instead of out.  
Annette-Keep this or is it too vague to be useful?  
Linda W-We’re only regulating what’s above the water? Don’t see the point of having this in rule too.  
Annette – Keeping 22 except remove “and per the design professional’s judgment.”?  
Team voted to get rid of Item 22 all together because there’s nothing there to regulate.

***Item #23 Vegetated Shelf***  
Linda L-We put 10:1 in the BMP Manual because the blade for grading just couldn’t do 6:1. More practical.  
Mike G-Any consideration given to fact that we make vegetated shelf flat and entirely below water line and plant one type of vegetation so we’re more sure that it’s always wet? Hard to get people to replant if plants die. Like to see range broadened to allow plants either all in water or all in dry – flexibility.  
Tim-Slope is only 6:1 in the law – So until we change it, should be approved only to 6:1, not 10:1 in BMP Manual.  
Rob W – If reason it grew by 40% because people like bigger equipment, I say we go back to original law. Let’s go with smaller shelf as a minimum. Designer can do a bigger one if they want.  
Larry R- Better off with steeper slope below permanent pool because will have more variety as water fluctuates with broader slope.  
Annette-For part of shelf below permanent pool, spec a wetland species; for above, spec species that likes its roots wet. But wetland species tend to be dying during dry times.  
Bill H-Two main reasons to use shelfs: safety and perceived benefit to nutrient removal. The latter has not been proven.  
Mike G- That’s why I’d like to see a foot below water level allowed.  
Linda L – Law says can do 6:1 or flatter.  
Mike G - Manual requires half has to be above water and half below water. Would like to change that.  
Tim-Checklists all say 10:1. So if I brought in 6:1 today, they would approve permit?  
Annette – 6:1 and designer has flexibility to put it above permanent pool or below as they choose. Width is not specified in rule.  
Mike G – 10’ shelf makes these ponds bigger.  
Linda L- Bill is saying shelf may not have a purpose other than safety.  
Todd-What’s easier to maintain? Pond with shelf or pond with no shelf?  
Larry R-Pond with shelf. Concerned with vegetation stabilization and maintenance access. We stabilize steep slopes with vegetation that you don’t go into like junipers or slope groundcover. I think access around the lake is primary issue for inspection. We have a goose issue. Shelf is working against that. If you bring vegetation right up to water’s edge, you discourage geese from showing up.  
Brian L- Suggest leave 6:1 or flatter, leave 10-foot minimum, get rid of half above/below.   
Ron H-I agree that for smaller ponds, 10-feet would be overkill. Need to have some flexibility. Don’t want 10-foot to be mandatory.  
Annette-Do we want to specify a minimum width?   
Linda L-If we don’t, we’ll see 1-foot, 2-foot shelfs.  
Ron H-Most of our DOT roads have a 6-foot shoulder. Would like to recommend 6-foot as reasonable. Doesn’t have to require that it be above/below water.  
Rob W-If we’re not driving the width of a shelf for safety, what happens if they fence the pond. Does this mean they don’t need a shelf? Where do we leave the safety issue to the designer? In neighborhoods, they want to put fences around them.   
Annette-Seems to me that for it to function in perpetuity, we need a way to access the pond to maintain it. For mowing or dredging, pulling overgrown plants, for example.  
Larry R-Is shelf above permanent water level or below?  
Ron H-It could be either.  
Annette – Keep “The pond shall be designed to provide for a vegetative shelf around the perimeter of the basin. This shelf shall be gently sloped (6:1 or flatter) and shall consist of native vegetation.” Get rid of rest of Item 23. This is more in line with the rule.  
Derek-The top of the dam, not the shelf, is used for maintenance.  
Todd-Why are we requiring the shelfs if there’s no environmental benefit?  
Bill H-The shelfs do help keep geese out. But studies haven’t proven N or P benefit.  
Todd-Then we need a minimum width.  
Ron H-I like 6 feet minimum.  
Tim – 6 feet is fine, but until it’s approved, the supplement should be changed immediately so no one forces us to use the 10-foot shelf.  
Annette – “The pond shall be designed to provide for a vegetative shelf around the perimeter of the basin. This shelf shall be gently sloped (6:1 or flatter) and shall consist of native vegetation. The minimum width shall be six feet.”  
Team agreed to this language.  
  
