FIRM	
FPID #:	DESIGNER:
DESCRIPTION:	CHECKER:
COUNTY:	DATE:

Provided				
DRAINAGE DESIGN CHECKLIST (900 Series)	YES	NO	Designer's Initials	Checker's Initials
I. Drainage Report (see report outlines on FTE design website)			_ coignor o minadio	COKOI O IIIIAAIS
A. Executive Summary - Brief Overview of Project Drainage Design				
B. Project Description				
1. Existing Conditions				
Proposed Project Conditions				
3. Project Justification Narrative - Basin Schematic and Description				
4. Location Maps, Floodplain Maps, USGS Maps, Drainage Map, etc.				
Survey Datum Conversion Survey Datum Conversion				
S. Satisfy Estatis Conversion Assessment of permanent and temporary environmental impacts				
C. Design Criteria and permits required				
Lesign of niche and permitted equality of the controlling the drainage design List minimum criteria and determine which is controlling the drainage design				
List all permits required and determine which is controlling List all permits required and determine which is controlling				
List an permiss required and determine which is condoming Document all contacts with agencies				
D. Drainage Maps (pre and post)				
Drainage Maps (pre and post) Drainage Divides with topography (onsite and offsite)				
Drainage Bivides with topography (orisite and orisite) Drainage Basin Areas Delineated				
Overland Flowpaths Shown (Flow Arrows)				
4. Proposed Drainage Structures Plotted and Labeled with Structure Numbers				
5. Outfall and Cross Drain Structures Shown				
6. Required Information on Existing Structures included and Field Verified				
7. Section, Township, Range, City and County Lines, WMD and local WMD's boundaries				
where applicable				
Existing Ground Line and Proposed Grade Plotted in Profile, if profiles included				
9. Elevation Datum (Topography). Contours				
10. If profiles included, Storm Sewer Main plotted in Profile (including cross drains)				
11. High Water and Design High Water Information				
12. Adjacent and Receiving Water Bodies Labeled				
E. Drainage Calculations				
1. Open Channel Flow				
a. Supporting Documentation - Tc, CN or C calculations, drainage map with flow paths shown				
b. Hydrologic Analysis - Storm frequencies and duration				
c. Hydraulic Analysis - Hydraulic Worksheet for Roadside Ditches - Include channel				
lining requirements				
d. Outfall ditches sized for 25YR storm				
e. Check if any point source flows entering a ditch have been properly accounted for				
f. Confirm noise wall drainage has been properly designed (slot locations, no increase to water elevations offsite, etc.)				
g. Verify freeboard criteria is met				
2. Stormdrain Systems				
a. FDOT Stormdrain Tabulations				
Correct zone and frequency used?				
b. Supporting Documentation - Tc, CN or C calculations, drainage map with flow paths				
Starting tailwater documented?				
c. Areas of special inlet placement, SE transitions, intersections, side streets, lane tapers				
against grade, sags, flanking inlets				
d. Inlet Spacing/Spread Calculations/Bypass Flow/Debris Tolerance				
e. Check 50 year storm event for sag inlets with no other outlet (median drainage)				
f. Stormdrains which act as crossdrains should be checked using crossdrain criteria				
g. Minimum pipe slopes are sufficient to provide self-cleansing velocities (2.5 fps)				
h. Minimum required HGL clearance provided?				
i. Check if any systems have base flow entering them and confirm accounted for properly				
j. Check velocities leaving systems, do any require energy dissipators/other erosion control measures?				
j. Onose rolosidos icaving systems, ao any roquire energy alsospators/outlet etoslott control theasures:	I	1	<u> </u>	

	FIRM NAME
FPID #:	DESIGNER:
DESCRIPTION:	CHECKER:
COUNTY:	DATE:

DRAINAGE DESIGN CHECKLIST (000 Sories)	Pro	vided		
DRAINAGE DESIGN CHECKLIST (900 Series)	YES	NO	Designer's Initials	Checker's Initials
3. Optional Pipe Analysis				
a. Include geotechnical results of soil chemistry				
b. Latest version of culvert service life estimator run				
c. CSLE results checked for availability, minimum and maximum cover				
d. CSLE pitting analysis run for jack and bore pipes				
4. Cross Drains				
a. Description of Drainage Area				
Natural Features				
2. Existing Facilities				
3. Existing Flooding				
Existing Drainage Problems				
5. Bridge/Bridge Culvert category				
b. Previous Studies				
1. Drainage Studies				
Water Management Permits/DERM				
FEMA - Define floodplain/floodway impacts				
c. Peak Design Flows				
All Design Storm Peaks				
FDOT Methodology				
d. Existing Conditions				
Flood Stages - Source				
Tailwater Elevation - Source				
Headwater Elevation - Source				
4. Scour - Source				
e. Culvert Design (Pre/Post)				
Supporting Documentation - Tc, CN or C calculations, drainage map with flow paths				
Tailwater Methodology and calculations				
FDOT Culvert Design Methodology (HDS-5)				
Headwater/Tailwater Comparison to Existing Conditions for Design Storms				
Design HW does not exceed Allowable HW				
5. 100 year HW not increased (if increased, provide evidence of no adverse impact to offsite)				
Erosion/Scour calculations and protection requirements				
7. Clear Zone Standards				
Flood Data Box Information				
f. Box Culvert Design (Pre/Post)				
Supporting Documentation - Tc, CN or C calculations, drainage map with flow paths				
Tailwater Methodology and calculations				
FDOT Culvert Design Methodology (HDS-5)				
Headwater/Tailwater Comparison to Existing Conditions for Design Storms				
Design HW does not exceed Allowable HW				
5. 100 year HW not increased (if increased, provide evidence of no adverse impact to offsite)				
Include low flows and HEC-3 runs or backwater curves for design flows				
7. Structural Design using FDOT "Reinforces Concrete Box Culvert and Wingwall Design"				

FIRM	
FPID #:	DESIGNER:
DESCRIPTION:	CHECKER:
COUNTY:	DATE:

	Pro	vided		
DRAINAGE DESIGN CHECKLIST (900 Series)	YES	NO NO	Designer's Initials	Checker's Initials
5. Underdrain, Vertical Column Recovery Structures or other drawdown systems	120		_ conginer o minute	
a. Pollution abatement volume				
b. Design method				
c. Estimated length of underdrain for filtering pollution abatement volume				
d. Typical section with elevations				
e. Gravity flow in underdrain pipe(s)				
f. Estimated drawdown time to evacuate the pollution abatement volume			1	
g. Design addresses the drawdown of seasonal highwater table as applicable				
h. Design certified by geotechnical engineer			1	
i. Does system affect base clearance?			1	
6. Stormwater Management				
a. Pond Siting report - Wet, Dry, Detention, Retention, On-line, Off-line, Demonstrate all matrix factors fully evaluated.				
