

1. PAVING

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

NOTES:
 I - IV TO BE COMPLETED ONLY IF PAVING IS TO BE ACCEPTED BY HARRIS COUNTY

DRIVEWAYS

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

NOTES:
 I - II TO BE COMPLETED ONLY IF PROJECT ENTAILS CONSTRUCTION OF DRIVEWAYS AT TIME OF DEVELOPMENT

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
 6" OR 4" x 12" ALLOWED 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 HAND TURN

NO LEFT TURN LANE IS PROPOSED
 LEFT 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 IS SHOWN ON SHEET _____

IV. EXISTING TRAFFIC CONTROL

DEVICES SHOWN ON PLANS (T.C. BOXES AND LOOPS)

NOTES:
 I - III TO BE COMPLETED FOR ALL PROJECTS

2. 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 WATER OUTFALL

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

OTHER: _____

V. DRAINAGE SYSTEM FLOW RATE

FLOW PRIOR TO DETENTION: _____ CFS
 FLOW AFTER DETENTION (IF REQUIRED): _____ CFS

NOTES:
 I - IV REQUIRED ON ALL SUBDIVISION TYPE PROJECTS INCLUDING MANUFACTURED HOME PARKS.

3. SITE DRAINAGE
 (OTHER THAN SUBDIVISION TYPE PROJECTS)

I. PROPOSED DRAINAGE AREA

NEW DEVELOPMENT AREA: _____
 RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA): _____

II. DETENTION VOLUME (DRY BASIN)

NEW AREA _____ X 0.65 = _____ ACRE-FEET
 DETENTION REQUIRED _____
 PROPOSED VOLUME = _____ ACRE FEET

III. OUTFALL

OUTFALL TO ROADSIDE DITCH
 STORM SEWER
 OTHER _____

STATIC W.S.E. @ OUTFALL IS _____
 ROADSIDE DITCH OUTFALL:
 ROAD FRONTAGE _____ X 0.0095 = _____ (CFS) ALLOWABLE OUTFALL
 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: _____

VI. PROPOSED STORM SEWER IS SUBMERGED.

NOTES:
 I - V. REQUIRED FOR ALL PROJECTS OTHER THAN SUBDIVISION TYPE PROJECTS. DEVELOPMENT AREA INCLUDES ALL AREA WHERE BUILDING, PAVING OR GRADING WILL OCCUR. AREAS NOT INCLUDED BUT WITHIN THE PROPERTY'S BOUNDARIES MUST BE DELINEATED AS A "NO WORK" AREA ON THE DRAWINGS.
 VI. - V. REQUIRED WHEN PROPOSED FACILITY WILL INCREASE THE AMOUNT OF RUNOFF INTO A COUNTY DRAINAGE DITCH, ROADSIDE DITCH OR STORM SEWER. IF ANALYZED AND THE RECEIVING DRAINAGE STRUCTURE HAS CAPACITY IN THE FULLY DEVELOPED CONDITION OF THE AREA IT SERVES, NO DETENTION IS REQUIRED.

4. WATER AND WASTEWATER

I. TYPE OF SERVICE PROPOSED

MUNICIPALITY: _____
 MUNICIPAL UTILITY DISTRICT: H.C.M.U.D. NO. 191
 OTHER DISTRICT: _____
 PRIVATE WATER AND WASTEWATER SYSTEMS
 PRIVATE WATER SYSTEM AND INDIVIDUAL OSSF
 INDIVIDUAL WATER WELL AND OSSF
 OTHER: _____
 NO UTILITIES ARE PROPOSED

II. PROOF OF CAPACITY

LETTER FROM DISTRICT AUTHORIZING SERVICE AND CONNECTION
 TCEQ APPROVAL FOR WATER SYSTEM AND PERMIT FOR WASTEWATER SYSTEM.
 TCEQ APPROVAL FOR WATER SYSTEM AND OSSF FEASIBILITY REPORT
 OSSF FEASIBILITY REPORT WHICH CONSIDERS INDIVIDUAL WELLS

III. AMOUNT OF FLOW

RESIDENTIAL: _____ LOTS OR UNITS
 COMMERCIAL: _____ AVERAGE DAILY FLOW
 OTHER: _____

NOTES:
 I, III, IV. 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 / PLAT NAME (PROPOSED OR RECORDED):
 A SUBDIVISION CONTAINING 7.0021 ACRES (305,011 S.F.) BEING ALL OF RESTRICTED RESERVE "D", OUT OF WILLOW CENTRE SUBDIVISION RESTRICTED RESERVE "D", SECTION ONE REPLAT AS RECORDED IN FILM CODE NO. 360064 OF THE H.C.M.R., LOCATED IN THE G.W. CHILDRESS SURVEY, ABSTRACT NO. 217, IN HARRIS COUNTY, TEXAS.

