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**Construction Plans Checklist**

Project Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sub-Project Code: \_\_\_\_\_\_\_\_

Reviewed By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Assigned CM: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Designer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Last Field Check Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Version: February 2023

**Scope and Purpose:**

Great Rivers Greenway strives to produce contract ready error free plans. The key to success is good communication and documented expectations and procedures for the design of projects. The purpose of this document is to supplement design guidelines and ensure project plan design and details are prepared in a uniform and complete manner and to provide a guide for quality assurance / quality control for plans let by Great Rivers Greenway.

**Design Review**

Plans, Specifications and Estimate (PS&E) are expected to be submitted by the date specified in the project schedule. GRG staff will work to complete design reviews within the specified timeframe(s). The design firm will work to complete all design revisions in order to deliver an on-time project letting as determined by the schedule. If additional time is necessary to finish the revision process, a change request needs to be submitted by the design firm for a time extension.

Ultimately the design of projects shall be in accordance with GRG standards. Any deviation from the standards requires a design exception approved by the Project Manager, Senior Project Manager, and VP of Projects.

DESIGN STANDARDS USED (Most Recent Edition):

National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide

PROWAG

ADAAG

St. Louis County Highway Design Criteria

AASHTO Roadside Design Guide

AASHTO Policy on Geometric Design

MoDOT EPG

MoDOT LPA Manual

MSD Plan Preparation Guidelines

MUTCD

\_\_\_\_\_\_\_\_\_ Date of any Design Exception Approval (List on Title Sheet of Plans)

**CHECKLIST GUIDE**

**Legend**

**\_\_\_x\_\_\_ Complete / OK**

**\_\_->\_\_\_ Needs Attention**

**\_\_na\_\_\_ Not Applicable**

**\* - To be included by Preliminary (30%) Design PS&E Submittal**

**\* - To be included by Intermediate (70%) PS&E Submittal**

**All other items to be included on the Pre-final (95%) and Final (100%) PS&E Submittals**

**Utility (Underground) Facilities**

The design firm is encouraged to take early action as to the location of known and unknown underground utilities that might be encountered during construction. The use of Subsurface Utility Engineering (SUE) will be determined during scoping the project manager.

\_\_\_\_\_\_\_\_\_ Subsurface Utility Engineering has been employed \*

\_\_\_\_\_\_\_\_\_ Project does not have the potential to impact subsurface utilities \*

**Utility Relocation Plan / Schedule of Adjustment**

The design firm is required to coordinate with the utilities involved on the project and gather the utilities plan of relocation prior to bidding the project. The design firm will need to coordinate with all affected utility companies in accordance with the PMM.

Utility Relocation Plans have been received and shown on the design plans:

**\_\_\_\_\_\_\_\_** Utility coordination has been started and the log has been provided to GRG \*

**\_\_\_\_\_\_\_\_** Utility coordination has been completed (relocation agreements received)

**\_\_\_\_\_\_\_\_** \_\_\_\_\_\_\_\_\_\_\_\_\_ Relocation Date **\_\_\_\_\_\_\_\_** Shown on Plans

**\_\_\_\_\_\_\_\_** \_\_\_\_\_\_\_\_\_\_\_\_\_ Relocation Date **\_\_\_\_\_\_\_\_** Shown on Plans

**\_\_\_\_\_\_\_\_** \_\_\_\_\_\_\_\_\_\_\_\_\_ Relocation Date **\_\_\_\_\_\_\_\_** Shown on Plans

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**\_\_\_\_\_\_\_\_** \_\_\_\_\_\_\_\_\_\_\_\_\_ Relocation Date **\_\_\_\_\_\_\_\_** Shown on Plans

**Other Agency Approvals**

\_\_\_\_\_\_\_\_ Obtain any applicable permits and approvals from other regulating agencies. This may include, but not be limited to, Local Municipalities, Counties, MoDOT, Army COE, MoDNR, etc. Approvals from other regulating agencies are required prior to improvement plan approval. Include copies of the permits acquired and/or permit forms for permits required by the contractor in the specifications.

\_\_\_\_\_\_\_\_ NOTE: GRG is required to pay MSD plan review and permit fees; however, GRG is NOT required to pay escrow deposits or as-built deposits. MSD plan review fees are based on the size of the project (for example, Gravois Greenway: Grant's Trail Phase 2 was approximately 1.8 miles in length and the resulting MSD plan review fee was $5,800).

**DESIGN PLANS**

**COVER SHEET**

\_\_\_\_\_\_\_\_ Plans shall be submitted on 22” x 34” sheets at the contract required scale. \*

\_\_\_\_\_\_\_\_ All plan sheets shall be signed and sealed by a MO registered professional architect or engineer, or appropriately marked per Missouri State Statutes. \*

\_\_\_\_\_\_\_\_ Provide a location map of the site with north indicated. \*

\_\_\_\_\_\_\_\_ Indicate the benchmark used for all survey data. All survey data shall directly relate to MO State Plane East Coordinates NAVD88 Datum (with projection). \*

\_\_\_\_\_\_\_\_ Show a north arrow on all plan sheets. North should never face the bottom of the page.\*

\_\_\_\_\_\_\_\_ List all utility companies serving or possibly impacted within the project area \*

\_\_\_\_\_\_\_\_ Add bolded utility notes stating: \*

* UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY.
* THERE MAY BE OTHER UTILITIES OR IRRIGATION LINES, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR FACILITATED BY THE “MO1CALL” SYSTEM. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES AND IRRIGATION LINES LOCATED IN THE FIELD PRIOR TO EXCAVATION OR CONSTRUCTION.
* COMPENSATION TO UTILITY COMPANIES FOR RELOCATION OF THEIR UTILITY FACILITIES WILL BE MANAGED ACCORDING TO APPLICABLE UTILITY RELOCATION AGREEMENTS.
* CONTRACTOR TO CALL 1-800-DIG-RITE TO HAVE ALL UTILITIES LOCATED ON THE GROUND IN ALL AREAS AFFECTED BY CONSTRUCTION, PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL ALSO CONTACT APPLICABLE STATE, COUNTY, OR MUNICIPAL STREET AGENCIES IF WORK IS PROPOSED IN, OR ADJACENT TO, THEIR RIGHT OF WAY. CONTRACTOR SHALL ALSO CONTACT ANY MUNICIPAL OR OTHER UTILITIES THAT MAY NOT PARTICIPATE IN THE MO1CALL SYSTEM.
* THE ST. LOUIS COUNTY HIGHWAY DEPARTMENT MAY NOT CURRENTLY USE THE MO1CALL SYSTEM – CONTRACTOR TO CONTACT ST. LOUIS COUNTY HIGHWAY DEPARTMENT AND CONFIRM LOCATES ARE COMPLETE.

