

GENERAL NOTES

- 1. Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet ramps
2. 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.
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 per pavement details.
3. Any proposed pavilions or playground areas will need a separate permit from the Building Division.
4. The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities.
5. All proposed utilities and/or utility relocations shall be located underground.
6. All proposed fencing requires a separate permit through the Building Safety Division.
7. 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.
8. (INTENTIONALLY OMITTED)
9. All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development Division.
10. 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.
11. 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 as approved.
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.
13. All installations and construction shall conform to the approved engineering drawings.
14. 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

- 1. Developer must supply City Construction Inspectors with an Engineer's soil reports prior to and during site grading.
1.1. Maximum dry density
1.2. Optimum moisture content
1.3. 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).
1.5. Curve must have at least 5 density points with moisture content and sample locations listed on document
1.6. Specific gravity
1.7. Natural moisture content
1.8. Liquid limit
1.9. Plastic limit
2. 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.
3. The surface of the fill shall be finished so it will not impound water.
4. All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with the approved SWPPP.
5. 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.
6. 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 Engineer.
7. All low places whether on site or off shall be graded to provide drainage with temporary ditches.
9. (INTENTIONALLY OMITTED)
10. All trench back fills under paved areas shall be granular back fill, and compacted mechanically.
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.
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.
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).
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.
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.
12. Access to the site from any other location other than the proposed construction entrance is strictly prohibited!

Erosion Control Notes

- 1. The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area.
2. 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.
3. 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.
4. 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.
5. Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities.
6. All sanitary sewer line with a slope greater than 20% will require concrete cradle or concrete collar at each pipe joint.
7. All manholes built within the 100 year flood plain must have lock type watertight manhole covers.
8. All sanitary sewer mains must have a minimum of 42" cover.
9. When sanitary mains cross over storm line the sanitary main must be ductile iron pipe for 10 feet on each side of the crossing.
10. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer.
11. The sanitary sewers should run diagonally through the side yards to minimize any additional utility easements required.
12. All sanitary sewer structures shall be waterproofed on the exterior in accordance to Missouri DNR specifications 10CSR-8.120 (7)(E).
13. All sanitary sewer pipe shall be SDR35 or equal.
14. All sanitary sewer manholes and pipes will be tested to the following specifications.
15. Add 1" minus rock back fill to all sanitary sewer and all other utilities that lie within the 1:1 shear plane of the road.

Sanitary Sewer Notes

- 1. All sanitary sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon Ordinances.
2. Brick shall not be used in the construction of sanitary sewer structures.
3. Connections at all sanitary structures are to be made with A-Lock joint or equal
4. All sanitary laterals shall be a minimum of 4" residential, 6" commercial diameter pipe.
5. All sanitary mains shall be a minimum of 8" diameter pipe.
6. All sanitary sewer line with a slope greater than 20% will require concrete cradle or concrete collar at each pipe joint.
7. All manholes built within the 100 year flood plain must have lock type watertight manhole covers.
8. All sanitary sewer mains must have a minimum of 42" cover.
9. When sanitary mains cross over storm line the sanitary main must be ductile iron pipe for 10 feet on each side of the crossing.
10. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer.
11. The sanitary sewers should run diagonally through the side yards to minimize any additional utility easements required.
12. All sanitary sewer structures shall be waterproofed on the exterior in accordance to Missouri DNR specifications 10CSR-8.120 (7)(E).
13. All sanitary sewer pipe shall be SDR35 or equal.
14. All sanitary sewer manholes and pipes will be tested to the following specifications.
15. Add 1" minus rock back fill to all sanitary sewer and all other utilities that lie within the 1:1 shear plane of the road.

Storm Sewer Notes

- 1. 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.
2. Brick shall not be used in the construction of storm sewer structures.
3. A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.
4. (INTENTIONALLY OMITTED)
5. Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer.
6. The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.
7. All concrete pipes will be installed with O-ring rubber type gaskets.
8. Connections at all storm structures are to be made with A-lock joint or equal.
9. Pre cast concrete inlet covers are not to be used.
10. 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.
11. All structures and flared end sections must be concrete.
12. (INTENTIONALLY OMITTED)
13. Rip rack 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)

Flood plain Information

- 1. Refer to Section 415 for Floodplain Development Information

Retaining Walls: Terraced and Vertical

- 1. A permit is required for all retaining walls that are 48 inches or taller in height, measured from the top of the footing to the top of the wall or for walls that support a surcharge load or that alters the channelized drainage of any lot or drainage area.
2. Retaining walls will not be allowed in public right-of-way without written approval from the City Engineer.
3. Any retaining wall more than thirty (30) inches tall which supports a walking surface that is within two (2) feet of the wall will require a guard on the retaining wall.
4. Retaining walls that alter the channelized drainage of any lot or drainage area shall not be constructed without prior approval and permitting from the City of O'Fallon Engineering Department regardless of the height of the wall.
5. See section 405.275 of the City code for additional design requirements.

