

ATKINS

LOCAL OFFICE:
 200 WESTLAKE PARK BLVD.,
 STE. 1100
 HOUSTON, TX 77079
 TEL: (713) 576-8500
 ATKINS NORTH
 AMERICA PE FIRM REG.
 #F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS		
NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
COVER SHEET

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY:	
DIRECTOR	HOUSTON AIRPORT SYSTEM
PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	

G-001



HOUSTON AIRPORT SYSTEM

MAYOR
 SYLVESTER TURNER

CITY COUNCIL MEMBERS

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- JERRY DAVIS
- ABBIE KAMIN
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CONTROLLER
 CHRIS B. BROWN

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- EDWARD POLLARD
- MARTHA CASTEX-TATUM
- MIKE KNOX
- DAVID ROBINSON
- MICHAEL KUBOSH
- LETITIA PLUMMER
- SALLIE ALCORN

PLANS FOR CONSTRUCTION
 OF
TNC PARKING LOT PAVING
 AT
WILLIAM P. HOBBY AIRPORT (HOU) / HOUSTON

PROJECT NO. 238
 TIP-20-121-HOU

PREPARED BY



JUNE 12, 2020
 100% SUBMITTAL

PLOT DATE: 6/12/2020 2:42 PM
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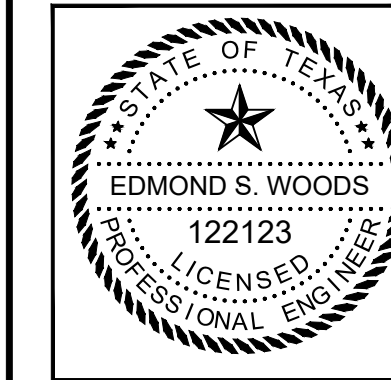
REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)

**TNC PARKING LOT PAVING
INDEX OF DRAWINGS,
ABBREVIATIONS AND LEGEND**

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HOUSTON AIRPORT SYSTEM

PROJECT NO.
100069976

A.I.P. NO. _____

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H.A.S. NO.
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SHEET NO.

WILLIAM P. HOBBY AIRPORT (HOU) TNC PARKING LOT REPAVING		
NO.	SHEET	SHEET TITLE
1	G-001	COVER SHEET
2	G-002	INDEX OF DRAWINGS, ABBREVIATIONS AND LEGEND
3	G-003	GENERAL NOTES
4	G-004	SECURITY, SAFETY, AND UTILITY NOTES
5	G-005	SUMMARY OF QUANTITIES
6	G-006	OVERALL PROJECT SITE PLAN AND ACCESS PLAN
7	G-007	SURVEY AND HORIZONTAL CONTROL PLAN
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8	CT101	TRAFFIC CONTROL PLAN
9	CT501	TRAFFIC CONTROL DETAILS - 1
10	CT502	TRAFFIC CONTROL DETAILS - 2
11	CE101	EXISTING CONDITIONS PLAN
12	CD101	DEMOLITION PLAN
13	CD201	DEMOLITION SECTIONS
14	CS101	PROPOSED GEOMETRY PAVEMENT LAYOUT
15	CS201	TYPICAL SECTIONS
16	CS202	TYPICAL CURB DETAILS
17	CM101	PROPOSED PAVEMENT MARKINGS LAYOUT
18	CM501	PROPOSED PAVEMENT MARKING NOTES
19	CM502	PROPOSED PAVEMENT MARKING DETAILS
20	CM503	SIGN MOUNTING DETAILS
21	CG101	GRADING AND STORMWATER QUALITY PLAN
22	CG102	DETENTION AND STORMWATER CALCULATIONS
23	CG103	SWPPP PLAN
24	CG501	SWPPP DETAILS

PROJECT SCOPE:

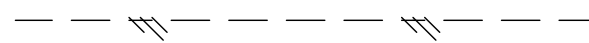




















THE WILLIAM P. HOBBY AIRPORT TNC LOT PAVING PROJECT CONSISTS OF THE FOLLOWING MAJOR WORK ELEMENTS:

1. IMPROVE THE EXISTING ASPHALT/GRAVEL TNC PARKING LOT BY ADDING AN ASPHALT PAVEMENT SURFACE.
2. MODIFY THE EXISTING ENTRANCE CURB TO MEET CITY OF HOUSTON STANDARDS
3. ADD DETENTION TO MEET CITY OF HOUSTON STANDARDS.

