

1. PAVING (FOR H.C. PUBLIC R.O.W. ONLY)
DESIGN THICKNESS OF PAVING, STABILIZED SUBGRADE DEPTH, DESIGN STRENGTH OF CONCRETE, STEEL SPACING LONG, TRANS., REINFORCE STEEL SIZE

2. RESIDENTIAL / SUBDIVISION DRAINAGE
I. PROPOSED DRAINAGE SYSTEM TYPE
II. DESIGN METHOD USED
III. DETENTION SYSTEM OUTFALLS DIRECTLY TO EXISTING

3. COMMERCIAL / OTHER SITE DRAINAGE
I. PROPOSED DRAINAGE AREA
II. DETENTION VOLUME
III. OUTFALL

4. WATER AND WASTEWATER
I. COMMERCIAL PROJECTS
DOES PROPERTY HAVE EXISTING AND/OR PROPOSED UTILITIES?
IF YES, CHECK THE BOX THAT APPLIES TO THIS PROJECT

5. DESCRIPTION OF PROPERTY
I. LEGAL DESCRIPTION
A. ACREAGE: 10.54
B. SUBDIVISION:
C. ADJACENT ROADS: FELLOWSHIP LANE AND KLEIN CHURCH ROAD

6. STORMWATER QUALITY
I. SWPPP: CONSTRUCTION MEASURES (Complete for ALL projects)
II. APPLICABILITY FOR PERMANENT FEATURES (must be completed on all projects)

DRIVEWAYS (in H.C. ROW only)
TABLE WITH COLUMNS: DRWY, WIDTH, MATERIAL, CULVERT?, CULVERT LENGTH, NEAREST X-STREET, DIST. TO X-STREET

IV. H.C. OUTFALL CALCULATIONS
ROADSIDE DITCH OUTFALL: ALLOWABLE OUTFALL RATE: 0.0027 x LF Frontage = (CFS)
STORM SEWER OUTFALL: CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: (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

NOTE: PUBLIC UTILITIES REQUIRE A LETTER FROM THE DISTRICT MUNICIPALITY AUTHORIZING SERVICE & CONNECTION. THIS IS REQUIRED FOR PLAN APPROVAL.
UTILITY DISTRICT/MUNICIPALITY NAME:
NOTE: SEPTIC SYSTEMS REQUIRE H.C. WASTE WATER REVIEW

III. JURISDICTIONS
CITY OF HOUSTON
ETJ, CITY OF HOUSTON
ETJ, CITY OF HOUSTON
NO ETJ

II. HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET
FIRE APPARATUS ACCESS ROAD
REQUIRED AND SHOWN ON SHEET(S) C17
NOT REQUIRED DUE TO
CURBING

V. DETENTION PROVIDED BY
DETENTION BASIN IS PART THIS PLAN SET. SERVICE AREA MAP IS ON SHEET
REGIONAL DETENTION BASIN SYSTEM (APPROVED H.C. PRJ NO.):

VI. FLOW RESTRICTOR SIZE
OUTFALL PIPE SIZE:
RESTRICTOR PIPE SIZE:

H.C. WASTE WATER REVIEWER APPROVAL
NAME & DATE:
REVIEWER COMMENTS:

IV. HCAD ACCOUNT NOS. (ALL)
0461520000015
KEY MAP PAGE 331 E

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

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED).
STATIC W.S.E. @ OUTFALL IS

NOTE: ALL ROADSIDE DITCH OUTFALLS REQUIRE EROSION CONTROL MEASURES. RIPRAP IS NOT ALLOWED AS AN EROSION CONTROL MEASURE IN HARRIS COUNTY ROW. ALL PUMPED DETENTION OUTFALLS TO ROADSIDE DITCHES REQUIRE MANHOLE W/ LEADS.

NOTE: ALL EXISTING AND PROPOSED UTILITIES MUST BE ACCURATELY SHOWN & LABELED ON THE SITE PLANS.
NOTE: DEDICATED UNDERGROUND FIRE LINES MUST BE SUBMITTED TO THE HARRIS COUNTY FIRE PROTECTION GROUP FOR REVIEW AND PERMITTING BY THE UNDERGROUND FIRE LINE CONTRACTOR. CIVIL REVIEW DOES NOT REVIEW OR APPROVE UNDERGROUND FIRE LINES FOR THE FIRE PROTECTION SYSTEMS.