\_\_\_\_\_\_\_\_ List applicable General Notes on the cover sheet \*

\_\_\_\_\_\_\_\_ Indicate how the project will be served by utilities \*

\_\_\_\_\_\_\_\_ Indicate on the plans any permits that have already been approved for this project \*

\_\_\_\_\_\_\_\_ Index of Sheets listing all plan sheets \*

\_\_\_\_\_\_\_\_ New Greenway Mileage \*

\_\_\_\_\_\_\_\_ New On-Street Mileage \*

\_\_\_\_\_\_\_\_ Existing/Retrofit/Betterment Greenway Mileage \*

\_\_\_\_\_\_\_\_ Existing/Retrofit/Betterment On-Street Mileage \*

\_\_\_\_\_\_\_\_ Amenity Areas (Non-Greenway) Acreage \*

\_\_\_\_\_\_\_\_ Sustainability Metrics (see PCS standards) \*

\_\_\_\_\_\_\_\_ Length of Project (feet) \*

\_\_\_\_\_\_\_\_ Township and Range location \*

\_\_\_\_\_\_\_\_ Brief project scope description (single paragraph; Ex: “New greenway segment with park improvements, parking lot, bridge,…”) \*

\_\_\_\_\_\_\_\_ Signature line for VP of Planning and Projects

\_\_\_\_\_\_\_\_ List the Design Standards utilized in the development of the plans. \*

**Typical Section Sheet**

\_\_\_\_\_\_\_\_ Typical Section Sheet x of x labeled \*

\_\_\_\_\_\_\_\_ Post the asphalt materials application rates on the first typical section sheet. Display the entire mix description.

\_\_\_\_\_\_\_\_ Show base rock under all applicable areas. \*

\_\_\_\_\_\_\_\_ Show composition and thickness of existing pavements and bases using borings or paving history, preferably with dates (including beneath medians). \*

\_\_\_\_\_\_\_\_ Show the location of full and partial depth sawcuts. \*

\_\_\_\_\_\_\_\_ Existing pavement conditions have been evaluated for sufficient stability of the pavement after sawcutting and repour as well as any pavement rehabilitations which should be considered and included. \*

\_\_\_\_\_\_\_\_ Show the station limits for each typical section. Station Limits include the entire project limits. \*

\_\_\_\_\_\_\_\_ Show any bypass typical sections. \*

\_\_\_\_\_\_\_\_ Show the pay-limits for materials.

\_\_\_\_\_\_\_\_ Show and note guard rails, various barriers, rumble strips, etc. - location and types.

\_\_\_\_\_\_\_\_ Label the centerline or baseline and show the location of the profile grade. \*

\_\_\_\_\_\_\_\_ Provide a joint layout with bar locations for non-typical areas.

\_\_\_\_\_\_\_\_ Show lane and shoulder widths and max cross slope for each typical. \*

\_\_\_\_\_\_\_\_ Show typical fill and cut slopes. \*

\_\_\_\_\_\_\_\_ Show proper jointing plan for pavement.

\_\_\_\_\_\_\_\_ Label the type of pavement, curb, and other section elements. \*

\_\_\_\_\_\_\_\_ Show right-of-way and/or easement limits/needs. \*

**Summary of Quantities Sheets**

\_\_\_\_\_\_\_\_ Quantity sheets to be numbered 2.

\_\_\_\_\_\_\_\_ Sheet x of x posted on each sheet.

\_\_\_\_\_\_\_\_ Summary of Quantities sheet (2A) matches the bid item sheets.

\_\_\_\_\_\_\_\_ Summary of Quantities sheets (2A) list the bid item number.

\_\_\_\_\_\_\_\_ Quantities should be 3 dimensional calculations where applicable.

\_\_\_\_\_\_\_\_ Check all quantities against items shown on the plan sheets. Show enough detail on the summary quantities to verify quantities, ie – Station, Location, Length, and Average Widths. Note locations of items for easy reference.

\_\_\_\_\_\_\_\_ Refrain from pre-filling pay item amounts on the quantity sheets.

\_\_\_\_\_\_\_\_ Removal of Improvements = 1 LS. Show enough detail including amounts and locations of all removals (consider special plans, such as landscaping, in removals). List all full depth sawcut for removal locations within the detail.

\_\_\_\_\_\_\_\_ Make sure to list Mobilization = 1 LS.

\_\_\_\_\_\_\_\_ Earthwork, show tabular results of the cut and fill for the project. List all shrink and swell factors used in the calculation of earthwork.

\_\_\_\_\_\_\_\_ Embankment in Place includes compaction.

\_\_\_\_\_\_\_\_ Compaction paid for in the cut areas.

\_\_\_\_\_\_\_\_ Erosion control items listed.

\_\_\_\_\_\_\_\_ Buffer quantities based on degrees of uncertainty.

\_\_\_\_\_\_\_\_ Temporary seeding should be incidental to the project unless there is specific phasing that requires temporary seeding.

\_\_\_\_\_\_\_\_ Pavement Repairs – Detail length, width, and location of repaired slabs. Tie bars are incidental to the pavement cost

\_\_\_\_\_\_\_\_ Decide upon pay for reestablishing property corners or right-of-way markers that will be removed by the project.

\_\_\_\_\_\_\_\_ Round all quantities to the pay item level of accuracy.

\_\_\_\_\_\_\_\_ Split out quantities by stages if the project is occurring in more than one phase.

\_\_\_\_\_\_\_\_ Add Contractor Furnished Surveying and Staking. Make sure to include a JSP that a registered land surveyor is required to do all layout.

\_\_\_\_\_\_\_\_ Include Clearing and Grubbing by Lump Sum (but assure JSPs identify tree size considered “clearing” vs. individual removal).

\_\_\_\_\_\_\_\_ Culvert Cleanout – pipe diameter, length, location, per each.