b. Stage storage calculations for proposed pond excluding compensation storage				
c. Supporting Documentation - Areas, Tc, CN or C calculations, drainage map w/flow paths, HUC-12 Maps				
d. Computed tailwater elevation of receiving facility for appropriate design frequency event			1	
e. Hydrologic Analysis			1	
Pre and Post Development Hydrographs			1	
f. Hydraulic Analysis			1	
Pond Routing Calculations			1	
Critical duration if required			1	
3. Pond Volume Calculations			1	
Skimmer Head Loss Calculations, including skimmer/box clearance			1	
Water Quality Volume Calculations Included. Correct criteria used				
Water Quality and Water Quantity Drawdown Times			1	
7. Littoral Area Calculations (wet pond), if applicable			1	
8. Permanent Pool Volume (wet pond). Use 21 days to avoid littoral zone requirements			1	
g. Computer Modeling Information			1	
1. Model Input Data			1	
Model Output Data			1	
7. Summary of Results in Table Form				
a. Pre vs. Post peak flows to receiving water			1	
b. Design high water in pond(s). Compare to min. required distance below roadway base			1	
c. 1 foot of freeboard above peak stage in pond(s) to the inside maintenance berm			1	
d. Floodplain compensation addressed			1	
e. NWL in ponds				
f. Control elevation, size, and provided recovery time versus required				
g. Required versus Provided water quality volumes			1	
h. Pre versus Post stages any where offsite HGL affected by project			1	
i. Nutrient loading summary tables, as required by project criteria				
8. General				
Corrosiveness analysis has been performed on CMP installations and on RCP			1	
b. Description of offsite easements and/or flood rights, if required			1	
c. Check that existing drainage system will function under proposed conditions			1	
d. Verify that improvements do not result in adverse affects on adjacent property			1	
e. Temporary drainage addressed			1	
F. Correspondence and Supporting Documentation			1	
II. Engineering Plans				
··· =-·g·······g · ·-··-	1	1	1	L

	FIRM NAME
FPID #:	DESIGNER:
DESCRIPTION:	CHECKER:
COUNTY:	DATE:

Provided				
DRAINAGE DESIGN CHECKLIST (900 Series)	YES	NO	Designer's Initials	Checker's Initials
A. Drainage Maps				
All offsite area draining to project delineated and acreages labeled				
2. All offsite connections to project right of way shown				
3. Arrows showing flow direction both onsite and offsite				
Stormwater Management Facilities shown with outfall locations and easements				
5. Other items as identified in FDM Chapter 918				
6. Flood Data Table for cross drains included with notes				
B. Estimated Quantities Report includes all drainage items, including verification of the following:				
Identify adjusted and modified structures properly				
2. Check sizes, lengths, inlet types, etc.				
3. Erosion Control Items, cross drains, side drains, and ditch pavement, pond control structures, and any other miscellaneous drainage features				
Temporary drainage quantities				
C. Typical Sections				
Typical ditch sections shown with minimum bottom width and minimum berm elevation if needed				
2. Minimum depth of ditch shown				
Shoulder gutter shown where needed, such as pavement draining through guardrail				
4. Check number of lanes sloped in one direction vs.FDM Figure 211.2.1 to determine need for hydroplaning calcs				
D. Drainage Structures Sheets: Plan View				
Check Drainage Structures, Underdrain/Cleanout Locations, and French Drain callouts				
Check Lengths of pipes, flow line information, and flow arrow directions				
3. Check underground utility locations and Soil Boring locations				
4. Ponds and treatment swales labeled, if applicable. For treatment swales, provide additional labeling as requested in FDM 915.3.4				
5. Check consistency of stationing with all sheets				
6. Check structure numbers for consistency				
7. Confirm construction is contained within the Right of Way				
8. Show and label jurisdictional wetland lines and contamination limits, if present.				
Are inlets required at super elevation transition, median lanes, sags, tapers, or intersections?				
10. If connecting to existing pipe, consider adding the following general note:				
If a concrete collar/jacket is required in the plans to join a new pipe to an existing pipe, the existing pipe must be removed to the nearest joint to				
begin the placement of the new pipe; unless it would require encroachment into the adjacent lane. The concrete must be cured and inspected to				
confirm the integrity of the collar prior to placement of fill material.				
