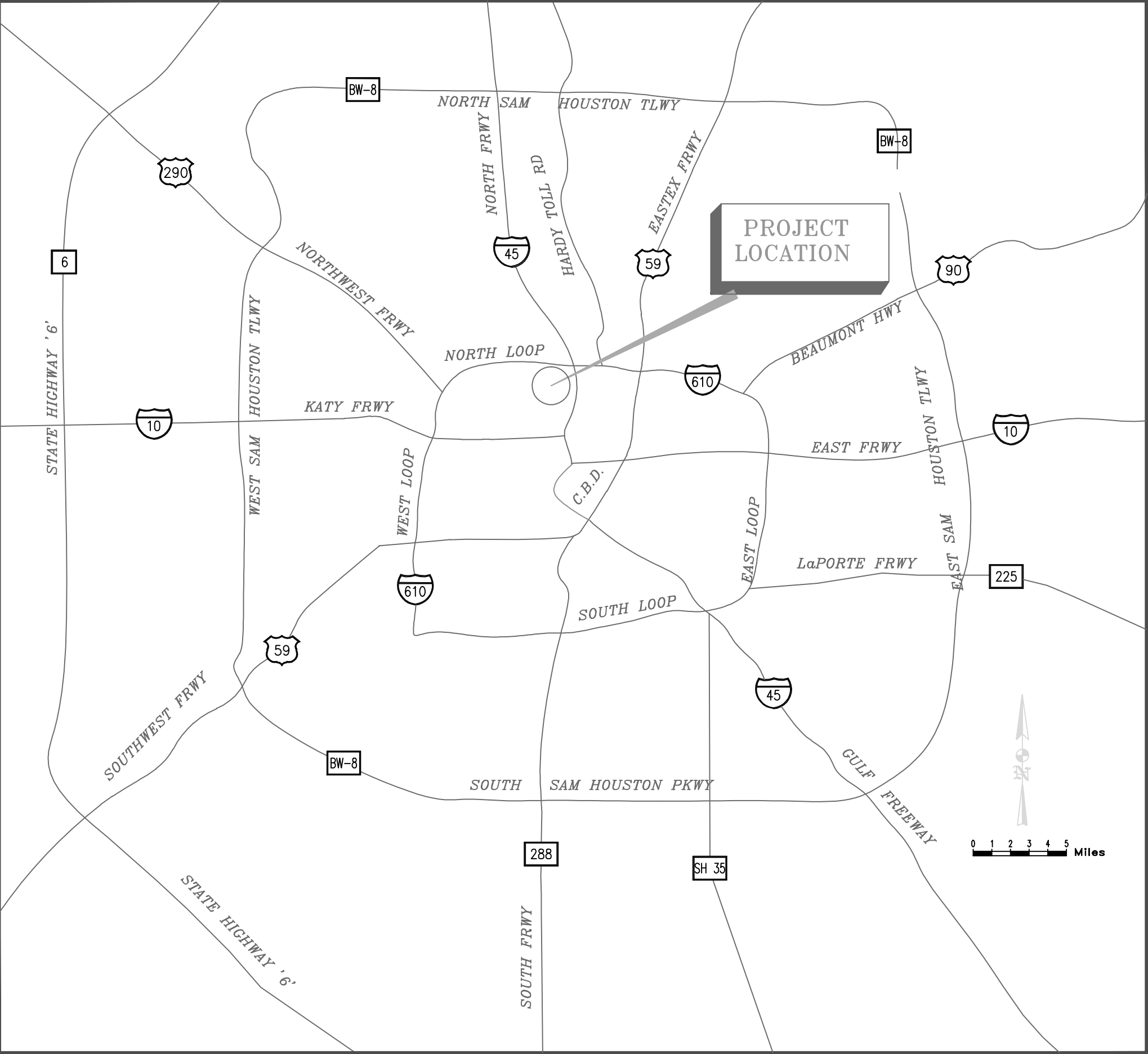


MILAGRO BUILDING COMPANY PROPOSED STORM SEWER CONNECTION ALONG EAST 28TH STREET



VICINITY MAP

SCALE: 1 INCH = 8 MILES

1. CONTRACTOR AND OWNER SHALL COMPLY WITH THE REGULATIONS OF CITY OF HOUSTON AND HARRIS COUNTY, TEXAS FOR FLOOD PLAIN MANAGEMENT.
2. CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING CONSTRUCTION DIVISION (TELEPHONE NO. 713-863-1450) 48 HRS BEFORE STARTING WORK ON THIS PROJECT.
3. THIS PROJECT INCLUDES WORK TO BE PERFORMED IN THE CITY OF HOUSTON'S RIGHT OF WAY AND MUST BE PERMITTED PRIOR TO CONSTRUCTION. CONTACT THE REQUIRED SECTIONS BELOW AS INDICATED:

LOCATION-3300 MAIN

PAVING 713 535 7579
SANITARY 713 535 7885
WATER 713 535 7885
STORM 713 535 7579

LOCATION-611 WALKER

STREET CUT 713 837 0546

VICINITY MAP

(N.T.S.)

KEY MAP: 453P
ZIP CODE: 77009
GIMS NO. 5359B



ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
(713) 223-4567 (IN HOUSTON)
NEW STATEWIDE NUMBER 1-800-545-6005

ILMS # 07101063
C.O.H. LOG# 2007-1362



THE INTERFIELD GROUP, LLC
ENGINEERS, PROJECT & CONSTRUCTION MANAGERS
401 STUDEWOOD, SUITE 300
HOUSTON, TEXAS 77007
TEL. (713) 780-0909
FAX (713) 780-8550

INDEX OF DRAWINGS	SHEET NO.
COVER SHEET	1
PLAN & PROFILE: PROPOSED STORM SEWER PLAN	2
STREET RESTORATION PLAN	3
TRAFFIC CONTROL PLAN	4

COH STORM FILE LETTER # 2007061919 (06-29-2007)
COH SANITARY AND WATER FILE LETTER # 0012818-003 (06-28-2007)

I, M.F. QADDUMI P.E., HEREBY
ACKNOWLEDGE THAT I HAVE REVIEWED THE
NEW FLOOD HAZARD RECOVERY DATA AND
USED THE MOST RESTRICTIVE
INFORMATION FOR THE DESIGN OF THIS
PROJECT.

NOTE: CITY SIGNATURES VALID
FOR ONE YEAR ONLY

TIG PROJECT#: 07038.00



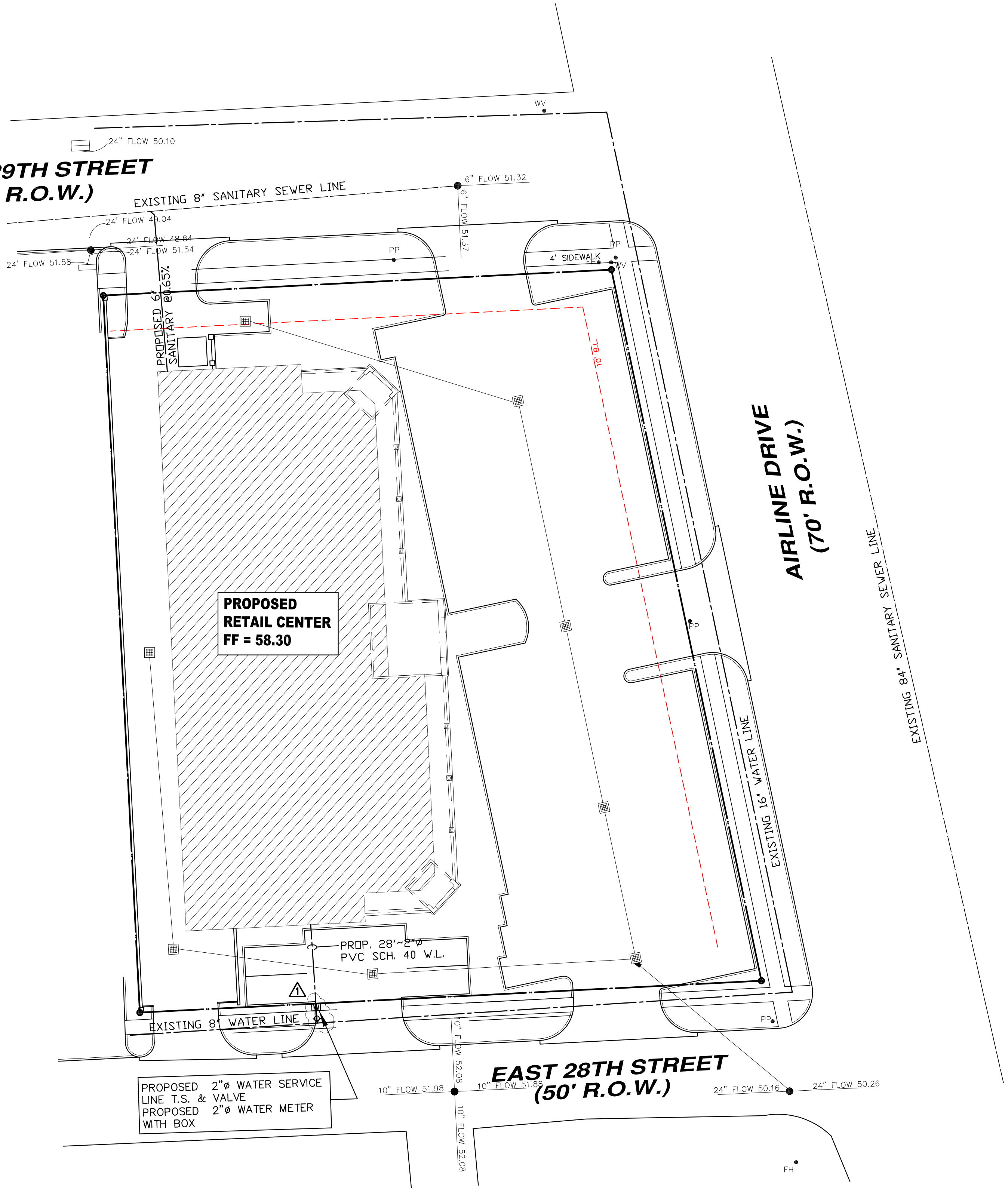
THE INTERFIELD GROUP, LLC
ENGINEERS, PROJECT & CONSTRUCTION MANAGERS
401 STUDEWOOD, SUITE 300
HOUSTON, TEXAS 77007
TEL. (713) 780-0909
FAX. (713) 780-8550

ISSUED: DECEMBER, 2007
CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	STREET AND BRIDGE
WASTEWATER	TRAFFIC & TRANSPORTATION
STORM	STORM WATER QUALITY
FACILITIES	
CITY ENGINEER	FOR CITY OF HOUSTON USE ONLY CITY DWG NO:
DIRECTOR OF PUBLIC WORKS AND ENGINEERING	
SHEET NO: 1 OF 5	

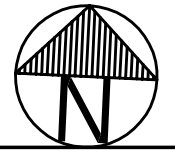
EAST 29TH STREET
(50' R.O.W.)



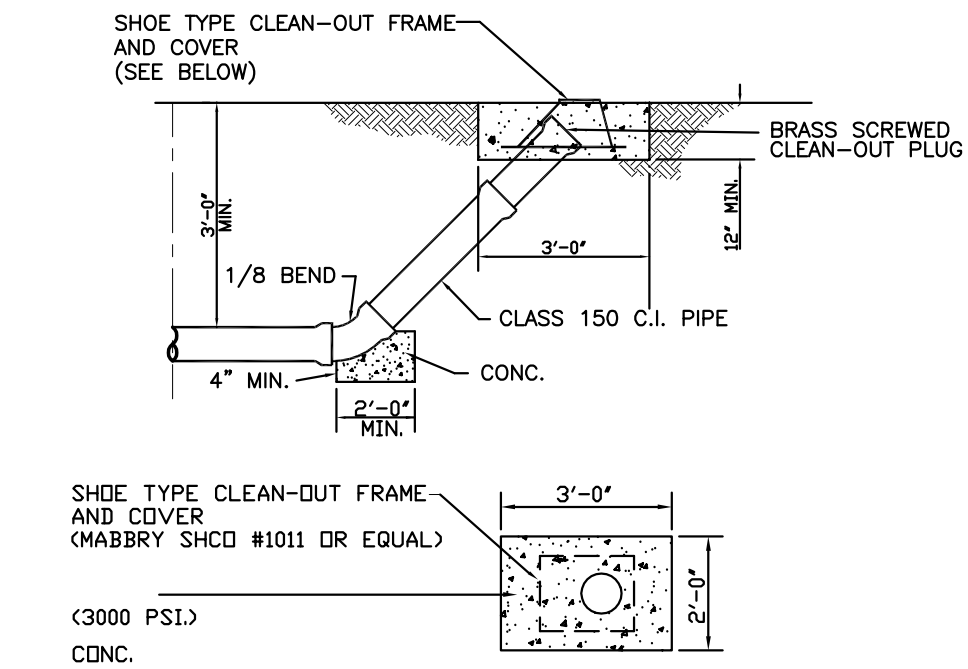
RE: ARCHITECTURAL DWGS FOR ALL BUILDING AND SITE DIMENSIONS

SITE UTILITIES PLAN

SCALE: 1"= 20'-0"



IMPORTANT NOTE:
PRIOR TO COMMENCING GRADING OR ON-SITE UTILITIES WORK, CONTRACTOR SHALL FIELD-VERIFY LOCATION & DEPTH OF ALL OFF-SITE UTILITIES TO ASCERTAIN THAT PROPOSED CONNECTIONS CAN BE MADE AS INDICATED IN THESE DRAWING.
INFORM ENGINEER OF ANY DISCREPANCIES OR CONFLICTS THAT MAY IMPACT WORK DESCRIBED HEREIN.



STANDARD SANITARY SEWER CLEAN OUT DETAIL

GENERAL NOTES: GRADING, DRAINAGE & PAVING

(THESE NOTES CONTROL EXCEPT AS NOTED OTHERWISE IN PLANS & DETAILS)

SITE GRADING & DRAINAGE

- CONTRACTOR/BUILDER SHALL FIELD-VERIFY EXISTING ELEVATIONS AND SET FINISH FLOOR(FE) ELEVATION AT LEAST ONE (1) FOOT ABOVE EACH OF THE FOLLOWING, WHICHEVER IS HIGHER:
A. RIM ELEVATION OF NEAREST SANITARY SEWER MANHOLE;
B. BASE FLOOD ELEVATION, ACCORDING TO FEMA MAPS & TOPOGRAPHIC SURVEY DATA;
C. CROWN OR HIGHEST ELEVATION OF FRONTAGE STREET
NOTIFY ENGINEER IF FF ELEVATION IS DIFFERENT THAN THAT SHOWN ON PLAN.
- PROPOSED FF ELEVATION IS MINIMUM. BUILDER MAY SET SLAB @ A HIGHER ELEVATION, BUT NOTIFY ENGINEER PRIOR TO SETTING FORM.
- FINISH GRADE ELEVATIONS @ SIDE & REAR PROPERTY LINES SHALL MATCH EXISTING GRADE ELEVATIONS U.O.N.
- ALL EXCAVATED SOIL FROM FOUNDATIONS SHALL BE REMOVED FROM CONSTRUCTION SITE AND MAY NOT BE USED AS FILL DIRT, UNLESS SPECIFICALLY APPROVED BY FOUNDATION SYSTEM ENGINEER.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY.

STORM SEWER SYSTEM

- STORM SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATION AS CURRENTLY AMENDED.
- PIPE MATERIAL
A. STORM SEWER PIPE MATERIAL SHALL BE HDPE TYPE "S" WITH CORRUGATED EXTERIOR & SMOOTH INTERIOR. WALLS, PIPE MATERIAL SHALL CONFORM TO:
AASHTO STANDARD M252 (PIPE 10" OR SMALLER) AND
AASHTO STANDARD M294 (PIPE 12" OR LARGER).
JOINTS SHALL UTILIZE RUBBER GASKET FITTINGS.
B. STORM SEWER PIPE WITHIN CITY RIGHT-OF-WAY SHALL BE REINFORCED CONCRETE (ROP).
- SET STORM SEWER MANHOLE RIMS TO MATCH FINISH GRADE.
- STORM SEWER INLETS SHALL BE PARK EQUIPMENT CATCH BASINS, U.N.O.
- CONCRETE PIPE SHALL BE BEDDED WITH CEMENT STABILIZED SAND IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATIONS FOR CONCRETE PIPE.
- PVC PIPE SHALL BE BEDDED WITH A MINIMUM OF ONE FOOT OF CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL BE LAID IN 6" LIFTS COMPOSED TO 95% STD. PROCTOR MAX. DRY DENSITY (ASTM D698).

