1. PAVING

I. DESIGN THICKNESS OF PAVING _____
II. STABILIZED SUBGRADE TO A DEPTH OF _____
III. DESIGN STRENGTH OF CONCRETE _____ psi
IV. TYPE AND PLACEMENT OF STEEL: _____

DRIVEWAYS

I. NUMBER OF DRIVEWAY APPROACHES PROPOSED: _____
II. HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET _____

FIRE APPARATUS ACCESS ROAD

☐ REQUIRED AND SHOWN ON SHEET(S) _____
☐ NOT REQUIRED DUE TO _____

CURBING

I. ISLANDS AND MEDIANS REQUIRE STANDARD 6" CURBING
II. ☐ STANDARD 6" CURBING PROPOSED
☐ 4" x 12" CURBING PROPOSED EXCEPT AT MEDIANS AND ISLANDS

TRAFFIC CONSIDERATIONS

I. MEDIAN CUTS
☐ NO MEDIAN CUT OR RELOCATION IS PROPOSED
☐ MEDIAN MODIFICATIONS ARE SHOWN ON SHEET _____

II. LEFT / RIGHT TURN LANE
☐ NO LEFT / RIGHT TURN LANE IS PROPOSED
☐ LEFT / RIGHT TURN LANE IS SHOWN ON SHEET _____

III. TRAFFIC CONTROL PLAN
☐ NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW
☐ TRAFFIC CONTROL SHOWN ON SHEET _____

IV. TRAFFIC SIGNAL
☐ NO TRAFFIC SIGNAL IS EXISTING / PROPOSED
☐ EXISTING TRAFFIC SIGNAL DEVICES (T.C. BOXES AND LOOPS) SHOWN ON SHEET _____
☐ PROPOSED TRAFFIC SIGNAL (BY OTHERS)

V. TRAFFIC IMPACT ANALYSIS
☐ NO TRAFFIC IMPACT ANALYSIS IS REQUIRED
☐ TRAFFIC IMPACT ANALYSIS HAS BEEN APPROVED ON DATE:_____

2. RESIDENTIAL / SUBDIVISION DRAINAGE

I. DRAINAGE SYSTEM TYPE
☐ STORM SEWER
☐ ROADSIDE DITCH

II. DESIGN METHOD USED
☐ CITY OF HOUSTON _____ FREQUENCY
☐ OTHER _____

III. DRAINAGE SYSTEM OUTFALL
☐ TO DETENTION POND
☐ DETENTION POND MAINTAINED BY _____
☐ TO HCFCD DRAINAGE DITCH UNIT NO. _____
☐ TO HARRIS COUNTY ROADSIDE DITCH
ROAD NAME: _____
☐ STATIC W.S.E. @ OUTFALL IS _____.
☐ PROPOSED STORM SEWER IS SUBMERGED.

IV STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: _____ (CFS)
FROM DRAINAGE AREA MAP DATED: _____
PREPARED BY: _____
ACTUAL OUTFALL RATE: _____ (CFS)

V. DRAINAGE SYSTEM FLOW RATE
FLOW PRIOR TO DETENTION: _____CFS
FLOW AFTER DETENTION (IF REQUIRED): _____CFS

3. COMMERCIAL / OTHER SITE DRAINAGE

I. PROPOSED DRAINAGE AREA
☐ NEW DEVELOPMENT AREA: _____
☐ RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA): _____

II. DETENTION VOLUME
NEW AREA_____X_____*_____=_____ACRE FEET
DETENTION REQUIRED
* ☐ .55
* ☐ .65
* ☐ .75
* ☐ OTHER: _____
PROPOSED VOLUME = _____ ACRE FEET

III. OUTFALL
OUTFALL TO ☐ H.C. ROADSIDE DITCH
☐ EXISTING H.C. STORM SEWER
☐ OTHER _____
ROADSIDE DITCH OUTFALL:
ALLOWABLE OUTFALL RATE =_____ (CFS)
PROPOSED OUTFALL RATE: _____
☐ STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: _____ (CFS)
FROM DRAINAGE AREA MAP DATED: _____
PREPARED BY: _____
ACTUAL OUTFALL RATE: _____ (CFS)