If this method is implemented, was an additional 8' of pipe length added to the quantities for each tie in site where a concrete collar would have been				
used? Was a mechanical type collar considered (over a concrete collar/jacket)?				
11. Riprap/energy dissipators shown if required				
E. Drainage Structures Sheets: Cross sections, Profile View, and Plan View Structure Paragraphs				
Check plotting of drainage structures (offset as indicated in Standard Plans, verify all reference point elevations are correct)				
Existing structures requiring work are noted and given a proposed structure number				
3. Verify structure numbers, station/offset, structure type, structure bottom information, pipe sizes/lengths, invert elevations, and direction of flow				
4. Verify sump elevations				
5. Verify notes include all necessary information for the contractor (slots, aprons, riprap, energy dissipators, etc.)				
6. Underground utilities are shown and conflicts are identified (gas mains running through conflict boxes not allowed)				
7. Existing Ground Line and Proposed Grade Plotted				
Besign fill heights for box culverts are verified (account for top slab thickness)				
Seek for adequate cover over pipe for all optional materials allowed				
10. Minimum depth of pipe flowlines adhere to FDOT Drainage Design Guide				
11. Label Wall Zone Pipes				
The Edward Train Editor Tipos	1	I .		

	FIRM NAME
FPID #:	DESIGNER:
DESCRIPTION:	CHECKER:
COUNTY:	DATE:

P. Charlage Structures Shoets: Optional Materias is Tabulation 1. Cheek Drainage Manusci Cit. For availability, suitability, and markinin IT legisly for all materials 1. Cheek Drainage Manusci Cit. For availability, suitability, and markinin IT legisly for all materials 1. Cheek Drainage Manusci Cit. For availability, suitability, and markinin IT legisly for all materials 1. Report of the program of the prog	Provided				
F. Dringer Structures Steets: Coptoral Materials Tabulation	DRAINAGE DESIGN CHECKLIST (900 Series)			Designer's Initials	Checker's Initials
1. Check Drantage Menual (CSLE for evaluability, authority, and maximum fill height for all materials 2. Do not use martinals but requires 3. Cogy for material part rotted 4. Verify allows proportionally and experiment of the proportion of the pr	F. Drainage Structures Sheets: Optional Materials Tabulation	-		3	
2. Do not use materials that require a design review or approval by the Slate Engineer 3. Gugs for model jips noted 4. RCP Clase noted 4. RCP Clase noted 5. Verify jack and been arranged interfield 5. Verify jack and been arranged interfield 6. Verify jack and been minimum per biotenesses are identified 7. Verify allowable poe materials follow Table 6 of the POOT Drainage Manual 6. Reactivey Planning 6. Solve and label point and end of pegale distribute (notating median) 8. Show and label and criange structures, motivating easting structures 9. Show and label and criange structures, motivating easting structures 9. Show and label and criange structures, motivating easting structures 9. Show and label and criange structures, motivating easting structures 9. Show and instellate points and access diverway have a station offset 9. Show and instellate points and access diverway have a station offset 9. Show and instellate points and access diverway have a station offset 9. Show and instellate points and access diverway have a station offset 9. Show and instellate points and access diverway have a station offset 9. Show and instellate points and access diverway have a station offset 9. Show and instructure bern and instellate planning and access diverway have a station offset 9. Show and label and crianged structures and access diverway have a station offset 9. Show and label planning for part of show on a plans 9. Show and label planning for part of show on a plans 9. Confirmed cortical structures above in planning and access diversed and access diversed planning and access					
3. Cape for metal pipe rooted 4. RCPC Teas noted 5. Verify pite group numbers are properly identified 6. Verify pite group numbers are properly identified 6. Verify pite group numbers are properly identified 6. Verify pite group numbers and the pite for the RCPC Drandge Menual 6. Rooted by the pite for the RCPC Drandge Menual 7. Show and table provide and treatment wavies 8. Stations for founditions of pound access are included 8. Show and table bregan and end of special foliations (including median) 8. Show and table bregan and end of special foliations (including median) 8. Show and falled bregan and end of special foliations (including median) 8. Show and falled bregan and end of special foliations (including median) 8. Show and parameters agreed and vertice advances of riveway trave a station offset 9. Mirrum maintenance bern and filtoral shell provided 9. Mirrum maintenance bern and filtoral shell provided 1. Show and the provi	Do not use materials that require a design review or approval by the State Engineer				
S. Verify pick and bore minimum pice truchreases are identified S. Verify jack and bore minimum pice truchreases are identified S. Verify jackward pice minimum pice truchreases are identified S. Verify active pick market in the PDDT Orininge Manual S. Show and label profits and reletment swells. S. Show and label profits and reletment swells. S. Show and label profits and relet of special dicthese (including median) S. Show and label profits and reletment swells. S. Show and label profits and relet of special dicthese (including median) S. Show and label profits and control original publications S. Show and label profits and control original publications S. Show and label profits and control original publications S. Show and label profits and control original publications S. Show and label profits and show and control original publications S. Show and label profits and show and control original publications S. Show and label profit and show and show and control original publications S. Show and label profit and show and show and control original publications S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital required if not using Sheekon Plant 425-070 S. Confirmed credital sheekon plant or included the and control included sheekon in a control situation sheekon in a believe the and control included sheekon in the biochimics or original sheekon plant original sheekon plant original sheekon plant original sheekon plant original she					