PAVING

- SUBGRADE PREPARATION:
A. STRIP PAVEMENT AREAS TO REMOVE ALL TOP SOIL, DEBRIS AND VEGETATION. REMOVE TREE STUMPS AND ROOTS.
B. OVER-EXCAVATE SOFT AREAS AND REPLACE WITH SELECT FILL, FREE OF ORGANIC MATTER, WITH PLASTICITY INDEX OF 7 TO 20 AND A MINIMUM LIQUID LIMIT OF 28 PERCENT. FILL SHALL BE PLACED IN SIX(6) TO EIGHT(8) INCH LOOSE LIFTS AND COMPACTED TO 95% OF STD. PROCTOR (ASTM D698-78) MAX DRY DENSITY.
C. PROOF-ROLL TO 95% OF STD. PROCTOR (ASTM D698-78) MAXIMUM DRY DENSITY.
D. STABILIZE SUBGRADE PER GEOTECHNICAL ENGINEERS RECOMMENDATION OR PER SOILS REPORT.
E. COMPACT TO 95% OF STD. PROCTOR (ASTM D698-78) MAXIMUM DRY DENSITY.
- PROVIDE 6" THICK CONCRETE PAVEMENT.
- CONCRETE COMPRESSIVE STRENGTH = 3,000 PSI @ 28 DAYS.
- REINFORCEMENT: #4 @ 18" EA. WAY. ASTM A615 GRADE 60.
- REINFORCEMENT SHALL BE SUPPORTED ON METAL OR PLASTIC CHAIRS, SPACED AT A MAXIMUM OF FOUR (4) FEET EACH WAY.
- PAVEMENT JOINTS:
A. EXPANSION JOINTS, AS DETAILED IN THESE DRAWINGS, SHALL BE INSTALLED AT A MAXIMUM SPACING OF SIXTY (60) FEET.
B. SAW-CUT JOINTS SHALL BE PLACED AT A MAXIMUM SPACING OF TWENTY (20) FEET.
- WHERE NOT INDICATED ON DRAWINGS MAXIMUM PAVEMENT SLOPE SHALL BE 0.50%.
- EXCESS SOIL MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR & IS TO BE DISPOSED OFFSITE RESPONSIBLY.

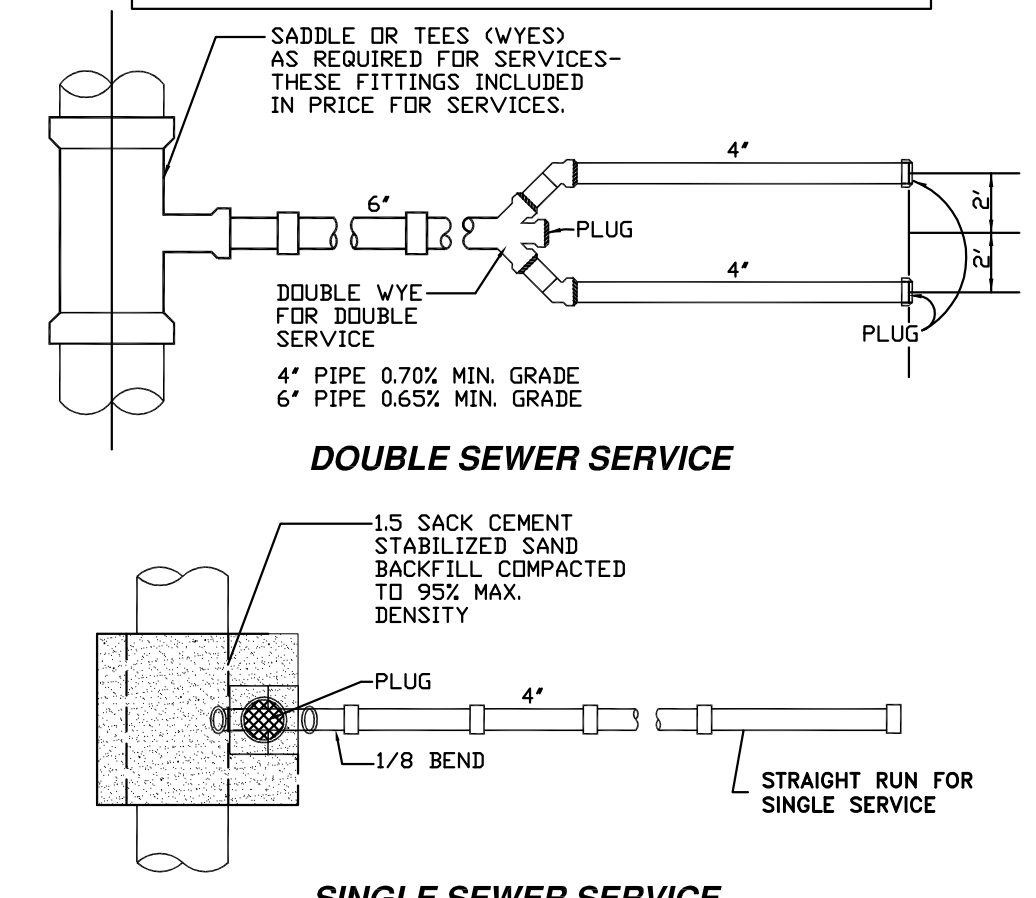
SIDEWALKS

- TYPICAL WIDTH OF SIDEWALK = 4.00 FT. TYPICAL THICKNESS = 4 INCHES.
- CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH (F_c)= 3,000 PSI.
- SIDEWALKS SHALL BE REINFORCED WITH #4 @ 18" O.C.E.W.
- TRANSVERSE MARKINGS OR PLANES OF WEAKNESS SHALL BE PROVIDED AT 4 FEET O.C. MAX.
- EXPANSION JOINTS SHALL BE PROVIDED AT NOT MORE THAN 40-FOOT INTERVALS BY USE OF 3/4 INCH REDWOOD EXPANSION JOINTS.
- THREE 1/2 INCH DIA. x 3'-0" DOWELS SHALL BE PROVIDED AT EACH EXPANSION JOINT, EXTENDING NINE (9) INCHES EITHER SIDE OF JOINT. DOWELS SHALL BE WRAPPED IN ROOFING FELT OR TREATED PAPER TO PREVENT BOND, ON ONE END ONLY.

DRIVEWAY

- PROPOSED DRIVEWAY, SIDEWALK, CURB, GUTTER LINE AND GRADE SHALL MATCH EXISTING STREET.
- PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, 5-1/2 SACK CEMENT PER CUBIC YARD, 7 INCHES THICK, FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE (PROPERTY LINE).
- PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE #4 REINFORCING BARS (ASTM A615 GRADE 60), SPACED AT 18 INCHES O.C., EACH WAY, WITH 10 INCHES MINIMUM LAP, FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE.
- PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE TIED TO EXISTING ROADWAY REINFORCING STEEL WITH A MINIMUM LAP OF 8 INCHES.
- PROPOSED GUTTER LINE IS TO BE MAINTAINED AT FACE OF EXISTING CURB.
- SAW CUT EXISTING CURB AT EACH END AND KNOCK OUT CURB FROM BEGINNING TO END OF PROPOSED DRIVEWAY.
- SAW CUT EXISTING PAVEMENT A MINIMUM OF 12 INCHES AWAY FROM FACE OF CURB (GUTTER LINE) AND BREAK OUT TO EXPOSE EXISTING REINFORCEMENT STEEL.
- COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO RIGHT-OF-WAY LINE, COMPACT TO 95% OF STANDARD PROCTOR DENSITY (+/- 2% OPTIMUM MOISTURE). THE ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
- IF MORE THAN ONE PROPOSED DRIVEWAY IS BUILT ON THE SAME PROPERTY, SAID DRIVEWAYS SHALL BE SEPARATED BY A MINIMUM DISTANCE OF 20 FEET (ROADWAYS W/ CURBS SIDEWALKS).
- REINFORCING STEEL SHALL BE ELEVATED A MINIMUM OF 3" ABOVE SUBGRADE. 3 INCH MANUFACTURED CHAIRS ARE REQUIRED WITH MAXIMUM SPACING OF 72 INCHES EACH WAY.

NOTES:
1. ALL SINGLE SEWER SERVICES AND DOUBLE SEWER SERVICES, AS SHOWN, ARE INTERCHANGEABLE, AS REQUIRED, TO CONNECT WITH STACKS, DOUBLE WYES AND WYES, AS REQUIRED, TAPS FOR PVC PIPE TO BE PVC "T"- OR "Y"- SADDLE.
2. PROVIDE LOCATOR WIRE LOOPS FROM EACH SERVICE CONNECTION TO NEAREST MANHOLE.



STANDARD SANITARY SEWER SERVICE LEAD DETAIL

GENERAL NOTES: SITE UTILITIES

(THESE NOTES CONTROL EXCEPT AS NOTED OTHERWISE IN PLANS & DETAILS)

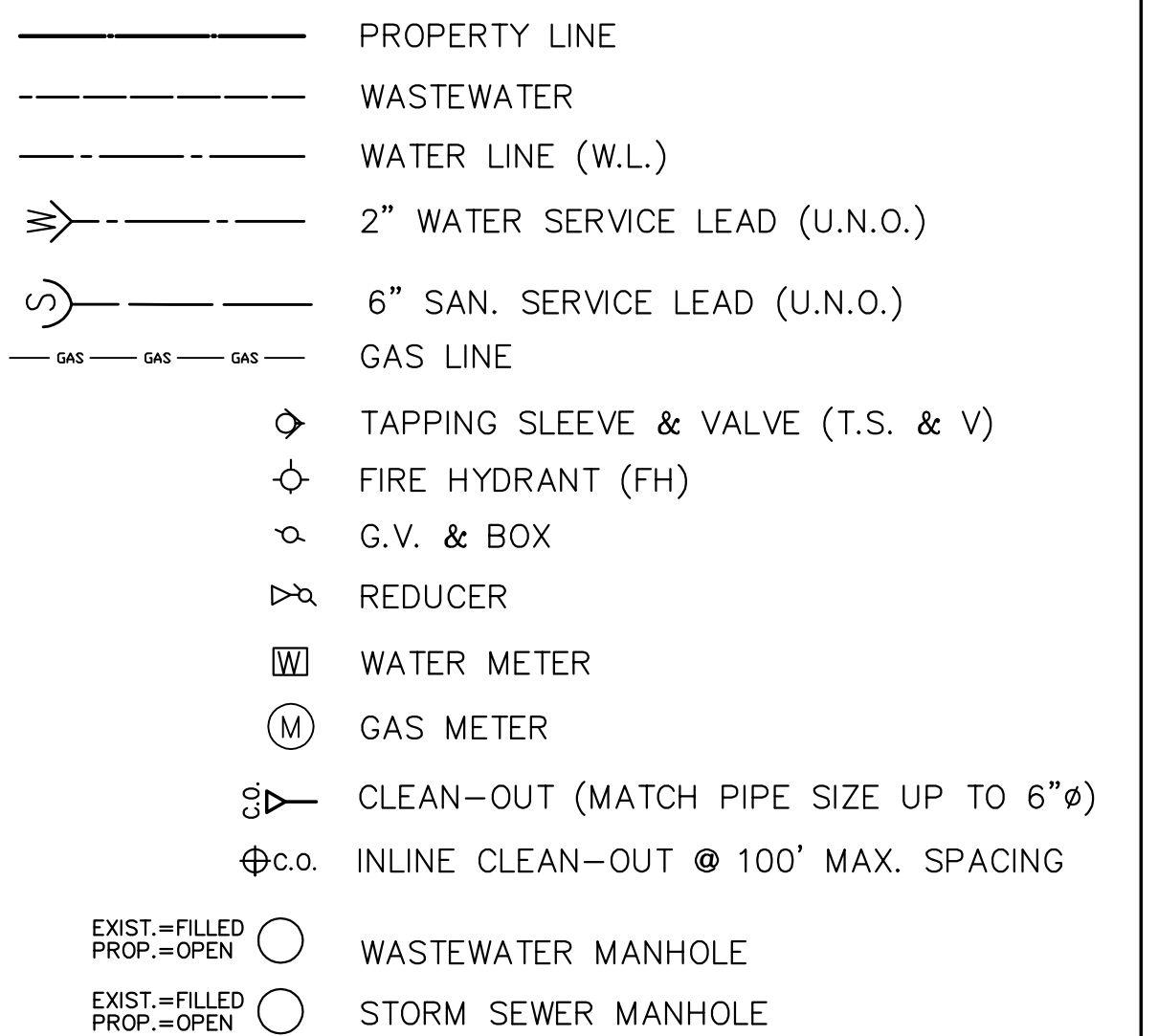
SANITARY SEWER SYSTEM

- PVC SANITARY SEWER PIPE SHALL BE SDR 26, U.N.O. ON PLANS.
- PIPE SHALL BE BEDDED WITH A MINIMUM OF ONE FOOT OF CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL BE LAID IN 6" LIFTS COMPACTED TO 95% STANDARD PROCTOR OF MAXIMUM DRY DENSITY
- SANITARY SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATION AS CURRENTLY AMENDED.
- PLACE IN-LINE CLEAN-OUT AT LEAST EVERY 90 FEET FOR PIPE SIZES 6" OR SMALLER. CLEAN-OUT SHALL MATCH PIPE SIZE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SAFELY SHORING ALL TRENCHES IN EXCESS OF 6'-0" IN DEPTH, IN COMPLIANCE W/ OSHA.

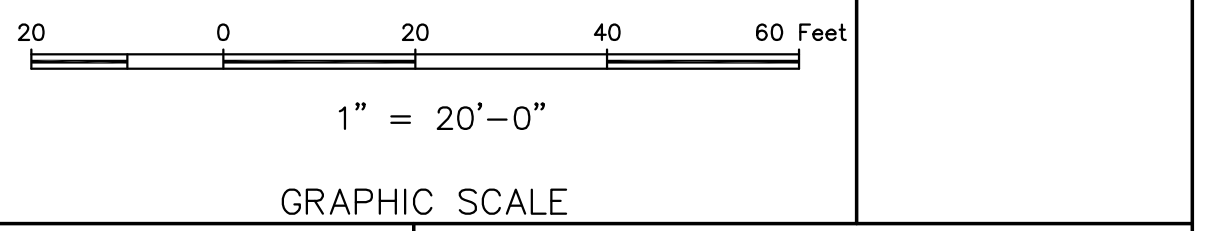
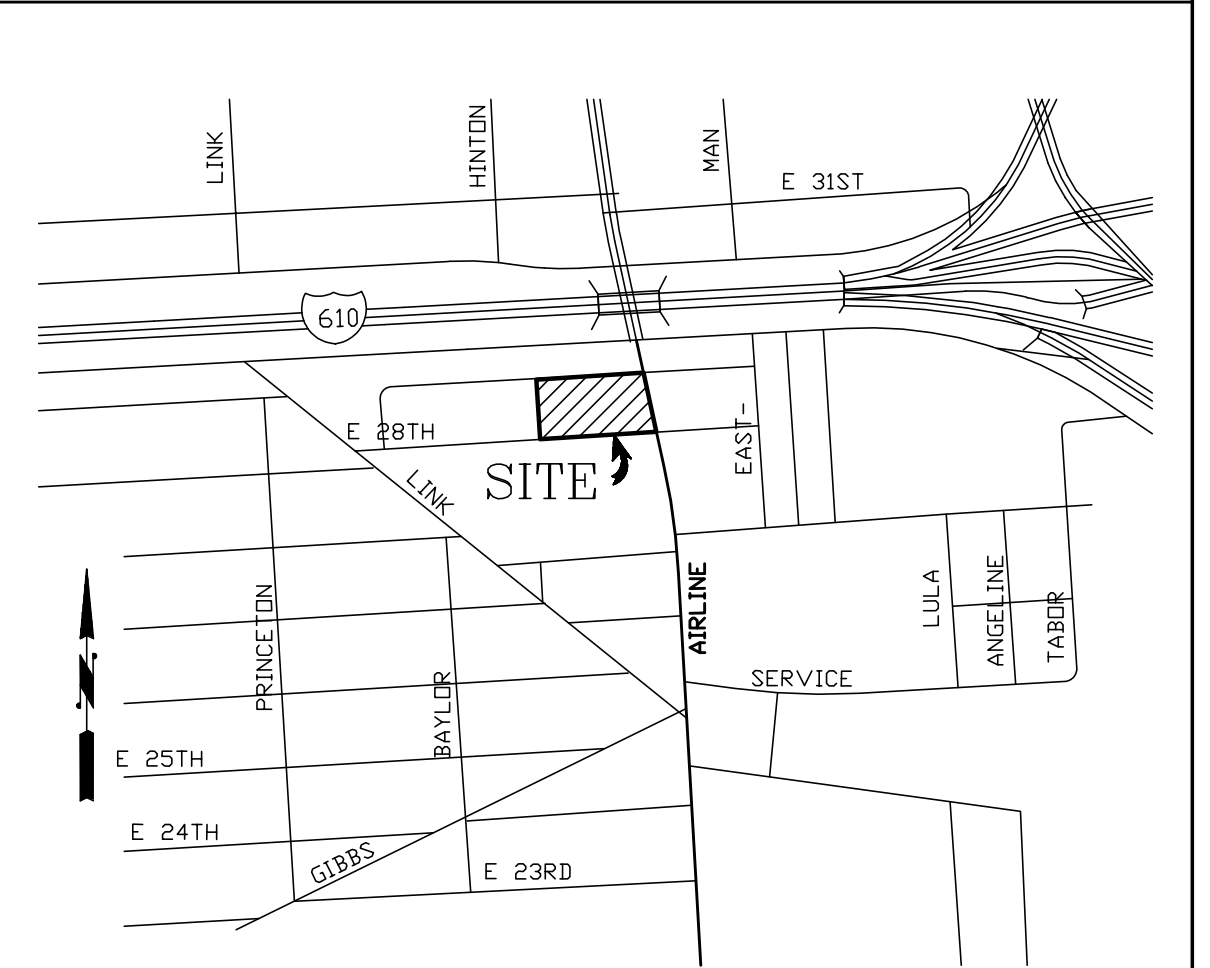
DOMESTIC WATER SYSTEM

- WATER LINE SHALL BE SCHEDULE 40 PVC PIPE, U.N.O. ON PLANS.
- WATER LINE SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATION FOR WATER MAIN CONSTRUCTION AS CURRENTLY AMENDED.
- WATER LINE SHALL HAVE BANK SAND BEDDING AND BACKFILL.
- PROVIDE THRUST BLOCKING ACCORDING TO CITY OF HOUSTON STANDARDS & SPECIFICATIONS.
- PROVIDE A MINIMUM 6-INCHES OF CLEARANCE AT STORM SEWER AND WATER LINE CROSSING.

