

City Of Splendor



"The Switch 1896"

CONSTRUCTION NOTES

Utilities Engineering Design Construction Standards

ADOPTED 02/08/2022



26090 FM 2090 East

Splendor 77372

Montgomery County Texas

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1. MATERIALS, CONSTRUCTION AND TESTING TO BE IN ACCORDANCE WITH THE CITY OF SPLENDORA ORDINANCES AND SPECIFICATIONS, LATEST PRINTING AND AMENDMENTS THERETO.
2. ALL EXISTING UNDERGROUND UTILITIES ARE NOT GUARANTEED TO BE COMPLETED OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE. CONTRACTOR HAS SOLE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL EXISTING FACILITIES AS SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL CONFLICTS WITH THE APPROPRIATE GOVERNING AGENCY.
3. THE LOCATION OF ALL UNDERGROUND UTILITIES, ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL REQUEST THE EXACT LOCATION OF THESE FACILITIES BY CALLING THE PERSPECTIVE UTILITY COMPANY, AT LEAST 48 HOURS BEFORE COMMENCING WORK. A) THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH OCCURS DUE TO HIS FAILURE TO REQUEST THE LOCATION AND PRESERVATION OF THESE UNDERGROUND FACILITIES. B) ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
4. TEXAS LAW ARTICLE 1436C, PROHIBITS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN 6 FEET OF ENERGIZED OVERHEAD POWER LINES. FEDERAL REGULATION, TITLE 29, PART 1910.130(1) AND PART 1926.440 (A) (15) REQUIRE A MINIMUM CLEARANCE OF 10 FEET FROM THESE FACILITIES. THE ABOVE LAWS CARRY BOTH CRIMINAL AND CIVIL LIABILITIES, WITH CONTRACTORS AND OWNERS BEING LEGALLY RESPONSIBLE FOR THE SAFETY OF WORKERS UNDER THESE LAWS. IF EITHER THE CONTRACTOR OR THE OWNER MUST WORK NEAR ENERGIZED OVERHEAD POWER LINES, CALL THE POWER COMPANY FOR THE LINES TO BE DE-ENERGIZED AND/OR MOVED AT THEIR EXPENSE.
5. CONSTRUCTION SHALL COMPLY WITH THE LATEST OSHA REGULATIONS AND STATE OF TEXAS LAW CONCERNING TRENCHING AND SHORING. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF OSHA SAFETY AND HEALTH REGULATION, PART 1926, SUB-PART P AS PUBLISHED IN THE FEDERAL REGISTER, VOLUME 54, NO. 209, DATED OCTOBER 31, 1989, AND CITY OF SPLENDORA ORDINANCES AND LATEST REVISIONS.
6. DETAILS PREPARED BY THE CITY OF SPLENDORA DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY CHAPTER 756, SUBCHAPTER "C" OF THE TEXAS HEALTH AND SAFETY CODE.
7. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE PROJECT ENGINEER. ALL CONSTRUCTION RUNOFF SHALL COMPLY WITH STORM WATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS.
8. EXISTING PAVEMENT, CURBS, SIDEWALKS AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF SPLENDORA STANDARDS. ALL ASPHALT AND CONCRETE DRIVEWAYS EXCAVATED DURING CONSTRUCTION SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND (CSS) AND RETURNED TO EXISTING CONDITIONS. ALL STATE AND COUNTY HIGHWAY PAVEMENT AND RAILROAD RIGHT-OF-WAYS TO BE BORED ACCORDING TO THE RULES, REGULATIONS AND REQUIREMENTS FOR APPROVAL AND ACCEPTANCE BY SAID AGENCIES. SEE CITY OF SPLENDORA "DESIGN MANUAL FOR WATER MAINS, SANITARY SEWERS, STORM DRAINAGE AND STREET PAVING".
9. EXISTING ROADS AND/OR RIGHT-OF-WAYS DISTURBED DURING CONSTRUCTION SHALL BE AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING THE WORK, UPON COMPLETION OF THE PROJECT.
10. ALL SAWCUTS OF EXISTING PAVED SURFACES SHALL BE FULL DEPTH SAWCUTS.
11. AFTER ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS HAVE BEEN COMPLETED TO THE LINES, GRADES, AND CROSS-SECTIONS SHOWN ON THE PLANS, HYDROMULCHING AND OR SOLID SODDING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS IN ORDER TO ESTABLISH ADEQUATE VEGETATION COVERAGE TO ELIMINATE EROSION. IF NO ACTIVITY HAS BEEN PERFORMED WITHIN THE DISTURBED CONSTRUCTION AREAS FOR 14 DAYS, THESE AREAS MUST BE HYDROMULCHED TO AVOID EROSION. IF NO PROVISION FOR PLANTING GRASS IS INCLUDED IN THE PLANS OR SPECIFICATIONS, THE MINIMUM REQUIREMENT FOR THIS ITEM WILL BE IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR "SODDING OR SEEDING FOR EROSION CONTROL."
12. CONTRACTOR / OWNER ARE TO OBTAIN ALL APPLICABLE PERMITS REQUIRED BY GOVERNING AUTHORITIES AT THEIR EXPENSE PRIOR TO COMMENCEMENT OF WORK.
13. CONTRACTOR / OWNER SHALL GIVE 48 HOURS NOTICE TO ALL AUTHORIZED AGENCIES IN CHARGE OF PRIVATE AND PUBLIC UTILITIES PRIOR TO COMMENCEMENT OF WORK WITHIN THE CITY OR AUTHORIZED AGENCIES RIGHT-OF-WAYS OR EASEMENTS.