6. Verlay lack and bore minimum pep thichnesses are identified 7. Verlay disouts per per arterial folior Table 6-1 of the FIOTT Christope Manual 8. Show and bate poors and institute studies 9. Show and table begin and end of special districts (including medium) 9. Show and table begin and end of special districts (including medium) 9. Show and table begin and end of special districts (including medium) 9. Show and table all derinage studies, schuldres (including medium) 9. Show and table all derinage studies, including solding studies (including medium) 9. Show and table all derinage studies, schuldres (including medium) 9. Show and table all derinage studies, schuldres (including medium) 9. Show and table all derinage studies discussed studies (including medium) 9. Show and table port of any other studies (including medium) 9. Show and table port of ord ords ords ords (including medium) 9. Show and table port of using Studied Pani 425-070 9. Show and table port is updative controls triping to existing ground contaurs 10. Show and table port is updative controls triping to existing ground contaurs 11. Show and table port is updative controls triping to existing ground contaurs 12. Show and table port is updative controls triping to existing ground contaurs 13. Show and table port is updative controls triping to existing ground contaurs 14. Underground utilities (in time 1 or greater) showes 15. Show and table port districts with a contamination limits, present. 16. Ords the issue are appropriate at the beginning and ending of all districts/wales 17. Show and table port underside the contacture of the protein of th					
6. Verlay lack and bore minimum pep thichnesses are identified 7. Verlay disouts per per arterial folior Table 6-1 of the FIOTT Christope Manual 8. Show and bate poors and institute studies 9. Show and table begin and end of special districts (including medium) 9. Show and table begin and end of special districts (including medium) 9. Show and table begin and end of special districts (including medium) 9. Show and table all derinage studies, schuldres (including medium) 9. Show and table all derinage studies, including solding studies (including medium) 9. Show and table all derinage studies, schuldres (including medium) 9. Show and table all derinage studies, schuldres (including medium) 9. Show and table all derinage studies discussed studies (including medium) 9. Show and table port of any other studies (including medium) 9. Show and table port of ord ords ords ords (including medium) 9. Show and table port of using Studied Pani 425-070 9. Show and table port is updative controls triping to existing ground contaurs 10. Show and table port is updative controls triping to existing ground contaurs 11. Show and table port is updative controls triping to existing ground contaurs 12. Show and table port is updative controls triping to existing ground contaurs 13. Show and table port is updative controls triping to existing ground contaurs 14. Underground utilities (in time 1 or greater) showes 15. Show and table port districts with a contamination limits, present. 16. Ords the issue are appropriate at the beginning and ending of all districts/wales 17. Show and table port underside the contacture of the protein of th	5. Verify pipe group numbers are properly identified				
7. Verify allowable pipe materials follow Table 6-1 of the FDOT Drainage Manual 6. Roadway PhiProFide: 9. Sistains for locations of port access are included 9. Sistains for locations of port access are included 9. Sistains for locations of port access are included 9. Sistains for locations of port access are included 9. Sistains for locations of port access are included 9. Sistains for locations of port access are included 9. Show and labrial all chainings structures. According esisting structures 1. Stormward Facilities Sheets (Port Desilits and Cort OST Structure Information) 1. Check that Port ratio prints and access of riveway trave a station offset 9. Minimum materianeance bern and titional facility or order of the structures of the st					
G. Roadway Pan/Profile 1. Show and label profile and resiment swales. 2. Stations for locations of port access are included. 3. Show and table begin and and of special disthess (including median). 4. Show and table all drainages structures, including existing structures. 4. Show and table all drainages structures, including existing structures. 5. Show and table all drainages structures, including existing structures. 6. Show and table all drainages structures, including existing structures. 7. Chick to see if a fence, gate, or sediment sump is required. 8. Actual Profit crisis points and ancess drivewed, have a station offset. 9. Genter before, gate, or sediment sump is required. 1. Check to see if a fence, gate, or sediment sump is required. 9. Chick to see if a fence, gate, or sediment sump is required. 9. Shammer deals required in of using Standard Plan 425-270. 9. Shammer deals required in of using Standard Plan 425-270. 10. Show and table provided with soil borings above. 10. Show and table provided with early one contractificity in the locations proposed. 11. Show and table provided with early one contractificity in the locations proposed. 12. Verify that special citing radion controls with one contractificity in the model. 13. Show and table provided with early one contractificity in the locations proposed. 14. Model Verification: 15. Check to line are appropriate at the beginning and ending of all ditches/evales. 16. Check that proposed limits of construction stay within Right of Way. 17. Check the ins are appropriate at the beginning and ending of all ditches/evales. 18. One of the propriate distinction as well be constructed in the model. 19. Show and propriate during the provided with beginning and ending of all ditches/evales. 19. Check that proposed limits of construction stay within Right of Way. 19. Check that proposed limits of construction stay within Right of Way. 19. Showed propriate during a well-and in the model. 19. Verify that these beard on roadway models wa					
1. Show and label ponts and treatment avenies. 2. Stations for locations of pond access are included. 3. Show and label begin and end of special dischar (including median) 4. Show and label all drainage sixturuse, schoding sixtures in the station of the station					
2. Silations for locations of pond access are included 3. Show and label beign and end of special dictions (including median) 4. Show and label all drainage structures, including existing structures 5. Show and label all drainage structures, including existing structures 6. Show and label all drainage structures, including existing structures 7. Show and label all drainage structures and state of the structure					
3. Show and label and rainage structures, including median) 4. Show and label all drinkage structures, including wasting structures 1. Short and label all drinkage structures, including wasting structures 1. Check that Proof radii points and access drivway have a station offset 2. Minimum maintenance berm and littoral shelf provided 3. Peop farameters given and verified (1.e. control, DHW. SHW. Wer elevation, pond bottom, berm, stopes) 4. Check to see if a ferrice, gate, or sediment sump is required 5. Check to see if a ferrice, gate, or sediment sump is required 6. Actual Proof crans sections provided with anolitoring shown 7. Stimmer details required if not using standard Plan 425-070 8. Drinkage assement or flood rights required? 9. Confirmed control structures shown in tables/details are constructible in the locations proposed 10. Show and label puritedictional wetfand times and contamination limits, if present. 11. Model Verifications are group raise at the beginning and ending of all disches/levales 12. Verify that special disting grading is included in the model 13. SHWT has been verified with the Roadway Sol Survey 4. Underground utilities of in the roadway Sol Survey 4. Underground utilities of in ord greaters above the contamination of BPIs 5. Check to point in disches with becalations of BPIs 6. Check that proposed simils of construction stay within Right of Way 7. Check that project does not cause offsite portaling and the proof of					