LEGEND



VICINITY MAP (N.T.S.)



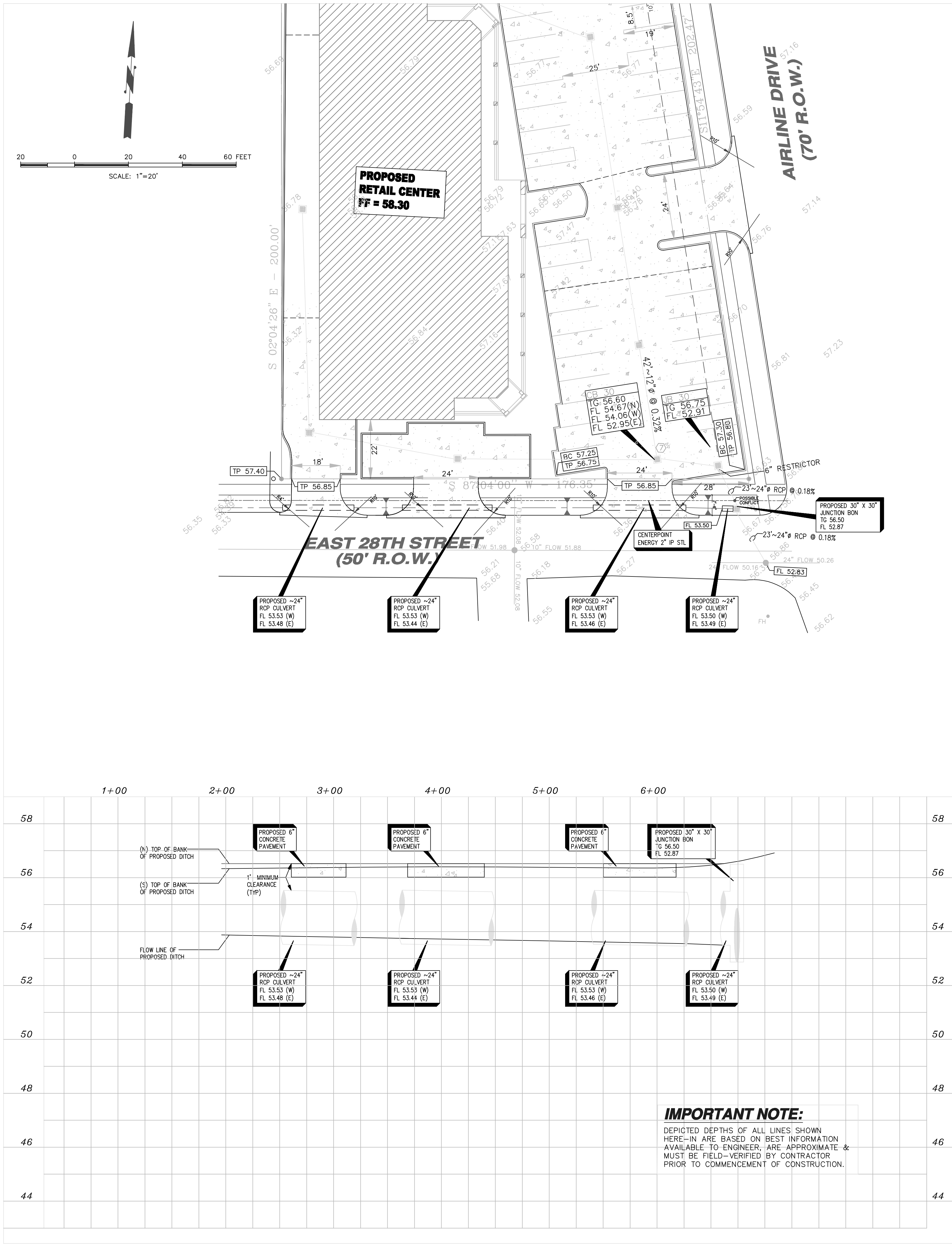
ISSUE HISTORY		REVISIONS	
DATE	ISSUED FOR	DATE	DESCRIPTION
	CLIENT REVIEW	10/17/07	CITY COMMENTS DATED 08/21/07
07/24/07	PERMIT		
	BIDDING		
	CONSTRUCTION		

THE INTERFIELD GROUP
ENGINEERS, PROJECT & CONSTRUCTION MANAGERS
401 STUDEWOOD, SUITE 300
HOUSTON, TEXAS 77007
TEL (713) 780-0909
FAX (713) 780-8550

MILAGRO BUILDING COMPANY
PROPOSED NEW DEVELOPMENT
2811 AIRLINE
HOUSTON, TEXAS 77007

SITE UTILITIES PLAN

DRAWN BY: JB	DATE: 07/20/07	SHEET:
CHECKED BY: MFG	PROJ. NO.: 07038.00	C1.3 OF: 3



CENTERPOINT GAS

1. LOCATION OF CENTERPOINT GAS MAIN LINES (TO INCLUDE UNIT GAS TRANSMISSION, AND/OR INDUSTRIAL GAS SUPPLY CORP. WHERE APPLICABLE) ARE SHOWN IN APPROX. LOCATIONS ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-669-8344 A MINIMUM 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE & PRESERVE THESE UNDERGROUND FACILITIES.

2. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE.

3. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE EXCESSIVE STRESS ON THE PIPING.

4. WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

5. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.

6. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

CENTERPOINT ELECTRIC

1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT 713-207-7777.

CITY OF HOUSTON (C/H) NOTES

1. PERMITS
THIS PROJECT INCLUDES WORK TO BE PERFORMED IN THE CITY OF HOUSTON RIGHT OF WAY AND MUST BE PERMITTED PRIOR TO CONSTRUCTION. CONTACT THE REQUIRED SECTION BELOW AS INDICATED:
3300 MAIN: PAVING 713-535-7597, SANITARY 713-535-7885, WATER 713-535-7885, STORM 713-535-7579
611 WALKER: STREET CUT 713-837-0546

2. DOCUMENTS REQUIRED
FULL-SIZE PLAN SETS ARE REQUIRED TO OBTAIN THE APPROPRIATE C/H PW&E-TYPE PERMITS FOR SUCH WORK AS IS SHOWN ON (OR REQUIRED FOR) THESE PLANS, INCLUDING ANY: STREET CUT, LANE/SIDEWALK CLOSURE, TRENCH SAFETY, AND/OR TRAFFIC CONTROL PLAN(S) & THEIR APPLICABLE PERMIT(S) REQUIRED FOR SAID WORK, WHETHER CONTAINED WITHIN THIS PLAN SET OR SUPPLEMENTAL PLAN SHEET(S) OR SET(S). NOTE: THIS SET CONTAINS FIVE (5) SHEETS.

3. MAINTENANCE OF PRIVATE SANITARY SEWER SERVICE LINES
ALL 6"-8" (PLUS) (PRIVATE) SANITARY SERVICE SEWER(S), LEADS, CONNECTIONS, AND/OR ROAD BORES SHOWN ARE TO BE PRIVATELY OWNED, OPERATED AND MAINTAINED BY THE SERVICED PROPERTY OWNER(S), EXCEPT FOR ANY (CITY) REPAIR AND/OR REPLACEMENT WORK REQUIRED UNDER THE CITY ROAD'S NOMINAL WIDTH VEHICULAR PAVEMENT TRAFFIC LANES/AREAS ONLY. ANY OTHER WORK ON SAID LINES UNDER SIDEWALKS, PRIVATE DRIVEWAY APPROACHES AND OTHER NON-VEHICULAR TRAFFIC (& NON-TRAFFIC) AREAS OF THE CITY ROAD RIGHT-OF-WAY(S) WILL BE AT THE EXPENSE OF THE PROPERTY OWNER(S) OF SAID SERVICED PROPERTY.

4. BORE-AND-JACK, OR OPEN-CUT METHOD
THIS APPROVAL IS FOR CONSTRUCTION UTILIZING AUGER/BORE-AND-JACK METHOD ONLY. FOR ANY REASON, IF OPEN-CUT METHOD IS REQUIRED, APPROPRIATE PAVEMENT RESTORATION TYPICAL SHEET SHALL BE SUBMITTED FOR REVIEW AT LEAST 48 HOURS IN ADVANCE BEFORE STARTING CONSTRUCTION. THESE TYPICAL RESTORATION DETAILS SHALL BE DRAWN ON MYLAR, SEALED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS.
PIPE MATERIAL FOR BORE-AND-JACK METHOD SHALL BE D.I.P., THK. CL. 50 - 54.

5. CONTRACTOR'S BOND AND DOCUMENTATION
PRIOR TO THE CONSTRUCTION OF WATER MAINS CONTRACTOR SHALL OBTAIN THE PROPER BONDS AND EXECUTE THE PROPER DOCUMENTS SUPPLIED BY THE PLAN REVIEW OR WATER PERMIT SECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING. FAILURE TO DO SO MAY RESULT IN THE REMOVAL AND RECONSTRUCTION OF THOSE PORTIONS OF THE PUBLIC WATER MAIN INSTALLED PRIOR TO THE ISSUANCE OF THE WORK ORDER GIVEN BY THE APPROPRIATE WATER ENGINEERING BRANCH.

6. FILL DEPTH/GRADING PERMIT
FILL EXCEEDING 1 (ONE) FOOT IN HEIGHT ABOVE NATURAL GRADE REQUIRES A GRADING PERMIT IN COMPLIANCE WITH APPENDIX E 2003 INTERNATIONAL BUILDING CODE (IBC), UNLESS EXEMPTED BY SECT. E103.2. GRADING IN PRIVATE PROPERTIES SHALL BE APPROVED AND PERMITTED BY THE CODE ENFORCEMENT BRANCH OF THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING.

7. TRAFFIC PLAN
IN CASE OF ENCROACHMENT INTO STREET PAVEMENT, TRAFFIC PLAN SHALL BE SUBMITTED BY CONTRACTOR, FOR APPROVAL BY C/H.

PARKS & RECREATION NOTES

1. TREE & PLANT PROTECTION
CONTRACTOR IS TO PRESERVE AND PROTECT EXISTING TREES AND PLANTS FROM FOLIAGE, BRANCH, TRUNK AND/OR ROOT DAMAGE THAT COULD RESULT FROM CONSTRUCTION OPERATIONS AS PER THE CITY OF HOUSTON STREET TREE ORDINANCE AND CITY OF HOUSTON SPECIFICATION 01562, INSIDE OF THE CITY'S EXISTING PAVED PUBLIC ROAD R-0-W'S AND ANY AFFECTED COMMERCIAL B.L. SETBACK AREAS.

2. TREE-CUTTING PERMIT(S)
FOR ANY TREE-CUTTING PERMITS, CONTACT C/H FORESTRY (PARKS & RECREATION DEPARTMENT) @ PHONE NO. 311 OR (713) 867-0379.

STORM SEWER CONSTRUCTION NOTES:

1. STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACKFILLED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 (OCT. 2002) AS APPLICABLE UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

2. ALL STORM SEWER CONSTRUCTED IN SIDELOT EASEMENT SHALL BE R.C.P. (C-76, CLASS III) AND SHALL BE BEDDED IN ACCORDANCE WITH THE CITY OF HOUSTON DRANG NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.

3. ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1- 1/2 SACK CEMENT/C.Y. STABILIZED SAND TO WITH IN ONE (1) FOOT OF SUBGRADE. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.

4. ALL TRENCH BACKFILLS SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS ON EACH LIFT, AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM-698/AASHTO 199).

5. CIRCULAR AND ELLIPTICAL REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINTS CONFORMING TO ASTM C443 AND ASTM C877 RESPECTIVELY.

6. ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24-INCH AND LARGER R.C.P. (C-76, CLASS III).

7. ALL PROPOSED PIPE SUB-OUTS FROM MANHOLES AND INLETS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.

8. CONTRACTOR SHALL PROVIDE 12" MINIMUM CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS.

9. ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS AND VALVE BOXES TO GRADE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF HIS WORK.

11. ALL DITCHES SHALL BE REGRADED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDDED, AND FERTILIZED.

12. ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.

CAUTION: UNDERGROUND GAS FACILITIES

LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE INC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

-WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 AM TO 4:30 PM), FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

-WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTER POINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.

-WHEN CENTER POINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL FACILITIES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713) 207-2222.

GENERAL NOTES:

STREET, BRIDGE AND R.O.W NOTES

- EXISTING PAVEMENT, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF HOUSTON STANDARDS.
- WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS AT ALL INTERSECTIONS WHERE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.
- PRIOR TO STREET CONSTRUCTION, CONTRACTOR SHALL CONTACT THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AT 713-535-7579 OR 713-535-7582 AND COMPLY WITH ALL THE REQUIREMENTS FOR THE ISSUANCE OF THE NECESSARY PERMITS/WORK ORDERS FOR STREET CONSTRUCTION.
- ALL UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY IN THE FIELD THE EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.
- CONTRACTOR SHALL NOTIFY THE OFFICE OF THE CITY ENGINEER, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AT 713-863-1450 FOR INSPECTION AT LEAST 48 HOURS PRIOR TO COMMENCING THE CONSTRUCTION.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.
- CONTRACTOR SHALL COMPLY WITH THE LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION SAFETY.
- IF CONSTRUCTION DOES NOT BEGIN WITHIN A YEAR AFTER THE PLANS HAVE BEEN SIGNED, NEW SIGNATURES MUST BE OBTAINED AND WHERE OF AVAILABILITY MUST BE UPDATED.
- CONTRACTOR SHALL PREPARE A SET OF "AS-BUILT" DRAWINGS SHOWING ANY FIELD CHANGES MADE TO THE APPROVED ENGINEERING PLANS AND SUBMIT TO ENGINEER-OF-RECORD FOR SUBMITTAL TO CITY ENGINEER.
- WATERLINES, WASTEWATER COLLECTION SYSTEMS, PAVING AND STORM DRAINAGE ARE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING DOCUMENTS:
STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING.
STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, AND STREET PAVING" AND
"INFRASTRUCTURE DESIGN MANUAL" PUBLISHED BY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING OCT 2002.
- CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING PUBLIC OR PRIVATE UTILITY LINES, INCLUDING BUT NOT LIMITED TO PAVING, WATER LINES, WASTEWATER COLLECTION SYSTEMS, STORM SEWER AND TRAFFIC SIGNALS DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH CURRENT EDITIONS OF CITY OF HOUSTON STANDARD CONSTRUCTION SPECIFICATIONS, DESIGN DETAILS AND DESIGN MANUALS. REPAIRS SHALL BE AT NO ADDITIONAL COST TO OWNER, OR TO THE CITY OF HOUSTON.