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STANDARD CITY OF SPLENDORA GENERAL CONSTRUCTION NOTES

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14. CONTRACTOR / OWNER SHALL COVER ANY OPEN EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.
15. CONTRACTOR / OWNER SHALL PROVIDE ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING TRAFFIC CONTROL DEVICES, DURING CONSTRUCTION IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL". CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC OPEN IN EACH DIRECTION DURING WORKING HOURS OR PROVIDE ALL-WEATHER DETOURS AROUND CONSTRUCTION SITE, PROVIDE PUBLIC NOTIFICATION, AND USE UNIFORMED POLICE OFFICERS TO CONTROL TRAFFIC, ESPECIALLY IN HEAVY TRAFFIC LOCATIONS.
16. CONTRACTOR / OWNER SHALL ERECT AND MAINTAIN BARRICADES TO ADEQUATELY PROTECT THE PAVEMENT, SIDEWALKS, DRIVEWAY, ROADWAY, AND PARKING LOTS FROM DAMAGED CAUSED BY ANIMALS OR FOOT TRAFFIC. THE CONTRACTOR SHALL HAVE PERSONNEL ON SITE UNTIL THE PAVEMENT HAS REACHED SUFFICIENT STRENGTH WHILE PAVEMENT IS CURING AND UNTIL REACHED 75% STRENGTH.
17. CONTRACTOR / OWNER SHALL BE RESPONSIBLE ON A DAILY BASIS FOR REMOVING MUD, DIRT, AND DEBRIS DEPOSITED ON EXISTING PAVEMENT DUE TO CONSTRUCTION ACTIVITY. ALL EXISTING STREETS AND ADJACENT PAVEMENT AREAS IMPACTED BY CONSTRUCTION ACTIVITY SHALL BE CLEANED USING A STREET SWEEPER. THIS ACTIVITY SHALL BE INCIDENTAL TO ALL OTHER ITEMS.
18. THE CONTRACTOR / OWNER SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR CONSTRUCTION ACTIVITIES WITH THE UTILITY COMPANIES AS TO THE RELOCATION OF THEIR FACILITIES, IF NEEDED.
19. THE CONTRACTOR / OWNER SHALL REMOVE ALL NON-PERMANENT SIGNS FROM THE R.O.W. AND/OR EASEMENT LIMITS, AND RETURN THEM TO THE SIGN OWNER FOR THEM TO HAVE PLACED AT THEIR EXPENSE ON PROPERTY OTHER THAN THAT STATED ABOVE UNLESS OTHERWISE SPECIFIED.
20. THE CONTRACTOR / OWNER SHALL DETERMINE THE EXACT LOCATION AND DEPTHS OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY WORK, AND SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. THE LOCATION OF EXISTING UTILITIES ON THESE PLANS ARE SHOWN IN AN APPROXIMATE LOCATION ONLY.
21. THE CONTRACTOR / OWNER SHALL BE RESPONSIBLE FOR RELOCATING OR REPLACING ALL EXISTING FENCES INSIDE THE WORK ZONE, TO EXISTING OR BETTER CONDITION, EXCEPT FOR THOSE THAT FALL WITHIN A ROAD RIGHT-OF-WAY, IN WHICH THE FENCE SHALL BE BE RELOCATED OR REPLACED TO A DISTANCE OF ONE (1) FOOT OUTSIDE THAT RIGHT-OF-WAY.
22. THE CONTRACTOR / OWNER IS RESPONSIBLE FOR RELOCATING ALL EXISTING IRRIGATION OUTSIDE OF THE RIGHT-OF-WAY AND/OR EASEMENT UNLESS OTHERWISE SPECIFIED ON THE PLANS.
23. ALL EQUIPMENT SHALL BE REMOVED FROM THE PROJECT SITE ONCE THE PROJECT IS COMPLETED, AS WELL AS, ALL REMAINING DEBRIS WITHIN PROJECT SHALL BE REMOVED AND PROPERLY DISPOSED OF AT AN APPROVED DISPOSAL SITE.