\_\_\_\_\_\_\_\_ Temporary Shoring – incidental to the project.

\_\_\_\_\_\_\_\_ Pay item units and quantities match the bid form and estimate units and quantities.

\_\_\_\_\_\_\_\_ Show the type of pavement marking used on the project

\_\_\_\_\_\_\_\_ Note any items that are incidental to the pay items. i.e. – excavation, backfill, dewatering and compaction for pipe installation.

\_\_\_\_\_\_\_\_ Quantities have been re-checked and re-calculated after permitting or compliance reviews (particularly ADA reviews).

**Plan Sheets**

\_\_\_\_\_\_\_\_ Section, Township and Range is shown for all projects where new property rights have been acquired. \*

\_\_\_\_\_\_\_\_ North arrow and scale on all plan sheets. Plan sheets shall be drawn to a standard scale that shows enough detail to be easily read. Plan sheets should be a standard scale (1:20 suggested) as required by the contract and should be uniform. The north arrow should never point to the bottom of the page. \*

\_\_\_\_\_\_\_\_ Apply appropriate notes labeling all work outside what is shown is incidental to the construction of the project. Add a note describing the limits of the right of way / easement. \*

\_\_\_\_\_\_\_\_ Note stating all utility information is shown for information only and the contractor will be required to determine the location of all utilities prior to commencing work. \*

\_\_\_\_\_\_\_\_ Legend for any shaded or hatched areas. Make sure hatches/shading is unique and easily distinguished. \*

\_\_\_\_\_\_\_\_ Label beginning and end of the project limits. \*

\_\_\_\_\_\_\_\_ Avoid unnecessary lines on the plan sheets. Do not show contours unless necessary. \*

\_\_\_\_\_\_\_\_ All new features should be solid, heavier, and dark and easily recognizable. Existing features should be dashed and lighter. \*

\_\_\_\_\_\_\_\_ Label slope cut lines as SLC, and slope fill limits as SLF. \*

\_\_\_\_\_\_\_\_ Show all centerline skews and intersections. \*

\_\_\_\_\_\_\_\_ Note all field located property corners. \*

\_\_\_\_\_\_\_\_ Show existing and new locations of mailboxes. \*

\_\_\_\_\_\_\_\_ Items to be removed and relocated need to show the new installed locations. \*

\_\_\_\_\_\_\_\_ Show all existing and new right of way and easement dimensions and labels. \*

\_\_\_\_\_\_\_\_ Relocated utilities shown with symbols on the title sheet legend. \*

\_\_\_\_\_\_\_\_ Utility conflicts and/or relocations have been checked (on plan reviews and in field checks) for vertical clearances in addition to their plan conflict (i.e. the utility conflict is resolved in all three dimensions).

\_\_\_\_\_\_\_\_ Horizontal Curve info – include PIs, PCs, PTs. Check design speed and superelevation tables. Assure coordinates, stationing, and lengths reconcile. Provide a table for any superelevated curves. If plan sheets become cluttered, create a special geometrics sheet. \*

\_\_\_\_\_\_\_\_ Horizontal Alignment ties match points and coordinates listed on the coordinate point sheet. Reference Points match reference points sheet.

\_\_\_\_\_\_\_\_ Show all crossing drainage structures. Analyze and label all overtopping flood frequencies and discharges for all existing and proposed drainage conveyance improvements/structures. \*

\_\_\_\_\_\_\_\_ Driveway and entrance notes include: Station, Width, Grade, Type, Pipe info, Surfacing, Skew angle. Notes match cross section and profile sheets. \*

\_\_\_\_\_\_\_\_ Driveway and entrance designs have compliant sight distances and angles; and ease of use for the driver has been evaluated. \*

\_\_\_\_\_\_\_\_ NACTO standards have been considered for design of pedestrian refuge islands: <https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/pedestrian-safety-islands/> \*

\_\_\_\_\_\_\_\_ Label all connection radii. A warping plan should be included to show all intersections or irregular areas. \*

\_\_\_\_\_\_\_\_ Drainage structures labeled and stationed. (Size, Type, Skew, Class) \*

\_\_\_\_\_\_\_\_ Underdrains at all new areas of low pavement, unsuitable material, or relevant rain gardens/BMPs/etc.

\_\_\_\_\_\_\_\_ Green Infrastructure (BMPs/rain gardens/bio-swales/planted basins/etc.) are located outside of easements or other land rights which would not restore the infrastructure upon use of the easement/rights.

\_\_\_\_\_\_\_\_ BMPs are labeled as “rain gardens”, “bio-swales”, “planted basins”, etc. (i.e. not as “BMP”) in areas where MSD does not own or operate the underlying drainage systems.

\_\_\_\_\_\_\_\_ Match line stations match the next sheets station. Match lines should reference the adjoining sheet number. \*

\_\_\_\_\_\_\_\_ Bridge and retaining wall notes. (stations, design high water, storm frequency, flow lines, removal notes, connection details)

\_\_\_\_\_\_\_\_ Bridge decks do not extend beneath structural members to prevent staining from weathering steel.

\_\_\_\_\_\_\_\_ Drain basins at bridges and walls. \*

\_\_\_\_\_\_\_\_ Show signals and lighting (including conduits) on plan sheets. \*

\_\_\_\_\_\_\_\_ Dimension and label all site furnishings. \*

\_\_\_\_\_\_\_\_ Dimension and label all existing individual or grouped trees to receive protection. \*

\_\_\_\_\_\_\_\_ Dimension all non-typical features. \*

\_\_\_\_\_\_\_\_ Guardrails and fencing placed with sufficient lateral clearance and meet standard plans and type of guardrail is appropriate for the guardrail location. \*

\_\_\_\_\_\_\_\_ Note the flood hazard zone from the FIRM map with the panel number and date. \*

\_\_\_\_\_\_\_\_ Indicate the floodway and floodplain limits on the plan sheets. \*

\_\_\_\_\_\_\_\_ If constructed in the floodplain, label the 100 yr flood elevation, low floor elevation and low sill elevation with compliant elevations. \*

\_\_\_\_\_\_\_\_ Obtain a floodplain development permit and provide approvals for any work within a floodway or floodplain.