4. Storw and label all drainage structures, including existing structures 1. Stormware Facilities Sheetic Proof betalis and control Structure Information) 1. Check that Proof adiliporities and access driveway have a station offset 2. Minimum mainterance bear and illitional shell provided 3. Proof parameters given and verified (Le. control, DFW, SHW, Weir elevation, pord bottom, berm, slopes) 4. Check to see if a fence, gate, or sediment sump is required 5. Geolech borings for pord shown on plans 6. Archalt Proof cross sections provided with socioning shown 6. Archalt Proof cross sections provided with socioning shown 7. Braininger easement or floor frights required? 8. Draininger easement or floor frights required? 9. Confirmed control structures shown in tablesidefalls are constructible in the locations proposed 10. Show and label prodictional vetarial times and contamination limits, if present. 11. Show and label prindictional vetarial times and contamination limits, if present. 11. Show and label prindictional vetarial times and contamination limits, if present. 11. Show and label prindictional vetarial times and contamination limits, if present. 12. Verify that special ditch grading is included in the model 13. SHWT has been verified with the Roadway Sturyey 14. Underground utilities (4 mch or greater) shown 15. Check they provise dischess with locations of DBTs 16. Check they provise dischess with locations of DBTs 17. Check they provise dischess with locations of DBTs 18. Description of the provised limits and syndring convergence disches? 19. Shoulder guter requirements met 10. Check mature of lames subject of more direction vs. FDM Figure 211.2.1 to determine need for hydroplaning cales 11. Verify structure locations and types match coadway model (surface elevations/alignment/features/etc.) 12. Verify that intels have been placed prior to the level section in superviework and minimum berm elevations are provided. 18. Verify the natural hospital and minimum berm elevations are					
H. Stormwater Facilities Sheets (Pond Details and Control Structure Information) 1. Check the Pond radip joins' and access of wevery have a station offset 2. Minimum maintenance bern and tittoral shell provided 3. Pond parameters given and verified (i.e. control, DHW, SHW, Weir elevation, pond bottom, berm, slopes) 4. Check to see if a fence, gate, or sediment sump is required 5. Gestech broigs for pond shown on plans 6. Actual Pond cross sections provided with soil borings shown 7. Schmmer defalls required fro to using Standards Plan 425-N70 8. Drainage assement or fixed rights required? 9. Confirmed control structures shown in tablestedials are constructible in the locations proposed 10. Show and tablet pond the updown contours tymp to existing ground contours 11. Model Verification: 12. Model Verification: 13. SHWT has been verified with the Rondway Soil Survey 14. Underground utilities of in the model 15. SHWT has been verified with the Rondway Soil Survey 16. Underground utilities of in or greater) shown 17. Schemmer on organization of the properties of					
1. Check that Poort call points and access driveway have a station offset 2. Minimum maintenance bern and litteral shelf provised 3. Pond parameters given and verified (i.e. control, DHW, SHW, Weir elevation, pond bottom, berm, slopes) 4. Check to see if a fence, age, or sedement sump is required 5. Geotech borings for pond shown on plans 6. Actual Pond cross sections provided with soil borings shown 7. Skimmer details required if not using Standard Plan 425-070 8. Drianage easement of flood rights required? 9. Confirmed control structures shown in tables/details are constructible in the locations proposed 10. Show and label point de upidown contours rying to existing ground contours 11. Show and label point de upidown contours rying to existing ground contours 11. Show and label point de upidown contours rying to existing ground contours 11. Show and label principational wetland lines and contamination limits, if present. 11. Model Verification: 12. Verify that special ditch grading is included in the model 13. SHWT has been verified with the Roadway Soil Survey 14. Underground utilities (if not or greater) shown with the Roadway Soil Survey 15. Check two points in olicities with locations of DBTs 16. Check that proposed limits of construction stay within Right of Way 17. Check that proposed intities of construction stay within Right of Way 18. Does project eleminate any existing conveyance dicthers? 19. Shoulder guiter requirements note. 10. Verify that proposed intities of construction stay within Right of Way 11. Verify structure locations of one stayes endostery model (carticles elevation-diagnment/featureselet.) 19. Verify that triefs have been placed grior to the level section in superviework maintains. 19. Verify the interies two been placed grior to the level section in superviework maintains. 19. Verify the interies two middless of construction stayes and consection are shown and labeled 19. Verify close terminate any stayes and pose maken are provided. 19. Verify the minimum direction with an imminim					
2. Minimum maintenance berm and litoral shell provided 3. Pond parameters given and verified (i.e. cortto, DHW, SHW, Weir elevation, pond bottom, berm, slopes) 4. Check to see if a fence, gate, or sediment sump is required 5. Godotch borings for pond shown on plans 6. Actual Pond cross sections provided with soil borings shown 7. Skimmer details required in out using Standard Plan 425-070 8. Drainage easement or flood rights required? 9. Confirmed control structures shown in tablesidefalls are constructible in the locations proposed 10. Show and label proof tie upidown contours tyring to existing ground contours 11. Show and label productional veletian lives and contamination in minist, if present. 11. Check lie ins are appropriate at the beginning and ending of all ditches/swales 2. Verify that special citic prading is included in the model 3. SHWT has been verified with the Roadway Soil Survey 4. Underground utilities (a line) or greater) shown 5. Check tow points in diches with locations of DBTs 6. Check that proposed inities of construction is sky within Right of Way 7. Check that proposed cities of construction is sky within Right of Way 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check that project dose not cause offsite ponding 11. Verify structure locations and types match roadway model (surface elevations/alignment/fleatures/etc.) 12. Verify that there have been placed prior to the level section in superelevation transforms 13. Verify flow patterns based on roadway model surface information 14. Verify when storm the placed prior to the level section in superelevation transforms 15. Verify that all ditch pavement and other ripraphining needs are shown in the model 16. Verify that all ditch pavement and other ripraphining needs are shown in the model 19. Verify deep a location of the deep and the resting system and connection are shown and labelled 19. Verify deep a location of the level section in superelevation transforms 19. Verify the standard an					