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**STANDARD CITY OF SPLENDORA
GENERAL CONSTRUCTION NOTES
(CONTINUED)**

**ADOPTED
02/08/2022**

THE FOLLOWING NOTES OR PHRASES ARE SPECIFIC TO PAVING IMPROVEMENTS AND SHALL BE INCLUDED IN ALL SETS OF CONSTRUCTION DRAWINGS CONTAINING ANY PAVING IMPROVEMENTS. THE PLAN AND PROFILE SHEETS MAY IDENTIFY AND REFERENCE THE NOTES OR PHRASES IN THE PLAN VIEW BY NOTE NUMBER OF THE SPECIFIC TREATMENT REQUIRED.

1. IF PROPOSED SEMI-RIGID BASE WITH 2 INCH TYPE "D" HOT MIX ASPHALTIC CONCRETE SURFACING, FOR URBAN ESTATES ONLY, SEMI-RIGID BASE MAY BE 8 INCH CRUSHED LIMESTONE, OR 6 INCH HOT MIX ASPHALTIC CONCRETE.
2. EXPOSE 15 INCHES OF REINFORCING STEEL AT ALL PROPOSED SAWED JOINTS. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS PER NOTE #4.
3. REQUIRE A ONE (1) INCH REDWOOD EXPANSION BOARD OR PRE-MOLDED NON-EXTRUDING JOINT BETWEEN SIDEWALK AND BACK OF CURB.
4. HORIZONTAL DOWELS SHALL BE NO. 6 BARS, 24 INCHES LONG, DRILLED AND EMBEDDED 8 INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL. DOWELS SHALL BE 24 INCHES CENTER TO CENTER UNLESS OTHERWISE SPECIFIED.
5. WHEN PROPOSED PAVEMENT ENDS AT A CONSTRUCTION JOINT LEAVE 15 INCHES OF REINFORCING STEEL EXPOSED BEYOND PAVEMENT, COAT WITH ASPHALT, AND WRAP WITH BURLAP FOR FUTURE PAVEMENT TIE-IN. AT EXPANSION JOINTS, EXTEND DOWELS 5 INCHES; COAT AND WRAP SAME AS CONSTRUCTION JOINTS.
6. CONTINUOUS REINFORCED CONCRETE PAVEMENT, WHEN SPECIFIED SHALL BE PER TXDOT STANDARD DETAILS.
7. WHEREVER A SIDEWALK IS REQUIRED BY CITY ORDINANCE , PROVIDE WHEELCHAIR RAMP AND/OR SIDEWALKS IN ACCORDANCE WITH THE "TEXAS DEPARTMENT OF TRANSPORTATION STANDARD WHEELCHAIR RAMP AND SIDEWALK DETAILS".
8. ADJUST EXISTING MANHOLE FRAMES AND COVERS TO FIT NEW GRADE.
9. ADJUST EXISTING WATER VALVE BOXES TO NEW PAVING GRADE. REPLACE ALL MISSING OR DAMAGED VALVE BOXES AND COVERS.
10. PLACE WHITE OR YELLOW PLASTIC MARKER OR PAINT AS SHOWN BY THE UNIFORM TRAFFIC MANUAL FOR PAVEMENT MARKINGS.
11. PROVIDE A CONCRETE PAVING HEADER AT THE END OF THE PAVEMENT.
12. T. C. INDICATES TOP OF CURB ELEVATION AND T. P. INDICATES TOP OF PAVEMENT ELEVATION.
13. CURB RADII AT STREET INTERSECTIONS TO BE 24.50 FEET TO BACK OF CURB WITH A MINIMUM OF ONE (1) PERCENT GRADE UNLESS OTHERWISE NOTED.
14. GUIDELINES SET FORTH IN THE "TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" WILL BE OBSERVED.
15. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT ALL RADIUS RETURNS AND AT A MAXIMUM SPACING OF 60 FOOT INTERVALS.
16. CONTRACTOR WILL USE CONTINUOUS LONGITUDINAL REINFORCING BARS IN CURBS.
17. CYLINDER COMPRESSION TEST OR BEAM FLEXURAL TEST SHALL BE REQUIRED. TWO SAMPLES SHALL BE TAKEN FOR EACH 100 CUBIC YARDS OF CONCRETE POURED. FOR SMALLER QUANTITIES, TWO SAMPLES SHALL BE TAKEN REGARDLESS OF THE AMOUNT OF CONCRETE POURED EACH DAY. CONCRETE SHALL HAVE 5 SACKS CEMENT PER CUBIC YARD AND A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS OR A MINIMUM FLEXURAL STRENGTH OF 600 PSI IN 28 DAYS. NO TRAFFIC SHALL BE ALLOWED ON CONCRETE FOR 28 DAYS. *IF EXTRA TESTS ARE MADE 75% OF THE 28 DAY STRENGTH IS ACHIEVED THE CITY ENGINEER MAY ALLOW TRAFFIC ON THE PAVEMENT IF IT DEEMS NECESSARY.*
18. PRIOR TO PLAN APPROVAL, A CERTIFIED LAB SHALL DETERMINE THE PERCENTAGE OF CEMENT CONTENT FOR SUBGRADE STABILIZATION IN SANDY SOILS WITH P.I. LESS THAN 10 TO OBTAIN A COMPRESSIVE STRENGTH OF 400 PSI IN 28 DAYS. THE LAB SHALL ALSO DETERMINE THE PERCENTAGE OF LIME CONTENT FOR SUBGRADE STABILIZATION IN CLAY SOILS WITH A P.I. GREATER THAN 20.
19. A CONCRETE MIX DESIGN BY THE CERTIFIED LAB SHALL BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER BEFORE ANY CONCRETE IS POURED.



