Prince George's County
Department of Permitting, Inspections and Enforcement
SITE/ROAD PERMIT PROCESSING UNIT
9400 Peppercorn Place, Largo, Maryland 20774
301.636.2060 ◆ FAX: 301.925.8510

Design Review Checklist
Steel Girder Bridges*

This Checklist serves as a guide for the consultant in the preparation of and for County's review of Steel Girder Bridge design plans. Questions regarding items contained herein should be referred to the DPIE Site Road Plan Review Division for clarification. Applicable page numbers or sections in the Prince Georges County DPW&T Standards and Specifications for Roadways and Bridges and the Maryland State Highway Administration (MSHA) Policies and Procedures Structural Design Manual (PPM) P-93-36(4) are included for reference.

Steel Girder Bridge design plans shall be submitted in two (2) phases. The first phase is meant to establish Type, Size and Location. During this phase the hydrology and hydraulic study shall be reviewed for 100 year floodplain affects. The second phase if for final design of the structure and foundation system.

1. Type Size & Location (TS&L Plans) and Hydrology/Hydraulic Floodplain Modeling
2. Foundation Plans and Structural Plans

NOTE: PLANS SUBMITTED WITHOUT A COMPLETED CHECKLIST MAY BE RETURNED WITHOUT REVIEW

Site/Project Name: _____ Date: _____

Consultant: _____ Applicant: _____

Phone Number: _____ Cell Number: _____

Email Address: _____ Email Address: _____

Site Development Concept Plan No.:_____ Site Development Plan No.:_____

Permit No. _____

Consultant: Please complete the Checklist below by indicating the following:
C or ✓ = Completed; X = Not Applicable; O = Outstanding, need to address
Please place the appropriate symbol in the CONSULT column.

PHASE 1 – TYPE, SIZE AND LOCATION AND H/H

At the time of PHASE 1 submission, fill out checklist for items required for Phase 1 TS&L.