3. Pond parameters given and verified (i.e. control, DHW, SHW, Weir elevation, pond bottom, berm, slopes) 4. Check to see if a fince, gate, or sediment sump is required 5. Geotech borings for pond shown on plans 6. Actual Pond cross sections provided with soil borings shown 7. Skimmer details required if not using Standard Plan 425-070 8. Drainage assement of food rights required? 9. Confirmed control structures shown in tables/details are constructible in the locations proposed 10. Show and bale plor distructives shown in tables/details are constructible in the locations proposed 11. Show and table plor tile upidom contours king to existing ground contours 11. Show and table plor tile upidom contours king to existing ground contours 11. Show and table plor tile upidom contours king to existing ground contours 11. Show and table plor tile upidom contours king to existing ground contours 11. Model Verification: 1. Check to king a spropriate at the beginning and ending of all ditches/swales 2. Verify that special clitic prading is included in the model 3. SHWT has been verified with the Roadway Soil Survey 4. Underground utilities (a finch or graster) shown 5. Check two points in diches with locations of DBTs 6. Check that proposed initials of construction story within Right of Way 7. Check that proposed initials of construction story within Right of Way 8. Does project eliminate any existing conveyance diches? 9. Shouder gutter requirements met 11. Verify that proposed initial explainage and provided surface information 12. Verify that inless have been placed prior to the level section in superelevation transitions 13. Verify to patterns based on roadway model surface elevations are provided. 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify that inless have been placed prior to the level section in superelevation transitions 16. Verify that milest have been placed prior to the level section in superelevation transitions 17. Verify tha					
4. Check to see if a fence, gate, or sediment sump is required 5. Gedech brings for pond shown on plans 6. Actual Pond cross sections provided with soil borings shown 7. Skimmer details required if not using Standard Plan 425-670 8. Drainage easement or flood rights required? 9. Confirmed control structures shown in tables/details are constructible in the locations proposed 10. Show and label pond the up/down contours tying to existing ground contours 11. Show and label provide control structures shown in tables/details are constructible in the locations proposed 11. Show and label provide control structures shown in tables/details are and contamination limits, if present. 1. Model Verification: 1. Check it is not are appropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHVT has been verified with the Roadway Sol Survey 4. Underground utilities (4 inch or greater) shown 5. Check two porists indivines with locations of DBTs 6. Check that proposed limits of construction slay within Right of Way 7. Check that proposed limits of construction slay within Right of Way 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 14. Verify when storm drains connect to an existing system, the existing system, and connection are shown and labeled 15. Verify minimum ditch bloom with and minimum berm elevations are provided 16. Verify minimum ditch slope is provided 17. Verify the minimum long the order prapalliming needs are shown in the model 19. Verify close a zone criteria is an et of all drainage tems 10. Certification of Urladertain is an et of all drainage tems 11. Verif					
5. Geotech borings for pond shown on plans 6. Actual Pond cross sections provided with soll borings shown 7. Skimmer details required if not using Standard Plan 425-070 8. Drainage assement or flood rights required? 9. Confirmed control structures shown in abbes/details are constructible in the locations proposed 10. Show and label pond the upfdown contours tying to existing ground contours 11. Show and label purisdictional welland lines and contamination limits, if present. 1. Model Verification: 1. Check tile ins are appropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHVMT has been verified with the Roadway Soll Survey 4. Underground utilities (4 inch or greater) shown 5. Check low points in ditches with locations of DBI's 6. Check that proposed limits of construction stay with hirt light of Way 7. Check that proposed limits of constructions that with regulations of DBI's 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify thory partients based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system, and connection are shown and labeled 15. Verify that all ditch pavement and other riprapilining needs are shown in the model 16. Verify minimum ditch slope is provided 17. Verify that all ditch pavement and other riprapilining needs are shown in the model 19. Verify clear zone criteria is met for all drainage terms 10. Check chain and pass and pass match or advay model surface information 19. Verify clear zone criteria is met for all drainage terms 19. Certification of Underfortal is is met for all drainage terms 19					
6. Actual Pond cross sections provided with sol borings shown 7. Skimmer details required if not using Standard Plan 425-070 8. Drainage easement or flood rights required? 9. Confirmed control structures shown in tables/details are constructible in the locations proposed 10. Show and label pund to upidown contours tying to existing ground contours 11. Show and label pund to upidown contours tying to existing ground contours 11. Show and label promitted and bear of the control weltand lines and contamination limits, if present. 1. Model Verification: 1. Oheck lies nar eappropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHVT has been verified with the Roadway Soil Survey 4. Underground utilities (4 inch or greater) shown 5. Check two points in ditches with becations of DBI's 6. Check that proposed limits of construction stay within Right of Way 7. Check that proposed limits of construction stay within Right of Way 8. Does project eliminate any existing conveyance dicthes? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model surface information 13. Verify flory patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch slope is provided 16. Verify minimum ditch slope is provided 17. Verify that all ditch pavement and other riprapiliting needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 16. Verify minimum ditch slope is provided. 17. Verify that all ditch pavement and other riprapiliting needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Ceclechnical Report					