IV. PUMPED DETENTION FACILITIES
VOLUME THAT GRAVITY FLOWS: _____ ACRE FEET
VOLUME THAT IS PUMPED: _____ ACRE FEET
ENTRANCE VELOCITY INTO ROADSIDE DITCH OR STORM SEWER: _____
PUMP SPECIFICATIONS AND OPERATING PLAN APPEAR ON SHEET _____

V. FLOW RESTRICTOR SIZE
OUTFALL PIPE SIZE: _____
RESTRICTOR PIPE SIZE: _____

4. WATER AND WASTEWATER

I. TYPE OF SERVICE PROPOSED
☐ MUNICIPALITY: _____
☐ MUNICIPAL UTILITY DISTRICT: _____
☐ OTHER DISTRICT: _____
☐ PRIVATE WATER AND WASTEWATER SYSTEMS
☐ PRIVATE WATER SYSTEM AND INDIVIDUAL OSSF
☐ INDIVIDUAL WATER WELL AND OSSF
☐ OTHER: _____

II. PROOF OF CAPACITY
☐ LETTER FROM DISTRICT AUTHORIZING SERVICE AND CONNECTION
☐ TCEQ APPROVAL FOR WATER SYSTEM AND PERMIT FOR WASTEWATER SYSTEM.
☐ OSSF SUBDIVISION PLANNING REPORT

III. AMOUNT OF FLOW
☐ RESIDENTIAL: _____ LOTS OR UNITS
☐ COMMERCIAL: _____ AVERAGE DAILY FLOW
☐ OTHER: _____

NOTES:
I. COMPLETE FOR ALL PROJECTS
II. COMPLETE FOR ALL PROJECTS.
III. COMPLETE ONLY IF TCEQ DISCHARGE PERMIT IS PROPOSED

5. DESCRIPTION OF PROPERTY

I. LEGAL DESCRIPTION
A. ACREAGE: _____
B. ☐ SUBDIVISION: _____
☐ SURVEY & ABSTRACT: _____
C. ADJACENT ROADS: _____

II. PLATTING
A. SUBDIVISION PLAT
☐ PROPOSED PLAT / REPLAT
☐ RECORDED PLAT / REPLAT
PLAT NAME: _____
PLAT NUMBER _____
☐ NO PLAT REQUIRED
B. STREETS PROPOSED
☐ PUBLIC
☐ PRIVATE
☐ PUBLIC & PRIVATE
☐ NONE

III. JURISDICTIONS
* ☐ CITY OF HOUSTON
☐ CITY OF_____
* ☐ ETJ, CITY OF HOUSTON
☐ ETJ, CITY OF_____
☐ NO ETJ

IV. HCAD ACCOUNT NOS. (ALL)
_____
_____
_____
_____
_____

V. UNOBSTRUCTED VISIBILITY EASEMENT (U.V.E.)
☐ REQUIRED AND SHOWN ON SHEET(S) _____
☐ NOT REQUIRED
KEY MAP® page(s)_____
* CPC 101 FORM MAY BE REQUIRED

6. STORM WATER QUALITY

I. CONSTRUCTION PROTECTIVE MEASURES.
☐ SWPPP SITE PLAN AND DETAILS ON SHEET(S) _____

II. APPLICABILITY FOR PERMANENT FEATURES.
☐ EXEMPT NEW DEVELOPMENT OF LESS THAN 5 ACRE PARCEL.
☐ EXEMPT REDEVELOPMENT OF A 5 ACRE OR LARGER PARCEL WHERE TOTAL IMPERVIOUS SURFACE (EXISTING PLUS PROPOSED) IS LESS THAN 1 ACRE.
☐ EXEMPT "GRAND FATHERED" BY AN EXISTING STORM SEWER LINE.
☐ STORM WATER QUALITY PERMIT REQUIREMENT FOR THIS PROJECT IS COVERED BY _____**.
☐ "STORM WATER QUALITY MANAGEMENT PLAN" INCLUDED. SWQMP SITE PLAN ON SHEET(S) _____