ABBREVIATIONS:

BLVD	BOULEVARD
BP	BASE POINT
CMP	CORRUGATED METAL PIPE
ELEC	ELECTRICAL
EG	EXISTING GROUND
ELEV	ELEVATION
EMH	ELECTRICAL MANHOLE
FG	FINISH GROUND
HAS	HOUSTON AIRPORT SYSTEM
HOU	WILLIAM P. HOBBY AIRPORT
OH	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
PIP	PROTECT IN PLACE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
TB	TOP OF BANK
TBM	TEMPORARY BENCHMARK
THH	TELECOM HANDHOLE
TYP	TYPICAL
WV	WATER VALVE

LEGEND:

	EXISTING EDGE OF PAVEMENT
	EXISTING STORM DRAIN LINE
	EXISTING GAS LINE
	EXISTING COMMUNICATION LINE
	EXISTING FUEL LINE
	EXISTING UNDERGROUND POWER LINE
	EXISTING OVERHEAD POWER LINE
	EXISTING UNKNOWN UNDERGROUND LINE
	EXISTING FENCE LINE
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING CONTROL POINT
	EXISTING STORM MANHOLE
	EXISTING TELECOM MANHOLE/HANDHOLE
	EXISTING TELECOM PEDESTAL
	EXISTING LIGHT POLE
	EXISTING POWER POLE
	EXISTING PIPELINE MARKER
	EXISTING WHEEL STOP
	EXISTING CONCRETE BARRIER
	EXISTING PORTABLE RESTROOM