7. Skimmer details required if not using Standard Plan 425-070 8. Drainage easement or flood rights required? 9. Confirmed control structures shown in tables/details are constructible in the locations proposed 10. Show and label purisdictional wetland lines and contamination limits, if present. 11. Show and label purisdictional wetland lines and contamination limits, if present. 12. Model Verification: 13. Check lie ins are appropriate at the beginning and ending of all ditches/swales 14. Verify that special ditch grading is inclused in the model 15. SHWT has been verified with the Roadway Soil Survey 16. Underground utilities (4 inch or greater) shown 17. Check has proposed limits of construction stay within Right of Way 18. Check has proposed limits of construction stay within Right of Way 19. Check that proposed limits of construction stay within Right of Way 19. Check that proposed limits of construction stay within Right of Way 19. Shoulder guiter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify by patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longuludinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other inprapifining needs are shown in the model 19. Verify color aroan extension is met for all drainage items 19. Unimimum ditch bodge is met of all drainage items 19. Verify color aroan extension is met for all drainage items 19. Unification of Undertrains is met for all drainage items 20. Certification of Unde					
8. Drainage easement or flood rights required? 9. Confirmed control structures shown in tables/details are constructible in the locations proposed 10. Show and label jurisdictional veitand lines and contamination limits, if present. 11. Show and label jurisdictional veitand lines and contamination limits, if present. 11. Model Verification: 12. Check tie ins are appropriate at the beginning and ending of all ditches/swales 13. SHWT has been verified with the Roadway Soil Survey 14. Underground utilities (4 inch or greater) shown 15. Check low points in ditches with locations of DBI's 16. Check that project dients of construction stay within Right of Way 17. Check that project does not cause offsite ponding 18. Does project eliminate any existing conveyance ditches? 19. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calos 11. Verify structure locations and types match roadway model (surface elevations/slignment/features/etc.) 12. Verify that intels have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface elevations and types match roadway model surface elevations and types match roadway model surface elevations and types match roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch slope is provided. 16. Verify minimum ditch slope is provided. 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify lat all ditch pavement and other riprapiling needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 19. Verify clear zone criteria is met for all drainage items 20. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway 20. Certification of Underdrained.					
9. Confirmed control structures shown in lables/details are constructible in the locations proposed 10. Show and lable pond tie up/down contours tying to existing ground contours 11. Show and lable jurisdictional wetland lines and contamination limits, if present. 1. Model Verification: 1. Check tie ins are appropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHVM* has been verified with the Roadway Soil Survey 4. Underground utilities (4 inch or greater) shown 5. Check tow points in direbes with locations of DBI's 6. Check that proposed limits of construction stay within Right of Way 7. Check that project does not cause offsile ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning caics 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that intels have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 17. Verify the minimum long dudinal slope (0.5%) is provided where cross slope is 0% 18. Verify the all ditch pavement and other riprapilining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report 12. Certification of Underdrain Designs 13. Certification of Underdrain Designs					
11. Show and label prindictional wetland lines and contamination limits, if present. 11. Model Verification: 1. Model Verification: 1. Check it eins are appropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHWT has been verified with the Roadway Soil Survey 4. Underground utilities (4 inch or greater) shown 5. Check low points in ditches with locations of DBI's 6. Check that project does not cause offsite ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superplevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm diaries connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch slope is provided where cross slope is 9% 16. Verify minimum ditch slope is provided where cross slope is 9% 17. Verify that all ditch pavernation are not slope is provided where cross slope is 9% 18. Verify that milder have relative and other fipraphining needs are shown in the model 19. Verify the minimum longitudinal slope (5%) is provided where cross slope is 9% 18. Verify that all ditch pavernett and other fipraphining needs are shown in the model 19. Verify the minimum longitudinal slope (5%) is provided where cross slope is 9% 18. Verify that all ditch pavernett and other fipraphining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 19. Certification of Underdrain Designs					
1. Show and label jurisdictional wetland lines and contamination limits, if present. 1. Model Verification: 1. Check ite ins are appropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHWT has been verified with the Roadway Soil Survey 4. Underground utilities (4 inch or greater) shown 5. Check two points in ditches with locations of DB's 6. Check that proposed limits of construction stay within Right of Way 7. Check that project does not cause offstee ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superievation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch slope is provided 16. Verify minimum ditch slope is provided 17. Verify that all ditch pavement and other riprap/liming needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report A. Borrig Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
1. Nodel Verification: 1. Check tie ins are appropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHWT has been verified with the Roadway Soil Survey 4. Underground utilities (4 inch or greater) shown 5. Check low points in ditches with locations of DBI's 6. Check that proposed limits of construction stay within Right of Way 7. Check that proposed limits of construction stay within Right of Way 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum bern elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify that all ditch pawement and other pripapilining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report 12. Bestimated Seasonal High Groundwater Elevations for Ponds and Roadway 13. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway 15. Certification of Underdrain Designs					