III. PERMANENT STORM WATER QUALITY FEATURES.
☐ VEGETATIVE CONTROLS USED: (FILTER STRIP, GRASSY SWALE, URBAN FORESTRY) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ POND STRUCTURE USED (WET, DRY, WETLANDS) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ HYDRODYNAMIC TYPE SEPERATOR MODEL: _____
☐ OTHER(S): _____

NOTES:
I – II REQUIRED ON ALL PROJECTS, III IF NOT EXEMPT OR "GRANDFATHERED"
** INCLUDE: PROJECT TITLE, HARRIS COUNTY PROJECT NUMBER, AND SWQ PERMIT NUMBER, OR THE NAME OF THE PERMITTING AUTHORITY IF OTHER THAN HARRIS COUNTY.

7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY

STORMWATER DETENTION BASIN ROUTING TABLE

DETENTION BASIN DRAINAGE AREA = _____ ACRES

RAINFALL EVENT PROBABILITY	PRE-DEVELOPED PEAK RUNOFF (CFS)	POST-DEVELOPED PEAK RUNOFF (CFS)	DETENTION BASIN PEAK OUTFLOW (CFS)	MAXIMUM WATER SURFACE ELEVATION	PEAK STORAGE VOLUME (AC-FT)	STORAGE RATE (AC-FT PER AC)
10% EXCEEDANCE (10-YEAR)						
1% EXCEEDANCE (100-YEAR)						

ADDITIONAL CRITERIA FOR PUMPED DETENTION BASINS:
VOLUME OF PUMPED 1% EXCEEDANCE STORAGE VOLUME = _____AC-FT _____% OF TOTAL VOLUME
MAXIMUM DESIGN OUTFLOW VELOCITY INTO HCFCD CHANNEL = _____FT./SEC.
DRAIN TIME FOR BASIN = _____ HOURS BASED ON _____ HEAD CONDITIONS.

STORMWATER DRAINAGE DESIGN REPORT

REPORT TITLE _____
REPORT DATE _____ ENGINEERING FIRM _____
DATE OF ACKNOWLEDGEMENT BY HCFCD OR FLOODPLAIN ADMINISTRATOR_____ HCFCD PROJECT #_____

STORMWATER DETENTION FOR THE PROPOSED WORK CONTAINED IN THESE PLANS IS PROVIDED BY OTHER PLANS:
PLAN TITLE _____
ENGINEERING FIRM _____ DATE SIGNED BY HCFCD _____ HCFCD PROJECT # _____

II. HCFCD STANDARD NOTES: SEE SHEET _____ OF THESE PLANS.

III. HCFCD STANDARD DETAILS: SEE SHEET_____ OF THESE PLANS.

IV. REFER TO PLAN SHEETS _____ FOR EXISTING AND PROPOSED RIGHT OF WAY DELINEATION AND COMPLETE RECORDING INFORMATION TO INCLUDE CLERK'S FILE NUMBERS, TYPE OF ESTATE (e.g., DRAINAGE EASEMENT, FEE STRIP, ETC.) AND GRANTEE (e.g. COH, HCFCD, PUBLIC, TXDOT, ETC.)

NOTES:
I. COMPLETE ONLY IF HCFCD OR HARRIS COUNTY IS REQUIRING DETENTION.
II. COMPLETE ONLY IF PROJECT HAS WITHIN IT OR IS IMMEDIATELY ADJACENT TO AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
III. COMPLETE ONLY IF PROJECT INCLUDES NEW OUTFALL, BACKSLOPE INTERCEPTOR OR OTHER RELATED WORK WITHIN AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
IV. COMPLETE ONLY OF PROJECT HAS WITHIN OR IMMEDIATELY ADJACENT TO IT AN EXISTING OR PROPOSED PUBLIC DRAINAGE CHANNEL OR DETENTION BASIN.