STORM SEWER CONSTRUCTION NOTES

- STORM SEWER PIPE SHALL BE RCP, UNLESS SHOWN OTHERWISE.
- SET STORM SEWER MANHOLE RIMS TO MATCH FINISH GRADE.
- ALL STORM INLETS SHALL BE PARK EQUIPMENT CATCH BASINS OR APPROVED EQUAL, UNLESS SHOWN OTHERWISE.
- STORM SEWER PIPE IN PAVING AREAS SHALL BE BEDDED WITH A MINIMUM OF ONE FOOT OF CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL BE LAID IN 6" LIFTS COMPOSED TO 95% STD. PROCTOR MAX. DRY DENSITY (ASTM D698).
- ALL SEWER TRENCHES UNDER OR WITHIN 1' OF EXISTING OR FUTURE PAVEMENT SHALL BE BACKFILLED AND COMPACTED TO 95% STD. PROCTOR DENSITY WITH CEMENT STABILIZED SAND UP TO 1" OF TOP OF PAVING SUBGRADE. INCLUDE COST OF CEMENT STABILIZED SAND BACKFILL IN UNIT PRICE BID PER LINEAR FOOT FOR SANITARY SEWER LINE.
- EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO THE HARRIS COUNTY STANDARDS.
- DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY.
- PRIOR TO STORM SEWER CONSTRUCTION, THE CONTRACTOR SHALL CONTACT DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AT 713-535-7579 OR 713-535-7582 AND COMPLY WITH ALL REQUIREMENTS FOR THE ISSUANCE OF THE NECESSARY PERMITS/WORK ORDERS.

SWPPP CONSTRUCTION NOTES

- CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG THE ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPP) PLANS TO KEEP SILT AND/OR EXCAVATION MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.
- DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATED MATERIAL CAN BE QUICKLY HAULED AWAY FROM THE SITE AND TO PREVENT IT FROM STAYING UNCOLLECTED ON THE EXISTING PAVEMENT. ANY LOOSE EXCAVATED MATERIAL WHICH FALLS ON PAVEMENTS OR DRIVEWAYS SHALL BE SWEEP BACK INTO THE EXCAVATED AREA.
- CONTRACTOR SHALL CLEAN UP THE EXISTING STREET INTERSECTIONS AND DRIVEWAYS DAILY, AS NECESSARY, TO REMOVE ANY EXCESS MUD, SILT OR ROCK TRACKED FROM THE EXCAVATED AREA.
- CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
- CONTRACTOR IS TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
-DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
-AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
-LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
- CONTRACTOR TO BE RESPONSIBLE TO MAINTAIN EXISTING DITCHES AND/OR CULVERTS FOR UNOBSTRUCTED DRAINAGE AT ALL TIMES. WHERE SODDING IS DISTURBED BY EXCAVATION OR BACKFILLING OPERATIONS, SUCH AREAS SHALL BE REPLACED BY SEEDING OR SODDING. SLOPES 4: 1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING.

TRAFFIC AND TRANSPORTATION

- CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART V OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS M.U.T.C.D. MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
- NO LANES SHALL BE BLOCKED DURING THE HOURS OF: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY.
2a. NO LANES SHALL BE CLOSED IN RESIDENTIAL AREA FROM 7:00 PM TO 7:00 AM.
- CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS.
- CONTRACTOR SHALL MAINTAIN TRAFFIC LAW(S) ACCORDING TO TRAFFIC CONTROL PLAN(S) DURING WORKING HOURS.
- CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW.
- OFF-DUTY UNIFORMED POLICE OFFICER(S)/FLAGGER(S) IS/ARE REQUIRED TO DIRECT TRAFFIC WHEN TRAFFIC LANES ARE BLOCKED.
- IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF PLANS* TO THE PLAN REVIEW SECTION FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.
- APPROVED COPIES OF "TRAFFIC CONTROL PLANS" AND LANE CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITES AT ALL TIMES.
- CONTRACTOR MUST SECURE "LANE/SIDEWALK CLOSURE PERMITS" FROM CITY'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST THREE BUSINESS DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT. NOTE: THAT WORKING HOURS MAY BE RESTRICTED OR THE REQUEST MAY BE DENIED. CALL 713-837-7280 FOR AN APPLICATION.
- CONTACT: 3300 MAIN STREET, 611 WALKER AVE. AND/OR THE APPROPRIATE ON-LINE C/H WEB PAGES TO OBTAIN ALL APPROPRIATE C/H PW&E TYPE PERMITS REQUIRED BY PROPOSED WORK SHOWN ON THESE PLANS. FOR TREE CUTTING PERMITS, CONTACT C/H FORESTRY GROUP.

PRIVATE UTILITY COMPANIES

GENERAL

- GENERAL CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES LOCATED.

SBC

- THE LOCATIONS OF SBC FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL CALL 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF SBC FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE SBC FACILITIES.
- WHEN SBC FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.

BENCHMARK DATA:
ELEVATIONS SHOWN HEREON ARE BASED ON TSARP RM #050150 WITH AN ELEVATION OF 47.72 FEET NAVD 85 2001 ADJUSTMENT

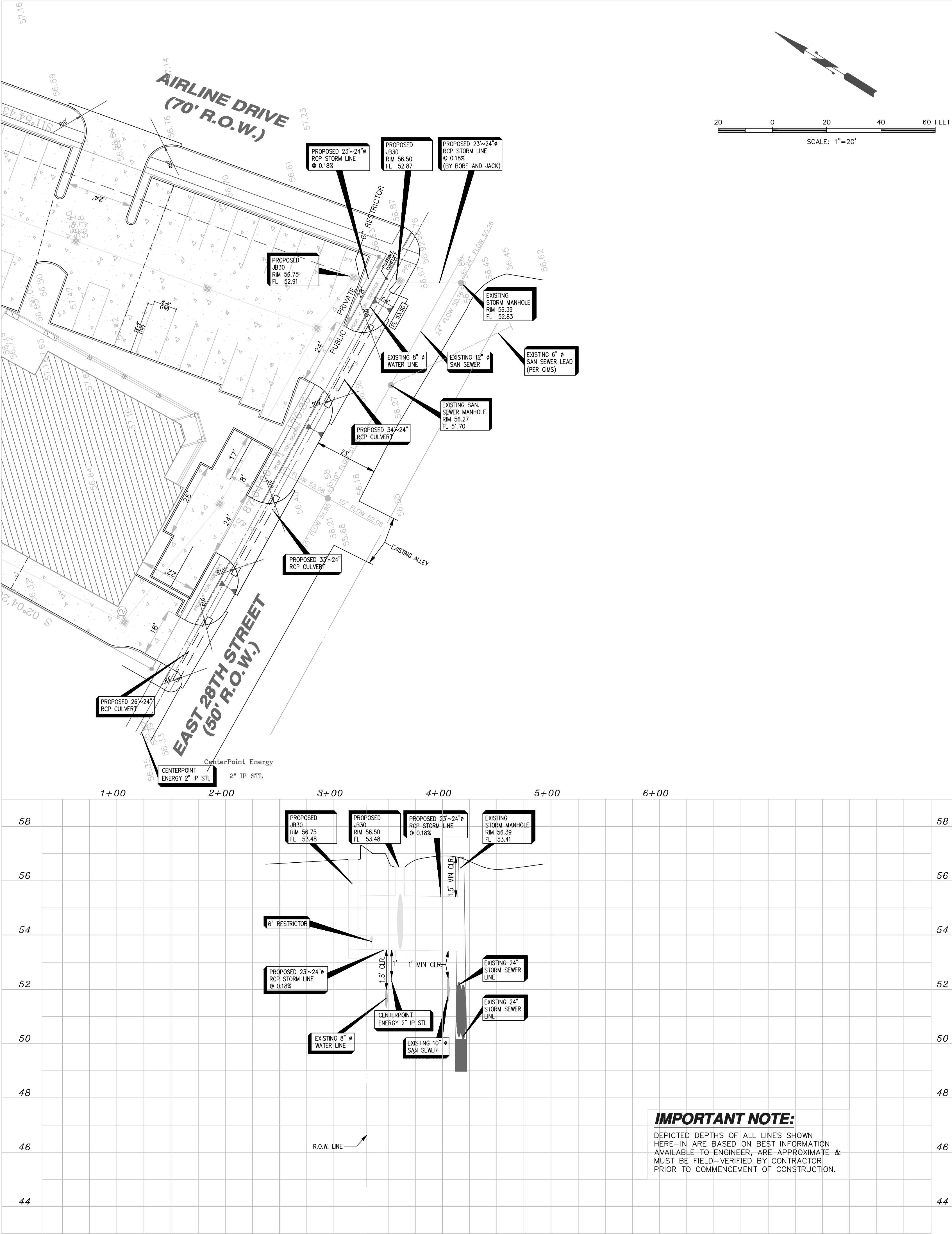
FLOOD PLAIN DATA:
BY GRAPHIC PLOTTING ONLY PART OF THIS PROPERTY LIES IN ZONE "AE" OF THE FLOOD INSURANCE RATE MAP: COMMUNITY 480286 PANEL NO. 482010C-0660 L WHICH BEARS AN EFFECTIVE DATE JUNE 18, 2007 ZONE "AE" DENOTES AREAS INSIDE THE 100 YEAR FLOOD PLAIN. CURRENTLY EFFECTIVE FEMA MAP BASED FLOOD 57.00 FEET.

LEGEND

	PROPOSED STORM SEWER
	EXISTING STORM SEWER
	PROPOSED WASTEWATER
	WATER LINE
	FIRE HYDRANT (FH)
	G.V. & BOX
	POWER LINE
	GAS LINE
	TELEPHONE LINE
	PROPERTY LINE
	STORM WATER MANHOLE
	STORM SEWER MANHOLE
	CLEANOUT
	EXIST TREES

VICINITY MAP
(N.T.S.)

KEY MAP: 453P
ZIP CODE: 77009
GMS NO. 53599



IMPORTANT NOTE:
DEPICTED DEPTHS OF ALL LINES SHOWN HERE-IN ARE BASED ON BEST INFORMATION AVAILABLE TO ENGINEER, ARE APPROXIMATE & MUST BE FIELD-VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

CENTERPOINT GAS

- LOCATION OF CENTERPOINT GAS MAIN LINES (TO INCLUDE UNIT GAS TRANSMISSION, AND/OR INDUSTRIAL GAS SUPPLY CORP. WHERE APPLICABLE) ARE SHOWN IN APPROX. LOCATIONS ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-669-8344 A MINIMUM 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE & PRESERVE THESE UNDERGROUND FACILITIES.
- OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE.
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE EXCESSIVE STRESS ON THE PIPING.
- WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

CENTERPOINT ELECTRIC

- OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED, CALL CENTERPOINT ENERGY AT 713-207-7777.

CITY OF HOUSTON (C/H) NOTES

- PERMITS**
THIS PROJECT INCLUDES WORK TO BE PERFORMED IN THE CITY OF HOUSTON RIGHT OF WAY AND MUST BE PERMITTED PRIOR TO CONSTRUCTION. CONTACT THE REQUIRED SECTION BELOW AS INDICATED:
3300 MAIN: PAVING 713-535-7597, SANITARY 713-535-7885, WATER 713-535-7885, STORM 713-535-7579
611 WALKER: STREET CUT 713-837-0546
- DOCUMENTS REQUIRED**
FULL-SIZE PLAN SETS ARE REQUIRED TO OBTAIN THE APPROPRIATE C/H PW&E-TYPE PERMITS FOR SUCH WORK AS IS SHOWN ON (OR REQUIRED FOR) THESE PLANS, INCLUDING ANY: STREET CUT; LANE/SIDEWALK CLOSURE; TRENCH SAFETY; AND/OR TRAFFIC CONTROL PLAN(S) & THEIR APPLICABLE PERMIT(S) REQUIRED FOR SAID WORK, WHETHER CONTAINED WITHIN THIS PLAN SET OR SUPPLEMENTAL PLAN SHEET(S) OR SET(S). NOTE: THIS SET CONTAINS FIVE (5) SHEETS.
- MAINTENANCE OF PRIVATE SANITARY SEWER SERVICE LINES**
ALL 6"-8" (PLUS) (PRIVATE) SANITARY SERVICE SEWER(S), LEADS, CONNECTIONS, AND/OR ROAD BORES SHOWN ARE TO BE PRIVATELY OWNED, OPERATED AND MAINTAINED BY THE SERVICED PROPERTY OWNER(S), EXCEPT FOR ANY (CITY) REPAIR AND/OR REPLACEMENT WORK REQUIRED UNDER THE CITY ROAD'S NOMINAL WIDTH VEHICULAR PAVEMENT TRAFFIC LANES/AREAS ONLY. ANY OTHER WORK ON SAID LINES UNDER SIDEWALKS, PRIVATE DRIVEWAY APPROACHES AND OTHER NON-VEHICULAR TRAFFIC (& NON-TRAFFIC) AREAS OF THE CITY ROAD RIGHT-OF-WAY(S) WILL BE AT THE EXPENSE OF THE PROPERTY OWNER(S) OF SAID SERVICED PROPERTY.
- BORE-AND-JACK, OR OPEN-CUT METHOD**
THIS APPROVAL IS FOR CONSTRUCTION UTILIZING AUGER/BORE-AND-JACK METHOD ONLY. FOR ANY REASON, IF OPEN-CUT METHOD IS REQUIRED, APPROPRIATE PAVEMENT RESTORATION TYPICAL SHEET SHALL BE SUBMITTED FOR REVIEW AT LEAST 48 HOURS IN ADVANCE BEFORE STARTING CONSTRUCTION. THESE TYPICAL RESTORATION DETAILS SHALL BE DRAWN ON MYLAR, SEALED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS.
PIPE MATERIAL FOR BORE-AND-JACK METHOD SHALL BE D.I.P., THK. CL. 50 - 54.
- CONTRACTOR'S BOND AND DOCUMENTATION**
PRIOR TO THE CONSTRUCTION OF WATER MAINS CONTRACTOR SHALL OBTAIN THE PROPER BONDS AND EXECUTE THE PROPER DOCUMENTS SUPPLIED BY THE PLAN REVIEW OR WATER PERMIT SECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING. FAILURE TO DO SO MAY RESULT IN THE REMOVAL AND RECONSTRUCTION OF THOSE PORTIONS OF THE PUBLIC WATER MAIN INSTALLED PRIOR TO THE ISSUANCE OF THE WORK ORDER GIVEN BY THE APPROPRIATE WATER ENGINEERING BRANCH.
- FILL DEPTH/GRADING PERMIT**
FILL EXCEEDING 1 (ONE) FOOT IN HEIGHT ABOVE NATURAL GRADE REQUIRES A GRADING PERMIT IN COMPLIANCE WITH APPENDIX E 2003 INTERNATIONAL BUILDING CODE (IBC), UNLESS EXEMPTED BY SECT. E103.2. GRADING IN PRIVATE PROPERTIES SHALL BE APPROVED AND PERMITTED BY THE CODE ENFORCEMENT BRANCH OF THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING.
- TRAFFIC PLAN**
IN CASE OF ENCRoACHMENT INTO STREET PAVEMENT, TRAFFIC PLAN SHALL BE SUBMITTED BY CONTRACTOR, FOR APPROVAL BY C/H.

PARKS & RECREATION NOTES

- TREE & PLANT PROTECTION**
CONTRACTOR IS TO PRESERVE AND PROTECT EXISTING TREES AND PLANTS FROM FOLIAGE, BRANCH, TRUNK AND/OR ROOT DAMAGE THAT COULD RESULT FROM CONSTRUCTION OPERATIONS AS PER THE CITY OF HOUSTON STREET TREE ORDINANCE AND CITY OF HOUSTON SPECIFICATION 01562, INSIDE OF THE CITY'S EXISTING PAVED PUBLIC ROAD R-O-W'S AND ANY AFFECTED COMMERCIAL B.L. SETBACK AREAS.
- TREE-CUTTING PERMITS(S)**
FOR ANY TREE-CUTTING PERMITS, CONTACT C/H FORESTRY (PARKS & RECREATION DEPARTMENT) @ PHONE NO. 311 OR (713) 867-0379.