Water Notes

- 1. Fire hydrants shall be a maximum of 600' apart. Local fire district approval is required.
2. Coordinate with the water company on the location of water meters.
3. All water main must have a minimum of 42" of cover.
4. Provide water valves to isolate the system.
5. All water mains shall be class 200 SDR 21 or equal with locator/tracer wires
6. If the excavations are made in the improved portion of the right-of-way, twelve inches of granular backfill will be placed over exposed facilities and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement.
7. DISINFECTING: Disinfecting shall be accomplished by placing sufficient hypo chlorite granule (HTH) in each section of pipe to achieve a chlorine residual in the pipeline, upon initial filling, of 50 mg/L (PPM).
8. PRESSURE TESTING: Immediately following disinfection, the piping shall be pumped to a pressure (at the HIGHEST point in the project) of 150 psi or higher where the working pressure is higher than 150 PSI as determined by the City.
9. All tops for valves, meters, and manholes are to be constructed to within 1 inch (0.08") of finish grade.
10. BACTERIOLOGICAL TESTING: After satisfactory disinfection and pressure testing, a sample shall be taken by the contractor in the presence of a City representative and submitted to a laboratory approved by the Missouri Department of Natural Resources and the City for bacteriological analysis.
11. In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for each foot of fill and at least one (1) test and on an average of one (1) test within every two hundred fifty (250) feet.
12.1. Concrete pavements shall not be approved unless it reaches a strength of four thousand (4,000) psi.
13. Prior to placement of aggregate base material on sub grade and prior to placement of pavement on base material, the sub grade and base must be proof-rolled with a fully loaded (ten (10) ton load) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no faster than three (3) miles per hour.
14. Sub grade and base beneath pavements shall be compacted to St. Louis County Highway Department specifications.
15. The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer.
16. Utility Work Prior To Base Construction.
17. Equipment calibration.
17.1. Air meter--monthly.
17.2. Cylinder compression--annually by independent calibration service.
17.3. Batch scales--monthly.
17.4. Nuclear testing devices--every six (6) months.
17.5. Proctor equipment--every six (6) months.
17.6. Slump cone--monthly.
18. All permanent traffic control will be per M.U.T.C.D. or MoDot standards.
19. All traffic signals, street signs, sign post, backs and bracket arms shall be painted black using Carboline Rust Bond Penetrating Sealer SG and Carboline 1.33 HB paint (or equivalent as approved by City of O'Fallon and MoDOT)
20. If the excavations are made in the improved portion of the right-of-way, twelve inches of granular backfill will be placed over exposed facilities and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement.

Roadway Notes

- 1. All paving (public and private) to be in accordance with St. Louis County Standards and Specifications except as modified by the City of O'Fallon ordinances.
2. If the intersecting road does not have a curb, then the curb on the new entrance shall begin 10' from the edge of the existing road.
3. Provide 6" of concrete over 5" of aggregate base rock or asphalt equivalent for minor residential streets per City Code 405.370.
3.1. Rock to meet the all the requirements of MoDOT type 5 rock with a tighter restriction on the fines being that no more than ten percent (10%) fines shall pass a no. 200 sieve.
4. Multi-use trail (when required) Shall have a minimum of 3" Type "C" Asphalt over 4" aggregate base per City requirements.
5. Type C (BP-1) Compaction requirements shall be 98% minimum density according to St. Louis Co. Standard Specifications.
6. Provide pavement striping at any point where the multi-use trail crosses existing or proposed pavement
7. All street stub-outs over 250' in length will require a temporary turnaround.
8. All sub grade in cut or fill will need to conform to the City of O'Fallon Compaction requirements
9. Material Testing And Frequency. Materials for construction shall be tested and inspected per the appropriate ASTM code or at the City Engineer's discretion.
10. Approval Of Sub grade And Base (Sub base). The City Engineer or representative shall approve the sub grade before any base is placed thereon and shall approve the base before concrete or surface course is placed.
11. In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for each foot of fill and at least one (1) test and on an average of one (1) test within every two hundred fifty (250) feet.
12.1. Concrete pavements shall not be approved unless it reaches a strength of four thousand (4,000) psi.
13. Prior to placement of aggregate base material on sub grade and prior to placement of pavement on base material, the sub grade and base must be proof-rolled with a fully loaded (ten (10) ton load) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no faster than three (3) miles per hour.
14. Sub grade and base beneath pavements shall be compacted to St. Louis County Highway Department specifications.
15. The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer.
16. Utility Work Prior To Base Construction. No base course work may proceed on any street until all utility excavations (storm and sanitary sewers, water, gas, electric, etc.) have been properly back filled with granular material, crushed stone or gravel mechanically tamped in ten (10) inch lifts.
17. Equipment calibration.
17.1. Air meter--monthly.
17.2. Cylinder compression--annually by independent calibration service.
17.3. Batch scales--monthly.
17.4. Nuclear testing devices--every six (6) months.
17.5. Proctor equipment--every six (6) months.
17.6. Slump cone--monthly.
18. All permanent traffic control will be per M.U.T.C.D. or MoDot standards.
19. All traffic signals, street signs, sign post, backs and bracket arms shall be painted black using Carboline Rust Bond Penetrating Sealer SG and Carboline 1.33 HB paint (or equivalent as approved by City of O'Fallon and MoDOT)
20. If the excavations are made in the improved portion of the right-of-way, twelve inches of granular backfill will be placed over exposed facilities and controlled low strength material (CLSM) aka flowable fill will fill the hole with eight inches of the finished surface for concrete pavement.

PROJECT TITLE: LANDMARK COOL SPRINGS LLC
SPRINGS LLC
1024 COOL SPRINGS RD
O'FALLON, MO 63366
Engineering Company's Information
PREPARED BY: CROCKETT ENGINEERING CONSULTANTS
ENGINEER SIGNATURE BLOCK
JESSE R STEPHENS
MOLICENSE -20000868
2-12-2021
Developer / Owner Information
LANDMARK COOL SPRINGS LLC
114 STONE RIDGE MEADOWS
O'FALLON, MO 63366
City of O'Fallon Cover Sheet
P+Z No. - 20-007735
Approval Date: 10-2-2020
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