\_\_\_\_\_\_\_\_ Linework for structures and piping reflect the physical dimensions of the improvements. \*

\_\_\_\_\_\_\_\_ Show the existing and proposed grades on structures that are labeled as ATG.

\_\_\_\_\_\_\_\_ Structures labeled as ATG requiring more than adding a riser ring will be a separate bid item.

\_\_\_\_\_\_\_\_ Electrical service, conduit, wire, accessories, and appurtenances are shown in layout, particularly for new facilities (pavilions, restrooms, etc.) and properly quantified.

\_\_\_\_\_\_\_\_ Public Access/Ownership rights are confirmed for existing streets/sidewalks/trails proposed to be connected to the project greenway – i.e. connections to privately controlled streets/sidewalks/trails are not proposed without permission. \*

\_\_\_\_\_\_\_\_ Areas adjacent to sections of existing trail or other pavement to be removed and replaced have been evaluated and designed (if needed) for adequate drainage. \*

\_\_\_\_\_\_\_\_ Connections to existing private building walks/access (carriage walks) are shown in layout, with land rights confirmed, are ADA compliant, and properly quantified.

\_\_\_\_\_\_\_\_ Items to be rehabilitated (repainted, replanted, treated, etc.) have considered existing partner maintenance obligations – i.e. GRG is not performing work beyond its obligations.

\_\_\_\_\_\_\_\_ All vendor-provided designs have been reviewed and are appropriately designed/sized for the specific application by the Design Engineer.

\_\_\_\_\_\_\_\_ Complex structural elements (pedestrian bridges, large walls, etc.) structural designs have been evaluated for a balance of total quantities and fabrication efficiency (i.e. consistent dimensioning may increase quantities, but make fabrication easier and less costly).

**Profile Sheets**

\_\_\_\_\_\_\_\_ Begin and End Project notes on all profiles. All equations, and exceptions shown in the plan and profile. \*

\_\_\_\_\_\_\_\_ Label all vertical curve info show VPIs, VPCs, VPTs, Ks and SSDs. Reconcile coordinates, stationing, linear, and curve data. \*

\_\_\_\_\_\_\_\_ Label max crowns with station range, crown section, and transition in the profile view. \*

\_\_\_\_\_\_\_\_ Show all crossroad drainage structures with flowline elevations and utility crossings. \*

\_\_\_\_\_\_\_\_ Earthwork balance point shown on the profile along with volumes, borrow, and excess.

\_\_\_\_\_\_\_\_ Show benchmark information \*

**Reference Points**

\_\_\_\_\_\_\_\_ Show survey ties with coordinates. At least 3 ties are required.

\_\_\_\_\_\_\_\_ Type of reference point is specifically identified.

**Missouri Coordinate Sheet**

\_\_\_\_\_\_\_\_ Coordinates for Beginning and End of Project points.

\_\_\_\_\_\_\_\_ Coordinates for intersection points.

\_\_\_\_\_\_\_\_ Coordinates for curve data (PC, PI, PT)

\_\_\_\_\_\_\_\_ Grid Factor and Convergence (Must show MO State Plane Coordinates, Not Modified State Plane Coordinates)

**Work Zone Traffic Management Plan Sheets**

\_\_\_\_\_\_\_\_ Existing greenway, sidewalks, and/or walkway interruptions or closures have been identified.

\_\_\_\_\_\_\_\_ Alternative non-vehicular routes are properly planned, signed, and/or signalized and are MUTCD compliant.

\_\_\_\_\_\_\_\_ Address signal location staging.

\_\_\_\_\_\_\_\_ Note pavement edge treatment where needed.

\_\_\_\_\_\_\_\_ Check detour directional signage.

\_\_\_\_\_\_\_\_ Use Directional Indicator Barricades through limits of tapers in which traffic is merging together, do not use them for lane shifts. Use DIBs with lights for nighttime work (Arterials and Collectors).

\_\_\_\_\_\_\_\_ Reduce Speed Ahead signs used only where speed is being reduced by 15 mph or more.

\_\_\_\_\_\_\_\_ Changeable message signs should be contractor furnished.

\_\_\_\_\_\_\_\_ Label all buffer spaces, taper lengths, device spacing, barrier stationing.

\_\_\_\_\_\_\_\_ Label all signs UIP, RELOC, or COVER after the first usage.

\_\_\_\_\_\_\_\_ Specify barrier taper length and attenuator barrels setup. Add quantity buffers for barrel replacement to the attenuators.

\_\_\_\_\_\_\_\_ Any detour specified will carry the traffic loading?

\_\_\_\_\_\_\_\_ Staging plan shows temporary / permanent lane closures as well as any existing pavement marking to be obliterated and temporary pavement markings (include removal of temporary pavement markings if necessary).

\_\_\_\_\_\_\_\_ Check if temporary traffic signals are needed at intersections.

\_\_\_\_\_\_\_\_ Check if remaining pavement space outside of closures/removals is sufficient and/or whether temporary striping is needed for the proposed traffic flow (two-way, one-way, # lanes, etc.).

\_\_\_\_\_\_\_\_ Address time or duration restrictions on plans and in JSPs.

\_\_\_\_\_\_\_\_ Address delivery and solid waste collection services during construction.

\_\_\_\_\_\_\_\_ Pre- and post-construction traffic impact studies are scheduled if the project is proposing to modify sizes or configurations of existing streets.

**Erosion Control Plan Sheets**

\_\_\_\_\_\_\_\_ Erosion control is shown on separate plan sheets.

\_\_\_\_\_\_\_\_ Legend depicts the typical erosion control devices.

\_\_\_\_\_\_\_\_ Sediment removal calculated for erosion control items ( 1 cy / 100 lf of silt fence, 1 cy / ditch check).

\_\_\_\_\_\_\_\_ All ditch checks should be type II.

\_\_\_\_\_\_\_\_ Silt fence should not be used as an inlet protection.

\_\_\_\_\_\_\_\_ Consider using more permanent erosion control versus temporary.

\_\_\_\_\_\_\_\_ Plan depicts a 25 x 50 temporary gravel washdown area located near the construction entrance and water source.

\_\_\_\_\_\_\_\_ All low places are graded to drain.

\_\_\_\_\_\_\_\_ Show any interim or staged grading.

\_\_\_\_\_\_\_\_ A SWPPP report has been prepared in accordance with MDNR regulations.