DETENTION VOLUME CALCULATIONS

EXISTING IMPERVIOUS COVER:

EXISTING CONC.DRIVEWAY OR SLAB = 21812.45 SF

PROPOSED IMPERVIOUS COVER:

SLAB PADS = 9704 SF
PAVEMENT = 21399.66 SF
SIDEWALKS = 2135.8 SF (±)
TOTAL = 33239.46 SF = 0.7630 ACRES

INCREASE IN IMPERVIOUS COVER

33239.46 SF - 21812.45 SF = 11427.01 SF = 0.262 AC

REQUIRED DETENTION VOLUME

(@ 0.2 AC.FT./AC) = 0.262 x 0.2 = 0.0524 AC.FT
= 2282.54 CF

PROVIDED DETENTION VOLUME

MAXIMUM WATER SURFACE ELEVATION: 56.85 FT.

PAVEMENT DETENTION PROVIDED= 3647CF
(RE: DRAWING ABOVE)

CAUTION: UNDERGROUND GAS FACILITIES

LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE INC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

-WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 AM TO 4:30 PM), FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

-WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTER POINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.

-WHEN CENTER POINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL FACILITIES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED, CALL CENTERPOINT ENERGY AT (713) 207-2222.

GENERAL NOTES:

STREET, BRIDGE AND R.O.W NOTES

- EXISTING PAVEMENT, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF HOUSTON STANDARDS.
- WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS AT ALL INTERSECTIONS WHERE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.
- PRIOR TO STREET CONSTRUCTION, CONTRACTOR SHALL CONTACT THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AT 713-535-7579 OR 713-535-7582 AND COMPLY WITH ALL THE REQUIREMENTS FOR THE ISSUANCE OF THE NECESSARY PERMITS/WORK ORDERS FOR STREET CONSTRUCTION.
- ALL UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY IN THE FIELD THE EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.
- CONTRACTOR SHALL NOTIFY THE OFFICE OF THE CITY ENGINEER, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AT 713-863-1450 FOR INSPECTION AT LEAST 48 HOURS PRIOR TO COMMENCING THE CONSTRUCTION.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.
- CONTRACTOR SHALL COMPLY WITH THE LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION SAFETY.
- IF CONSTRUCTION DOES NOT BEGIN WITHIN A YEAR AFTER THE PLANS HAVE BEEN SIGNED, NEW SIGNATURES MUST BE OBTAINED AND LETTERS OF AVAILABILITY MUST BE UPDATED.
- CONTRACTOR SHALL PREPARE A SET OF "AS-BUILT" DRAWINGS SHOWING ANY FIELD CHANGES MADE TO THE APPROVED ENGINEERING PLANS AND SUBMIT TO ENGINEER-OF-RECORD FOR SUBMITTAL TO CITY ENGINEER.
- WATERLINES, WASTEWATER COLLECTION SYSTEMS, PAVING AND STORM DRAINAGE ARE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING DOCUMENTS:
STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING
STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, AND STREET PAVING* AND
INFRASTRUCTURE DESIGN MANUAL* PUBLISHED BY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING OCT 2002.
- CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING PUBLIC OR PRIVATE UTILITY LINES, INCLUDING BUT NOT LIMITED TO PAVING, WATER LINES, WASTEWATER COLLECTION SYSTEMS, STORM SEWER AND TRAFFIC SIGNALS DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH CURRENT EDITIONS OF CITY OF HOUSTON STANDARD CONSTRUCTION SPECIFICATIONS, DESIGN DETAILS AND DESIGN MANUALS. REPAIRS SHALL BE AT NO ADDITIONAL COST TO OWNER, OR TO THE CITY OF HOUSTON.

STORM SEWER CONSTRUCTION NOTES

- STORM SEWER PIPE SHALL BE RCP, UNLESS SHOWN OTHERWISE.
- SET STORM SEWER MANHOLE RIMS TO MATCH FINISH GRADE.
- ALL STORM INLETS SHALL BE PARK EQUIPMENT CATCH BASINS OR APPROVED EQUAL, UNLESS SHOWN OTHERWISE.
- STORM SEWER PIPE IN PAVING AREAS SHALL BE BEDDED WITH A MINIMUM OF ONE FOOT OF CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL BE LAID IN 6" LIFTS COMPOSED TO 95% STD. PROCTOR MAX. DRY DENSITY (ASTM D698).
- ALL SEWER TRENCHES UNDER OR WITHIN 1' OF EXISTING OR FUTURE PAVEMENT SHALL BE BACKFILLED AND COMPACTED TO 95% STD. PROCTOR DENSITY WITH CEMENT STABILIZED SAND UP TO WITHIN 1' OF TOP OF PAVING SUBGRADE. INCLUDE COST OF CEMENT STABILIZED SAND BACKFILL IN UNIT PRICE BID PER LINEAR FOOT FOR SANITARY SEWER LINE.
- EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO THE HARRIS COUNTY STANDARDS.
- DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY.
- PRIOR TO STORM SEWER CONSTRUCTION, THE CONTRACTOR SHALL CONTACT DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AT 713-535-7579 OR 713-535-7582 AND COMPLY WITH ALL REQUIREMENTS FOR THE ISSUANCE OF THE NECESSARY PERMITS/WORK ORDERS.

SWPPP CONSTRUCTION NOTES

- STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACKFILLED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 (OCT. 2002) AS APPLICABLE UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- ALL STORM SEWER CONSTRUCTED IN SIDELOT EASEMENT SHALL BE R.C.P. (C-76, CLASS III) AND SHALL BE BEDDED IN ACCORDANCE WITH THE CITY OF HOUSTON DRANG NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.
- ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1- ½ SACK CEMENT/C.Y. STABILIZED SAND TO WITH IN ONE (1) FOOT OF SUBGRADE. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.
- ALL TRENCH BACKFILLS SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS ON EACH LIFT, AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM-698/AASHTO 199).
- CIRCULAR AND ELLIPTICAL REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINTS CONFORMIN TO ASTM C443 AND ASTM C877 RESPECTIVELY.
- ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24-INCH AND LARGER R.C.P. (C-76, CLASS III).
- ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES AND INLETS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE 12" MINIMUM CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS.
- ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS AND VALVE BOXES TO GRADE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF HIS WORK.
- ALL DITCHES SHALL BE REGRADED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDED, AND FERTILIZED.
- ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.

TRAFFIC AND TRANSPORTATION

- CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART V OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS M.U.T.C.D. MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
- NO LINES SHALL BE BLOCKED DURING THE HOURS OF: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY.
2a. NO LINES SHALL BE CLOSED IN RESIDENTIAL AREA FROM 7:00 PM TO 7:00 AM
- CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS.
3a. CONTRACTOR SHALL MAINTAIN TRAFFIC LAW(S) ACCORDING TO TRAFFIC CONTROL PLAN(S) DURING WORKING HOURS.
- CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW.
- OFF-DUTY UNIFORMED POLICE OFFICER(S)/FLAGGER(S) IS/ARE REQUIRED TO DIRECT TRAFFIC WHEN TRAFFIC LANES ARE BLOCKED.
- IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF PLANS* TO THE PLAN REVISE SECTION FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.

- APPROVED COPIES OF "TRAFFIC CONTROL PLANS" AND LANE CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITES AT ALL TIMES.
- CONTRACTOR MUST SECURE "LANE/SIDEWALK CLOSURE PERMITS" FROM CITY'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST THREE BUSINESS DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT. NOTE THAT WORKING HOURS MAY BE RESTRICTED OR THE REQUEST MAY BE DENIED. CALL 713-837-7280 FOR AN APPLICATION.
- CONTACT: 3300 MAIN STREET, 611 WALKER AVE. AND/OR THE APPROPRIATE ON-LINE C/H WEB PAGES TO OBTAIN ALL APPROPRIATE C/H PW&E TYPE PERMITS REQUIRED BY PROPOSED WORK SHOWN ON THESE PLANS. FOR TREE CUTTING PERMITS, CONTACT C/H FORESTRY GROUP.

PRIVATE UTILITY COMPANIES

GENERAL

- GENERAL CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES LOCATED.

SBC

- THE LOCATIONS OF SBC FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL CALL 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO OBTAIN ALL APPROPRIATE C/H PW&E TYPE PERMITS REQUIRED BY PROPOSED WORK SHOWN ON THESE PLANS. FOR TREE CUTTING PERMITS, CONTACT C/H FORESTRY GROUP.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF SBC FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE SBC FACILITIES.
- WHEN SBC FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.

BENCHMARK DATA:

ELEVATIONS SHOWN HEREON ARE BASED ON TSARP RM #050150 WITH AN ELEVATION OF 47.72 FEET NAVD 88 2001 ADJUSTMENT

FLOOD PLAIN DATA:

BY GRAPHIC PLOTTING ONLY PART OF THIS PROPERTY LIES IN ZONE "AE" OF THE FLOOD INSURANCE RATE MAP: COMMUNITY 480296 PANEL NO. 48201C-0660 L WHICH BEARS AN EFFECTIVE DATE JUNE 18, 2007 ZONE "AE" DENOTES AREAS INSIDE THE 100 YEAR FLOOD PLAIN. CURRENTLY EFFECTIVE FEMA MAP BASED FLOOD 57.00 FEET.

LEGEND

=====	PROPOSED STORM SEWER
-----	EXISTING STORM SEWER
-----	PROPOSED WASTEWATER
-----	WATER LINE
-----	FIRE HYDRANT (FH)
-----	G.V. & BOX
-----	POWER LINE
-----	GAS LINE
-----	TELEPHONE LINE
-----	PROPERTY LINE
-----	WASTEWATER MANHOLE
-----	STORM SEWER MANHOLE
-----	CLEANOUT
-----	EXIST TREES

VICINITY MAP



PRIVATE UTILITIES

CENTERPOINT ENERGY
(APPROVAL ONLY FOR CROSSING UNDERGROUND DUCT LINES, UNLESS NOTED)

CENTERPOINT GAS

SBC (Valid for One Year)
Approved only for underground conduit facilities unless noted.

REVISION			
NO.	DESCRIPTION	BY	DATE

THE INTERFIELD GROUP, LLC
ENGINEERS, PROJECT & CONSTRUCTION MANAGERS
401 STUEWEND, SUITE 300 TEL: (713) 780-9999
HOUSTON, TEXAS 77007 FAX: (713) 780-8550

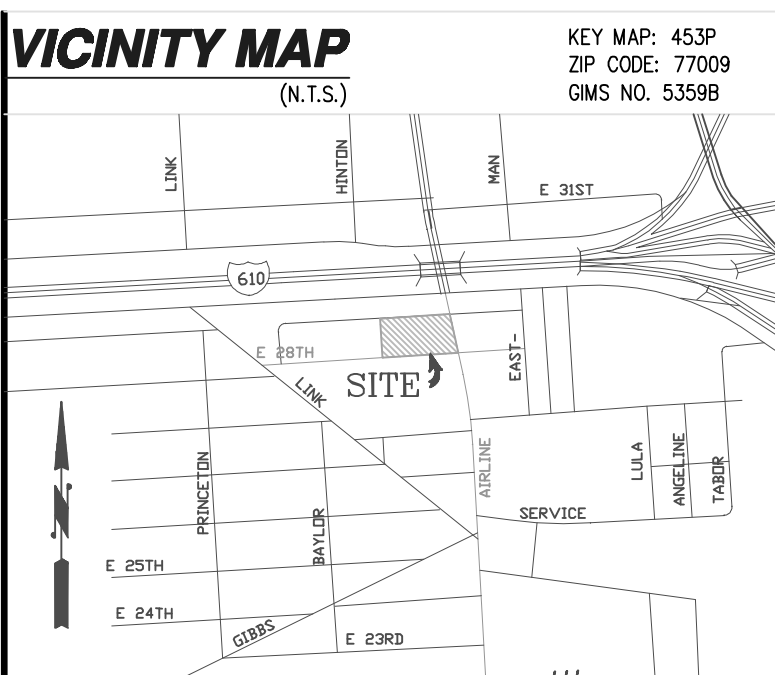
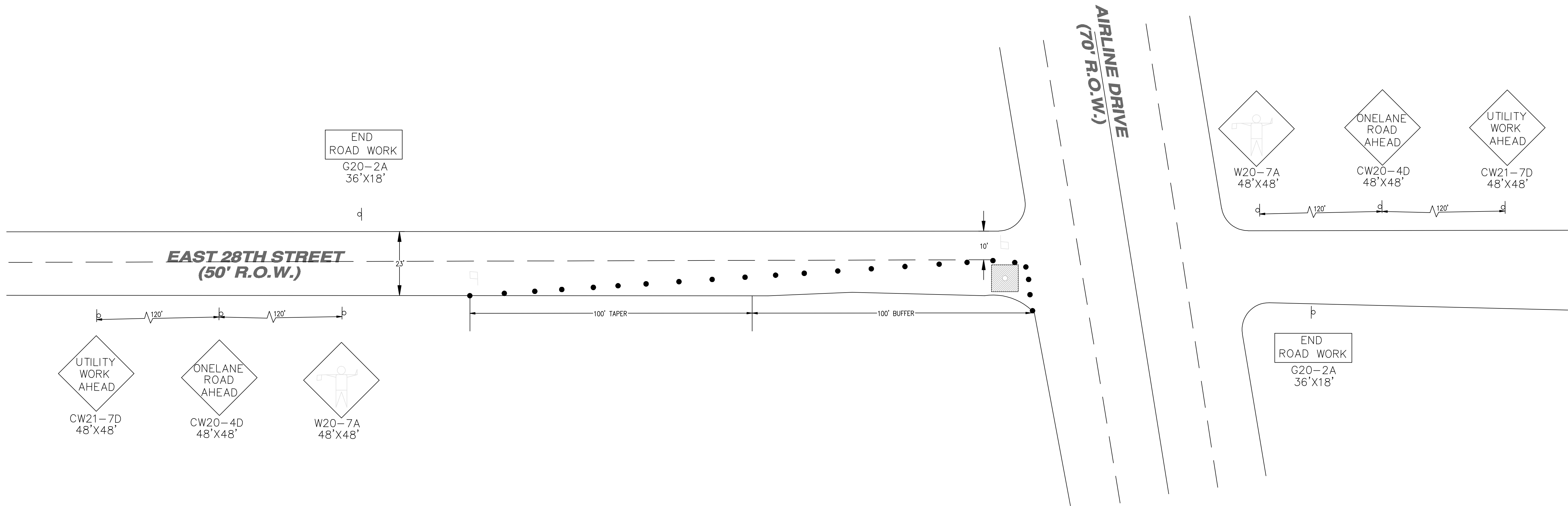
MILAGRO BUILDING COMPANY
PROPOSED STORM SEWER CONNECTION
ALONG EAST 28TH STREET

TIG PROJECT #: 07038.00
COH LOG# 2007-1362
REVISION: DECEMBER, 2007

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	STORM WATER QUALITY
WASTEWATER	TRAFFIC AND TRANSPORTATION
STORM SEWER	WATER PRODUCTION
STREET & BRIDGE	
FILE NO.	
DRAWING SCALE	
1"=20' HORIZONTAL	
1"=2' VERTICAL	
SHEET NO. 2 OF 5	

[illegible]

THE INTERFIELD GROUP, LLC
ENGINEERS, PROJECT & CONSTRUCTION MANAGERS
401 STUDEWOOD, SUITE 300 TEL. (713) 780-0909
HOUSTON, TEXAS 77007 FAX (713) 780-8550

**MILAGRO BUILDING COMPANY
PROPOSED STORM SEWER CONNECTION
ALONG EAST 28TH STREET**

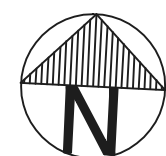
TIG PROJECT #: 07038.00
COH LOG#: 2007-1362