***Item #24 Drawdown Rate***  
Todd-We don’t want to discourage ponds used for irrigation. Would that throw off the 2-5 drawdown?  
Annette-So maybe put in something that recognizes irrigation?  
Derek-Drawdown rate calc doesn’t assume infiltration, so as long as providing calc that it’s drawing down solely thru orifice in 2-5 days, then we’re okay with that. We don’t want to over-complicate it by requiring a calc that includes infiltration with drawdown rate.  
Mike M-For irrigation, they use volume below low level orifice. When it rains, it fills back up.  
Todd-If your pond is below permanent pool routinely, is that out of compliance?  
Mike M-Depends on reason. If it’s because of natural soil or irrigation, then they’re meeting intent.  
Robert P-Change one inch to “design storm.”  
Larry R-If let it drawdown to dry detention, isn’t that an issue?  
Mike M – They need to design the pond for irrigation. And it will still have a permanent pool. Want them to keep at least 2 feet of water in one area. Last thing we want to do is take a wet pond and turn it into a mosquito pit. Mosquitos probably not an issue for the MDC.  
Annette-Propose language: The discharge rate from these systems following the design storm shall be such that the draw down to the permanent pool level occurs within five days, but not in less than two days.  
Team agreed.

***Item #25 Discharge Rate***Bradley – It doesn’t make sense for us to have different criteria in different state programs.  
Boyd – We don’t have this criteria in 401.  
Annette – Delete “the storage volume.”  
Bill H-This is a bad idea for those worried about downstream erosion. So much more water is produced when turn woods into parking lot, when cap it at peak flow, we design systems to release flow at peak flow for longer period of time at flow rate that causes erosion in streams. Really bad for stream health. Not as bad if systems infiltrate, but our ponds don’t infiltrate. For stream health, better off not doing anything. But downstream flooding is an issue.  
Ron H-Alternative is a pond that holds indefinitely.  
Bill H-Or allow some exceedance of rate (about one half that of the natural condition). You want to release water that would fill up channel at rate less than bank full (one half of one year storm is safer flow rate for streams).   
Mike G-Isn’t this looking at peak discharge rate?   
Annette-Length of time discharge is a peak is longer period of time.  
Peter-Creates greater channelization. This is why I prefer BMPs other than wet ponds.  
Bill H-Want to be sure we know what consequences are of holding folks to this. Just about worst thing we can do for stream.  
Mike G-If undeveloped site, pre-dev discharge rate is really low. Then you build on that, in order to discharge at a rate half that original rate, where does that volume you allow to bypass earlier – what’s the line for that?  
Bill H-I would look at pre-development condition, 75 or 80% of QT for one-year event, look at time that flow is exceeded, then allowed to over-discharge at that exact same period and under discharge one half – basically have two-stage outlet structures. Or even three-stage: water quality; balance between that and one-year storm; drop down to one half of Q1 at nonerosive velocity for longer period of time. Not a perfect solution -will have more flooding for smaller period of time if keep ponds same size.  
Tim- This law was a compromise. One year storm is not flood control.  
Bill H- Even what I’ve just said is simplified. Gets closer to – trying to hit flow duration the best you can pre and post. I can draw on the board better than I can speak it.  
Annette – Strike this in favor of more detailed outlet structure design?  
Mike G-Depends also on what stream you’re going to. If your outlet is the Cape Fear River, it won’t be a problem. If it’s a type 1 stream, you’ll blow the stream out. Or if outlet is ¾ mile from stream.  
Tim – Wouldn’t dissipator on the backside reduce the velocity?  
Mike G-Sounds like it would be hard to quantify on a statewide basis?  
Bill H-Where it’s important is on zero-order or first-order streams where velocity will have an impact on the health of a stream. I believe it’s not as important an issue on the coast.  
Peter-This is why I encourage everyone to not use a wet pond.  
Annette- Options on the table: 1) keep language as written; 2) strike it completely since people feel it’s more detrimental than helpful; 3) add more complicated outlet structure to better protect streambank stability – maybe limit to certain order streams or regions (piedmont, mountains).  
Ron H-Striking it strikes fear in me because that’s my only defense in a lawsuit because state says this is your discharge rate. I don’t disagree with what Bill said, but what we’re talking about is a downstream study.  
Tim – I don’t think it flies in court.  
Bradley-If they call us, we’ll tell them we don’t have flood control requirements in our rules.  
Rob W-Within the scope of this committee, do we have right to strike it?  
Peter – Millis has said if we run into things that need regulatory changes, we need to bring them to his attention.  
Mike G-If we strike it and replace it with nothing, then there’s no limit on your discharge rate.  
Bill H-We can come up with an alternative to that within about 6 months. The work has been done, but it needs to be synthesized.  
Tim – Would this raise the volume of the level of the ponds?  
Bill H-No, I think it would depend. I would say it’s marginal.  
Ron H-My hunch is that storage volume would shrink.  
Bill H agreed to provide this by December 1st.   
Bill H- In general, soils of Piedmont streams are more easily eroded, so this isn’t as much of an issue in coastal areas.  
  