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
A	**Reqd?**	**Reqd?**	**GENERAL**			
A-1	yes	yes	Submit hydrology and hydraulic study for existing and proposed bridge openings.			
A-2	yes	yes	Submit copy of proposed Street Grade establishment plan.			
A-3	yes	yes	Provide title block information in accordance with PPM P-79-16(G)	SHA PPM P-79-6(G)		
A-4	yes	yes	Draft all details to scale. This includes details for highway, maintenance of stream flow, erosion and sediment control, and maintenance of traffic sheets.			
A-5	yes	yes	Designate Structural Elements in accordance with PPM P-93-36 (4).	SHA PPM P-93-36(4)		
A-6	yes	yes	Provide all views in accordance with PPM P-75-7 (4).	SHAPPM P-75-7(4)		
A-7	yes	yes	Provide all lettering in accordance with PPM P-76-9 (G).	SHAPPM P 76-9(G)		
A-8	yes	yes	Provide titles for all views, details, plans, section, or elevation. If titling a plan view of Abutment B, title should read "PLAN ABUTMENT B". If titling a section cut through Abutment B title should read "SECTION A-A - REINFORCING DETAILS".			
A-9	yes	yes	Draft plans such that all sections are cut through a plan view or elevation view. Plans shall not be drafted showing a section through anor section.			
A-10	yes	yes	Design to provide adequate access to all properties adjacent to limit of disturbance. Design shall provide a means of clear access each adjacent property after our project completion. Highway features such as W Beam Traffic Barrier (guard rails), drainage ditches, etc. that could restrict access shall be designed to allow property owners access onto ir property. If access cannot be maintained, property owner, permitted shall secure a Right of Way agreement with owner.			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
B			**STRUCTURES LOCATION MAP**			
B-1	yes	yes	Provide structure location map for all projects in accordance with PPM P-83-24 (G).			
C/D			**GENERAL PLAN AND ELEVATION**			
C-1	yes	yes	Provide general notes in accordance with PPM P-77-14 (4) or latest guideline and following: AASHTO Load Resistance Factor Method (LRFD)	SHAPPM P-77 14(4)		
C-2	yes	yeb	Show a diagram of proposed vertical curve and list associated vertical curve data			
			Plan View			
C-3	yes	yes	Show Base line of construction (line with stationing) for roadway over and if applicable under bridge. Orient with stations increasing from left to right. When it occurs that orientation of bridge does not match orientation of highway plans, n a bold note shall be placed on plans calling contractors attention to it. In all cases labeling (Base line of construction and P.G.L. MD 00) of this line on structure plans must match highway plans.			
C-4	yes	yes	Show working line for curved alignments in accordance with PPM P-85-25(G).			
C-5	yes	yes	Show all PC and PT points on Base Line and list associated horizontal curve data.			
C-6	yes	yes	Show all existing and proposed utilities. Design consultant shall prepare plans ensuring that utility designation has been performed and test pits dug, to accurately locate existing utilities. Show location of test pits on plan and profile views. This should be complete prior to submittal of TS&L.			
C-7	yes	yes	Indicate if an existing utility is to remain in place or to be relocated. Indicate if relocation will be performed by ors or by contractor bidding on this work. Indicate when relocation needs to occur (i.e. 20" gas main to be relocated by ors prior to start of construction)			
C-8	yes	yes	Show existing right-of-way lines and existing easement areas, with liber/folio.			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
C-9	yes	yes	Show proposed/actual right-of-way lines and easement areas			
C-10	yes	yes	Show any pertinent topographic features such as noise barrier walls, mechanically stabilized slopes, box culverts, drainage pipes, etc., including location of footings			
C-11	yes	yes	Show all signs and light structures and indicate if se structures are designed as breakaway systems			
C-12	yes	yes	Show station equality and an angle at all intersecting Base Lines and working lines			
C-13	yes	yes	Show all center lines of bearing for each substructure unit. Show intersecting station on Base line of construction or working point on Working line with its angle of intersection			
C-14	yes	yes	Show existing and proposed out to out, lane, shoulder, sidewalk and parapet widths tied to Base line of construction or Working line			
C-15	yes	yes	Show span numbers and span length dimensions			
C-16	yes	yes	Show a total length of bridge dimension, out to out of structure			
C-17	yes	yes	Show a destination arrow and label for each direction of travel. Destinations for road over bridge shall be established as nearest state route intersection/interchange. Destinations for road under bridge shall be established as nearest state route intersection/interchange. In cases where re is no state route, an appropriate location may be used (i.e. To Baltimore			
C-18	yes	yes	Show a lane arrow in every lane over and if applicable under bridge			
C-19	yes	yes	Show point of minimum vertical under clearance for highway over highway and highway over railroad bridges. For bridges over dual highways show this point over both roadways			
C-20	yes	yes	Show width of lane, shoulder, sidewalk and grading limits under bridge (If applicable).			
C-21	yes	yes	Show waterway name and direction of flow arrow for hydraulic structures			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
C-22	yes	yes	Show horizontal, hydraulic, navigational, and railroad clearances.			
C-23	yes	yes	Show all traffic barrier attachments at end posts / head walls.			
C-24	yes	yes	Show existing structures in long dashed lines.			
C-25	yes	yes	Show a North Arrow and destination arrow			
D			**Elevation View**			
D-1	yes	yes	Show elevation view of structure as a projection of General Plan			
D-2	yes	yes	Show a datum line and datum elevation			
D-3	yes	yes	Show all existing and proposed underground and overhead utilities within project limits and ir disposition. Show location of test pit data or provide reference to location of data in Contract documents.			
D-4	yes	yes	Show any fencing or railing along parapet.			
D-5	yes	yes	Show all bearing designations (Fix or Exp.).			
D-6	yes	yes	Show following for all structures over water: 1. Design storm with elevation (10 year design) 2. 100 year storm with elevation 3. Normal Water Surface elevation (NWS) 4. Waterway Invert elevation 5. Bottom of superstructure elevation at its lowest point 6. Lowest top of crown roadway elevation on bridge			
D-7	yes	yes	Show grading details (2:1 slope, 4:1 slope) under bridge			
D-8	yes	yes	Show existing and proposed ground lines			
E			**SEDIMENT AND EROSION CONTROL**			
			General			
E-1	yes	yes	Prepare plans using consistent terminology (Stage II, Phase 2, etc.) for all sheets (Highway and structure).			
E-2	yes	yes	Show maintenance of stream flow details (sand bags, dikes, de-watering basins etc.) and sediment and erosion control details for all stages (phases) of construction.			
