

1. PAVING

(FOR H.C. PUBLIC R.O.W. ONLY)

Table with columns: DESIGN THICKNESS OF PAVING, STABILIZED SUBGRADE DEPTH, DESIGN STRENGTH OF CONCRETE, STEEL SPACING, REINFORCE STEEL SIZE.

DRIVEWAYS (per H.C. ROW only)

I. NUMBER OF DRIVEWAY APPROACHES PROPOSED INCLUDE WIDENING OR REPAVING EXISTING DRIVEWAYS AS WELL AS NEW DRIVEWAYS

Table with columns: DRWY, WIDTH, MATERIAL, CULVERT?, CULVERT LENGTH, NEAREST X-STREET, DIST. TO X-STREET.

II. HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET

FIRE APPARATUS ACCESS ROAD

REQUIRED AND SHOWN ON SHEET(S) C5.0
NOT REQUIRED DUE TO EXISTING COMMERCIAL DEVELOPMENT 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:
PLAN TITLE:
HCPID PROJECT NO.:

7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY

Table with columns: DETENTION BASIN DRAINAGE AREA, MAX BASIN DRAIN TIME, STORMWATER DETENTION BASIN ROUTING TABLE.

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
DATE OF ACCEPTANCE 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 IF PROJECT HAS WITHIN OR IMMEDIATELY ADJACENT TO IT AN EXISTING OR PROPOSED PUBLIC DRAINAGE CHANNEL OR DETENTION BASIN.

2. RESIDENTIAL / SUBDIVISION DRAINAGE

I. PROPOSED DRAINAGE SYSTEM TYPE

- STORM SEWER
ROADSIDE DITCH
LOW IMPACT DEVELOPMENT (LID)

II. DESIGN METHOD USED

- CITY OF HOUSTON YEAR FREQUENCY
OTHER:

III. DRAINAGE SYSTEM OUTFALLS DIRECTLY TO EXISTING

- DETENTION POND (APPROVED H.C. PRJ NO.):
DETENTION POND MAINTAINED BY:
HCFCD DRAINAGE DITCH UNIT NO.:
H.C. ROADSIDE DITCH (ROAD NAME):
H.C. STORM SEWER (APPROVED H.C. PRJ NO.):

IV. H.C. OUTFALL CALCULATIONS

- ROADSIDE DITCH OUTFALL: ALLOWABLE OUTFALL RATE: 0.0027 x LF Frontage = (CFS)
PROPOSED OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET
STORM SEWER OUTFALL: CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: (CFS)
FROM DRAINAGE AREA MAP DATED:
PREPARED BY:
APPROVED H.C. PROJECT NO.:
ACTUAL OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET

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.):

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

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

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.

3. COMMERCIAL / OTHER SITE DRAINAGE

I. PROPOSED DRAINAGE AREA

- NO DEVELOPMENT AREA:
RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA):
LOW IMPACT DEVELOPMENT (LID)

II. DETENTION VOLUME

- .55 (CHANNEL)
.65 (STM SWR)
1.00 (RD. DITCH)
OTHER:

NEW AREA x = ACRE FEET
DETENTION REQUIRED

PROPOSED DETENTION VOLUME = ACRE FEET
PROPOSED DETENTION VOLUME CALCULATIONS ARE SHOWN ON SHEET

DETENTION VOLUME PROVIDED BY EXISTING DETENTION POND
APPROVED H.C. PROJECT NO.:
DETENTION POND SERVICE AREA MAP IS PROVIDED ON SHEET

III. OUTFALL

- H.C. ROADSIDE DITCH
EXISTING H.C. STORM SEWER
OTHER

ROADSIDE DITCH OUTFALL: ALLOWABLE OUTFALL RATE: 0.0027 x LF Frontage = (CFS)
PROPOSED OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET

STORM SEWER OUTFALL: CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: (CFS)
FROM DRAINAGE AREA MAP DATED:
PREPARED BY:
APPROVED H.C. PROJECT NO.:
ACTUAL OUTFALL RATE: (CFS), CALCULATIONS PROVIDED ON SHEET

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 AUTOMATIC SHUTOFF PLAN FOR ROADSIDE DITCH & STORM SEWER OUTFALLS APPEAR ON SHEET

V. FLOW RESTRICTOR SIZE

OUTFALL PIPE SIZE:
RESTRICTOR PIPE SIZE:

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.

4. WATER AND WASTEWATER

I. COMMERCIAL PROJECTS

DOES PROPERTY HAVE EXISTING AND/OR PROPOSED UTILITIES?
YES NO

IF YES, CHECK THE BOX THAT APPLIES TO THIS PROJECT

- PUBLIC WATER & SANITARY
PRIVATE WATER WELL & SEPTIC SYSTEM
PUBLIC WATER & PRIVATE SEPTIC SYSTEM
PRIVATE WATER WELL & PUBLIC SANITARY

NOTE: PUBLIC UTILITIES REQUIRE A LETTER FROM THE DISTRICT/ MUNICIPALITY AUTHORIZING SERVICE & CONNECTION. THIS IS REQUIRED FOR PLAN APPROVAL.

UTILITY DISTRICT/MUNICIPALITY NAME: CNP UTILITY DISTRICT

NOTE: SEPTIC SYSTEMS REQUIRE H.C. WASTE WATER REVIEW

H.C. SEPTIC PERMIT/REQUEST NO.

H.C. WASTE WATER REVIEWER APPROVAL

NAME & DATE:

REVIEWER COMMENTS:

NOTE: ALL EXISTING AND PROPOSED UTILITIES MUST BE ACCURATELY SHOWN & LABELED ON THE SITE PLANS.