\_\_\_\_\_\_\_\_ A Contractor provided SWPPP has been planned and communicated in JSPs.

**Lighting, Signal, and Landscape Sheets**

\_\_\_\_\_\_\_\_ Power supply is the correct type for signals, lighting or signals and lighting and shown in the correct location. \*

\_\_\_\_\_\_\_\_ Battery backup is addressed by maintaining agency. \*

\_\_\_\_\_\_\_\_ Signals and lighting plan shows the existing signals and lighting equipment and all underground conduit. \*

\_\_\_\_\_\_\_\_ Signal heads are laid out in the correct location, with supplemental heads where needed. \*

\_\_\_\_\_\_\_\_ Signal post and base information is clearly labeled, including black mast arms and post requirement. \*

\_\_\_\_\_\_\_\_ Pull box locations are clearly labeled. \*

\_\_\_\_\_\_\_\_ Conduit is depicted as bored or open cut. Symbology matches the legend displayed on the plans. \*

\_\_\_\_\_\_\_\_ All detection zones are shown on the plans. \*

\_\_\_\_\_\_\_\_ Plans show all necessary signal signing. Signal signing matches the maintaining agency‘s(ies’) standards.

\_\_\_\_\_\_\_\_ New signals are not blocking other heads during construction. \*

\_\_\_\_\_\_\_\_ Mast arms are standard lengths with a 55 ft maximum. Are existing mast arms adequate for any pavement widening projects. \*

\_\_\_\_\_\_\_\_ Signals plans include any pedestrian signals and push buttons. Pedestrian signals and buttons are ADA compliant. \*

\_\_\_\_\_\_\_\_ Signals and lighting plans show all existing utilities. Bases are not through utilities or posts are not within 10 feet of overhead power lines. \*

\_\_\_\_\_\_\_\_ Lighting provides consistent coverage and is either stand alone or signal mounted. \*

\_\_\_\_\_\_\_\_ Controller doors open away from traffic. \*

\_\_\_\_\_\_\_\_ Is advance detection needed. \*

\_\_\_\_\_\_\_\_ 2 conduits between controller and 1st pull box. \*

\_\_\_\_\_\_\_\_ Conduits are sized for the number of cables needed. \*

\_\_\_\_\_\_\_\_ Signal and Lighting quantity sheets show all the quantities from the plan sheets.

\_\_\_\_\_\_\_\_ A wiring diagram is included for the signalized intersection. Diagram includes the street names and a north arrow.

\_\_\_\_\_\_\_\_ Pull boxes sized for conductors. Class 1 – 22 or less. Class 2 23-69. Class 3 more than 69. \*

\_\_\_\_\_\_\_\_ Signal heads, visors, louvers, and backplates are all detailed. Signal heads depict mast arm or upright location.

\_\_\_\_\_\_\_\_ Conduit is 3 inch from source to power supply and power supply to controller. 2-3” from controller to 1st pull box. All conduit is a minimum of 3 inches. From pull boxes to loopes 1” conduit is used. Conduit for fiber is 2”. \*

\_\_\_\_\_\_\_\_ Conduit lengths include +4 ft at controller, +4 ft at power supply, +4 ft at type a signal base, +2 ft at type c or type f signal base, -1 ft at pull box.

\_\_\_\_\_\_\_\_ Cable sized correctly. 2 AWG power source to supply. 8 AWG minimum power supply to controller.

\_\_\_\_\_\_\_\_ Signal breakers are sized for the signal loading.

\_\_\_\_\_\_\_\_ 7c#16 for vehicular signal heads, 5c#16 for pedestrian signal heads, 2c#16 for pedestrian push buttons. 1c#14 in duct for detector. Video uses power and coaxial cable.

\_\_\_\_\_\_\_\_ Lighting is 2c#12 from controller to pull box. 1c#10 pull box to luminaire. Fiber is usually 24 strand single mode fiber.

\_\_\_\_\_\_\_\_ Cable lengths account for +35 at power source, +8 at power supply, +8 at controller, +6 at each pull box, +3 at each pull box for spliced cables, +13 for top or side mounted vehicular heads, +10 for pedestrian heads, +9 for push buttons, +21 for mast arm signals, +30 for bracket arm cameras or luminaires + length of bracket arm+length to turn up the post, +60 fiber at class 5 pull box near cabinet, +10 of fiber cable at intermediate pull boxes.

\_\_\_\_\_\_\_\_ Jumpers noted where two signals are together. Calculate the length to the furthest then jump back.

\_\_\_\_\_\_\_\_ Auxiliary breaker shown as 15 amp.

\_\_\_\_\_\_\_\_ Signal load switch assignments are shown.

\_\_\_\_\_\_\_\_ Signals Ring diagrams are shown.

\_\_\_\_\_\_\_\_ Controller type is detailed.

\_\_\_\_\_\_\_\_ Use of pavers accounts for locations where side knobs may need to be removed to assure proper spacing against poured concrete.

\_\_\_\_\_\_\_\_ Landscape, specifically tree, installations proposed near a billboard in State ROW have been evaluated against the billboard companies’ rights to remove vegetation per <http://revisor.mo.gov/main/OneSection.aspx?section=226.585&bid=12050&hl>

\_\_\_\_\_\_\_\_ Landscape, specifically tree, installations proposed near utilities and/or overhead lines have been evaluated against future impacts to and from utilities.

\_\_\_\_\_\_\_\_ Where art will be installed for the project, appropriate labeling, interpretation, and artist credit is incorporated and identified within the site improvements.

**Retaining Wall Sheets**

\_\_\_\_\_\_\_\_ Retaining wall profile shows the existing ground, footing, and top of wall elevation and proposed contours. \*

\_\_\_\_\_\_\_\_ Retaining wall plan view is included on the retaining wall sheets. \*

\_\_\_\_\_\_\_\_ Design standards for contractor-designed retaining walls is specified and definitions of maximum or minimum loading, reinforcement lengths, and other wall components is clear and unambiguous. \*

\_\_\_\_\_\_\_\_ Retaining wall facades are properly accounted for in distances/measurements for quantities, plan views, typical sections, wall plans/profiles, and cross-sections.