E-3	yes	yes	Include a detailed sequence of construction showing work to be completed for each stage/phase.			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
E-4	yes	yes	Include a list of any Wetland /Buffer restrictions			
E-5	yes	yes	Show Limit of Disturbance for each stage			
E-6	yes	yes	Draw subsequent elevation views of existing structure indicating how stream is to be maintained during various stages (phases) of construction / removal. Show temporary diversion devices, normal water surface elevation, which portions of existing structure are to be removed and proposed construction in area that stream is diverted away from.			
F			**SEQUENCE OF CONSTRUCTION**			
			General			
F-1	yes	yes	When showing sequence of construction/maintenance of traffic, only word "Stage" shall be used. Do not use "Phase." List your Stages as 1, 2, 3 etc, no Roman Numerals or A, B, C. If re are some preliminary road stages that must take place prior to beginning bridge construction, n bridge work may start in Stage 3. Add a note to bridge Sequence of Construction sheets that states "No Bridge Work in Stage 1 or Stage 2".			
F-2	yes	yes	Provide Sequence of Construction sheets for superstructure and substructure portions of bridge, if work is being proposed for these elements.			
G			**Substructure**			
G-1	yes	yes	Show existing elevation view of substructure units with columns, pile and stringer spacing (if applicable) tied to Base line of construction or Working line.			
G-2	yes	yes	Draw subsequent stage construction typicals directly beneath existing typical (Base line of construction on existing view lines up with Base line of construction for stage construction typicals)			
G-3	yes	yes	Show proposed column and stringer spacing			
G-4	yes	yes	Show location of temporary pier cap supports			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
G-5	yes	yes	Show typical for stage I removal with removal limits tied to Base line of construction or Working line. Show separate typical for stage I construction with build limits tied to Base line of construction or Working line .Repeat for each subsequent stage			
G-6	yes	yes	Show gap between existing and proposed construction. Identify requirements for mechanical rebar couplers or lap splices.			
G-7	yes	yes	Show completed typical with column and stringer spacing			
G-8	yes	yes	Show location of any sheeting necessary to maintain existing or construct new substructure. Show location of each construction joint necessary for staged construction, tied to Base line of construction or Working line.			
			Superstructure			
H-1	yes	yes	Show existing bridge typical with out to out, lane, shoulder, sidewalk and parapet widths tied to Base line of construction or Working line.			
H-2	yes	yes	Draw subsequent stage construction typicals directly beneath existing typical (Base line of construction on existing view lines up with Base line of construction for stage construction typicals) which indicate location of traffic for each stage.			
H-3	yes	yes	Show proposed lane, shoulder and sidewalk widths tied to Base line of construction or Working line			
H-4	yes	yes	Show location of temporary barrier. Show proper anchorage configuration for existing and proposed concrete decks. See applicable standards			
H-5	yes	yes	Show gap between existing and proposed construction. Identify requirements for mechanical rebar couplers or lap splices			
H-6	yes	yes	Show completed typical with out to out, lane, shoulder, sidewalk and parapet widths tied to Base line of construction or Working line.			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
H-7	yes	yes	Include following note: During deck removal operation, contractor shall place a vertical saw cut at limits of removal in a manner as to maintain a vertical surface along limits of removal as shown. Any removal operation that causes deck to spall at an angle or go under barrier is prohibited. Any operation not conforming to se requirements will be terminated immediately by inspector and work on removal stopped until an alternative method is used			
			ABUTMENT GP&E - Plan View			
I-1	yes	yes	Show Base line of construction with station and angle at intersection with center line of bearing or show Working line with working point and angle at intersection with center line of bearing.			
I-2	yes	yes	Show location of any construction joints for staged construction. .			
I-3	yes	yes	Show relationship of walls to working line. Show layout of beam seats along center line of bearing			
I-4	yes	yes	Show location of utility opening(s) in back wall. Include proposed utilities and sleeve for future use			
I-5	yes	yes	Show a north arrow and destination arrow			
			ABUTMENT GP&E - Elevation View			
J-1	yes	yes	Show where typical section is cut			
J-2	yes	yes	Show location of any construction joints for staged construction.			
J-3	yes	yes	Show existing and proposed ground lines.			
			ABUTMENT GP&E - Typical Section View			
K-1	yes	yes	Show typical section through abutment with dimensions locating centerline of bearing, etc...			
			WING WALLS – Elev/Typ Section View			
L-1	yes	yes	Show an elevation view of a typical wing wall with aestic treatment.			
L-2	yes	yes	Show typical section with footing, stem, parapets/curbs, railing/fencing/ and surface treatment / Groove detail (if applicable).			
L-3	yes	yes	Show any fencing or railing on top of wing wall/end post			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
			PIERS - Plan View			
M-1	yes	yes	Show base line of construction with station and angle at intersection with center line of bearing or show working line with working point and angle at intersection with center line of bearing			
M-2	yes	yes	Indicate length of cap tied to base line of construction or working line. Indicate width of cap and location of center lines of bearing tied to center line of pier.			
M-3	yes	yes	Show location of construction joints for staged construction			
M-4	yes	yes	Show a North Arrow and destination arrow			
			PIERS - Elevation View			
N-1	yes	yes	Show existing and proposed ground lines and normal water surface			
N-2	yes	yes	Show elevation view of type of pier proposed with any aestic treatments (if applicable).			
N-3	yes	yes	Show layout of columns tied to base line of construction or working line.			
N-4	yes	yes	Show elevation of bottom and top of footing			
N-5	yes	yes	Show where typical section is cut.			
			PIERS - Typical Section View			
O-1	yes	yes	Show typical section through pier with all pertinent dimensions.			
			SUPERSTRUCTURE TYPICAL SECTION - General			
P-1	yes	yes	Draw typical section looking stations ahead.			
P-2	yes	yes	Show base line of construction or working line and P.G.L.			
P-3	yes	yes	Show proposed out to out, lane, shoulder, clear roadway, sidewalk and parapet curb widths tied to base line of construction or working line			
P-4	yes	yes	Show P/GE, crown point and all cross slopes. Cross slope arrows should be drawn with arrow pointing in direction that water would flow across deck surface. Refer to PPM P-74-2(4). Show super elevation transition if applicable.	SHA PPM P-74-2(4)		