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

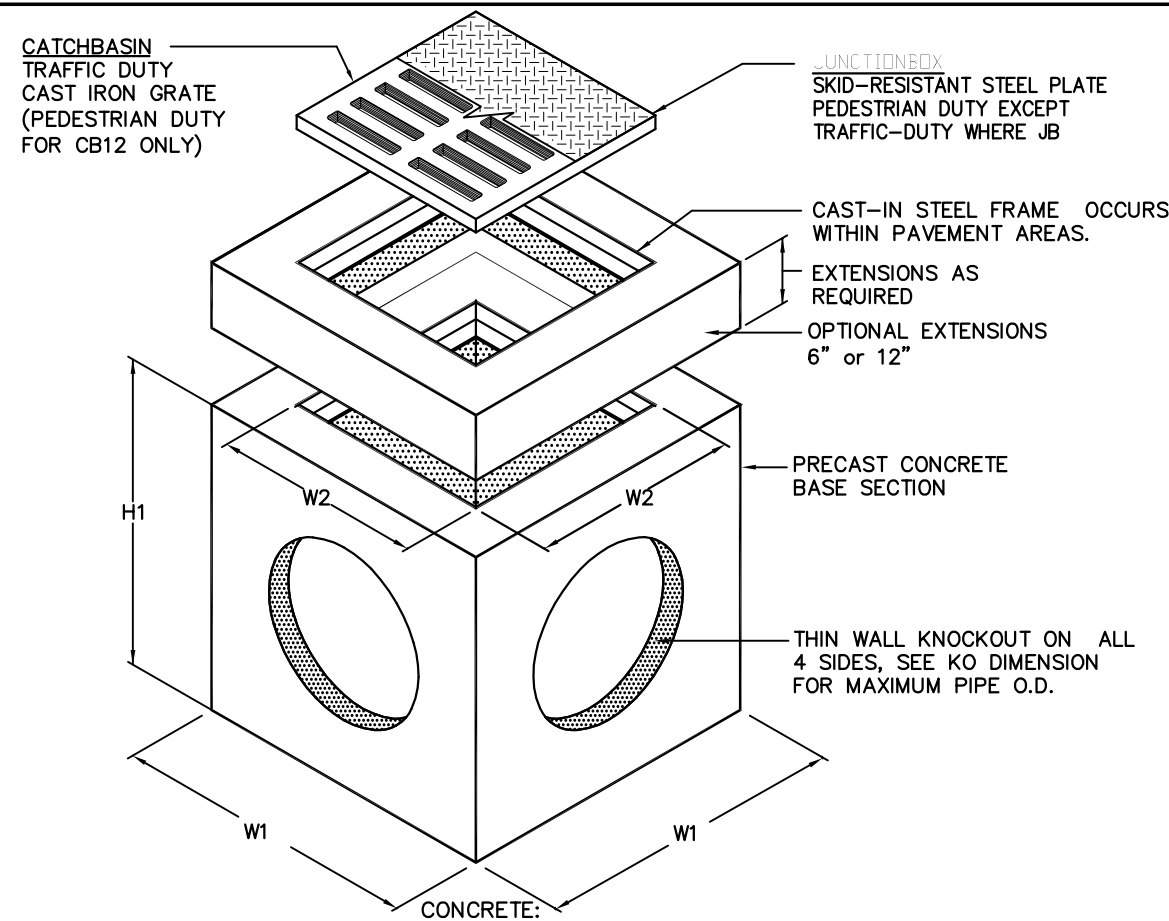
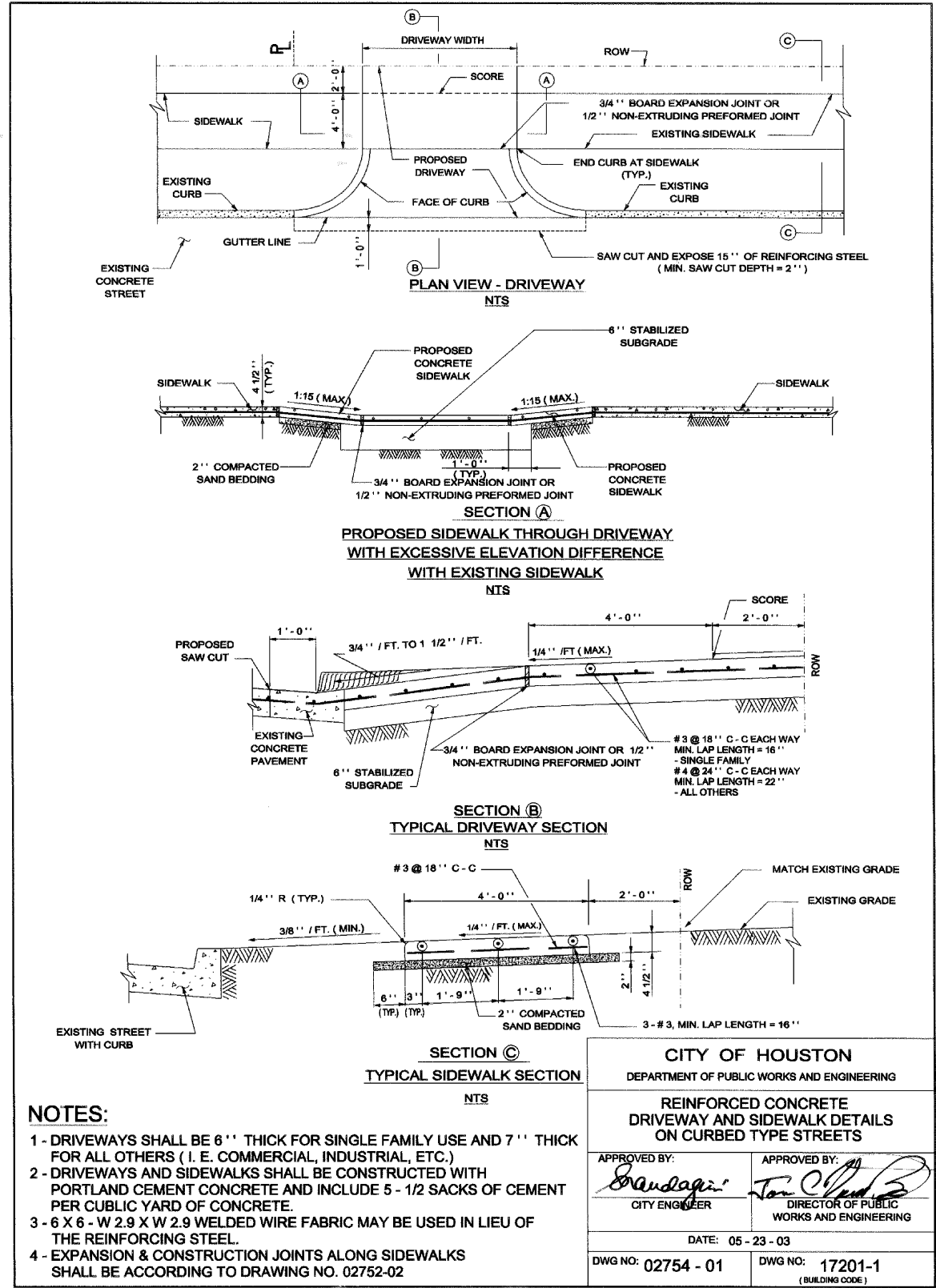
<hr/> WATER <hr/>	<hr/> STORM WATER QUALITY <hr/>
<hr/> WASTEWATER <hr/>	<hr/> TRAFFIC AND TRANSPORTATION <hr/>
<hr/> STORM SEWER <hr/>	<hr/> WATER PRODUCTION <hr/>
<hr/> STREET & BRIDGE <hr/>	<hr/> <hr/>

FILE NO.	
DRAWING SCALE 1"=20' HORIZONTAL 1"=2' VERTICAL	
SHEET NO. 4 OF 5	



LEGEND

---	PROPOSED STORM SEWER (PVC SCHEDULE 40 U.N.O.)
---	EXISTING STORM SEWER
---	PROPERTY LINE
---	GRADE BREAK (G.B.)
---	SLOPE OF PAVEMENT OR FINISH GRADE
---	STORM SEWER MANHOLE
---	CLEAN-OUT (MATCH PIPE SIZE UP TO 6")
---	IN-LINE CLEANOUT (MATCH PIPE SIZE UP TO 6")
---	DRAINAGE AREA DESIGNATION
---	CATCH BASIN (RE: DETAIL & SCHEDULE)
---	8" AREA DRAIN
---	EXISTING NATURAL GRADE ELEVATIONS
---	PROPOSED FINISH FLOOR ELEVATION
---	PROPOSED BACK OF CURB ELEVATION
---	PROPOSED TOP OF PAVEMENT ELEVATION
---	PROPOSED TOP OF INLET GRATE ELEVATION
---	PROPOSED FLOW LINE ELEVATION
---	PROPOSED FINISHED GRADE ELEVATION
---	PROPOSED TOP OF CONCRETE ELEVATION
---	8" SWALE
---	DOWNSPOUT W/ CONNECTOR TO DRAINAGE SYSTEM
---	EXISTING TREE



SPECIFICATIONS:

GENERAL:

1. BASE SECTION SHALL BE OF MONOLITHIC CONSTRUCTION AT FLOOR AND WALLS, WITH SECTIONAL RISERS (EXTENSIONS) TO REQUIRED DEPTH.

2. MANUFACTURER : PARK EQUIPMENT CO., HOUSTON (1 800 256 8041) OR ENGINEER-APPROVED EQUAL.

CONCRETE: 28-DAY COMPRESSIVE STRENGTH(f_c)=4,000 PSI.

REINFORCEMENT: CONFORM TO ASTM 615, GRADE 60 (F_y =60,000 PSI) SIZE & SPACING SHALL BE DETERMINED BY MANUFACTURER.

FRAMES & GRATES SHALL BE MANUFACTURED OF GREY CAST IRON(C.I.) CONFORMING TO ASTM A48, CLASS 30.

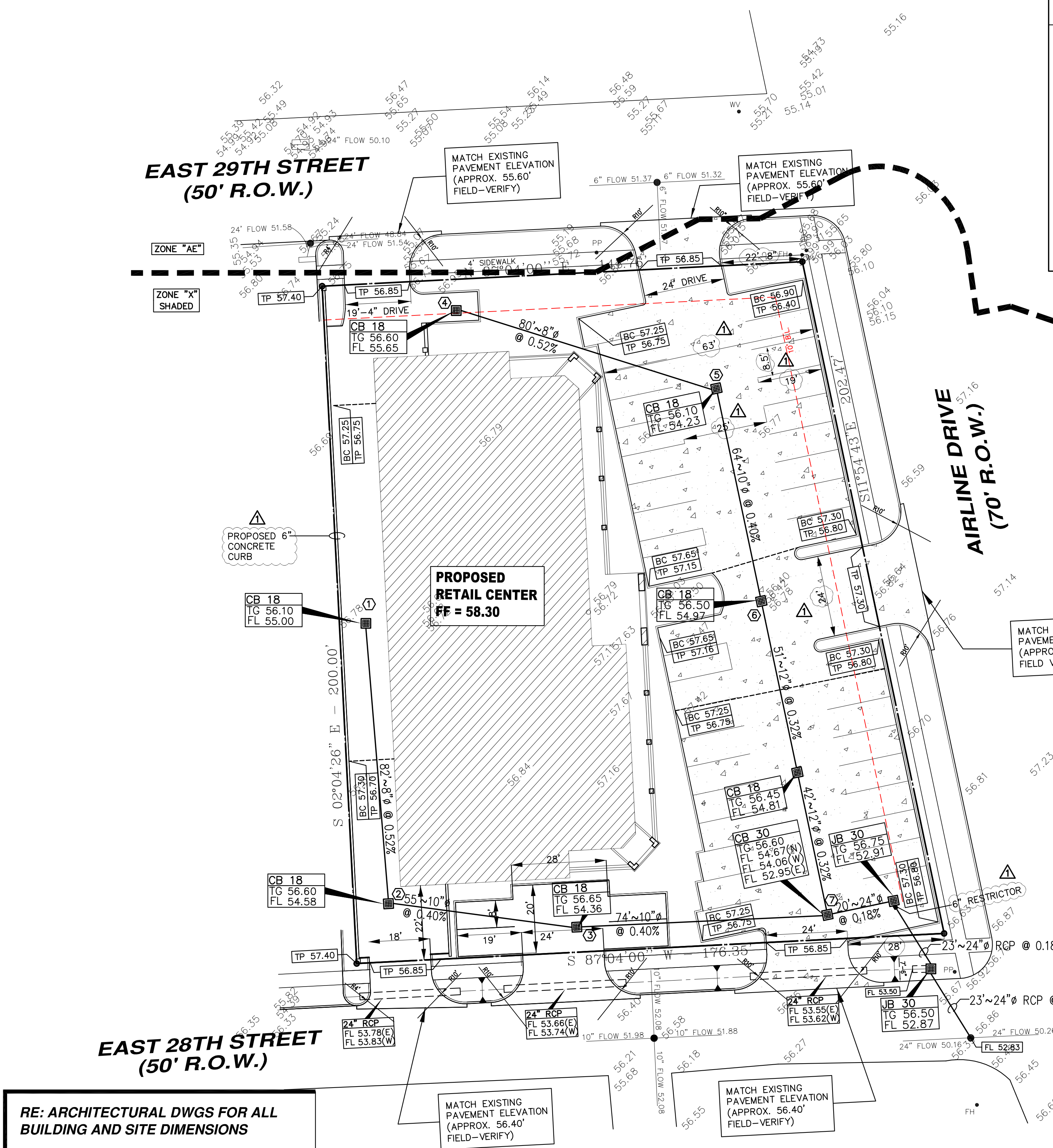
CASTINGS:

MARK		DIMENSIONS					
CATCH BASIN	JUNCTION BOX	W1	W2	H1	KO	GRATE SIZE	WEIGHT LBS
CB12	JB12	15"	10"	21"	10"	12"x12"x1"	180
CB18	JB18	24"	16"	34"	15"	18"x18"x1"	1,000
CB20	JB20	26"	18"	34"	17"	20"x20"x1"	1,335
CB24	JB24	32"	22"	41"	22"	24"x24"x2"	2,245
CB27	JB27	37"	25"	42"	24"	27"x27"x2"	2,875
CB30	JB30	42"	30"	42"	30"	32"x32"x2"	3,675
CB36	JB36	48"	36"	42"	32"	38"x38"x2"	4,585
CB48	JB48	60"	48"	54"	48"	38"x38"x2"	8,900

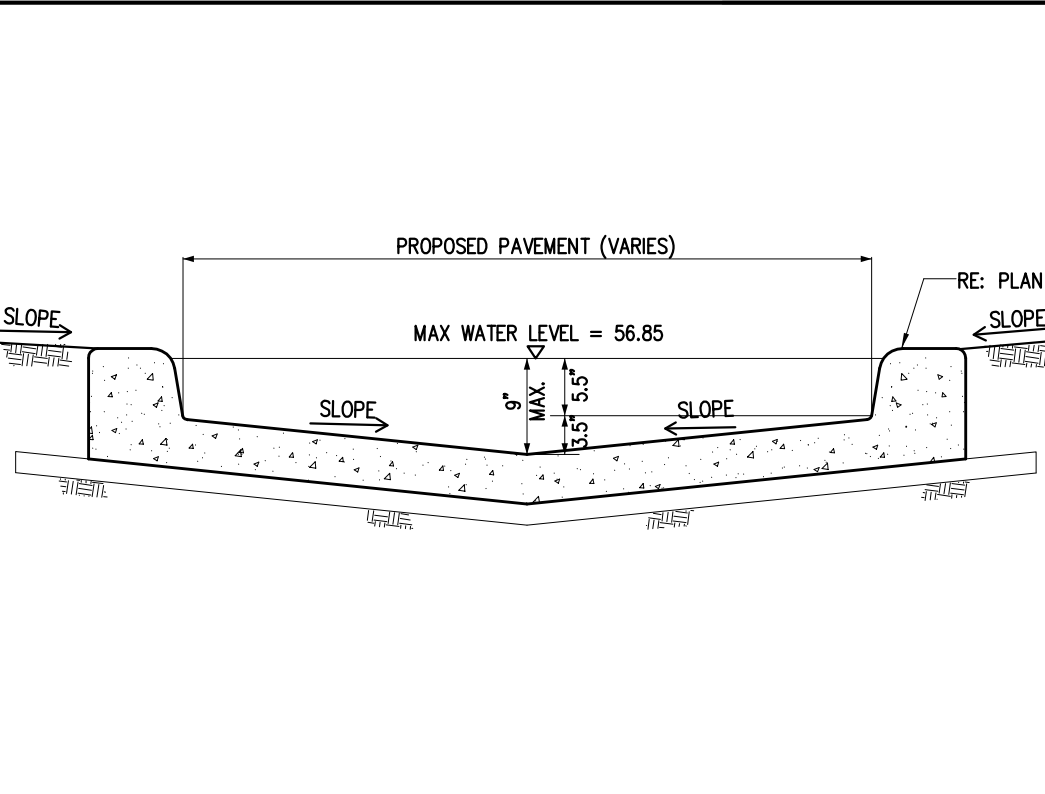
1. CB12 CATCHBASIN IS RATED FOR PEDESTRIAN LOADING, ALL OTHERS ARE TRAFFIC DUTY.