8. FLOOD PLAIN STATUS

I. GENERAL INFORMATION
FIRM PANEL(S) FOR PROPERTY: _____
FIRM PANEL(S) DATE: _____
STATUS OF PROPERTY ON MAP
☐ ENTIRELY LOCATED IN UNSHADED ZONE "X"
☐ LOCATED PARTIALLY IN ANY "A" ZONE OR SHADED ZONE "X", DELINATE FLOODPLAIN BOUNDARY ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT PG. NO._____) (BASE FLOOD LEVEL_____)
☐ LOCATED ENTIRELY IN ANY "A" ZONE OR SHADED ZONE "X", (INDICATE BASE FLOOD LEVEL_____)
☐ LOCATED IN THE 10-YEAR FLOODPLAIN
☐ LOCATED IN CYPRESS CREEK LOMR 08-06-2369P (INDICATE BASE FLOOD LEVEL_____)
☐ SITE REMOVED FROM FLOODPLAIN BY LOMA OR LOMR-F CASE NO._____
☐ OTHER

ELEVATION INFORMATION
BENCHMARK USED
☐ HARRIS COUNTY FLOODPLAIN REFERENCE MARK
☐ HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS)
DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT (2001 ADJ.) _____

II. FLOOD PLAIN DETERMINATION BASED ON GROUND ELEVATION
☐ PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN SHADED ZONE "X"
☐ PROPERTY LIES PARTIALLY OR ENTIRELY BELOW THE BASE FLOOD LEVEL

III. FLOODPLAIN STORAGE SUMMARY (APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FLOODPLAIN AS DELINEATED BY FIRM PANEL).
A. TOTAL VOLUME OF MATERIAL PROPOSED TO BE PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.): i.e., BELOW ELEVATION _____ (2001 ADJ.) _____ CUBIC YARDS
B. TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN: i.e., BELOW ELEVATION _____ (2001 ADJ.) _____ CUBIC YARDS

NOTES:
I. COMPLETE FOR ALL PROJECTS
II. COMPLETE ONLY IF PROJECT IS ADJACENT TO 100-YEAR FLOOD PLAIN

IV. ☐LOMR REQUIRED

VERIFIED BY: _____

9. WORK IN HCFCD RIGHT-OF-WAY

I. TYPE OF WORK TO BE PERFORMED IN CHANNEL
☐ OUTFALL
☐ UTILITY CROSSING
☐ ROADWAY BRIDGE / CULVERT CROSSING
☐ FILL ACTIVITY
☐ REHABILITATION OF CHANNEL
☐ MAINTENANCE
☐ TEMPORARY CROSSING
☐ OTHER

II. PERMIT
☐ US ARMY CORPS ENGINEERS NATIONWIDE PERMIT NUMBER(S) _____
☐ US ARMY CORPS OF ENGINEERS INDIVIDUAL PERMITS
☐ OTHER
☐ NO PERMITS REQUIRED
EXPLAIN: _____

III. REFERENCE / BASIS OF DETERMINATION
☐ ENVIRONMENTAL CONSULTANT REPORT
BY _____
REPORT TITLE _____
REPORT DATE _____
☐ OTHER _____

NOTES:
I. – III. REQUIRED ON PROJECTS WITH WORK IN A HCFCD CHANNEL. PLEASE REFERENCE SECTION 17 OF THE FLOOD CONTROL DISTRICT POLICY, CRITERIA, AND PROCEDURE MANUAL FOR MORE INFORMATION.

10 SITEWORK SUMMARY

HARRIS COUNTY ADMINISTRATIVE DATA
(THIS SECTION TO BE FILLED OUT BY HARRIS COUNTY REVIEWER)
CRITICAL FACILITY ☐ YES ☐ NO
☐ STORM WATER QUALITY
☐ DETENTION
☐ DRAINAGE SWALE
☐ CUT_____CU.YDS. / FILL_____CU.YDS.
☐ FILL PLACEMENT _____#/ACRES
☐ ORGANIZED SEWER ☐ PUBLIC ☐ PRIVATE
☐ ORGANIZED WATER ☐ PUBLIC ☐ PRIVATE
☐ UNDERGROUND UTILITIES (COMBINATION WATER/SEWER)
☐ PAVING ☐ PUBLIC ☐ PRIVATE
☐ DRIVEWAY WITH CULVERT___ CURB AND GUTTER___ TXDOT___
☐ CULVERT___
SEPTIC ☐ NO ☐ EXISTING ☐ PROPOSED
☐ OTHER _____