\_\_\_\_\_\_\_\_ Retaining walls have proper fall protection for height and application. \*

\_\_\_\_\_\_\_\_ Retaining walls should be labeled with quantity (sf) and require a JSP noting that the exposed face of the wall is all that is measured for payment. \*

\_\_\_\_\_\_\_\_ Interfaces between retaining wall caps and surrounding improvements (edgers, gutters, steps, fences, etc.) have been carefully planned, both horizontally and vertically.

\_\_\_\_\_\_\_\_ GRG Lessons Learned Log has been reviewed for multiple design considerations in the use of “Green” or “Living” retaining walls.

**Signing and/or Wayfinding Plan Sheets**

\_\_\_\_\_\_\_\_ Verify the signing quantities from the signing plans and estimate.

\_\_\_\_\_\_\_\_ Inventory existing wayfinding signage and document locations of existing signs and need for adjustments. \*

\_\_\_\_\_\_\_\_ A wayfinding and interpretive signage placement plan (SPP) illustrating for all new signs, existing signs to remain in place, and existing signs to be modified: locations, types (i.e. KX-1), direction facing, type of footing (i.e. surface mount or direct bury), proposed text, and proposed site control needs for physical placement (e.g., land rights, easements, floodplain permits, etc.). \*

\_\_\_\_\_\_\_\_ Wayfinding and interpretive signage standard details included or modified due to unique site-specific conditions exceeding parameters of standard details.

\_\_\_\_\_\_\_\_ The use of breakaway posts, due to MoDOT ROW or vehicular clear zones, has been identified on the plans.

\_\_\_\_\_\_\_\_ InDesign Documents (INDD) provided for all final wayfinding sign designs include all final detail on wayfinding such as mileage, directional arrows, amenity icons, etc. Note: GRG’s Team Promote will always handle: Maps, Content of interpretive signs, and Locator codes.

\_\_\_\_\_\_\_\_ Traffic signs conform to the MUTCD standard. \*

\_\_\_\_\_\_\_\_ Signing quantities include all appurtenances or clearly state the cost of all hardware is included in the cost of the sign. This should include mounting type for all signs (breakaway, standard, etc.).

\_\_\_\_\_\_\_\_ Signing plans shall clearly detail any electronic signs (speed limit, crosswalk, etc.) and should note on the detail which items are included in the cost of the sign.

\_\_\_\_\_\_\_\_ All signs are labeled with station and offset and note that the contractor shall install maintaining agency supplied tags.

\_\_\_\_\_\_\_\_ Trail counters and their locations are identified. Trail counter specifications have been added. The total number of trail counters are included in the quantities. (NOTE: If trail counters are to be omitted from the project, justification must be provided to the VPPP.)

**Pavement Marking Plan Sheets**

\_\_\_\_\_\_\_\_ Intermittent striping calculated as station to station divided by 4.

\_\_\_\_\_\_\_\_ Include Pavement Marking Removal quantities where required.

\_\_\_\_\_\_\_\_ Pavement markings shall follow MUTCD standards.

\_\_\_\_\_\_\_\_ Provide details on reflective markers on raised islands. Reflective markers should be included on all raised islands.

\_\_\_\_\_\_\_\_ Stop bars, crosswalks, and arrows are compliant type for the maintain agency.

\_\_\_\_\_\_\_\_ Plans detail color and width of all markings. Provide dimensions/stations for all pavement markings.

**Culvert / Storm Sewer Plan Sheets**

\_\_\_\_\_\_\_\_ Show existing and proposed grade lines on profiles and sections. \*

\_\_\_\_\_\_\_\_ Label the pipe size, length, slope, class, and material on the profile sheets. Pipe backfill should be incidental to the cost of the pipe. \*

\_\_\_\_\_\_\_\_ Inlets and manholes are paid for by the depth of structure. \*

\_\_\_\_\_\_\_\_ Box culverts labeled with skew, size, barrel width x height x length. Check the DHW is the same on the road profile as the culvert section. \*

\_\_\_\_\_\_\_\_ Inlet details the type of inlet or grate to be used. \*

\_\_\_\_\_\_\_\_ Rock lining or other permanent erosion control is installed at channel changes. It is required to have geotextile material under rock lining. \*

\_\_\_\_\_\_\_\_ Design meets MSD standards for construction. MoDOT standards only when on MoDOT right-of-way. \*

\_\_\_\_\_\_\_\_ Pipes do not decrease in size in the direction of flow. \*

\_\_\_\_\_\_\_\_ Sewers shall be aligned: \*

1. To be in a straight line between structures, such as manholes, inlets, inlet manholes and junction chambers, for all pipe sewers thirty (30) inches in diameter and smaller.

2. To be parallel with or perpendicular to the centerlines of straight streets unless otherwise unavoidable.

3. To avoid meandering, off-setting and unnecessary angular changes.

4. To make angular changes in alignment for sewers thirty (30) inches in diameter or smaller in a manhole located at the angle point, and for sewers thirty- six (36) inches in diameter or larger, by a uniform curve between two tangents. Curves shall have a minimum radius of ten times the pipe diameter.

5. To avoid angular changes in direction greater than necessary and any exceeding ninety (90) degrees. Structures should be designed to accommodate A-loks or Z-loks.  
6. Avoid long runs underneath the pavement.

\_\_\_\_\_\_\_\_ Storm sewers shall be located: \*

1. To serve all property conveniently and to best advantage.

2. In public streets, roads, alleys, rights-of-way, or in sewer easements dedicated to the maintaining agency.

3. On private property along property lines or immediately adjacent to public streets, avoiding diagonal crossings through the central areas of the property.

4. At a sufficient distance from existing and proposed buildings including footings, and underground utilities or other sewers to avoid encroachments and reduce construction hazards.

5. To avoid interference between other stormwater sewers and house connections to foulwater or sanitary sewers**.**

6. In unpaved or unimproved areas whenever possible.

7. To avoid, whenever possible, any locations known to be or probably to be beneath curbs, paving or other improvements particularly when laid parallel to centerlines.

8. Drainage to sinkholes is not permitted.

9. Crossing perpendicular to street, unless otherwise unavoidable.

\_\_\_\_\_\_\_\_ The flowline of storm sewers shall meet the following requirements: \*

1. The flowline shall be straight or without gradient change between the inner walls of connected structures; that is, from manhole to manhole, manhole to junction chamber, inlet to manhole, or inlet to inlet.