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer.	Consult	DPIE
P-5	yes	yes	Show construction joints and reinforcing laps in concrete overlay for staged construction.			
P-6	yes	yes	Show all utilities located on bridge. County strongly prefers no utility construction hung off bridge. Justiificaiton must be provided for consideration.			
P-7	yes	yes	Show any fencing or railing on top of parapet.			
P-8	yes	yes	Show note concerning where slip forming will be allowed for parapets.			
P-9	yes	yes	Show any conduit required in parapets. Refer to PPM P-90-33(4)	SHA PPM P-90-33(4)		
P-10	yes	yes	Refer to applicable deck slab standard			
P-11	yes	yes	Refer to applicable parapet / sidewalk standard			
P-12	yes	yes	Refer to applicable fencing / railing standard.			
P-13	yes	yes	Show and label all girders and diaphragms.			
P-14	yes	yes	Show girder spacing and overhang widths. For bridges on curved alignments note how these dimensions are measured (normal to Base Line etc.).			
P-15	yes	yes	Show and label all stringers and cross frames / diaphragms.			
P-16	yes	yes	Show slab and deck dimension in accordance with deck slab standards.			

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Design Review Checklist
Box Culvert Bridges*

PHASE 2 - FOUNDATION AND STRUCTURAL PLANS

At the time of PHASE 2 submission, fill out checklist for all items above plus the following additional design elements:

