#### **GENERAL NOTES**

- Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet sumps
- Sidewalks, curb ramps, ramps and accessible parking spaces shall be constructed in accordance with the current approved "American with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall take precedence and the contractor prior to any construction shall notify the Project Engineer.
- 2.1. Truncated domes for curb ramps located in public right of way shall meet PROWAG requirements and shall be constructed using red pre-cast truncated domes
- Any proposed pavilions or playground areas will need a separate permit from the Building Division.
- The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities. Contact the City of O'Fallon (636) 379-3814 for the location of City maintained cable for street lights and traffic signals, all other utilities call Missouri One Call 1-800-DIG-RITE. 1-800-344-7483
- All proposed utilities and/or utility relocations shall be located underground.
- All proposed fencing requires a separate permit through the Building Safety Division.
- All construction operations and work zone traffic control within the right of way will follow MoDOT or M.U.T.C.D. standards whichever is more stringent.
- (INTENTIONALLY OMITTED)
- All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development
- Materials such as trees, organic debris, rubble, foundations, and other deleterious material shall be removed from the site and disposed of in compliance with all applicable laws and regulations. If the material listed previously are reused, a letter from a soil Engineer must clarify amount, location, depth. etc. and be approved with the construction plans. Landfill tickets for such disposal shall be maintained on file by the developer. Burning on site shall be allowed only by permit from the local fire district. If a burn pit is proposed the location and mitigation shall be shown on the grading plan and documented by the soils engineer.
- Twenty-four (24) hours prior to starting any of the work covered by the above plans and after approval thereof, the developer shall make arrangements with the Construction Inspection Office to provide for inspection of the work, sufficient in the opinion of the City Engineer, to assure compliance with the plans and specifications
- 12. The City Engineer or their duly authorized representative shall make all necessary inspections of City infrastructure, escrow items or infrastructure located on the approved plans.
- All installations and construction shall conform to the approved engineering drawings. However, if the developer chooses to make minor modifications in design and/or specifications during construction, he/she shall make such changes at his/her own risk, without any assurance that the City Engineer will approve the completed installation or construction. It shall be the responsibility of the developer to notify the City Engineer of any changes from the approved drawings. The developer may be required to correct the installed improvements so as to confirm to the approved engineering drawings. The developer may request a letter from the Construction Inspection Division regarding any field changes approved by the City inspectors.
- City approval of the construction site plans does not mean that any building can be constructed on the lots without meeting the building setbacks as required by the zoning code

### **GRADING NOTES**

- Developer must supply City Construction Inspectors with an Engineer's soil reports prior to and during site grading. The soil report will be required to contain the following information on soil test curves (Proctor reports) for projects within the City:
- 1.1. Maximum dry density
- 1.2. Optimum moisture content
- Maximum and minimum allowable moisture content
- 1.4. Curve must be plotted to show density from a minimum of 90% Compaction and above as determined by the "Modified AASHTO T-180 Compaction Test" (A.S.T.M.-D-1157) or from a minimum of 95% as determined by the "Standard Proctor Test ASSHTO T-99, Method C" (A.S.T.M.-D-698). Proctor type must be designated on document.
- Curve must have at least 5 density points with moisture content and sample locations listed on document
- Specific gravity 1.6.
- 1.7. Natural moisture content
- 1.8. Liquid limit
- 1.9. Plastic limit
- Be advised that if this information is not provided to the City's Construction Inspector the City will not allow grading or construction activities to proceed on any project site. All fill placed in areas other than proposed storm sewers, sanitary sewers, proposed roads, and paved areas shall be compacted from the bottom of the fill up in 8"
- lifts and compacted to 90% maximum density as determined by Modified AASHTO T-180 compaction test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-99. Ensure the moisture content of the soil in fill areas corresponds to the compactive effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be determined using the same test that was used for compaction. Soil compaction curves shall be submitted to the City of O'Fallon prior to the placement of fill.
- The surface of the fill shall be finished so it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.
- All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with the approved SWPPP.
- When grading operations are complete or suspended for more than 14 days, permanent grass must be established at sufficient density to provide erosion control on site. Between permanent grass seeding periods, temporary cover shall be provided according to Missouri Department of Natural Resources Protecting Water Quality - a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas. All finished grades (areas not to be disturbed by improvements) in excess of 20% slopes (5:1) shall be mulched and tacked at a rate of 100 pounds per 1000 square feet when seeded.
- No slopes shall exceed 3 (horizontal): 1 (vertical) unless otherwise approved by the soils report and specifically located on the plans and approved by the City
- All low places whether on site or off shall be graded to provide drainage with temporary ditches.
- Any existing wells and/or springs which may exist on the property must be sealed in a manner acceptable to the City of O'Fallon Construction Inspection
- Department and following Missouri Department of Natural Resources standards and specifications.
- (INTENTIONALLY OMITTED)
- All trench back fills under paved areas shall be granular back fill, and compacted mechanically. All other trench back fills may be earth material (free of large clods, or stones) and compacted using either mechanical tamping or water jetting, Granular material and earth material associated with new construction outside of pavements may be jetted, taking care to avoid damage to newly laid sewers. The jetting shall be performed with a probe route on not greater than 7.5 foot centers with the jetting probe centered over and parallel with the direction of the pipe. Trench widths greater than 10 feet will require multiple probes every 7.5 foot centers.
- 10.1. Depth, Trench back fills less than 8 feet deep shall be probed to a depth extending half the depth of the trench back fill, but not less than 3 feet. Trench back fill
- greater than 8 feet in depth shall be probed to half the depth of the trench back fill but not greater than 8 feet.
- 10.2. Equipment, The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches. 10.3. Method, Jetting shall be performed from the lowest surface topographic point and proceed toward the highest point, and from the bottom of the trench back fill toward the surface. The flooding of each jetting probe shall be started slowly allowing slow saturation of the soil. Water is not allowed to flow away from the trench without first saturating the trench.
- 10.4. Surface Bridging, The contractor shall identify the locations of the surface bridging (the tendency for the upper surface to crust and arch over the trench rather than collapse and consolidate during the jetting process). The contractor shall break down the bridged areas using an appropriate method such as wheels or bucket of a backhoe. When surface crust is collapsed, the void shall be back filled with the same material used as trench back fill and re-jetted. Compaction of the materials within the sunken/jetted area shall be compacted such that no further surface subsidence occurs.