2. Gradient changes in successive reaches normally shall be consistent and regular. Gradient designations less than the nearest 0.001 foot per foot, except under special circumstances and for larger sewers, shall be avoided.

3. Sewer depths shall be determined primarily by the requirements of pipe or conduit size, utility obstructions, required connections, future extensions and adequate cover.

4. Stormwater pipes discharging into lakes shall have the discharge flowline a minimum of three (3) feet above the lake bottom at the discharge point or no higher than the normal water line.

5. A concrete cradle is required when the grade of a sewer is twenty (20) percent or greater. A special design and specification is required for grades exceeding fifty percent (50%).

6. For sewers with a design grade less than one percent (1%), field verification of the sewer grade will be required for each installed reach of sewer, prior to any surface restoration or installation of any surface improvements.

7. The maintaining agency may require the submittal of revised hydraulic calculations for any sewer reach having an as-built grade flatter than the design grade by more than 0.1%. Based on a review of this hydraulic information, the maintaining agency may require the removal and replacement of any portion of the sewer required to ensure sufficient hydraulic capacity of the system.

8. Drops greater than 5 feet require reinforced concrete bottoms.

\_\_\_\_\_\_\_\_ Manholes shall be designed to: \*

1. For sewers thirty (30) inches in diameter or smaller, manholes shall be located at changes in direction; changes in size of pipe; changes in flowline gradient of pipes, and at junction points with sewers and inlet lines. For sewers thirty-three (33) inches in diameter and larger, manholes shall be located on special structures at junction points with other sewers and at changes of size, alignment change and gradient. A manhole shall be located at one end of a short curve and at each end of a long curve.

2. Spacing of manholes shall not exceed four hundred (400) feet for pipe sewers thirty-six (36) inches in diameter and smaller; five hundred (500) feet for pipe sewers forty-two (42) inches in diameter and larger, except under special approved conditions. Spacing shall be approximately equal, whenever possible.

3. When large volumes of stormwater are permitted to drop into a manhole from lines twenty-one (21) inches or larger, the manhole bottom and walls below the top of such lines shall be of reinforced concrete. Special structural design may be required for large pipes and/or large drops.

4. Manholes shall be avoided in driveways, crosswalks or sidewalks.

5. Connections to existing structures may require rehabilitation or reconstruction of the structure being utilized. This work will be considered part of the project being proposed.

6. When a project requires a manhole to be adjusted to grade a maximum of twelve (12) inches of rise is allowed if not previously adjusted. When adjustments to raise or lower a manhole is required, the method of adjustment must be stated on the project plans and approved by the maintaining agency.

\_\_\_\_\_\_\_\_ The Hydraulic Grade Line shall be designed to: \*

1. The hydraulic grade line at any inlet or storm manhole shall not be higher than two (2) feet below the inlet sill or top of manhole.

2. Storm sewers shall not flow with greater than three (3) feet of head.

3. The beginning point for the hydraulic grade line computations shall be the higher (i.e. more conservative) elevation as determined below:

a. For connection to existing pipe system:

(1) Top of pipe intrados of at least two reaches downstream of the connection point of the existing system; or

(2) The hydraulic grade line computed for the existing system.

b. For connection to channels or ditches:

(1) Top of pipe intrados of the proposed pipe, or

(2) The hydraulic grade line computed for the channel or ditch as approved by the maintaining agency.

c. For upstream system pipe connection to dry and wet detention basins:

(1) The starting hydraulic grade line for all incoming pipes shall be the 100 year-24 hour blocked low flow water surface elevation, where maintaining agency maintained streets are located adjacent to or upstream of the basins.

(2) The starting HGL for all other situations may be the 100 year – 24 hour unblocked low flow water surface elevation, unless the local road authority requires something higher.

4. When storm sewers are designed to convey 100 year flows, effusion at low lying inlets is not allowed, unless 100 year ponding easements are so delineated, granted, and recorded. Those associated temporary “ponding” easements however, should not be confused with 100 year overland flow paths, for which no conveyance area easements are presently required. Also, such intentional effusive designs may be prohibited for publicly maintained streets or highways.

\_\_\_\_\_\_\_\_ Structures are sequentially numbered in both the plan and profiles. \*

\_\_\_\_\_\_\_\_ Show all utilities in storm sewer profiles. If SUE work was completed show accurate elevations on the profiles. \*

\_\_\_\_\_\_\_\_ Provide a typical pipe cross section view of the sewer, backfill and trench width. All pipes are to be bedded in MSD type 1 or 2 bedding unless otherwise directed by the Engineer.

\_\_\_\_\_\_\_\_ Protect all culvert end obstructions outside the clear zone.

**Cross Section Sheets**

\_\_\_\_\_\_\_\_ Show all utilities in cross sections. \*

\_\_\_\_\_\_\_\_ Cross sections show the existing and proposed grades at least 10 feet beyond the improvements. \*

\_\_\_\_\_\_\_\_ Note any abrupt or special sections. All driveways, intersections/side roads must have a section to at least 10 foot beyond improvements.\*

\_\_\_\_\_\_\_\_ End areas labeled for cut and fill shown in square footages for each section.

\_\_\_\_\_\_\_\_ Volumes in cubic yards for cut and fill between each section labeled.

\_\_\_\_\_\_\_\_ Proposed and existing right-of-way and easements shown on cross sections \*

\_\_\_\_\_\_\_\_ Dimension and label all non-typical features. \*

\_\_\_\_\_\_\_\_ Cut and fill slopes labeled, are the slopes recoverable, has protection been given to non-recoverable slopes. \*

\_\_\_\_\_\_\_\_ Offset, slopes and elevations labeled for proposed improvements and grades. \*

\_\_\_\_\_\_\_\_ Show the baseline/centerline of the street with elevation. \*

**DESIGN SPECIFICATIONS AND BID BOOK**

\_\_\_\_\_\_\_\_ Table of Contents included.

\_\_\_\_\_\_\_\_ Bid package follows the GRG Boilerplate. Bid # and bid opening date is correctly written and contains the proper wording.

\_\_\_\_\_\_\_\_ Insurance requirements reviewed and adjusted accordingly.

\_\_\_\_\_\_\_\_ Bid package follows the MoDOT LPA Boilerplate (if applicable) with supplemental information from the GRG Boilerplate (I/A).