Item #	Ph 1 TS& L	Ph 2 Final	Design Checklist Item (Foundation Plan Review)	Refer	Consult	DPIE
			GENERAL, GEOTECHNICAL & COMPUTATIONS			
AA-1	No	Yes	Submit copy of geotechnical report prepared by registered geotechnical engineer in State of Maryland. Geotechnical report shall be prepared in accordance with latest MDHA PPM. Boring shall extend minimum 10 feet below estimated pile tip elevation.			
AA-2	No	Yes	Submit bridge scour analysis report			
AA-3	No	Yes	Submit structural calculation for following Girders, abutments, wing walls or any other calculations deemed necessary by design engineer or as requested by reviewer.			
AA-4	No	Yes	Submit Rating Analysis in Accordance with PPM-D-97-47(4)			
AA-5	No	Yes	Provide Concrete Note: Concrete for cast in place superstructure concrete deck slab shall be High Performance Normal weight concrete Mix. No. 12 (4500 psi) with pre approved HPC additives for durability as specified. Concrete for parapets shall be Mix No 6 (4500 psi). water cement ratio shall not exceed 0.40 for all bridge structural concrete except footings. All or concrete shall be Mix No. 3 (3500 psi).			
AA-6	No	Yes	Provide Protective Silane and anti Graffiti Coating Note: Entire deck slab, interior face of parapet walls and abutment beam seat shall receive a silane concrete penetrating sealer system. All interior textured face of parapet shall receive two coats of anti Graffiti coatings.			