2. ALL JUNCTION BOXES ARE STANDARD PEDESTRIAN DUTY OR OPTIONAL TRAFFIC DUTY.

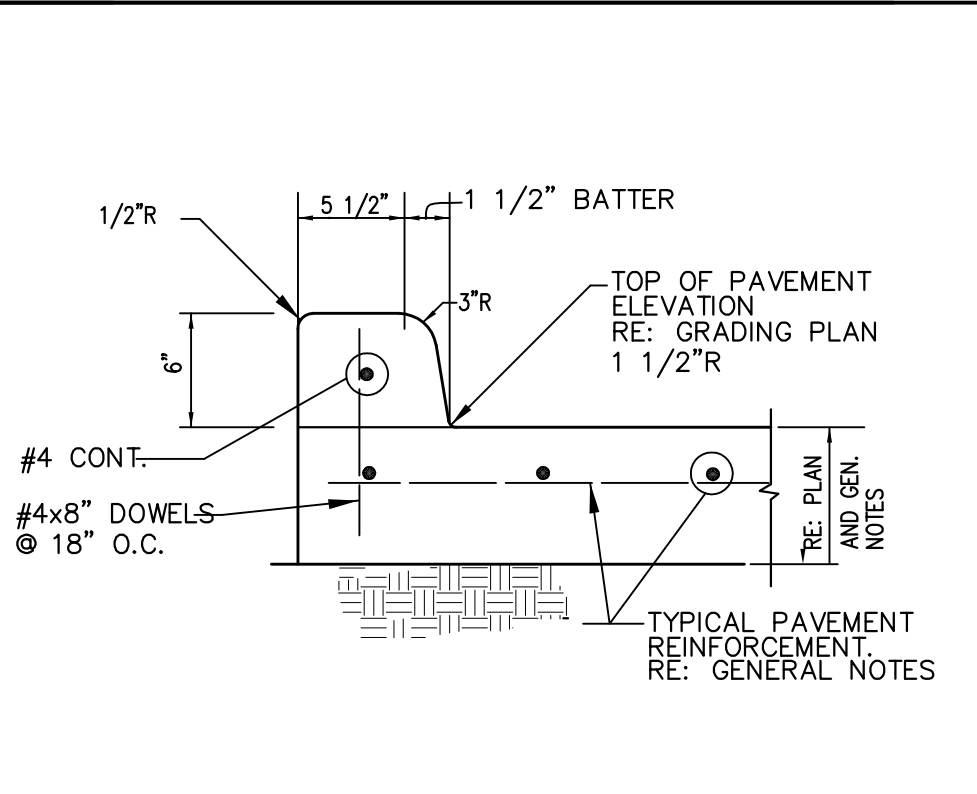
5 PRECAST CONCRETE CATCH BASIN/JUNCTION BOX (N.T.S.)



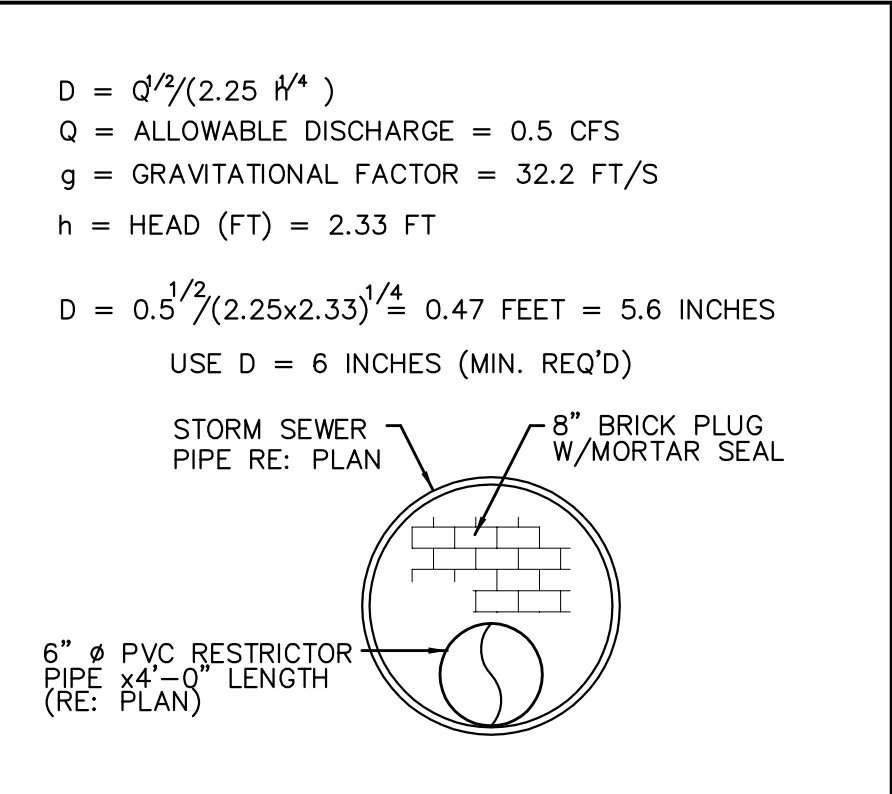
RE: SHEET C1.2 FOR GENERAL NOTES-GRADING, DRAINAGE & PAVING.



4 TYPICAL PAVEMENT DETENTION SECTION (N.T.S.)



3 TYPICAL CURB DETAIL (N.T.S.)



2 RESTRICTOR PIPE DETAIL AND CALCULATIONS (N.T.S.)

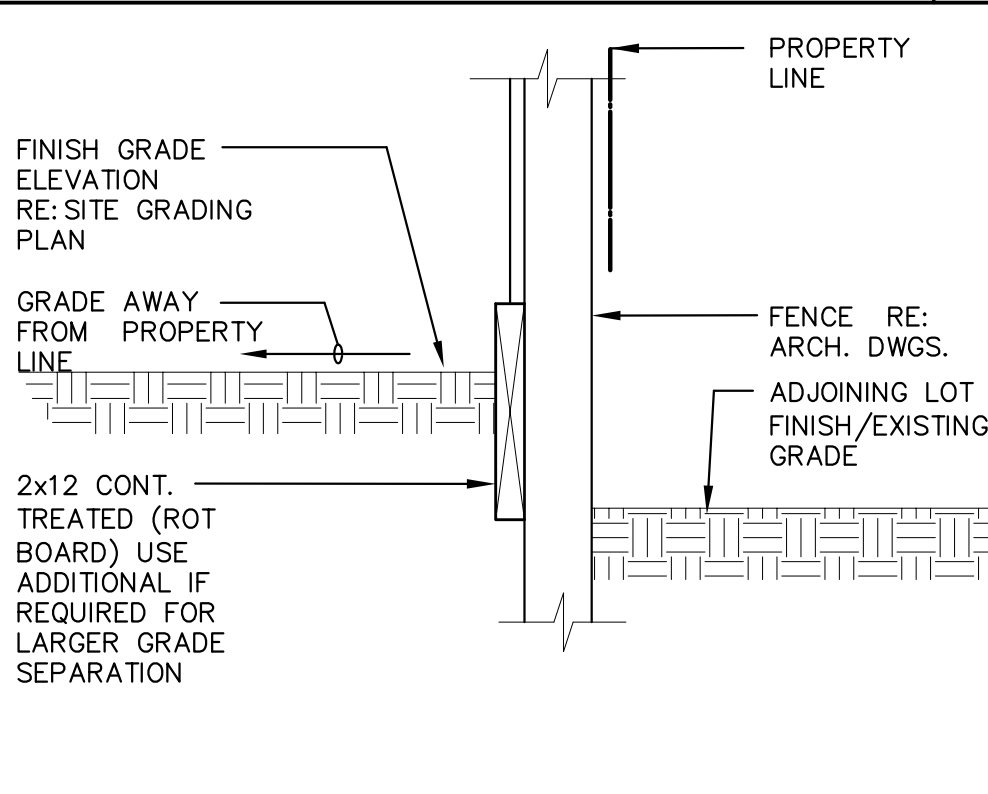
FILL MITIGATION CALCULATIONS			
BASE FLOOD ELEVATION (BFE)	=	57.00'	(TSARP)
AVERAGE NATURAL GRADE	=	56.84'	(TSARP)
FILL VOLUME (BELOW BFE)			
RETAIL AREA (9704 SQ. FT.)	=	1552.64 CU. FT.	
TOTAL FILL VOLUME	=	1552.64 CU. FT.	
CUT VOLUME (BELOW BFE)			
AT PROPOSED PARKING AREA (12085SF)	=	2900 CU. FT.	
(AVERAGE TOP OF PAVEMENT ELEVATION = 56.60')	=	2900 CU. FT.	
TOTAL CUT VOLUME	=	2900 CU. FT.	
VOLUME OF FILL BELOW BFE UNDER PROPOSED HOUSE IS LESS THAN CUT VOLUME AT EXISTING HOUSE.			

VOLUME OF FILL BELOW BFE UNDER PROPOSED HOUSE IS LESS THAN CUT VOLUME AT EXISTING HOUSE.

IMPORTANT NOTE

PRIOR TO COMMENCING GRADING OR ON-SITE UTILITIES WORK, CONTRACTOR SHALL FIELD-VERIFY LOCATION & DEPTH OF ALL OFF-SITE UTILITIES TO ASCERTAIN THAT PROPOSED CONNECTIONS CAN BE MADE AS INDICATED IN THESE DRAWINGS. INFORM ENGINEER OF ANY DISCREPANCIES OR CONFLICTS THAT MAY IMPACT WORK DESCRIBED HEREIN.

SITE GRADING & DRAINAGE PLAN



1 GRADE SEPARATION @ PROPERTY LINE (N.T.S.)

PROPERTY LEGAL DESCRIPTION	
1.6484 ACRES OF LAND OUT OF LOTS 1 THRU 18 AND RESTRICTED RESERVE "A" OF SUNSET HEIGHTS PLACE II RECORDED IN FILM CODE 608264 H.C.M.R. AND LOTS 15 AND 16, BLOCK 8 OF SUNSET HEIGHTS EXTENSION NO. 2 RECORDED IN VOLUME 572, PAGE 69 H.C.D.R. LOCATED IN THE JOHN AUSTIN SURVEY A-1 HARRIS COUNTY, TEXAS.	
SURVEYOR	
ALL EXISTING TOPOGRAPHIC & FLOOD PLAIN DATA SHOWN HEREIN IS EXTRACTED DIRECTLY FROM SURVEY BY:	MOMENTUM SURVEYING (PH. 713-910-8300) 5225 KATY FWY, SUITE 605, HOUSTON, TEXAS 77007
BENCHMARK DATA	
ELEVATIONS SHOWN HEREON ARE BASED ON TSARP RM #050150 WITH AN ELEVATION OF 47.72 FEET NAVD 88 2001 ADJUSTMENT	BFE: 57.00'
FLOOD PLAIN DATA	

BY GRAPHIC PLOTTING ONLY PART OF THIS PROPERTY LIES IN ZONE "AE" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY 480296 PANEL NO. 48201C-0660 L WHICH BEARS AN EFFECTIVE DATE JUNE 18, 2007 ZONE "AE" DENOTES AREAS INSIDE THE 100 YEAR FLOOD PLAIN.

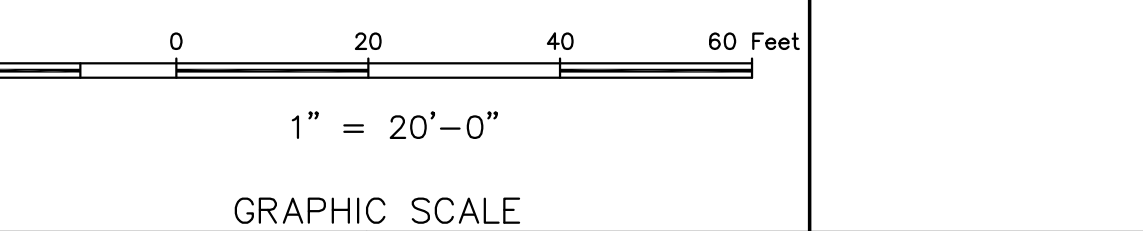
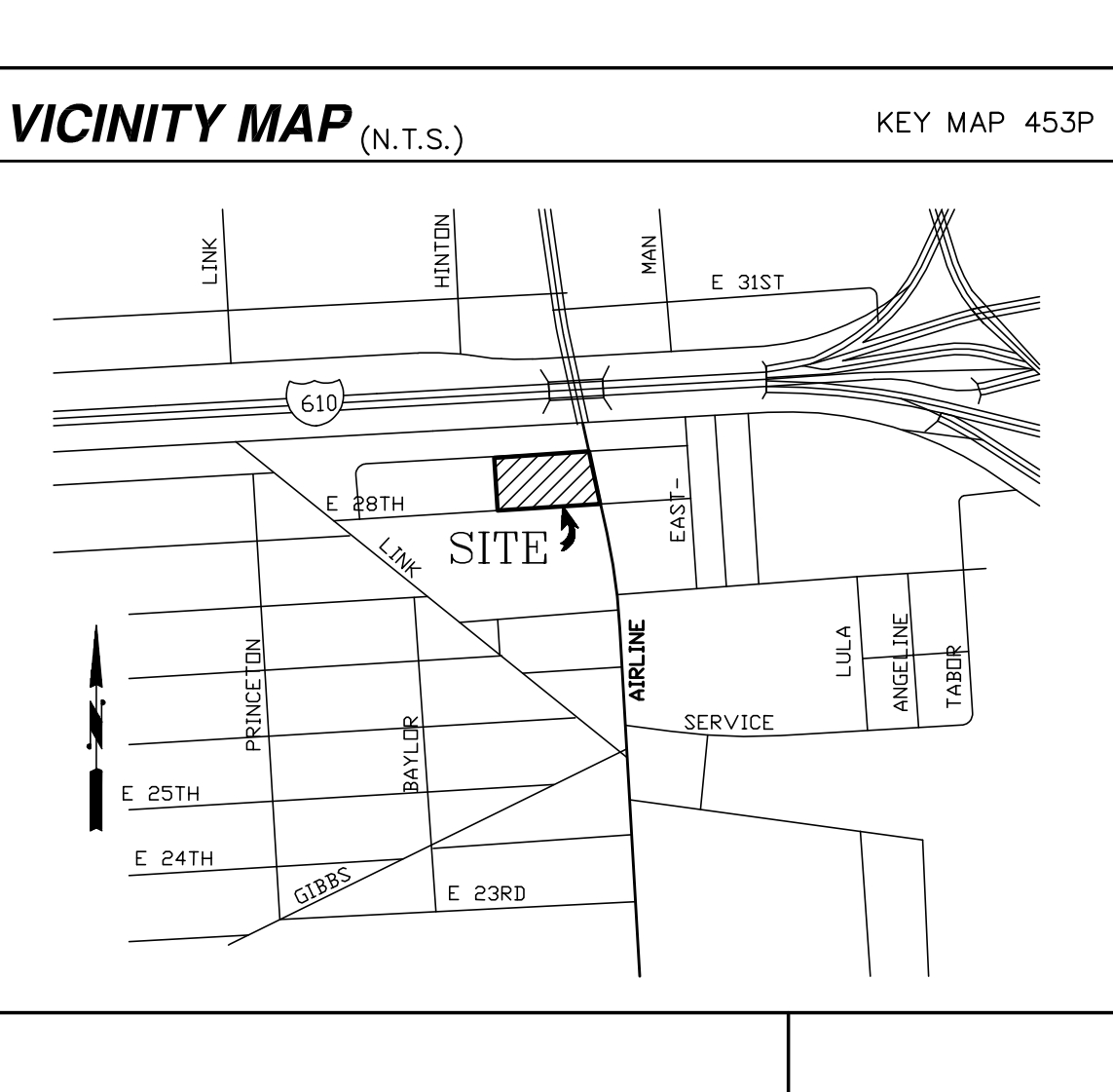
CURRENTLY EFFECTIVE FEMA MAP BASED FLOOD 57.00 FEET.