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STANDARD CITY OF SPLENDORA PAVING CONSTRUCTION NOTES

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20. A MINIMUM OF TWO (2) COMPACTION TESTS SHALL BE PERFORMED A MAXIMUM DISTANCE OF 500 FEET, AND FOR EACH 2'-6" MAXIMUM THICK LAYERS OF FILL. IN AREAS WHERE NO FILL IS REQUIRED, TWO (2) SAMPLES SHALL BE TAKEN AT A MAXIMUM DISTANCE OF 500 FEET. ADDITIONAL TESTING SHALL BE PERFORMED IF SEEN NECESSARY BY THE ENGINEER. NO ADDITIONAL LAYERS OF FILL SHALL BE MADE WITHOUT HAVING THE LAB'S WRITTEN APPROVAL OF COMPLETED LAYERS. PROOF ROLLING SHALL BE REQUIRED BY THE INSPECTOR ON EACH LAYER PLACED AND ANY "PUMPING" AREAS SHALL BE REMOVED IMMEDIATELY AND REPLACED OR STABILIZED AND RE-COMPACTED TO A PASSING DENSITY.
21. CONSTRUCTION OF ITEMS THAT ARE NOT SPECIFICALLY ADDRESSED TO BE IN ACCORDANCE WITH THE TxDOT SPECIFICATIONS (LATEST REVISION).
22. RIGHT-OF-WAY SHALL BE SLOPED FROM THE PROPERTY TO THE TOP OF CURB AND HYDROMULCHED OR SODDED BEFORE FINAL ACCEPTANCE BY THE CITY TO CONTROL EROSION INTO THE STREET AND STORM SEWER.
23. MEMBRANE CURING TYPE 2, WHITE PIGMENTED CONFORMING TO DMS-4650, SHALL BE USED FOR CURING ALL CONCRETE SURFACES IMMEDIATELY AFTER FINISHING OF SURFACES AND SHALL BE IN ACCORDANCE WITH TxDOT ITEM 360.
24. MATERIAL USED FOR FILL SHALL BE CERTIFIED BY A LAB TO HAVE A PLASTICITY INDEX BETWEEN 10 AND 20. FORMS SHALL BE SET TO THE PROPER GRADE AND PROPERLY SUPPORTED SO THAT NO DISPLACEMENT OCCURS WITH THE PAVING ACTIVITIES.
25. ALL CONCRETE SHALL BE VIBRATED BY MECHANICAL MEANS TO INSURE PROPER COMPACTION AND NO HONEY COMBS. CONCRETE SHALL NOT BE PLACED WHEN THE TEMPERATURE IS BELOW 40° F AND FALLING, BUT MAY BE PLACED WHEN TEMPERATURE IS ABOVE 35° F AND RISING. THE TEMPERATURE SHALL BE TAKEN IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT.
26. THE CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES TO ADEQUATELY PROTECT THE PAVEMENT. THE CONTRACTOR SHALL HAVE PERSONNEL ON SITE UNTIL THE PAVEMENT HAS REACHED SUFFICIENT STRENGTH AS NOT TO BE DAMAGED BY ANIMALS OR FOOT TRAFFIC.
27. JOINT SEALING MATERIAL SHALL BE A HOT POURED RUBBER TYPE AND SHALL MEET THE REQUIREMENTS IN ACCORDANCE WITH DMS-6310. TAR WILL NOT BE ALLOWED.
28. JOINTS SHALL BE CLEANED OF ALL SCALE, DIRT, DUST, CURING COMPOUND, AND CONCRETE TO THE WIDTH AND DEPTH OF THE JOINT AND SHALL BE DRY BEFORE SEALING IS PERFORMED.
29. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM 615 GRADE 60 (GRADE 40 ONLY FOR BARS REQUIRING BENDING). REINFORCING STEEL SHALL BE SUPPORTED ON CHAIRS STRONG ENOUGH TO HOLD IT IN PLACE AND BE TIED.