Item #	Ph I TS& L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer	Consult	DPIE
AA-7	No	Yes	Provide following note: 1. Minimum concrete cover shall be 2 inch for all steel reinforcement. 2. Min concrete riding surface (Deck) shall be 6 inch.			
AA-8	No	Yes	Provide borings and drive tests in accordance with MSHA PPM P-75-3(4)			
			HYDROLOGIC AND HYDRAULIC DATA SHEET			
BB-1	No	Yes	Include this sheet after General Plan Sheet for all structures crossing waterways.			
			GEOMETRIC AND FOOTING LAYOUT			
CC-1	No	Yes	Prepare sheet in accordance with PPM P-86-28(G).			
CC-2	No	Yes	Show location of construction joints for staged construction Show location construction joints required for maintenance of traffic and maintenance of stream flow.			
CC-3	No	Yes	Reference only working line on this layout. A small exaggerated view may be included on this sheet to show relationship between baseline and working line. All piers and abutments shall be dimensioned to form a closed traverse around footing. All working points shall be listed in a table with coordinate data provided.			
CC-4	No	Yes	Show all pertinent horizontal curve data.			
			ABUTMENT - Plan View			
DD-1	No	Yes	Show all working points from geometric and footing layout.			
DD-2	No	Yes	Show drainage system behind abutment stem and wing walls.			
DD-3	No	Yes	Show footing steps when necessary			
DD-4	No	Yes	Show location of and lapping of bars at construction joints for staged construction.			
DD-5	No	Yes	Show layout of wing walls/end posts located off Base line of construction or Working line. Designate wing walls in accordance with PPM P-93-36(4).			
DD-6	No	Yes	Show location of expansion & contraction joints			
DD-7	No	Yes	Show layout of top mat of footing reinforcing steel for abutment proper and wing wall. Pay particular attention to overlap area with respect to extension of wing wall bars into abutment section and extension of abutment bars into wing wall section. Label size and spacing of all rebar.			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer	Consult	DPIE
DD-8	No	Yes	Show layout of beam seats along center line of bearing.			
DD-9	No	Yes	Show layout of bottom mat of footing reinforcing steel for abutment proper and wing wall. Pay particular attention to overlap area with respect to extension of wing wall bars into abutment section and extension of abutment bars into wing wall section. Show layout of this rebar to miss any piles in footing. Label size and spacing of all rebar.			
DD-10	No	Yes	Show location of and lapping of bars at construction joints for staged construction.			
			ABUTMENT **Typical Section & Elevation View**			
EE-1	No	Yes	Show P/GE and elevations along a dashed line indicating finished bridge surface, along center line of bearing. Show elevations at gutter lines, at crown break and any other grade break points. Show elevation of bottom and top of footing.			
EE-2	No	Yes	Show any footing steps when necessary			
EE-3	No	Yes	Show conduit(s) in end posts / curb portion of wing walls.			
EE-4	No	Yes	Show elevation of beam seats and bridge seat.			
EE-5	No	Yes	Show location of utility opening(s) in back wall. Include proposed utilities and sleeve for future use. See standard			
EE-6	No	Yes	Show location of expansion and contraction joints.			
EE-7	No	Yes	Show drainage trough layout.			
EE-8	No	Yes	Show limits of Mix 3 and Mix 6 concrete.			
EE-9	No	Yes	Show limits of payment for Footing Concrete (if applicable) and Substructure Concrete.			
EE-10	No	Yes	Show abutment drainage system (perforated pipe, concrete base, pipe through stem and aggregate backfill). Refer to PPM P-77-13(3) and BR-SB (0.01)-80-101.			
EE-11	No	Yes	Label size and spacing of all rebar. Refer to PPM P-89-32 (4) for size of longitudinal rebar in abutment stem and vertical bars in front face of abutments. Indicate which bars are epoxies coated.			
EE-12	No	Yes	Show any piles (type & size) in footing. Show rebar mat 3″ above piles (3 - #6 bars).			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer	Consult	DPIE
EE-13	No	Yes	Add the following note for integral abutments supported by a single row of piles - Backfill shall not be placed behind abutment stem until stringers are in place. Show location of bridge seat elevation at face of back wall.			
EE-14	No	Yes	Show bridge seat area sloped to drain at 1/4" per foot from back wall to abutment face.			
EE-15	No	Yes	Show configuration on rebar in top portion of back wall. Show joint angle configuration on top of back wall. Include this note : "Top portion of back wall shall not be placed until entire bridge deck slab is complete in place. "			
EE-16	No	Yes	Show this note: "At Contractor's option dowel and stem bar may be placed as a continuous bar".			
EE-17	No	Yes	Show drainage trough / drainage pipe weep hole detail.			
EE-18	No	Yes	Show center line of bearing and dimension back wall, stem and footing widths off of it.			
EE-19	No	Yes	Show lap lengths of all rebar splices. Show embedment and hook lengths for all rebar. Show clear cover to bars at face of concrete			
EE-20	No	Yes	Shows 2 ply waterproofing membrane on earth side of all construction joints with air on or.			
			ABUTMENT AND PIER PILES - Plan View			
FF-1	No	Yes	Show location of Test Pile(s).			
FF-2	No	Yes	Show arrow on battered piles and indicate batter ratio.			
FF-3	No	Yes	Show rebar mat over piles (3 - #6 bars in each direction) and rebar lap at construction Joints.			
FF-4	No	Yes	Show pile driving data chart in accordance with PPM P-93-35 (4).			
FF-5	No	Yes	Show pile driving notes from PPM P-82-20 (G).			
FF-6	No	Yes	Show footing steps when necessary			
FF-7	No	Yes	Show location of piles referenced to working points / working lines which can be tied to intersection point established by Base line of construction.			
FF-8	No	Yes	Show construction joints for staged construction			
			ABUTMENT - Details			
GG-1	No	Yes	Show sections of abutment at intersection of abutment proper with wing walls. One section should be shown for area below bridge seat and anor for area above bridge seat.			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer	Consult	DPIE
GG-2	No	Yes	Label size and spacing of all rebar including embedment lengths and splice laps. Refer to PPM P-89-32 (4) for size of longitudinal rebar in wing wall stem and vertical bars in front face of wing wall. Indicate which bars are to be epoxies coated.			
GG-3	No	Yes	Show lapping of longitudinal (horizontal) rebar from wing wall to abutment proper with loose corner bars. Show this Note: At Contractor's option loose corner bars may be eliminated provided longitudinal reinforcing is extended to lap 2'-0" min. on one face. No additional compensation will be allowed for this option.			
GG-4	No	Yes	Show 2 ply waterproofing membrane on earth side of all construction joints with earth on one side and air on or.			
			WING WALLS - Elevation View			
HH-1	No	Yes	Show an elevation view of all wing walls including widths.			
HH-2	No	Yes	Show elevations along top of end post at ends and at all breakpoints			
HH-3	No	Yes	Show elevation of bottom and top of footing.			
HH-4	No	Yes	Show where Typical Section is cut			
HH-5	No	Yes	Show any fencing or railing on top of end post with post spacing.			
HH-6	No	Yes	Show location of expansion and construction joints.			
HH-7	No	Yes	Show existing and proposed ground lines			
HH-8	No	Yes	Show elevation on top of cheek wall at face of back wall and at end of cheek wall. Include following note : 1" clear from underside of superstructure to top of cheek wall.			
HH-9	No	Yes	Show drainage system behind wing wall stem.			
			WING WALLS - Typical Section View			
II-1	No	Yes	Show limits of Mix 3 and Mix 6 concrete			
II-2	No	Yes	Show limits of payment for Footing Concrete, Substructure Concrete and Parapet Concrete.			
II-3	No	Yes	Show conduit(s) in wing wall / end post.			
II-4	No	Yes	Show abutment drainage system (perforated pipe, concrete base, pipe through stem and aggregate backfill). Refer to PPM P-77-13(3) and BR-SB (0.01)-80-101.			
II-5	No	Yes	Label size and spacing of all rebar. Refer to PPM P-89-32 (4) for size of longitudinal rebar in wing wall stem and vertical bars in front face of wing wall. Indicate which bars are to be epoxy coated.			

