

DRAINAGE GENERAL NOTES

1. LONGITUDINAL UNDERDRAINS ARE OFFSET FOR CLARITY, SEE HIGHWAY STANDARD 601001 AND THE TYPICAL SECTIONS FOR DETAILS.
2. INVERT ELEVATIONS FOR EXISTING PIPES HAVE BEEN SHOWN ON THE PLANS WHEN SURVEY INFORMATION WAS AVAILABLE. THE CONTRACTOR SHALL VERIFY THE INVERT ELEVATIONS FOR EXISTING PIPES IN THE FIELD AT THE TIME OF CONSTRUCTION AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. ALL STORM SEWER CONNECTIONS WHICH ARE NOT MADE INSIDE OF A MANHOLE SHALL BE CONSIDERED DIRECT CONNECTIONS. DIRECT CONNECTIONS FOR MAINLINE PIPES 27 INCH DIAMETER AND SMALLER SHALL BE MADE WITH PRECAST "TEE" OR "WYE" PIPES. DIRECT CONNECTIONS FOR PROPOSED STORM SEWER PIPES LARGER THEN 27 INCH DIAMETERS SHALL HAVE OPENINGS OF THE SPECIFIED DIAMETER MADE IN THE PIPE ACCORDING TO THE DIRECT CONNECTION DETAIL. ALL DIRECT CONNECTIONS WILL NOT BE PAID FOR SEPERATELY BUT WILL BE INCLUDED IN THE COST FOR THE STORM SEWERS.
4. THE CONTRACTOR SHALL DETERMINE WHEN FLAT SLAB TOPS ARE REQUIRED ON INLETS, MANHOLES, AND CATCH BASINS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE USE OF FLAT SLAB TOPS.
5. THE ADJUSTMENT OF FRAMES ON ALL NEW STRUCTURES TO THE FINAL ELEVATION SHALL BE INCLUDED IN THE COST OF THE PROPOSED STRUCTURE.
6. THE LOCATION OF EXISTING DRAINAGE STRUCTURES, STORM SEWERS, WATER MAINS, SANITARY SEWERS, AND ANY OTHER PUBLIC OR PRIVATE UTILITIES AS SHOWN ON THE PLANS IS APPROXIMATE, AND THEIR EXACT LOCATION IS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
7. THE STATION AND OFFSET NOTED FOR DRAINAGE STRUCTURES LOCATED IN THE CURB LINE REFER TO THE POSITION OF THE ADJACENT PROPOSED EDGE OF PAVEMENT. THE RIM ELEVATION NOTED FOR THESE STRUCTURES IS AT THE GUTTER FLOWLINE. ALL OTHER DRAINAGE STRUCTURES STATIONS AND OFFSETS ARE TO THE CENTER OF THE STRUCTURE.
8. ALL FIELD TILES ENCOUNTERED SHALL BE CAREFULLY PRESERVED AND CONNECTED TO PROPOSED DRAINAGE STRUCTURES, SEWERS, OR DITCHES, AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE COST OF THE STORM SEWER OR STRUCTURE BEING CONSTRUCTED.
9. ALL ABANDONED SEWER INVERTS SHALL BE PLUGGED WITH BRICK AND CLASS SI CONCRETE TO THE SATISFACTION OF THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE COST OF THE STORM SEWER BEING REMOVED.
10. CONNECTION OF EXISTING STORM SEWER INTO PROPOSED STORM SEWER STRUCTURES SHALL BE INCLUDED IN THE COST OF THE STORM SEWER STRUCTURE. ANY ADDITIONAL STORM SEWER PIPE REQUIRED TO MAKE THE CONNECTION SHALL BE OF THE SAME SIZE AND MATERIAL TYPE AS THE EXISTING STORM SEWER AND SHALL BE INCLUDED IN THE COST OF THE DRAINAGE STRUCTURE.
11. THE COST OF MAKING STORM SEWER CONNECTIONS TO EXISTING OR PROPOSED SEWER OR DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF THE STORM SEWER BEING CONNECTED.
12. THE COST OF MAKING UNDERDRAIN CONNECTIONS TO DRAINAGE STRUCTURES, SHALL BE INCLUDED IN THE COST OF THE PROPOSED UNDERDRAIN.
13. THIS PROJECT REQUIRES AN US ARMY CORPS OF ENGINEERS 404 PERMIT. THE PERMIT ISSUED TO THE DEPARTMENT DOES NOT COVER THE IN STREAM WORK BY THE CONTRACTOR. THEREFORE AFTER THE AWARD, THE CONTRACTOR WILL NEED TO SUBMIT THE WORK PLAN TO THE CORPS. THE CORPS WILL NOT BE PROVIDING AN APPROVAL UNLESS STATED OTHERWISE IN THE PERMIT AND IN STREAM WORK CAN COMMENCE AT THE CONTRACTORS DISCRETION. GUIDELINES ON ACCEPTABLE IN STREAM WORK TECHNIQUES CAN BE FOUND ON THE CORPS WEBSITE: [HTTP://WWW.LRC.USACE.ARMY.MIL/](http://www.lrc.usace.army.mil/)

PROPOSED DRAINAGE LEGEND

DITCH FLOW		INLET	
SUMMIT		FLARED END SECTION	
SWALE		HEADWALL	
BOX CULVERT		SLOPED HEADWALL	
PIPE CULVERT		STORM SEWER	
CATCH BASIN		PIPE UNDERDRAINS, FABRIC LINED TRENCH	
MANHOLE		CULVERT ID	
RIP RAP		DRAINAGE STRUCTURE ID	
		STORM SEWER ID	
		TBF = TRENCH BACKFILL	

EXISTING DRAINAGE LEGEND

DRAINAGE STRUCTURE TO BE REMOVED	
DRAINAGE STRUCTURE TO BE ADJUSTED	
DRAINAGE STRUCTURE TO BE CLEANED	
DRAINAGE PIPE TO BE TELEVISED	
DRAINAGE PIPE TO BE FILLED	
DRAINAGE PIPE REMOVAL	
EXISTING DRAINAGE STRUCTURE (SEE DRAINAGE SCHEDULES)	
EXISTING DRAINAGE PIPE (SEE DRAINAGE SCHEDULES)	
EXISTING MANHOLE	
EXISTING CATCH BASIN	
EXISTING INLET	
EXISTING STORM SEWER	