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STANDARD CITY OF SPLENDORA PAVING CONSTRUCTION NOTES (CONTINUED)

ADOPTED
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1. CONSTRUCTION AND TESTING OF SANITARY SEWER SHALL BE IN ACCORDANCE WITH THE LATEST CITY OF SPLENDORA AND TCEQ SPECIFICATIONS. THE MOST STRINGENT SHALL GOVERN.
2. BACKFILL AND BEDDING FOR SANITARY SEWERS MUST MEET ALL MINIMUM REQUIREMENTS OF ASTM D-2321 AND MUST BE IN ACCORDANCE WITH CITY OF SPLENDORA EXCAVATION, BEDDING AND BACKFILL PROCEDURES.
3. ALL SANITARY SEWER MANHOLES SHALL BE PRE-CAST CONCRETE MANHOLES UNLESS OTHERWISE SPECIFIED. RAM-NECK TO BE USED IN JOINTS. NO BRICK MANHOLES SHALL BE ALLOWED. FOR PVC PIPE, USE MANHOLE WATER STOP GASKET AND CLAMP ASSEMBLY AT MANHOLE CONNECTIONS. SANITARY SEWER MANHOLE RIMS SHALL BE 3 INCHES ABOVE NATURAL GROUND. BACKFILL SHALL BE ADDED AND SLOPED AWAY FROM THE MANHOLE RIM FOR DRAINAGE PURPOSE.
4. ALL NEW PRECAST CONCRETE SANITARY SEWER MANHOLES ARE TO BE COATED INSIDE WITH A FACTORY APPLIED HIGH BUILD EPOXY, VERSAFLEX FE-100, OR APPROVED EQUAL, TO A THICKNESS RECOMMENDED BY THE MANUFACTURER.
5. SANITARY SEWER MAIN SHALL BE PVC SDR 26, IN ACCORDANCE WITH ASTM SPECIFICATIONS D-3034, FOR 6" THROUGH 15" AND ASTM F-679 FOR 18" THROUGH 27" UNLESS OTHERWISE SPECIFIED BY THE ENGINEER OF RECORD.
6. NO SEWER PIPE SHALL BE LAID ON AN UNSTABLE FOUNDATION. SELECTED MATERIAL SHALL BE USED AND/OR WET SAND CONSTRUCTION PER THE DETAILS, AS SPECIFIED IN THE PLANS AND DETAILS PER THE ENGINEER. NO PIPE SHALL BE COVERED WITHOUT THE INSPECTOR APPROVAL.
7. WHEN THE SANITARY SEWER MANHOLE LIES WITHIN THE 100 YEAR FLOODPLAIN, THE MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SPLENDORA STANDARD SEALED AND VENTED MANHOLE DETAIL.
8. A DEFLECTION TEST SHALL BE REQUIRED AFTER THE BACKFILL HAS BEEN IN PLACE A MINIMUM OF 30 DAYS. THIS TEST SHALL BE DONE BY PULLING A HAND LINE WITH AN ATTACHED MANDREL FROM MANHOLE TO MANHOLE. THE MANDREL SHALL HAVE AN OUTSIDE DIAMETER THAT IS AT LEAST 95% OF THE ORIGINAL INSIDE DIAMETER OF THE PIPE. MANDREL TO BE MANUFACTURED WITH A MINIMUM OF SEVEN (7) RUNNERS, WITH EACH RUNNER BEING A MINIMUM OF 5 INCHES LONG. ANY PIPE NOT MEETING TEST REQUIREMENTS TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
9. THE TOTAL INFILTRATION / EXFILTRATION MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO (2) FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO (2) FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER. OR AN AIR TEST SHALL BE REQUIRED PER 30 TAC § 217-57(A) (1) AND CONFORMING TO ASTM C924 OR F1417 WHICHEVER APPLIES.
10. MANHOLE FRAME AND COVER SHALL BE 32" EAST JORDAN IRONWORKS V-1418 FRAME AND COVER (OR APPROVED EQUAL) WITH THE CITY OF SPLENDORA SANITARY SEWER LOGO EMBEDDED IN LID UNLESS OTHERWISE SPECIFIED.
11. CONTRACTOR / OWNER SHALL KEEP RECORD OF LOCATION OF ALL STACKS, STUBS, SEWER LEADS, THROUGHOUT ENTIRETY OF THE PROJECT. THE "RECORD" (AS-BUILT) DRAWINGS MUST SHOW THE EXACT LOCATION AND BE SUBMITTED BACK TO THE CITY OF SPLENDORA, UPON COMPLETION OF THE JOB FOR FINAL ACCEPTANCE.
12. SANITARY SERVICE LEADS ARE INSTALLED ON SEWER MAIN LINE WITH A MINIMUM SLOPE OF 0.70% OR GREATER. ALL SERVICE LEADS SHALL BE PVC WITH A PRESSURE RATING OF 150 PSI OR GREATER SDR 26 UNLESS OTHERWISE SPECIFIED. ALL DOUBLE SERVICE LEADS TO HAVE WYE LOCATED ON THE END OF THE LEAD. ALL SINGLE SERVICE LEADS TO BE 4 INCH, AND ALL DOUBLE SERVICE LEADS TO BE 6 INCH.
13. ALL SANITARY SEWER LINES MUST HAVE A MINIMUM OF NINE FEET (9') HORIZONTAL SEPARATION FROM EXISTING AND PROPOSED WATERLINES. IF THE NINE FOOT (9') CANNOT BE MAINTAINED, THE SANITARY SEWER LINES SHALL BE LAID IN A SEPARATE TRENCH MADE IN A MINIMUM FOUR FOOT (4') HORIZONTAL SEPARATION AND A TWO FOOT (2') VERTICAL SEPARATION FROM OUTSIDE WALL TO OUTSIDE WALL. ALL PROTECTIVE MEASURES SHALL MEET THE LATEST CITY OF SPLENDORA DESIGN MANUAL AND TCEQ SPECIFICATIONS. THE MOST STRINGENT SHALL GOVERN.
14. CONSTRUCTION AND TESTING OF FORCE MAINS SHALL MEET THE CITY OF SPLENDORA DESIGN MANUAL AND TCEQ REQUIREMENTS. THE MOST STRINGENT SHALL GOVERN.
15. TRENCHING AND BACKFILLING OF FORCE MAINS SHALL FOLLOW THE CITY OF SPLENDORA EXCAVATION, BEDDING AND BACKFILL PROCEDURES, UNLESS OTHERWISE SPECIFIED.
16. PVC FORCE MAINS SHALL BE CLASS 150 PIPE CONFORMING TO AWWA C900 WITH PUSH ON GASKETS CONFORMING TO ASTM F477. HDPE FORCE MAINS SHALL BE PE4710 DR17 (125 PSI MINIMUM) WITH FUSION JOINTS AND CONFORMING TO AWWA C906.
17. TRACER WIRES AND DETECTOR TAPE SHALL BE LAID ABOVE AND PARALLEL TO THE FORCE MAIN IN SAME TRENCH. DETECTOR TAPE SHALL BE LABELED, "PRESSURIZED WASTEWATER" CONTINUOUSLY REPEATED WITH LETTER SIZING 1 1/2 INCHES.
18. INSTALLATION OF GRAVITY SANITARY SEWER PIPE AND FORCE MAIN BY TRENCHLESS TECHNOLOGY METHOD SHALL MEET ASTM, ANSI, AND AWWA STANDARDS. IF THERE IS A CONFLICT IN STANDARDS THE MOST STRINGENT SHALL GOVERN.



