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GENERAL NOTES

H.C.M.U.D. No. 191
 UTILITY EXTENSION TO SOUTHLAND CORP.

Rev.	Date	Description
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APPROVED FOR CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS
 Water Division
 11-20-87

STANDARD H.C.F.C.D. NOTES FOR PLANS

1. Harris County Flood Control District, Inspection Division, shall be notified at least 48 hours prior to construction (713/664-4040).
 2. Engineer shall submit letter to Harris County Flood Control District requesting inspection and acceptance of items constructed in Harris County Flood Control District right-of-way. Prior to requesting inspection, the drainage right-of-way and/or easements shall be staked and flagged.
 3. Contractor shall be responsible for protecting, maintaining and restoring back-slope drainage systems.
 4. All disturbed areas within the Harris County Flood Control District right-of-way, except the channel bottom, shall be hydro-mulch seeded as per Harris County Flood Control District specification entitled "Hydro-Mulch Seeding" or approved equal.
 5. Backfill to be compacted in no greater than 1 foot lifts to the density shown on plans and downstream as necessary to insure no water in storm sewer during "dry" conditions.
 6. Contractor shall be responsible for excavation channel flowing to design elevation as shown on plans and downstream as necessary to insure no water in storm sewer during "dry" conditions.
 7. Contractor shall be responsible for maintaining flow in channel during construction and restoring channel to original condition.
 8. All excavated material is to be removed from the HCFCD right-of-way. No fill is to be placed within a designated flood plain area without first obtaining a fill permit.
 9. Engineer shall be responsible for obtaining all applicable City, County, State, and Federal permits.



1700 SEAMIST DRIVE
 HOUSTON, TEXAS 77008
LANDEY ENGINEERS, INC.

GENERAL NOTES - WATER

1. ALL WATER LINES TO HAVE A MINIMUM OF FOUR (4) FEET OF COVER TO TOP OF CURB.
2. WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATIONS MD-3 AND MD-5 & 6 AS CURRENTLY AMENDED.
3. ALL FLUSHING VALVES SHALL BE SET THREE (3) FEET BEHIND BACK OF CURB.
4. STEEL WATER SECTION TO EXTEND FIVE (5) FEET MINIMUM BEYOND 45° BENDS.
5. THE CONTRACTOR MAY USE A BACKHOE FOR TRENCH EXCAVATION IN LIEU OF A TRENCHING MACHINE.
6. WHENEVER SANITARY SEWERS CROSS OVER WATER MAINS, ONE 18" JOINT OF DUCTILE IRON PIPE SHALL BE INSTALLED IN THE SEWER LINE AND CENTERED AT THE WATER LINE CROSSING, 6" MINIMUM CLEARANCE.
7. DUCTILE IRON PIPE SHALL BE MINIMUM THICKNESS CLASS 50. THE PRESSURE RATING FOR BOTH THE PIPE AND THE JOINTS SHALL BE 150 PSI OR GREATER.
8. WHENEVER SANITARY SEWERS CROSS UNDER WATER MAINS, AND THE OUT-TO-OUT PIPE CLEARANCE IS LESS THAN 24" A CENTERED 18" JOINT OF DUCTILE IRON PIPE SHALL BE USED.
9. WHENEVER SANITARY SEWERS CROSS UNDER WATER MAINS, AND THE MINIMUM PIPE CLEARANCE IS 24" OR GREATER, A CENTERED 20" SECTION OF CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER CUBIC YARD) SHALL BE INSTALLED ABOVE THE LOWER PIPE, BUT IN NO CASE SHALL THE DEPTH OF SAND ABOVE THE SEWER PIPE BE LESS THAN 12".
10. ALL P.V.C. WATER MAINS SHALL BE AMCA C-900, DR 18, CLASS 150.
11. ALL WATER METERS MUST HAVE INDIVIDUAL SERVICE LEADS AS PER CITY OF HOUSTON STANDARDS M.D.-6 (EFFECTIVE 6-29-87)