***Item #26 Vegetated Filter Strip***  
Robert P-Delete it.  
Ron H-Delete it.  
Mike G-For SA waters, will still have to have it. I don’t know that the whole 85/90% TSS I found to be a dubious distinction. I don’t know if anyone can tell if you if they’re really achieving this.  
Linda W-There’s no distinction between what is the basin discharge, orifice outflow, the overflow? What is the discharge? Just the orifice flow? Or everything?  
Boyd – Rule requires this VFS on wet ponds and infiltration systems. But if you put a sand filter out there, and VFS not required. I think the thing needs to go.   
Bradley – For infiltration, it’s only talking about the bypass.  
Mike M-For the level spreader, the Manual allows bypass to go thru riprap channel or piped conveyance right to surface waters.  
Robert P-If outlet connects to pipe system, no place for VFS. Or for steep slope, what do you do?  
Annette-Does anyone like Item 26 and want to keep it? Or get rid of it?  
Team voted to get rid of Item #26.

***Item #27 Fountains***Annette-Do we want standards for fountains at the state level?  
Larry R- Are fountains ever mandatory?  
Annette-No, they’re optional.   
Ron H- What does this have to do with water quality?  
Bradley- Fountains are amenity, so we want to prevent stirring up of sediment and eroding sides of pond.  
Ron H-I don’t see a problem with it.  
Annette – So we’ll keep Item #27?  
Team agreed.  
Rob W – Some of these requirements might be outdated.   
Annette –We’re open to suggestions.  
Linda W- Fountains aren’t usually shown at time of review – they’re put in later.

***Item #28 Vegetation –Trees and Woody Shrubs***Ron H- The dam structure – obviously no woody plants; but embankment is also the perimeter of the pond. I want trees/shade. Maybe go from “embankment” to “dam structure.”  
Robert P-Only problem is I’ve seen woody vegetation brings beavers and muskrats which tear up sides of ponds.  
Annette – Elsewhere in the Manual, it suggests planting around the perimeter for shade. Everyone okay with changing from “embankment” to “dam structure”?  
Team agreed.