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STANDARD CITY OF SPLENDORA CONSTRUCTION NOTES FOR SANITARY SEWER

ADOPTED

02/08/2022

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 217 DESIGN CRITERIA
FOR SEWERAGE SYSTEMS COMPLIANCE NOTES**

1. FLOODPLAIN: THIS PROJECT (IS) IN THE 100 YEAR FLOODPLAIN IN ACCORDANCE WITH FEMA MAP PANEL NO. _____, COMMUNITY MAP PANEL NO. _____, SPLENDORA, MONTGOMERY COUNTY, TEXAS.
2. DROP MANHOLE: A DROP PIPE SHALL BE PROVIDED FOR A SEWER ENTERING A MANHOLE MORE THAN 24 INCHES ABOVE THE INVERT PER §217.55 (L)(2)(H)
3. BEDDING: SHALL BE IN ACCORDANCE WITH §217.54. CLASS I, II, OR III AS DESCRIBED IN ASTM D-2321 (ANSI K65.171) SHALL BE USED FOR ALL FLEXIBLE AND SEMI-RIGID PIPES.
4. TESTS: AIR TEST AND DEFLECTION TEST SHALL BE IN ACCORDANCE WITH §217.57 (A)(1) AND §217.57 (B)
5. SEWER LINE / WATER LINE SEPARATION SHALL BE IN ACCORDANCE WITH TCEQ RULES, CHAPTER 217 §217.53 (D)

§217.53 (D) - SEPARATION DISTANCES. THE FOLLOWING RULES APPLY TO SEPARATION DISTANCES BETWEEN POTABLE WATER AND SANITARY SEWER TREATMENT PLANTS, AND WATERLINES AND SANITARY SEWERS.