II. SUBDIVISION PROJECTS

UTILITY DISTRICT/MUNICIPALITY NAME: CNP UTILITY DISTRICT

- PRIVATE WATER & WASTE WATER SYSTEMS
PRIVATE WATER & INDIVIDUAL OSSF
INDIVIDUAL WATER WELL & OSSF

NOTE: A COPY OF TCEQ APPROVAL FOR PRIVATE WATER & WASTE WATER SYSTEMS IS REQUIRED FOR PLAN APPROVAL.

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.

5. DESCRIPTION OF PROPERTY

I. LEGAL DESCRIPTION

A. ACREAGE: 0.7090

B. SUBDIVISION: RESTRICTED RESERVE "A" BLOCK 1, SYRACUSE RENAISSANCE PARTNERS, SEC. 1

SURVEY & ABSTRACT:

C. ADJACENT ROADS: IH 45 AND OVERLAND TRAILS

II. PLATTING

- SUBDIVISION PLAT
STREETS PROPOSED
PROPOSED PLAT / REPLAT
RECORDED PLAT / REPLAT
PUBLIC
PRIVATE
PUBLIC & PRIVATE
NONE

PLAN NAME: CYPRESS STATION, SECTION 1

III. JURISDICTIONS

- CITY OF
ETJ, CITY OF HOUSTON
ETJ, CITY OF
NO ETJ

IV. HEAD ACCOUNT NOS. (ALL) KEY MAP PAGE 332-P

108-226-000-0003

V. UNOBSTRUCTED VISIBILITY EASEMENT (U.V.E.)

- REQUIRED AND SHOWN ON SHEET(S)
NOT REQUIRED

NOTE: ALL APPROVED, FINAL PLATS AND ASSOCIATED CPC101 FORMS MUST BE INCLUDED WITH PLAN SUBMITTAL.

- CONFORMING SUBDIVISION
NON-CONFORMING SUBDIVISION
PARTIALLY NON-CONFORMING SUBDIVISION

6. STORMWATER QUALITY

I. SWPPP: CONSTRUCTION MEASURES (Complete for ALL projects)

DISTURBS >1AC. SITE PLAN & DETAILS ON SHEET(S) C4.0, C4.1

DISTURBS <1AC. N/A

II. APPLICABILITY FOR PERMANENT FEATURES (must be completed on all projects)

EXEMPT NEW DEVELOPMENT:
PROJECT IS ON A PARCEL (A COMMON PLAN OF DEVELOPMENT) LESS THAN 5 ACRES. (must be verified with plot)

EXEMPT REDEVELOPMENT:

PROJECT DOES NOT MEET THE DEFINITION OF SIGNIFICANT REDEVELOPMENT (Part A, Sec. 2.39 of Regulations of Harris County, Texas for Stormwater Quality Management)
EXEMPT GRANDFATHERED:

PROJECT'S DRAINAGE TIES DIRECTLY INTO AN EXISTING DRAINAGE SYSTEM PRIOR TO OCTOBER 1, 2001. (FOR VERIFICATION: PROVIDE ORIGINAL DRAINAGE AREA MAP INCLUDING CALCULATIONS)

GENERAL:

PROJECT'S SWQ REQUIREMENTS FALL WITHIN THE JURISDICTION OF:

STORMWATER QUALITY PERMIT REQUIREMENT IS COVERED BY AN EXISTING SWQMP WITHIN PROJECT TITLE:

HARRIS COUNTY PROJECT NO. & SWQ PERMIT NO.

STORMWATER QUALITY MANAGEMENT PLAN:

SITE PLAN ON SHEET(S)

III. PERMANENT SWQ FEATURES (COMPLETE IF NOT EXEMPT)

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 SEPARATOR MODEL:

OTHER(S):

HCED SIGNATURE BLOCK

PROJECT NAME: 17221 PAD SITE

ADDRESS: 17221 IH 45, HOUSTON TX, 77090

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

ENGINEERING DIVISION

INTERPOSE NO OBJECTION DATE

AS TO LOCATION OF ITEMS IN COUNTY RIGHT OF WAY DATE

AS TO PAVING AND/OR DRAINAGE ONLY DATE

AS TO STORM WATER QUALITY DATE

ADDITIONAL COMMENTS:

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION

FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY DATE

APPROVED:

FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY DATE

APPROVED:

FOR ITEMS LOCATED WITHIN PROPOSED HCFCD RIGHT-OF-WAY DATE

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

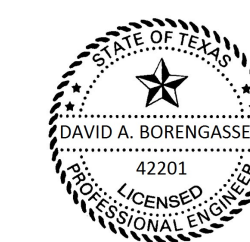
DAVID A. BORENGASSER, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE 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 17.

SIGNATURE DATE

JUNE 4, 2018



REVISIONS

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

Table with columns: DATE, SHEET NO., DESCRIPTION, P.E. INITIAL, H.C. APPROVED DATE.

HARRIS COUNTY ENGINEERING DEPARTMENT REVIEW SHEET

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.

Is a new Benchmark required for this project? (to be determined by Harris County) YES NO

If a new Benchmark is required, the proposed benchmark information is shown on sheets

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. USACE ENVIRONMENTAL 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
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. PERMITS REQUIRED

DOES THE PROPERTY HAVE ANY VIOLATIONS? IF SO PLEASE PROVIDE ALL VIOLATION NUMBERS.

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
HCFCD ROW NOTIFICATION PERMIT REQUIRED
NOTES:

WORK IN HARRIS COUNTY R.O.W.

- UTILITY WORK
LEFT TURN LANE
OTHER CONSTRUCTION

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

A. ARE CURB RAMPS THAT CONNECT TO PUBLIC STREETS PROPOSED IN THIS SET OF PLANS? YES NO

12. LANDSCAPING

REQUIRED AND SHOWN ON SHEET(S) L200-L401
NOT REQUIRED