GENERAL NOTES: SITEWORK
(THESE NOTES CONTROL EXCEPT AS NOTED OTHERWISE IN PLANS & DETAILS)

- CONTRACTOR SHALL FIELD-VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY 48 HOURS PRIOR TO EXCAVATING NEAR THEIR UTILITY.
- CONTRACTOR SHALL TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING ROADS, DRIVEWAYS, SIDEWALKS, OR OTHER APPURTENANCES WITHIN THE CITY'S RIGHT-OF-WAY SHALL BE SAW-CUT, REMOVED AND REPLACED WITH MATERIAL EQUAL TO OR SUPERIOR TO EXISTING MATERIAL, AND SHALL BE INSTALLED TO CITY STANDARDS.
- CONTRACTOR SHALL TAKE EXTRA CARE TO PROTECT TREES IN AREAS ADJACENT TO CONSTRUCTION.
- ANY AREAS OF GRASS WITHIN THE CITY'S RIGHT-OF-WAY WHICH ARE DISTURBED OR DUG UP DURING CONSTRUCTION SHALL BE REPLACED WITH ST. AUGUSTINE, OR GRASS WHICH MATCHES THE GRASS REMOVED.
- EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO THE CITY OF HOUSTON STANDARDS.
- CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY, UPON COMPLETION OF JOB, SHALL BE AS GOOD AS OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK.

NOTES ON DOWNSPOUT LEADS

- DOWNSPOUT LEADS SHOWN IN PLAN ARE DIAGRAMMATIC ONLY. NUMBER, SIZE & LOCATION OF DOWNSPOUTS IS STRICTLY THE RESPONSIBILITY OF GUTTER SYSTEM INSTALLER.
- ALL DOWNSPOUTS SHALL BE CONNECTED DIRECTLY TO SUBSURFACE DRAINAGE SYSTEM, UNLESS NOTED OTHERWISE.
- DOWNSPOUT CONNECTION LEADS SHALL MATCH SUBSURFACE PIPE MATERIAL, AND SHALL BE SIZED AS FOLLOWS:
 A. 4" FOR CONNECTING UP TO 1 DOWNSPOUT
 B. 6" FOR CONNECTING UP TO 4 DOWNSPOUTS.
 NO MORE THAN FOUR DOWNSPOUTS SHALL BE CONNECTED TO A SINGLE LEAD.
- PROVIDE ADEQUATE TRANSITION BOOTS FROM DOWNSPOUTS TO LEADS.



ISSUE HISTORY			REVISIONS	
DATE	ISSUED FOR	DATE	DESCRIPTION	
10/20/07	CLIENT REVIEW	10/17/07	△ CITY COMMENTS DATED 08/21/07	
	PERMIT	11/06/07	MITIGATION CALCULATIONS	
	BIDDING			
	CONSTRUCTION			



THE INTERFIELD GROUP
ENGINEERS, PROJECT & CONSTRUCTION MANAGERS
401 STUDEWOOD, SUITE 300
HOUSTON, TEXAS 77007

TEL (713) 780-0909
FAX (713) 780-8550

MILAGRO BUILDING COMPANY	
PROPOSED NEW DEVELOPMENT	

2811 AIRLINE
HOUSTON, TEXAS 77009

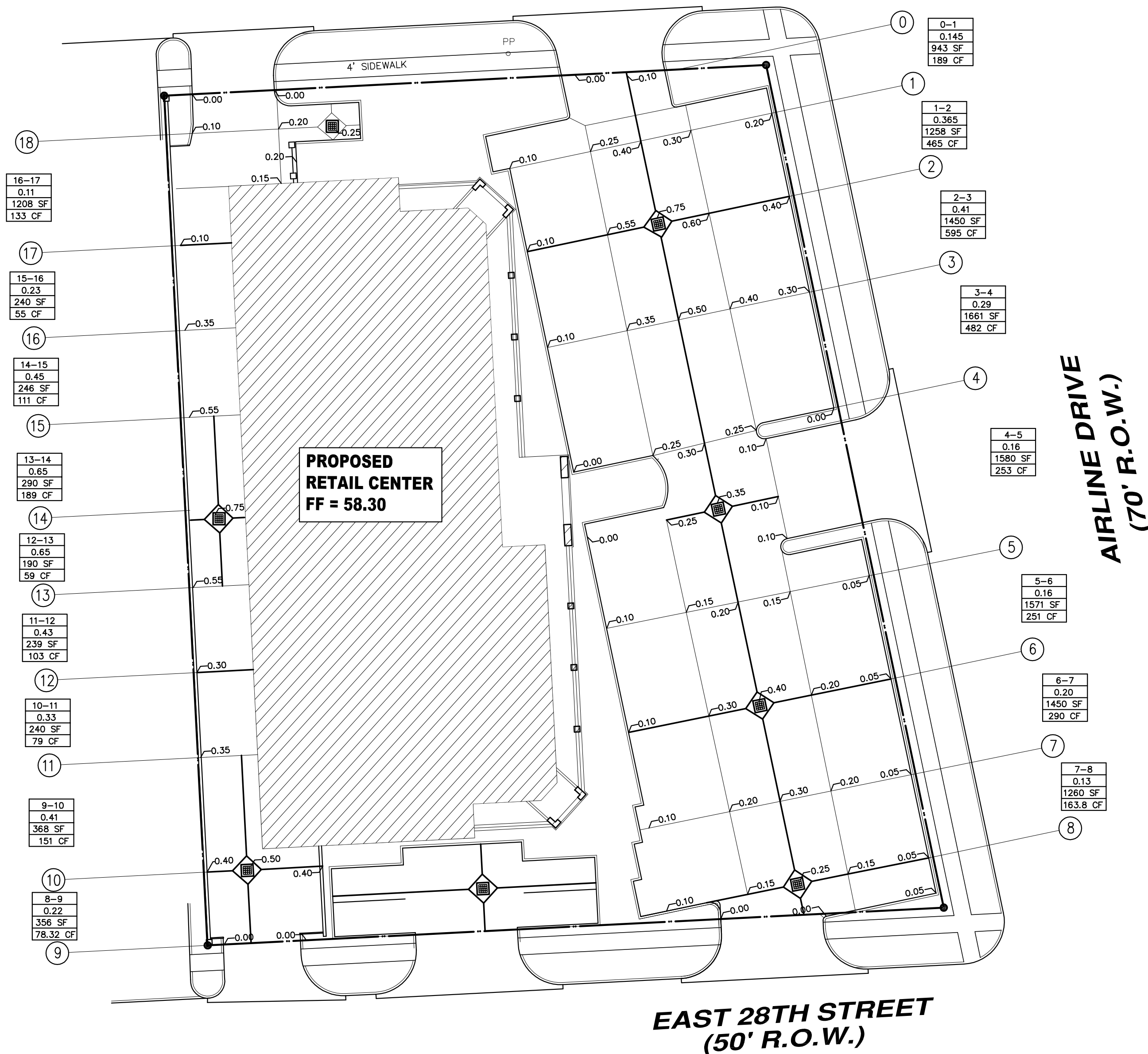
SITE GRADING & DRAINAGE PLAN	
DRAWN BY: SNO	DATE: 07/05/07
CHECKED BY: MFG	PROJ. NO.: 07038.00

SHEET:

C1.1

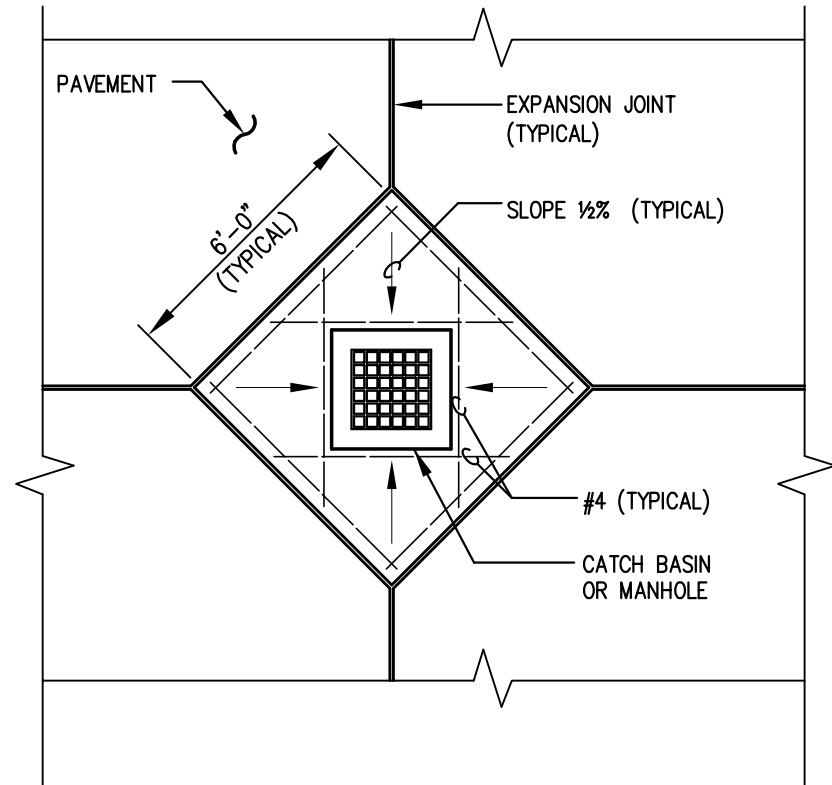
OF: 3

EAST 29TH STREET
(50' R.O.W.)



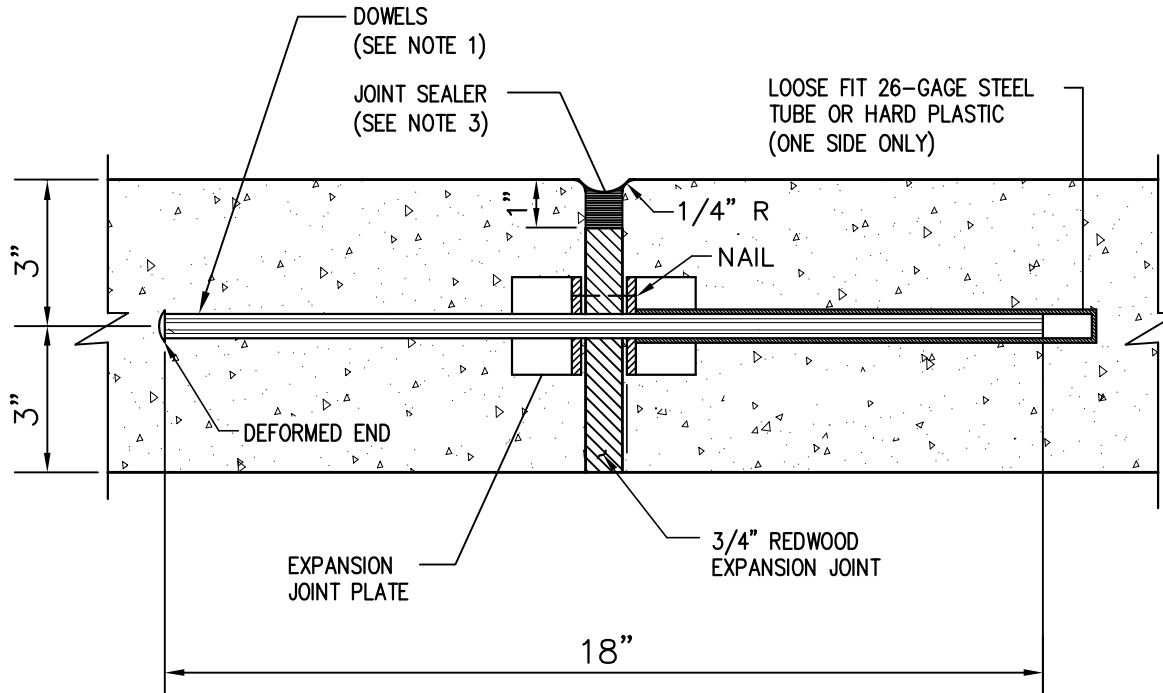
LEGEND

—	CONTROL JOINT	SECTION NO.
—	EXPANSION JOINT	AV. DEPTH (FT)
—	PROPERTY LINE	SURFACE AREA (SF)
XX	SECTION NUMBER	VOLUME (CF)
—0.XX	DEPTH FROM M.W.E.	
■	CATCH BASIN	



MANHOLE/INLET BLOCKOUT DETAIL (DIAMOND)

NOT TO SCALE



NOTES:

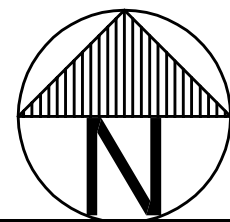
1. DOWELS FOR PAVEMENT EXPANSION JOINTS SHALL BE 3/4"Ø SMOOTH BARS @ 12" SPACING (TYP. U.O.N.).
2. EXPANSION JOINT SHALL BE PLACED AT THE END OF EACH CURB RETURN AND AT MAXIMUM SPACING OF 80'.
3. JOINT SEALER MATERIAL SHALL BE ASPHALT RUBBER IN ACCORDANCE WITH ASTM STANDARD D3405.
4. PRE-MANUFACTURED JOINT PLATE.

DOWEL-TYPE EXPANSION JOINT DETAIL

NOT TO SCALE

PAVEMENT & DETENTION PLAN

SCALE: 1"= 20'-0"



ELEVATIONS SHOWN ON PLAN ARE BASED ON MWSE
TOTAL PAVEMENT DETENTION VOLUME = 3647 CF

DETENTION VOLUME CALCULATIONS

EXISTING IMPERVIOUS COVER:
EXISTING CONC. DRIVEWAY OR SLAB = 21812.45 SF

PROPOSED IMPERVIOUS COVER:

SLAB PADS = 9704 SF
PAVEMENT = 21399.66 SF
SIDEWALKS = 2135.8 SF (±)
TOTAL = 33239.46 SF = 0.7630 ACRES

INCREASE IN IMPERVIOUS COVER

33239.46 SF - 21812.45 SF = 11427.01 SF = 0.262 AC

REQUIRED DETENTION VOLUME

(@ 0.2 AC.FT./AC) = 0.262 x 0.2 = 0.0524 AC.FT
= 2282.54 CF

PROVIDED DETENTION VOLUME

MAXIMUM WATER SURFACE ELEVATION: = 56.85 FT.

PAVEMENT DETENTION PROVIDED= 3647CF
(RE: DRAWING ABOVE)

STORM SEWER CALCULATION (2-YR DESIGN STORM)															
DRAINAGE AREA	FROM INLET	TO INLET	SLOPE S (FT/FT)	LENGTH (FT)	AREA SF	AREA DRAINED (ACRES)	RUNOFF COEF. C	Σ C*A	INTENSIT Y I (IN/HR)	TIME OF CONC. Tc (MIN)	DESIGN DISCHARGE Q (CFS)	MANNING'S N	COMPUTED DIAMETER DR (FT)	PIPE SIZE USED DN (IN)	FLOW VELOCITY (FT/SEG)
A1+A2+A3+A4+A5+A6	7	OUT	0.0032	49.00	22,446.49	0.515	0.80	0.412	3.484	23.898	1.436	0.013	0.88	12.00	1.83
A4+A5+A6	6	7	0.0052	94.00	15,344.79	0.352	0.80	0.282	3.527	23.322	0.994	0.011	0.66	8.00	2.85
A4+A5	5	6	0.0052	85.00	10,739.07	0.247	0.80	0.197	3.565	22.815	0.703	0.011	0.58	8.00	2.01
A4	4	5	0.0080	84.00	2,450.91	0.056	0.80	0.045	3.707	21.024	0.167	0.011	0.31	4.00	1.91
A1+A2+A3	3	7	0.0052	81.00	9,610.80	0.221	0.80	0.177	3.576	22.663	0.631	0.011	0.55	8.00	1.81
A1+A2	2	3	0.0080	60.00	8,064.88	0.185	0.80	0.148	3.594	22.430	0.532	0.011	0.48	6.00	2.71
A1	1	2	0.0080	92.00	6,118.78	0.140	0.80	0.112	3.622	22.078	0.407	0.011	0.43	6.00	2.07

20 0 20 40 60 Feet

1" = 20'-0"

GRAPHIC SCALE

ISSUE HISTORY		REVISIONS	
DATE	ISSUED FOR	DATE	DESCRIPTION
	CLIENT REVIEW	10/17/07	CITY COMMENTS DATED 08/21/07
7/24/07	PERMIT		
	BIDDING		
	CONSTRUCTION		

THE INTERFIELD GROUP
ENGINEERS, PROJECT & CONSTRUCTION MANAGERS
401 STUDEWOOD, SUITE 300
HOUSTON, TEXAS 77007
TEL (713) 780-0909
FAX (713) 780-8550

MILAGRO BUILDING COMPANY
PROPOSED NEW DEVELOPMENT

2811 AIRLINE HOUSTON, TEXAS 77009					
SITE PAVEMENT AND DETENTION PLAN					
DRAWN BY: SNO	DATE: 07/05/07	SHEET:			
CHECKED BY: MFG	PROJ. NO.: 07038.00	C1.2 OF: 3			