***Item #29 Vegetation -50 plants per 200 sf***Mike G-This and #30 can go away.  
Annette-Staff want to allow more flexibility on plant choices.  
Larry R-50 plants per 200 sf doesn’t make sense. Won’t be able to find those plants. You want diverse species. We want to turn these ponds into landscaped amenities. A lot of things will come in and naturally take over. As a landscape architect, I encourage natural plant growth. I see a lot of this as over regulation. Tell me the problem we’re trying to address.  
Annette – Discourage waterfowl and establish vegetated shelf are the purposes.  
Bill H-This is one of those cases is if it’s a pond that’s out back and out of sight, a vegetated shelf will eventually be vegetated, and encouraging min density is not a bad thing. But I agree with Larry that it may be overly prescriptive.  
Annette – Can someone suggest better wording for guidance with flexibility?  
Ron H-Take “3” out, and just say diverse species of appropriate plants?  
Todd M-Do we think the plantings will remain diverse?  
Bill H- No. Cattails will come in. They harbor mosquitos and should be removed.  
Todd M- Does it make sense to even try for diversity?  
Mike M-Cattails are okay if harvest them and get rid of them.  
Bill H-If mosquitos not an issue, cattails are fine.  
Larry R-Nurseries aren’t up to speed yet to provide the plants you might want to have.  
Mike M-A lot of the vegetation on the littoral shelfs, those are what geese like to eat.  
Larry R-Only vegetation around wet ponds that are an issue are those with deep tap roots on the dam or that hinder access for inspections.  
Annette – How about say “several diverse species” and get rid of density.  
Larry R-Better put in something about types of plants known to be acceptable.  
Annette – Yes, we’ll incorporate this into the Manual. Also striking Item #23.  
Hunter – Density should be called out. What if I think one plant on one acre of shelf is “appropriate”? Maybe augment inspection and maintenance document that allows for less diversity.  
Mike G-If vegetation isn’t a water quality issue, then why are we specifying it here?  
Annette – For stability and to discourage mosquitos.  
Mike G-We say grow grass on side slope but we won’t specify type of grass.  
Annette –We’re providing guidance because isn’t as obvious as to what to grow on vegetated shelf.  
Larry R – Limiting to density could inadvertently lead to choosing smaller plants.  
Hunter – How do we write this so that it’s quantifiable and therefore can be approved by DENR?  
Eban – If it’s too dense, won’t the plantings reach equilibrium on their own eventually?  
Larry R- Not necessarily. The plants that die aren’t necessarily the ones you want to die.  
Annette – At maturity, we want the plants to fill in and get good coverage on the shelf.  
Larry R- Knowing the plants is up to the designer and planting it at the proper spacing.  
Hunter – Hurdle I want to get over is getting the plan approved.  
Larry R- Same issue as slope stabilization with municipalities. There are even different species of juniper that spread very differently. You really have to know the plants.  
Annette – Larry and I can work together and suggest language for plant spacing.

***Item #31 Vegetation – trees and shrubs set back***  
Team agreed to strike this.

***Item #32 Vegetation – weeping love grass***Larry R -Grass is a very specialized field, so we specify sod to deal with that.  
Ron H-Love grass will not stabilize.   
Bill H-Don’t want love grass if you’re worried about erosion.  
Linda W-We need something to prevent use of this clumping type of grass for stabilization.  
Rob W-If we’re pointing people to list of acceptable plants, do we also need to specify which are prohibited?  
Larry R-A mixture of grass seeds is best in most cases because there’s a lot of microenvironments involved in areas you grass. Better off with varied mixture.  
Tim-Leave it in, who cares?  
Team agreed to leave it in.

***Item #33 Vegetation – turf grass***Team agreed to keep.

***Item #34 Outlet – drawdown orifice***  
Team agreed to keep it as a recommendation, not a requirement.

***Item #35 – Outlet –flotation***Bill H-If you have an issue, the designer can be sued.  
Team agreed to make this a recommendation and say that engineer “should calculate” flotation force.

***Item #36 Outlet-filter diaphragm***Team agreed to make this a recommendation and replace “filter diaphragm and drain system” with “measures.”

***Item #37 Outlet – O-ring***Ron H-This goes to device size. It’s too detailed.  
Team agreed to strike the whole item.

***Item #38 Outlet – trash rack***Team agreed to keep it as a requirement, but don’t get any more detailed.

***Item #39 Outlet – durable materials***Team agreed to keep it as a recommendation.

***Item #40 Construction – pond constructed as designed***  
Team agreed to strike it.

***Item #41 Construction – temporary drainage***  
Team agreed to strike it but keep it in BMP Manual chapter for information purposes (as a preferred practice).

***Item #42 Maintenance***  
Team agreed to keep.  
  
***Temp Rec 1 and Rec 2 – temperature impacts***Team agreed to keep these as recommendations.  
 **Team Priorities**Annette – What are Team member’s priorities?Sand filters, wetlands, bioretention, disconnected impervious – We’ll do wetlands after infiltration.

**Action Items**Bill Hunt - Fill Team in on Nutrient DC 1 by Dec. 1, 2014 : Floating wetlands added to wet pond to increase nutrient removal rates. Also, provide information on discharge rates (see Item #25).

Marc Houle, Virginia Spillman, and Annette - Talk about MDC #7 Certificates of Occupancy.

Larry Ragland and Annette – Talk about plant spacing/diversity.

Annette –Send Team additional homework in 2 weeks.  
Annette – Get together a table for Wetlands.

Team – Review infiltration chapter and additional homework as assigned.

**Next Meeting – July 28, 2014 – Infiltration**