#### 11. Site grading.

- 11.1. Within City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed every two hundred fifty (250) feet along the centerline for each lift.
- 11.2. Outside of City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements.
- One (1) compaction test will be performed at two (2) foot vertical intervals and approximately every one thousand (1,000) cubic yards.
- Access to the site from any other location other than the proposed construction entrance is strictly prohibited!

### **EROSION CONTROL NOTES**

- The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area. The Permittee shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with the clearing operations and be maintained throughout the project until acceptance of the work by City of O'Fallon and as needed by MoDOT. The Permittee's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The City of O'Fallon and as required by MoDOT may at their option direct the Permittee in his methods as deemed fit to protect property and improvements. Any depositing of silt or mud on new or existing pavement shall be removed immediately. Any depositing of silts or mud in new or existing storm sewers and/or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the City of O'Fallon and as required by MoDOT."
- All erosion control systems are to be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in one-quarter inch of rain or more. Any silt or debris leaving the site and affecting public right of way or storm water drainage facilities shall be cleaned up within 24 hours after the end of the storm.
- Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with Missouri Department of Natural Resources Protecting Water Quality a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas.
- This development is required to provide long term post construction BMP's such as; low impact design, source control and treatment controls that protects water
- quality and controls run off to maximum extent practical in compliance with Phase II Illicit Storm Water Discharge Guidelines. (Ord. 5082, section 405.245) Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities. Unless it can be shown to the City Engineer that weather conditions are not favorable, vegetative growth is to be established within 6 weeks of stopping grading work on the project. The vegetative growth established shall be sufficient to prevent erosion and the standard shall be as required by EPA and DNR. (70% coverage per square foot) Ord. 6496, Section 405.095

#### STORM SEWER NOTES

- All Storm Sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon ordinances.
- Brick shall not be used in the construction of storm sewer structures. Pre cast concrete structures are to be used unless otherwise approved by the City of O'fallon.
- A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.
- (INTENTIONALLY OMITTED)
- Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete cradle to only RCP storm
- sewer and encase flexible storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet. The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.
- All concrete pipes will be installed with O-ring rubber type gaskets.
- Connections at all storm structures are to be made with A-lock joint or equal.
- Pre cast concrete inlet covers are not to be used.
- The swale in the detention basins shall have a minimum 2% longitudinal slope and be lined with a permanent erosion control blanket that will allow infiltration of storm water.
- All structures and flared end sections must be concrete. H.D.P.E. pipe will not be allowed for detention basin outflows, final pipe run to detention basins, creek discharge
- or other approved means.
  - (INTENTIONALLY OMITTED) Rip rap shown at flared end sections will be evaluated in the field by the Engineer, Contractor, and City Inspectors after installation for effectiveness and field modified, if
  - necessary to reduce erosion on and off site.
- 14. Add 1" minus rock back fill to all storm sewer that lie within the 1:1 shear plane of the road.
- 15. (INTENTIONALLY OMITTED)
- All reinforced concrete pipe (RCP) in St. Charles County right-of-way shall be minimum Class III. Corrugated metal pipe shall be a minimum of 14 gauge.