GENERAL NOTES - SANITARY SEWER

1. SPECIAL BACKFILL - SEE ADDENDUM SPECIFICATION E-14-62, CITY OF HOUSTON SEWER SPECIFICATIONS FOR CEMENT STABILIZED BACKFILL OF SANITARY AND TRENCHES UNDER OR WITHIN (1) FT. OF PROPOSED OR EXISTING PAVEMENT.
2. WYE BRANCHES, STACKS AND TEES FOR HOUSE SERVICE CONNECTION SHALL BE CENTERED BETWEEN SIDE LOT LINES UNLESS OTHERWISE SHOWN. CONTRACTOR SHALL PROVIDE ENGINEER WITH DRAWINGS OF ACTUAL FIELD TIES OF THE WYES. STACKS AND TEES LOCATING THEM FROM THE NEAREST DOWNSTREAM MANHOLE.
3. LOCATION OF UTILITIES WITHIN 10-FT AND 16-FT WIDE UTILITY EASEMENTS SHALL BE GOVERNED BY THE "UTILITY COORDINATING COMMITTEE" FOR THE METROPOLITAN AREA.
4. SANITARY SEWERS SHALL HAVE CLASS "A" BEDDING WHERE CEMENT STABILIZED SAND BACKFILL IS USED OR WHEN DEPTH IS GREATER THAN TEN (10) FEET.
5. ALL MANHOLE RIMS LOCATED OUTSIDE OF THE PROPOSED PAVING WILL BE SET 3" ABOVE TOP OF CURB ELEVATION WHEN WITHIN STREET RIGHT-OF-WAY OR 3" TO 6" ABOVE SURROUNDING LEVEL OF FINISHED GRADE ELSEWHERE WITH SLOPED FILL ADODED FOR STORM WATER DRAINAGE AWAY FROM THE MANHOLE RIM.
6. ABOVE TOP OF CURB ELEVATION WHEN WITHIN STREET RIGHT-OF-WAY OR 3" TO 3" ABOVE SURROUNDING LEVEL OF FINISHED GRADE ELSEWHERE WITH SLOPED FILL ADODED FOR STORM WATER DRAINAGE AWAY FROM THE MANHOLE RIM.
7. ALL SANITARY SEWERS LOCATED IN SIDELOT EASEMENT WILL HAVE CLASS "A" BEDDING AND BANK SAND BACKFILL (B.S.B.F.).
8. ALL EASEMENTS CONTAINING SANITARY SEWERS ARE 16' U.E.S. UNLESS OTHERWISE SHOWN ON CONSTRUCTION DRAWINGS.
9. 6" A.B.S. WILL NOT BE ALLOWED UNDER PAVEMENT.
10. CONTRACTOR TO OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY THE "REGULATIONS OF HARRIS COUNTY, TEXAS FOR FLOOD PLAIN MANAGEMENT".
11. FOR USE IN WET SAND CONSTRUCTION AREAS, USE C/H SPEC. SEC. NO. 5, DWG NO. 485-5 (E-14-62) (1977) PRINTING AND ALL SUBSEQUENT AMENDMENTS THERETO.
12. THE CONTRACTOR MAY USE A BACKHOE FOR TRENCH EXCAVATION IN LIEU OF A TRENCHING MACHINE.

GENERAL NOTES - PAVING

1. PAVING SHALL BE IN ACCORDANCE WITH HARRIS COUNTY "RULES, REGULATIONS AND REQUIREMENTS RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS OR RE-SUBDIVISIONS" AND THE LATEST REVISIONS AND/OR AMENDMENTS OF SAME.
2. GUIDELINES SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL BE OBSERVED.
3. ALL RADII AT CURB RETURNS TO BE 25.0' TO BACK OF CURB UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL NOTIFY HARRIS COUNTY ENGINEERING DEPARTMENT 24 HOURS IN ADVANCE OF COMMENCING CONSTRUCTION.
5. STOP SIGN (R1 - 1A) TO BE PLACED AT ALL INTERSECTIONS.
6. OWNER TO OBTAIN ALL PERMITS REQUIRED BY HARRIS COUNTY FOR CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN COUNTY ROAD R.O.M.

GENERAL NOTES - STORM SEWERS

1. STORM SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF HOUSTON E-14-62 AS CURRENTLY AMENDED.
2. REINFORCED CONCRETE PIPE (C-76 CLASS III) STORM SEWER SHALL BE INSTALLED BEDDED AND BACKFILLED IN ACCORDANCE WITH CITY OF HOUSTON DRAWINGS 529-S-1, 530-S-1 AND 530-S-2 AS APPLICABLE. TWENTY (20) FT WIDE, EASEMENT SHALL BE PROVIDED.
3. ALL SEWERS UNDER OR WITHIN ONE (1) FT. OF PROPOSED OR FUTURE PAVEMENT SHALL BE BACKFILLED WITH 1/2 SACK CEMENT STABILIZED SAND TO WITHIN ONE (1) FT. OF SUBGRADE.
4. ALL STORM SEWERS CONSTRUCTED IN SIDELOT EASEMENTS SHALL BE R.C.P. DRAWINGS 529-S-1, 530-S-1 AND 530-S-2 AS APPLICABLE. TWENTY (20) FT WIDE, EASEMENT SHALL BE PROVIDED.
5. ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR SHALL NOTIFY HARRIS COUNTY ENGINEERING DEPARTMENT 24 HOURS IN ADVANCE OF COMMENCING CONSTRUCTION. 221-7024.
7. CONTRACTOR TO OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY THE "REGULATIONS OF HARRIS COUNTY, TEXAS FOR FLOOD PLAIN MANAGEMENT".
8. ALL MANHOLE RIMS LOCATED OUTSIDE OF THE PROPOSED PAVING WILL BE SET 3" ABOVE TOP OF CURB ELEVATION WHEN WITHIN STREET RIGHT-OF-WAY OR 3" TO 6" ABOVE SURROUNDING LEVEL OF FINISHED GRADE ELSEWHERE WITH SLOPED FILL ADODED FOR STORM WATER DRAINAGE AWAY FROM THE MANHOLE RIM.
9. BEFORE UTILITY CONSTRUCTION BEGINS, ADEQUATE DRAINAGE MUST BE PROVIDED SO THAT NO SHEET PILE FLOODING OF ROADWAY OR ADJOINING PROPERTIES OCCURS.
10. THE CONTRACTOR MAY USE A BACKHOE FOR TRENCH EXCAVATION IN LIEU OF A TRENCHING MACHINE.