Item #	Ph I TS&L	Ph 2 Final	Design Checklist Item (TS&L Plans)	Refer	Consult	DPIE
II-6	No	Yes	Show any piles (type & size) in footing. Show rebar mat 3″ above piles (3 - #6 bars).			
II-7	No	Yes	Show this Note: At Contractor's option dowel and stem bar may be placed as a continuous bar. No additional compensation will be allowed for this option.			
II-8	No	Yes	Provide a stepped key at stem to footing connection. Key shall be 6″ high by ½ width of stem.			
II-9	No	Yes	Show lap lengths of all rebar splices. Show embedment and hook lengths for all rebar. Show clear cover to bars at face of concrete.			
II-10	No	Yes	Shows 2 ply waterproofing membrane on earth side of all construction joints with air on or.			
			PIERS - Plan View			
JJ-1	No	Yes	Show all working points from Geometric and Footing Layout.			
JJ-2	No	Yes	Show layout of beam seats along center line of bearing.			
			PIERS – Elevation View			
KK-1	No	Yes	Show elevation of beam seats and bridge seat.			
KK-2	No	Yes	Show construction joints at top and bottom of all columns with key size			
KK-3	No	Yes	Show layout of stirrups and tie reinforcement.			
KK-4	No	Yes	Show layout of any reinforcing that cannot be clearly shown in sections (e.g. layout of rebar in ends of a pier cap).			
			PIERS - Typical Section View			
LL-1	No	Yes	Show limits of payment for Footing Concrete and Substructure Concrete			
LL-2	No	Yes	Label size and spacing of all rebar. Indicate which bars are epoxy coated.			
LL-3	No	Yes	Show any piles (type & size) in footing. Show rebar mat 3″ above piles (3 - #6 bars).			
LL-4	No	Yes	Show this Note: At Contractor's option dowel and stem bar may be placed as a continuous bar.			
LL-5	No	Yes	Show sections through caps and columns with all dimensions and rebar size and spacing.			
LL-6	No	Yes	Show lap lengths of all rebar splices. Show embedment and hook lengths for all rebar. Show clear cover to bars at face of concrete.			
LL-7	No	Yes	Shows 2 ply waterproofing membrane on earth side of all construction joints with air on or.			

ITEM #	Ph 1 TS& L	Ph 2 Final	Design Checklist Item (Structural Plan Review)	Refer	Consult	DPIE
			SUPERSTRUCTURE - General			
MM-1	No	Yes	Show typical for stage I removal with removal limits tied to base line of construction or working line. Show separate typical for stage I construction with build limits tied to base line of construction or working line. Repeat for each subsequent stage.			
			SUPER STRUCTURE - Typical Section View			
NN-1	No	Yes	For bridges with haunched girders show minimum and maximum depth of web.			
			SUPER STRUCTURE - DECK POURING SEQUENCE			
OO-1	No	Yes	Refer to PPM P-76-11 (4).			
			SUPER STRUCTURE - FRAMING PLAN			
PP-1	No	Yes	Show Span numbers and span length dimensions.			
PP-2	No	Yes	Show all center lines of bearing of substructure units.			
PP-3	No	Yes	Show all utilities and utility supports/cross frames.			
PP-4	No	Yes	Show, label and dimension all stringers, all diaphragm / cross frame locations (Abutment, Pier, Intermediate, etc.).			
PP-5	No	Yes	Show bolted field splice locations in accordance PPM D-83-26 (4).			
PP-6	No	Yes	Show all fixed and expansion bearing designations.			
			SUPER STRUCTURE - GIRDER ELEVATION DETAILS			
QQ-1	No	Yes	Have deflections been calculated to reflect no future wearing surface and staged construction			
QQ-2	No	Yes	Show span numbers & span length dimensions			
QQ-3	No	Yes	Show spacing of shear stud developers and number per row. Show this note: " estimated number of steel stud shear connectors is _____"			
QQ-4	No	Yes	Show stress areas along top flange (tension, compression and stress reversal). Show this note: "There shall be no field welding to top flange, except for shear studs, in tension and stress reversal areas. Show stress areas along top flange (tension, compression and stress reversal)".			
QQ-5	No	Yes	Show size of all flange and web plates (girders), rolled sections, bearing stiffeners, and seat angles/plates. Include this note: "Extend fascia girder exterior bearing stiffener to top flange. "			