1. Check tie ins are appropriate at the beginning and ending of all ditches/swales 2. Verify that special ditch grading is included in the model 3. SHYT has been verified with the Roadway Soil Survey 4. Underground utilities (4 inch or greater) shown 5. Check to we points in ditches with locations of DBI's 6. Check that proposed limits of construction stay within Right of Way 7. Check that project does not cause offsite ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify that all ditch pawment and other riprapflining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report 12. Bestimated Seasonal High Groundwater Elevations for Ponds and Roadway 15. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway 16. C. Certification of Underdrain Designs					
2. Verify that special ditch grading is included in the model 3 3. SHWT has been verified with the Roadway Soil Survey 4. Underground utilities (4 Inch or greater) shown 5. Check low points in ditches with locations of DBI's 6. Check hat proposed limits of construction stay within Right of Way 7. Check that propiect does not cause offsite ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that linlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprapil/ning needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report 4. Boing Location and Logs 8. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
3. SHWT has been verified with the Roadway Soil Survey 4. Underground utilities (4 inch or greater) shown 5. Check low points in ditches with locations of DBI's 6. Check that proposed limits of construction stay within Right of Way 7. Check that proposed limits of construction stay within Right of Way 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 14. Verify minimum ditch bottom within and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pawement and other riprapilining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
4. Underground utilities (4 inch or greater) shown 5. Check low points in ditches with locations of DBI's 6. Check that proposed limits of construction stay within Right of Way 7. Check that project does not cause offsite ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify clear zone criteria is met for all drainage items 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report 11. Gestechnical Report 12. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway 13. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway 14. Certification of Underdrain Designs					
6. Check that proposed limits of construction stay within Right of Way 7. Check that project does not cause offsite ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items 110. Geotechnical Report 111. Geotechnical Report 112. Bestimated Seasonal High Groundwater Elevations for Ponds and Roadway 113. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway 144. Certification of Underdrain Designs					
6. Check that proposed limits of construction stay within Right of Way 7. Check that project does not cause offsite ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch bottom width and minimum berm elevations are provided. 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify the a minimum longitudinal slope (0.5%) is provided where cross slope is 0% 19. Verify clear zone criteria is met for all drainage items 11. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
7. Check that project does not cause offsite ponding 8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch blottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone oriteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
8. Does project eliminate any existing conveyance ditches? 9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify tall ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
9. Shoulder gutter requirements met 10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
10. Check number of lanes sloped in one direction vs. FDM Figure 211.2.1 to determine need for hydroplaning calcs 11. Verify structure locations and types match roadway model (surface elevations/alignment/features/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
11. Verify structure locations and types match roadway model (surface elevations/alignment/featurés/etc.) 12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
12. Verify that inlets have been placed prior to the level section in superelevation transitions 13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
13. Verify flow patterns based on roadway model surface information 14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum longitudinal slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
14. Verify when storm drains connect to an existing system, the existing system and connection are shown and labeled 15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
15. Verify minimum ditch bottom width and minimum berm elevations are provided. 16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
16. Verify minimum ditch slope is provided 17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0% 18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
18. Verify that all ditch pavement and other riprap/lining needs are shown in the model 19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
19. Verify clear zone criteria is met for all drainage items III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs	17. Verify the minimum longitudinal slope (0.5%) is provided where cross slope is 0%				
III. Geotechnical Report A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs	18. Verify that all ditch pavement and other riprap/lining needs are shown in the model				
A. Boring Location and Logs B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway C. Certification of Underdrain Designs					
C. Certification of Underdrain Designs					
	B. Estimated Seasonal High Groundwater Elevations for Ponds and Roadway				
D. Geotech certification for embankment stability	C. Certification of Underdrain Designs				
	D. Geotech certification for embankment stability				

FIRM NA	
FPID #:	DESIGNER:
DESCRIPTION:	CHECKER:
COUNTY:	DATE:

DRAINAGE RESIGN CHECKLIST (000 Society)		Provided		
DRAINAGE DESIGN CHECKLIST (900 Series)	YES	NO	Designer's Initials	Checker's Initials
IV. Other Miscellaneous Drainage Items				
A. Status of Design Variances or Exceptions				
B. Liability Concerns				
Documentation that proposed drainage design will not affect historic stormwater discharge				
location, rate and quantity (as applicable), and stages				
C. Right of Way				
 Easement or Right of Way acquisitions are required for any construction activity proposed 				
beyond the right of way lines shown on the plans				
2. Are flood rights required?				
D. Clearances/Conflicts				
Evidence of stormsewer and utility clearance check				
Seasonal highwater clearance checked against: bottom of base; pond bottom of storage				
elevation; and ditch bottom elevation				
3. Freeboard, A.H.W. and D.H.W. meet local (where applicable), state, and FDOT requirements				
E. Temporary Traffic Control Plans have been checked for temporary drainage items				
F. TSPs for drainage items completed by Ph III				