SIGN CLASSIFICATION
LOCATED IN:
☐ ETJ
☐ SCENIC DISTRICT
☐ TOLL ROAD

EASEMENT AUTHORIZATION
☐ LETTERS _____

NOTES:
A PERMIT IS REQUIRED FOR EACH SCOPE OF WORK ON SITE.
A NOTIFICATION IS REQUIRED FOR EACH SCOPE OF WORK IN HC OR HCFCD ROW. REFER TO www.eng.hctx.net/permits FOR EACH SCOPE OF WORK IN HC OR IN HCFCD ROW.

11 CURB RAMPS / SIDEWALK

CURB RAMPS PROPOSED ☐ YES ☐ NO
SIDEWALKS PROPOSED ☐ NO
A. HOME BUILDER ☐ YES
B. DEVELOPER ☐ YES
C. H.O.A. ☐ YES
D. OTHERS _____

12 LANDSCAPING

☐ REQUIRED AND SHOWN ON SHEET(S) _____
☐ NOT REQUIRED

HCPID SIGNATURE BLOCK

PROJECT NAME:
_____
_____

WAS ACCEPTED BY THE FOLLOWING GROUPS FOR THE PURPOSES LISTED BELOW:

ENGINEERING DIVISION

BY _____ INTERPOSE NO OBJECTION DATE _____
BY _____ AS TO PAVING AND/OR DRAINAGE ONLY DATE _____
BY _____ AS TO LOCATION OF ITEMS IN COUNTY RIGHT OF WAY DATE _____
BY _____ AS TO STORM WATER QUALITY DATE _____

ADDITIONAL COMMENTS:
_____
_____
_____

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION
BY_____ DATE _____
FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY
APPROVED:
BY_____ DATE _____
FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY
APPROVED:
BY_____ DATE _____
FOR ITEMS LOCATED WITHIN PROPOSED HCFCD RIGHT-OF-WAY

ADDITIONAL COMMENTS:
_____
_____
_____

THE PROJECT WAS REVIEWED, HOWEVER, THIS DOES NOT MEAN THE ENTIRE PROJECT, INCLUDING ALL SUPPORTING DATA AND CALCULATIONS HAVE BEEN COMPLETELY CHECKED AND VERIFIED. THESE DRAWINGS ARE SIGNED, DATED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS, WHICH THEREFORE CONVEYS THE ENGINEER'S RESPONSIBILITY AND ACCOUNTABILITY. THIS DOES NOT RELIEVE ANY PARTY FROM COMPLYING WITH APPROPRIATE FEDERAL, STATE AND LOCAL ENVIRONMENTAL RULES, LAWS, AND REGULATIONS AND ANY OTHER LEGALLY ADOPTED REGULATION OR ORDINANCE RELATED TO LAND DEVELOPMENT. IF THE CITY SIGNATURES ARE REQUIRED BY ORDINANCE, COUNTY PERMITS WILL NOT BE ISSUED UNTIL SUCH SIGNATURES ARE OBTAINED. THESE SIGNATURES ARE VALID FOR A MAXIMUM OF TWO YEARS.

ENGINEER'S CERTIFICATION

I, _____, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE PRACTICE OF ENGINEERING AND PROFESSIONAL ENGINEERING LICENSURE.

ANY VIOLATIONS WILL BE FORWARDED TO THE HARRIS COUNTY DISTRICT ATTORNEY'S OFFICE FOR PROSECUTION.

THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS _____ THRU _____ .

SEAL _____ SIGNATURE _____ DATE

REVISIONS

DATE	SHEET NO.	DESCRIPTION	H.C. APPROVED DATE

PROJECT NO. _____ SHEET NUMBER _____ OF _____

HARRIS COUNTY
PUBLIC INFRASTRUCTURE DEPARTMENT
EXPRESS REVIEW SHEET

VERSION 11.0 AUGUST 4, 2009