V. UNOBSTRUCTED VISIBILITY EASEMENT (U.V.E.)
REQUIRED AND SHOWN ON SHEET(S)
NOT REQUIRED

III. TRAFFIC CONTROL PLAN
NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW
TRAFFIC CONTROL SHOWN ON SHEET C20
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)

OFFSITE SHEET FLOW: (100 YEAR)
OFFSITE SHEET FLOW MAPPING, TOTAL DISCHARGE CALCULATIONS, AND DESIGN ACCOMMODATIONS ARE SHOWN ON SHEET OR, AS PRESENTED IN THE APPROVED DRAINAGE STUDY ENTITLED
TOTAL ACREAGE =
TOTAL DISCHARGE =
NOTE: ALL OFFSITE SHEET FLOW FROM ADJACENT PROPERTIES MUST BE IDENTIFIED AND PROPERLY ACCOUNTED FOR IN THE PROJECT. THE SIGNING ENGINEER HEREBY CERTIFIES THAT THESE AREAS HAVE BEEN ADDRESSED.

VII. FLOOD PLAIN STATUS
I. GENERAL INFORMATION
FIRM PANEL(S) FOR PROPERTY: 48201C0265M
FIRM PANEL(S) DATE: OCTOBER 16, 2013
STATUS OF PROPERTY ON MAP
ENTIRELY LOCATED IN UNSHADED ZONE "X"
LOCATED PARTIALLY OR ENTIRELY IN ANY "A" ZONE OR SHADED ZONE "X", DELINEATE FLOODPLAIN BOUNDARY ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT PG. NO. ) (BASE FLOOD LEVEL )
LOCATED IN THE 10-YEAR FLOODPLAIN
SITE REMOVED FROM FLOODPLAIN BY LOMR, LOMR-F, LOMA
CASE NO. REVISED FLOODPLAIN IS SHOWN ON SHEET

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

TO BE FILLED OUT BY HARRIS COUNTY
STORM WATER QUALITY
SEPTIC (EXISTING) SEPTIC (PROPOSED)
CIVIL SITE WORK (PHASE II PERMIT CLASS I (non-floodplain))
CIVIL SITE WORK (PHASE II PERMIT CLASS II (floodplain))
DRIVEWAY WITH CULVERT CURB AND GUTTER
BUILDING PERMITS (NO. OF BUILDINGS = ) CRITICAL FACILITY
SUBDIVISION INFRASTRUCTURE PHASE II (NO. OF LOTS = )
NOTICE OF DETENTION AFFIDAVIT REQUIRED
MUD MAINTENANCE AGREEMENT REQUIRED
HCFCO ROW NOTIFICATION PERMIT REQUIRED
NOTES:

V. TRAFFIC IMPACT ANALYSIS
NO TRAFFIC IMPACT ANALYSIS IS REQUIRED
TRAFFIC IMPACT ANALYSIS HAS BEEN APPROVED ON DATE:
PLAN TITLE:
HCPID PROJECT NO.:

III. FLOODPLAIN STORAGE SUMMARY
TOTAL VOLUME OF MATERIAL PROPOSED TO BE MOVED OR PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.):
TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN:
FILL AREA & VOLUME CALCULATIONS ARE SHOWN ON SHEET

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

WORK IN HARRIS COUNTY R.O.W.
UTILITY WORK
LEFT TURN LANE
OTHER CONSTRUCTION DRIVEWAYS

NOTES:
A PERMIT IS REQUIRED FOR EACH SCOPE OF WORK ON SITE.
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7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY
STORMWATER DETENTION BASIN ROUTING TABLE
DETENTION BASIN DRAINAGE AREA = ACRES
MAX BASIN DRAIN TIME (100-YR EVENT) HOURS

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, HCFCO, PUBLIC, TXDOT, ETC.)

IV. LOMR REQUIRED CLOMR REQUIRED VERIFIED BY:
FOR PROJECTS LOCATED IN ANY FLOODPLAIN
Development constructed or placed in accordance with these plans will comply with all provisions of the Regulations of Harris County, Texas for Floodplain Management.

BENCHMARK REQUIREMENTS FOR PROPOSED BRIDGES AND OR NEW RESIDENTIAL SUBDIVISIONS
When the County Engineer has determined that a new benchmark will be required to be established for the proposed project, the developer shall be required to install a benchmark per section 8.0 part 2 of the Harris County Infrastructure Regulations.

NOTE: REVISION BLOCK IS TO BE USED ONLY FOR CHANGES MADE AFTER PLANS HAVE BEEN APPROVED BY HARRIS COUNTY.

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

III. HCFCO STANDARD NOTES: SEE SHEET OF THESE PLANS.
III. HCFCO STANDARD DETAILS: SEE SHEET OF THESE PLANS.

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

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

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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, RICHARD H. GHANEM, 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 1 THRU 38
SIGNATURE: Richard H. Ghanem DATE: 10/22/17

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