NEW PLAT LOCATED IN THESE SURVEYS: _____

REPLAT OF RECORDED SUBDIVISION OR RESERVE KNOWN AS WILLOW CENTRE SUBDIVISION RESTRICTED RESERVE "D" SECTION ONE REPLAT

II. ADJACENT ROADS WILLOW CENTRE DR. & COCKRUM RD.

III. JURISDICTIONS

CITY OF HOUSTON
 CITY OF _____
 ETJ, CITY OF HOUSTON
 UTILITY DISTRICT: H.C.M.U.D. NO. 191
 OTHER: _____

IV. HCAD ACCOUNT NOS. (ALL)
 116-192-000-0004

NOTES:
 I, III, IV. COMPLETE FOR ALL PROJECTS
 II. COMPLETE ONLY IF PROJECT IS LOCATED ADJACENT TO A PUBLIC OR PRIVATE ROAD.

6. STORM WATER QUALITY

I. CONSTRUCTION PROTECTIVE MEASURES.

SWPPP SITE PLAN AND DETAILS ON SHEET(S) N/A

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 MANAGEMENT PLAN" HAS BEEN/WILL BE INCLUDED IN A SEPARATE SUBMITTAL ENTITLED _____
 "STORM WATER QUALITY MANAGEMENT PLAN" INCLUDED. SWQMP SITE PLAN ON SHEET(S) _____

III. 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 - IV REQUIRED ON ALL PROJECTS, III IF NOT EXEMPT OR "GRANDFATHERED"

7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY

STORMWATER DETENTION BASIN ROUTING TABLE

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 = _____ CFS
 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 _____

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

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 AN EXISTING OR PROPOSED PUBLIC DRAINAGE CHANNEL OR DETENTION BASIN.

8. FLOOD PLAIN STATUS

I. GENERAL INFORMATION

FIRM PANEL(S) FOR PROPERTY: 48201C0435L
 FIRM PANEL(S) DATE: JUNE 18, 2007

STATUS OF PROPERTY ON MAP

LOCATED IN UNSHADED ZONE "X"
 ENTIRELY LOCATED IN SHADED AND UNSHADED ZONE "X"
 LOCATED PARTIALLY IN ZONE "X" DELINEATED ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT)
 LOCATED ENTIRELY IN ZONE "AE" (INDICATE BASE FLOOD LEVEL ON CONSTRUCTION DRAWINGS)
 OTHER _____
 SITE REMOVED FROM FLOODPLAIN BY LOMA OR LOMR-F CASE NO. _____

FLOOD HAZARD RECOVERY DATA

FLOOD HAZARD RECOVERY DATA AVAILABLE AND UTILIZED (PROVIDED INFORMATION BASED ON 1973 AND 2001 ADJUSTMENTS).
 FLOOD HAZARD RECOVERY DATA NOT AVAILABLE.

ELEVATION INFORMATION

BENCHMARK USED

FEMA RM benchmark
 HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS)
 OTHER _____

DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT: FEMA RM 150770 LOCATED ON BRETON RIDGE DRIVE 100'± NORTH OF FM 1960. ELEV. 120.92' BASED ON NAVD88, 2001 ADJ.

II. FLOOD PLAIN DETERMINATION BASED ON GROUND ELEVATION

PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN ZONE "X" (SHADED OR UNSHADED)
 PROPERTY LIES PARTIALLY BELOW THE BASE FLOOD LEVEL (MUST BE DELINEATED ON TOPOGRAPHIC SURVEY)

III. FLOODPLAIN STORAGE SUMMARY (APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FLOODPLAIN AS DETERMINED 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 _____ (19 _____ ADJ.) _____ CUBIC YARDS

B. TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN:
 i.e., BELOW ELEVATION _____ (19 _____ ADJ.) _____ CUBIC YARDS

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

IV. LOMR REQUIRED
 VERIFIED BY: Samuel Gind 10/31/08

HCFCD SIGNATURE BLOCK

PROJECT KNOWN AS:
 8" SANITARY SEWER CROSSING AT WILLOW CENTRE DRIVE & COCKRUM RD. TO SERVE DISCOUNT TIRE DISTRIBUTION CENTER

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 10/31/08

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION
 BY: No Review Required Date 10-30-08
 FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY

APPROVED: _____ DATE _____
 BY: _____ FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY _____ DATE _____
 APPROVED: _____ DATE _____
 BY: _____ 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 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, KEVIN POLASEK, _____, 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.

THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS C01 THRU C06.

Signature: *Kevin Polasek, P.E.* DATE: 9-10-08

REVISIONS

DATE	SHEET NO.	DESCRIPTION	ACKNOWLEDGMENT

PROJECT NO. 2000573 APPLICANT NO. XXXXXX

SHEET NUMBER **C06** OF **6**

**HARRIS COUNTY
 PUBLIC INFRASTRUCTURE DEPARTMENT
 EXPRESS REVIEW SHEET**