- a. WATER LINE/NEW SEWER LINE SEPARATION. WHEN NEW SANITARY SEWERS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO WATERLINES THAN NINE FEET IN ALL DIRECTIONS. SEWERS THAT PARALLEL WATERLINES MUST BE INSTALLED IN SEPARATE TRENCHES. WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING GUIDELINES WILL APPLY:
 1. WHERE A SANITARY SEWER PARALLELS A WATERLINE, THE SEWER SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC MEETING ASTM SPECIFICATIONS WITH A PRESSURE RATING FOR BOTH THE PIPE AND JOINTS OF 150 PSI. THE VERTICAL SEPARATION SHALL BE A MINIMUM OF TWO FEET BETWEEN OUTSIDE DIAMETERS AND THE HORIZONTAL SEPARATION SHALL BE A MINIMUM OF FOUR FEET BETWEEN THE OUTSIDE DIAMETERS. THE SEWER SHALL BE LOCATED BELOW THE WATERLINE.
 2. WHERE A SANITARY SEWER CROSSES A WATERLINE AND THE SEWER IS CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC WITH A MINIMUM DISTANCE OF 6 INCHES BETWEEN OUTSIDE DIAMETERS SHALL BE MAINTAINED. IN ADDITION THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
 3. WHERE A SEWER CROSSES UNDER A WATERLINE AND THE SEWER IS CONSTRUCTED OF ABS TRUSS PIPE, SIMILAR SEMI-RIGID PLASTIC COMPOSITE PIPE, CLAY PIPE OR CONCRETE PIPE WITH GASKET JOINTS, A MINIMUM TWO FOOT SEPARATION DISTANCE SHALL BE MAINTAINED. THE INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND (TWO OR MORE BAGS OF CEMENT PER CUBIC YARD OF SAND) FOR ALL SECTIONS OF SEWER WITHIN NINE FEET OF THE WATERLINE. THIS INITIAL BACKFILL SHALL BE FROM ONE QUARTER THE DIAMETER BELOW THE CENTER LINE OF THE PIPE TO ONE DIAMETER (BUT NOT LESS THAN 12 INCHES) ABOVE THE TOP OF THE PIPE.
 4. WHERE A SEWER CROSSES OVER A WATERLINE ALL PORTIONS OF THE SEWER WITHIN NINE FEET OF THE WATERLINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC PIPE WITH A PRESSURE RATING OF AT LEAST 150 PSI USING APPROPRIATE ADAPTERS. IN LIEU OF THIS PROCEDURE THE NEW CONVEYANCE MAY BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT 5 FEET INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHOULD BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL.
- b. WATER LINE/MANHOLE SEPARATION. UNLESS SANITARY SEWER MANHOLES AND THE CONNECTING SEWER CAN BE MADE WATERTIGHT AND TESTED FOR NO LEAKAGE, THEY MUST BE INSTALLED SO AS TO PROVIDE A MINIMUM OF NINE (9) FEET OF HORIZONTAL CLEARANCE FROM AN EXISTING OR PROPOSED WATERLINE. WHERE THE NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, A CARRIER PIPE AS DESCRIBED IN SUBSECTION (A) (4) OF THIS SECTION MAY BE USED WHERE APPROPRIATE.



"The Switch 1896"

City of Splendora 26090 FM Road 2090 East 77372
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**STANDARD TCEQ SANITARY SEWER
CONSTRUCTION NOTES**

ADOPTED

02/08/2022

1. STORM SEWER AND LEADS SHALL BE REINFORCED CONCRETE PIPE, ASTM C-76, CLASS III, WITH O-RING RUBBER GASKET JOINTS, AND SHALL BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH CITY OF SPLENDORA, EXCAVATION, BEDDING AND BACKFILL PROCEDURES, UNLESS OTHERWISE SPECIFIED.
2. FOR BOX CULVERT INSTALLATION:
 - A.) ALL BOX CULVERTS INSTALLED SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF CEMENT STABILIZED SAND (CEMENT STABILIZED SAND SHALL BE 2 SACKS CEMENT PER TON).
 - B.) FOR INSTALLATION OF MONOLITHIC REINFORCED CONCRETE BOX CULVERTS IN POOR SOIL CONDITIONS, A 4 INCH THICK CLASS "C" REINFORCED CONCRETE SEAL SLAB SHALL BE INSTALLED, PRIOR TO INSTALLATION OF THE BOX CULVERT.
3. ALL STORM SEWER MANHOLES, INLETS AND JUNCTION BOXES SHALL BE STANDARD PRE-CAST, UNLESS OTHERWISE SPECIFIED.
4. ALL INLETS TO BE A MINIMUM OF 5' X 5' STANDARD SIZE AND DEPTH TYPE "C", "C-1" OR "C-2" WITH MANHOLE ACCESS PER THE CITY OF SPLENDORA'S "DESIGN MANUAL FOR WATER MAINS, SANITARY SEWERS, STORM DRAINAGE AND STREET PAVING" UNLESS OTHERWISE SPECIFIED.
5. ALL STORM SEWER LEADS SHALL HAVE AN INTERNAL DIAMETER OF (18") EIGHTEEN INCH MINIMUM, STORM SEWER SMALLER THAN THIS MUST BE REMOVED AND REPLACED, UNLESS OTHERWISE SPECIFIED.
6. GRADE DROP ON LEADS BETWEEN INLETS TO BE A MINIMUM OF 0.20 FOOT. GRADE DROP BETWEEN INLET AND MANHOLES TO BE 0.20 FOOT UNLESS OTHERWISE SHOWN.
7. MANHOLE FRAME AND COVER SHALL BE A 32" EAST JORDAN IRON WORKS V-1418 FRAME AND COVER OR APPROVED EQUAL WITH THE CITY OF SPLENDORA STORM SEWER LOGO EMBEDDED IN LID.
8. FOR ADJUSTMENT OF MANHOLE LIDS USE STANDARD CONCRETE RING, NOT TO EXCEED TWELVE (12) INCHES.
9. ALL CONCRETE USED FOR ALL POURED-IN-PLACE MANHOLES, INLETS, WINGWALLS, HEADWALLS AND OTHER APPURTENANCES TO BE 4,000 P.S.I. STRENGTH AT 28 DAYS.
10. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4".
11. ALL FIRST STAGE INLET CONSTRUCTION SHALL BE PROTECTED WITH 3 INCH THICK BOARDS AT ALL TIMES UNTIL FINAL COMPLETION OF INLET.