\_\_\_\_\_\_\_\_ A list of required submittals and submittal timing has been included.

\_\_\_\_\_\_\_\_ Allowances have been evaluated and/or included for items which are challenging to quantify, such as: unsuitable soils, Contractor-secured permits, required labor On-The-Job training, traffic control, etc.

\_\_\_\_\_\_\_\_ Relevance of Asphalt Price Adjustments covered in GRG Special Conditions has been determined.

\_\_\_\_\_\_\_\_ GRG standard specifications/JSPs have been incorporated into the Construction Contract Specifications.

\_\_\_\_\_\_\_\_ JSPs are provided for all bid items not listed on the Standard Bid Item List.

\_\_\_\_\_\_\_\_ JSPs describe the work, method, measurement, payment and materials to be used and specifically call out any incidental work to be done.

\_\_\_\_\_\_\_\_ JSP Table of Contents reflects all the JSPs used on the project. Include page numbers for the JSPs in the table of contents.\*

\_\_\_\_\_\_\_\_ Referenced specifications or JSPs have been reviewed and confirmed for relevance and to be free of conflicts with the project manual/bid book.

\_\_\_\_\_\_\_\_ Project Manual cover sheet signed and sealed by a professional engineer.

\_\_\_\_\_\_\_\_ Work Zone Traffic Management Plan is specific to the project, covers the work to be done, and includes bicycle and pedestrian users.

\_\_\_\_\_\_\_\_ Contains emergency provisions and incident management specification.

\_\_\_\_\_\_\_\_ Specifications identify that any changes or additions to concrete pavement areas will require a jointing submittal to the Engineer.

\_\_\_\_\_\_\_\_ Specifications are clear on the process and requirements for approvals of colored items.

\_\_\_\_\_\_\_\_ Contains project contact for questions provision. Specification states that all questions to be submitted in writing by a given deadline one week prior to the bid opening.

\_\_\_\_\_\_\_\_ Contains project cooperation with other contractors if necessary to coordinate with other contractors in the area.

\_\_\_\_\_\_\_\_ If the project contains seeding, use the GRG seeding and sodding specification.

\_\_\_\_\_\_\_\_ “Order of Work” JSP considered to coordinate simultaneous construction activities within the project site.

\_\_\_\_\_\_\_\_ Disposition of salvaged materials JSP included.

\_\_\_\_\_\_\_\_ Anti-graffiti coating JSP meets GRG performance expectations.

\_\_\_\_\_\_\_\_ Utility service leads or lateral JSP. Identify who is responsible (Disconnect, Relocate, Protect, Etc.)

\_\_\_\_\_\_\_\_ Utility JSP is specific to the project and includes the scope and timeframe for all utility relocations on the project. Time and coordination with dependent relocations shall be incidental to the contract.

\_\_\_\_\_\_\_\_ Prevailing Wage Rate information included.

\_\_\_\_\_\_\_\_ Alternate Bid specification included describing how the bid will be awarded.

\_\_\_\_\_\_\_\_ Routine cleaning and final job cleaning JSP included.

\_\_\_\_\_\_\_\_ Any permits acquired / blank copies of necessary permits.

\_\_\_\_\_\_\_\_ Specialty sign details included (if applicable).

\_\_\_\_\_\_\_\_ Current ADA specifications and LPA checklist included (if applicable).

\_\_\_\_\_\_\_\_ For federally funded projects, make certain specified improvements or components made of steel, or which may contain steel (such as fire hydrants), are also identified for compliance with “Buy America” requirements, or that a Public Interest Finding (PIF) is approved by MoDOT prior to Final PS&E approval.

\_\_\_\_\_\_\_\_ If workforce tracking is proposed for the construction, a JSP must specify that certified payroll documents must identify minorities and women.

\_\_\_\_\_\_\_\_ Proper service agreements are in place, in GRG’s name, for CCTV/communications related to security and surveillance.

**ENGINEER’S ESTIMATE**

\_\_\_\_\_\_\_\_ Pay items match the 2B and Bid book items and quantities.

\_\_\_\_\_\_\_\_ Estimate has project name, project number, project limits and the seal of the engineer of record. \*

\_\_\_\_\_\_\_\_ Estimate contains mobilization = 1 lump sum. \*

\_\_\_\_\_\_\_\_ All signals and lighting quantities are included. \*

\_\_\_\_\_\_\_\_ Resetting property corners is listed when right of way has been purchased.

\_\_\_\_\_\_\_\_ All signal signs are included.

\_\_\_\_\_\_\_\_ Optional Items are included for Optional pieces of work. Options to be selected are detailed in the JSPs.

\_\_\_\_\_\_\_\_ Alternate bid items are grouped together so it is clear that it is either / or.

\_\_\_\_\_\_\_\_ As built plans included in design estimate.

\_\_\_\_\_\_\_\_ Contractor furnished surveying and staking is included.

\_\_\_\_\_\_\_\_ Consider the use of High Early Concrete for special areas where access is an issue.

\_\_\_\_\_\_\_\_ Include Right-of-way Estimate. \*

\_\_\_\_\_\_\_\_ Risk assessment has been performed for contractor supplied designs (particularly retaining walls) and contingencies are appropriately planned (Contractor performed geotechnical analysis and/or basic excavation may reveal changed conditions which result in necessary cost increases). \*

**DESIGN PLANS, SPECIFICATIONS AND ESTIMATE REVIEWED BY:**

**Designer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Project Manager:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Construction Manager:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Design Guidelines Deviation Form**

Project Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sub-Project Code: \_\_\_\_\_\_\_\_

PM1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PM2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Designer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Current Project Stage: Charter

**List Proposed Design Deviations:**

|  |  |  |
| --- | --- | --- |
| Related Section: | Proposed Deviation: | Rationale: |
| Choose an item. |  |  |
| Choose an item. |  |  |
| Choose an item. |  |  |
| Choose an item. |  |  |
| Choose an item. |  |  |

**Describe potential drawbacks or negative consequences of the Proposed Deviations:**

Click or tap here to enter text.

**Proposed-Reviewed-Approved By:**

**Proposed – Designer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_**

**Reviewed – Project Manager: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_**

**Approved – Build Team Director: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_**

**Approved – Sustain Team Director: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_**

**Approved – Promote Team Director: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_**