## EXISTING LEGEND

#### UTILITY OR POWER POLE MINOR CONTOUR MAJOR CONTOUR FIRE HYDRANT SPOT ELEVATIONS TEST HOLE CENTER LINE STREAM \_ --- --- ------BUILDINGS, ETC. CULTURAL DEBRIS AREA TREE LINE OVERHEAD ELECTRIC FENCE ------ UNDERGROUND ELECTRIC STORM SEWERS GAS MAIN SANITARY SEWERS WATER MAIN CATCH BASIN WATER MAIN area inlet FLOW LINE GRATED INLET TOP OF CURB STORM MANHOLE SWALE SANITARY MANHOLE LIGHT STANDARD FLARED END SECTION PARKING STALLS LATERAL CONNECTION YARD LIGHT

# **ABBREVIATIONS**

CO CI CMP ESM EP EX FF

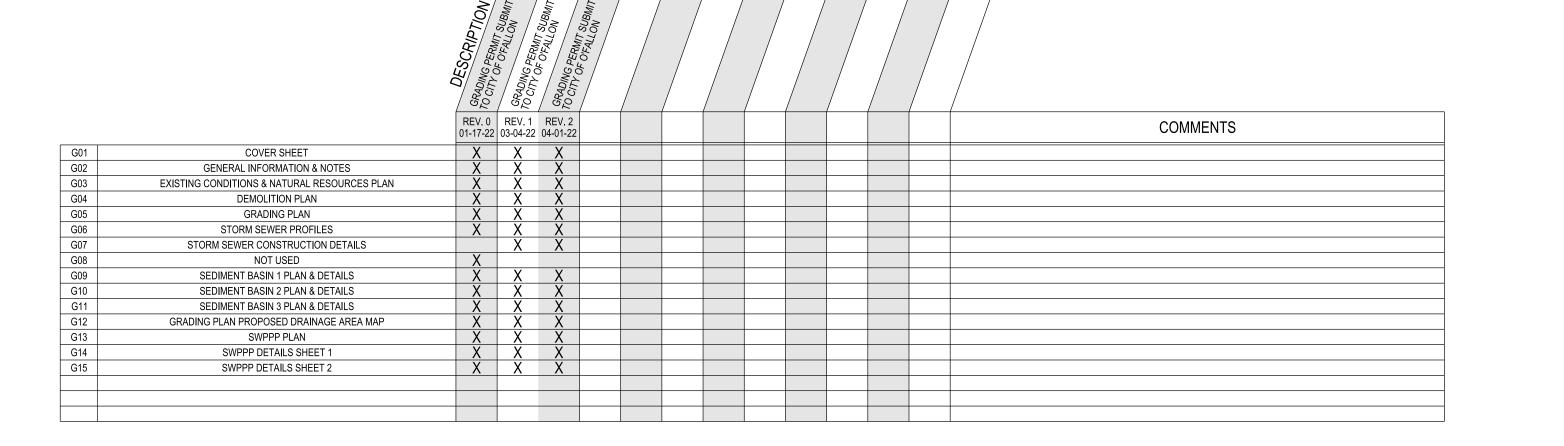
2GISI LIP MH MAX MIN N/F

TBR TBRBO TBR&R

TF TYP UIP UP

-	
	DJUST TO GRADE
_	REA INLET SASEMENT FLOOR
•	CENTERLINE CONCRETE COLLAR
C	CLEAN OUT CURB INLET
Č	ORRUGATED METAL PIPE
E	OUBLE CURB INLET ASEMENT
	IND OF PIPE INERGY DISSIPATOR
	XISTING INISHED FLOOR
F	IRE HYDRANT LARED END
F	LOWLINE
L	GRATE INLET WITH SIDE INTAKE EAVE IN PLACE
N	MANHOLE MAXIMUM
Ň	IINIMUM IOW OR FORMERLY
F	OLYVINYLCHLORIDE (PLASTIC PIPE REINFORCED CONCRETE PIPE
F	RIGHT OF WAY STATION
T	OP
T	O BE REMOVED O BE REMOVED BY OTHERS
T	O BE REMOVED AND REPLACED OP OF FOUNDATION
T L	YPICAL ISE IN PLACE
l	ITILITY POLE VIDE
v	

## **REVISION TABLE**



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NUMBER

RYAN L. HOLMES Professional Engineer PE-2017018988

ENERAL & I

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