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STANDARD CITY OF SPLENDORA STORM SEWER CONSTRUCTION NOTES

ADOPTED
02/08/2022

1. CONTRACTOR / OWNER SHALL PROVIDE ADEQUATE THRUST BLOCKING, AND ALL-THREAD SECURED OR MEGALUG OR APPROVED EQUAL TO WITHSTAND TEST PRESSURE AS SPECIFIED IN CITY OF SPLENDORA STANDARD DRAWINGS AND REQUIREMENTS FOR WATER MAIN CONSTRUCTION AND MATERIALS.
2. CONTRACTOR / OWNER ARE RESPONSIBLE FOR AND SHALL CONTACT THE CITY OF SPLENDORA PERMITS BEFORE THE INSTALLATION OF THE SERVICE LINES, WATER METERS AND BOXES, FIRE SPRINKLER AND / OR IRRIGATION LINES.
3. CONTRACTOR / OWNER SHALL CONTACT THE CITY OF SPLENDORA TO SCHEDULE THE INSTALLATION OF THE WATER METER'S AND WATER METER ASSEMBLIES ON LARGE METER CONNECTIONS WHEN IT IS READY TO BE DONE.
4. PRIOR TO WATER MAIN CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER, NO LESS THAN 48 HOURS IN ADVANCE, AND COMPLY WITH ALL REQUIREMENTS NECESSARY FOR APPROVAL OF THE WATER MAIN CONSTRUCTION.
5. SEPARATION DISTANCES BETWEEN ALL WATER MAINS AND SANITARY SEWER LINES SHALL BE GOVERNED BY (TCEQ) "TEXAS COMMISSION OF ENVIRONMENTAL QUALITY" CHAPTER 290
6. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF (5') FIVE FEET FROM THE BOTTOM OF SUBGRADE OF THE PAVEMENT AND/OR (5') FIVE FEET BELOW THE DITCH FLOWLINE, OR NATURAL GROUND, WHICHEVER IS LOWER, UNLESS OTHERWISE SPECIFIED.
7. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH AWWA C605 FOR PVC OR AWWA C600 FOR DI PIPE AS REQUIRED IN 30 TAC § 290-44 (A) (5) BEFORE BACTERIOLOGICAL TESTING. ALL WATER PIPING SHALL BE DISINFECTED AND BACTERIOLOGICAL TESTED PER AWWA STANDARD C-651 AND APPROVED PRIOR TO USE.
8. ALL WATER MAINS FOR 4" THROUGH 12" SHALL BE AWWA C-900 PVC. ALL WATER MAINS FOR 14" THROUGH 36" SHALL BE AWWA C-905 PVC UNLESS OTHERWISE SPECIFIED IN THE PLANS.
9. THE INSTALLATION OF ALL WATER LINES SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE PROPERTY TO BE SERVED. WATER LINES THAT DEAD END SHALL EXTEND TO THE PROJECT LIMITS WITH A GATE VALVE AND FIRE HYDRANT AT THE END FOR FUTURE EXTENSIONS.
10. ALL FITTINGS FOR FIRE HYDRANTS SHALL HAVE RESTRAINED MECHANICAL JOINTS AND MUST BE ANCHORED TO RIGID FITTINGS USING TWO (2) 5/8" X 7" STAINLESS STEEL "ALL-THREAD RODS", NUTS AND WASHERS.



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STANDARD CITY OF SPLENDORA WATERLINE CONSTRUCTION NOTES

ADOPTED
02/08/2022