ITEM #	Ph 1 TS& L	Ph 2 Final	Design Checklist Item (Structural Plan Review)	Refer	Consult	DPIE
QQ-6	No	Yes	Show location of bolted field splices. Show this note - Space studs to miss splice bolts			
QQ-7	No	Yes	Show size of web to flange weld (girders).			
			SUPER STRUCTURE - CROSS FRAME DETAILS			
RR-1	No	Yes	Show details of cross frames at abutments, piers and intermediate locations.			
RR-2	No	Yes	Show special cross frames required for utilities.			
RR-3	No	Yes	Show weld size connecting cross frame members to gusset plates.			
RR-4	No	Yes	Show bolt pattern connecting gusset plates to bearing stiffeners and connection plates. Indicate notes for bolt type, bolt size, hole size, etc. Show size of cross frame members			
RR-5	No	Yes	Show connection details for attachment to girder web at abutments, piers and intermediate locations			
RR-6	No	Yes	Show location of all bent gusset plates			
			SUPER STRUCTURE - CAMBER AND DEFLECTION DETAILS			
SS-1	No	Yes	Refer to PPM P-74-1 (4).			
			SUPER STRUCTURE - SPLICE DETAILS			
TT-1	No	Yes	Refer to Standard BR-SS (8.09)-81-124.			
TT-2	No	Yes	Show a plan and elevation view of splice with member sizes.			
TT-3	No	Yes	Show all splice and fill plates with size.			
TT-4	No	Yes	Show bolt spacing in flange and web splice			
TT-5	No	Yes	Show these notes : 1. Field splices shall be completely shop assembled and match marked after all shop welding has been completed. Contact surfaces shall be free of all oil and dirt. 2. Holes to be 15/16″ diameter for 7/8″ diameter high strength bolts (A 325).On fascia girders bolts shall be placed so that bolt head is visible on outside face of web. 3. All bolts on flange splices shall have bolt heads on bottom. At contractor's option, lock-pin and collar fasteners may be used in lieu of bolts.			

			SUPER STRUCTURE- BEARING STIFFENER DETAILS			
UU-1	No	Yes	Refer to Standard BR-SS (8.07)-78-73.			
UU-2	No	Yes	Vertical curve camber will be handled by varying haunch depth			
			FINISHED ROADWAY ELEVATIONS			
VV-1	No	Yes	Refer to PPM P-75-8 (4)			
			STANDARDS			
WW-1	No	Yes	Refer to PPM P-75-5 (4).			
			SEDIMENT AND EROSION CONTROL			
XX-1	No	Yes	Provide a boxed area that contains following note - "At Contractor's option an alternate sequence of construction may be proposed. Contractor shall be responsible for preparing appropriate plans and request in writing for a change to se plans.			
XX-2	No	Yes	Prepare a sheet indicating maintenance of stream flow details. Show following diversion device alternatives: Detail using sand bags Detail using temporary sheeting Detail using concrete barrier			
XX-3-9	No	Yes	Show a portable sediment tank and all notes pertaining to it.			

This checklist includes multiple design phases for Steel Girder Bridge. Submit appropriate section of checklist for each design phase. For latest available design checklists, download from Prince George's County DPIE website.