GENERAL NOTES

1. THE EXISTING CONDITIONS ILLUSTRATED WITHIN THESE PROJECT PLANS ARE DEVELOPED FROM AS-BUILT INFORMATION SUPPLEMENTED BY A PROJECT SITE VISIT. THE DESIGNER DOES NOT WARRANT THESE EXISTING CONDITIONS INFORMATION AS ALL-INCLUSIVE OR EXACT BUT RATHER AS THE BEST AVAILABLE KNOWLEDGE TRANSFER AT THE TIME OF PROJECT DEVELOPMENT.
2. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. SHOULD THE CONTRACTOR DISCOVER ANY CONDITIONS NOT REFLECTED WITHIN THE PROJECT DOCUMENTS, HE SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY.
3. THE PROJECT PAY ITEMS PROVIDED SHALL BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THESE PROJECT PLANS. WORK NOT IDENTIFIED WITH A SPECIFIC PAY ITEMS SHALL BE INCLUDED IN THE COST OF THE PROJECT PAY ITEMS OF WHICH IT IS A COMPONENT.
4. THE LOCATION FOR THE CONTRACTOR'S STAGING AREA IS INDICATED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL UTILITY CONNECTIONS AND SERVICE TO AND WITHIN THE STAGING AREA AS MAY BE NECESSARY. THE CONTRACTOR SHALL PROVIDE SECURITY FENCING AROUND THE STAGING AREA(S). THE CONTRACTOR SHALL RESTORE THE STAGING AREA UPON PROJECT COMPLETION, INCLUDING REPAIR OF EXISTING FACILITIES, REMOVAL OF INSTALLED UTILITIES, REGRADING, TOP SOILING AND RESEEDING, COMPLETE AND TO THE SATISFACTION OF THE ENGINEER AND AIRPORT MANAGER. THE WORK ASSOCIATED WITH ESTABLISHING, MAINTAINING, AND RESTORING THE CONTRACTOR'S STAGING AREA IS NOT MEASURED FOR SEPARATE PAYMENT.
5. ACCESS TO THE PROJECT SITE TO/FROM THE STAGING AREA SHALL BE AS SHOWN ON THE PROJECT PLANS.
6. THE CONTRACTOR SHALL SECURE MATERIALS STOCKPILED WITHIN THE CONSTRUCTION AREA TO PREVENT ITS MOVEMENT OR EROSION RESULTING FROM WIND CONDITION AND/OR RAINFALL. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS WITHIN THE PROJECT WORK AREA. THE CONTRACTOR SHALL SWEEP AND/OR VACUUM ALL ACTIVE PAVEMENT AREAS AFFECTED BY THE WORK ON A DAILY BASIS. IN ADDITION, THE CONTRACTOR SHALL SWEEP/CLEAN PAVED ROADWAYS ALONG THE PROJECT HAUL ROUTES AND IMMEDIATELY CLEAN UP MUD FALLING ON ANY PAVEMENTS OUTSIDE OF THE LIMITS OF CONSTRUCTION OR RESULTING FROM HIS HAULING ACTIVITIES.
7. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS THAT ARE PERTINENT TO THIS WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, MAINTAIN AND PAY ALL COSTS ASSOCIATED WITH ANY PERMITS AND LICENSES REQUIRED TO ACCOMPLISH THE WORK. THESE COSTS ARE INCIDENTAL TO THE WORK AND WILL NOT BE PAID FOR SEPARATELY.
8. MATERIAL PRODUCED AS A RESULT OF THE CONTRACTOR'S OPERATIONS THAT ARE NOT OTHERWISE USEABLE BY THE AIRPORT SHALL BE DISPOSED OF OFF AIRPORT PROPERTY IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THERE WILL BE NO SEPARATE PAY ITEM FOR WASTE MATERIAL DISPOSAL.
9. MECHANICAL SWEEPER AND VACUUM TRUCK SHALL BE ON-SITE AT ALL TIMES TO CLEAN ANY DEBRIS OFF THE ROADWAY PAVEMENTS FOR THE DURATION OF ALL CONSTRUCTION ACTIVITIES.
10. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE CONSTRUCTION OF THE PROJECT.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ACTIVITIES WITH THE APPROPRIATE ENTITY, INCLUDING BUT NOT LIMITED TO HAS, CITY OF HOUSTON, AND CENTERPOINT.

HOBBY OPERATIONS: 713-845-6555
 HAS PROJECT ENGINEER (DAVID LESLIE): 281-233-1774
 CENTERPOINT: 713-207-1111

PROJECT REQUIREMENTS:

1. THE GENERAL INTENT OF THE PROJECT REQUIREMENTS IS TO MINIMIZE THE CLOSURE OF ROADWAYS, REDUCE CONSTRUCTION DURATION AND DECREASE DISTURBANCE IN ORDER FOR THIS TO BE ACCOMPLISHED, DRAWINGS, MATERIAL AND EQUIPMENT SHALL BE PROCURED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. PROCUREMENT: PRIOR TO COMMENCEMENT OF CONSTRUCTION, THERE WILL BE A PROCUREMENT PHASE. WITHIN THE PROCUREMENT PHASE THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS REQUIRED BY THE SPECIFICATIONS SUCH THAT ALL SUBMITTALS CAN BE APPROVED PRIOR TO INSTALLATION OF HIS EROSION CONTROL DEVICES (SWPPP); ESTABLISHING HIS ACCESS/HAUL ROUTES. ESTABLISHING HIS STAGING AREA; INSTALL AND HAVE INSPECTED ALL TRAFFIC CONTROL DEVICES;
 - A. SWPPP: PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR WILL INSTALL AND HAVE INSPECTED ALL THE EROSION CONTROL DEVICES FOR THE ENTIRE PROJECT AS OUTLINED ON THE SWPPP PLANS.
3. ALL CONTRACTOR VEHICLES AND TRAFFIC SHALL REMAIN WITHIN THE LIMITS OF THE CONSTRUCTION AREA, STAGING AREA, OR HAUL ROUTES UNLESS OTHERWISE DIRECTED BY THE HOUSTON AIRPORT SYSTEM (HAS). OPERATIONS.

EROSION AND SEDIMENT CONTROL NOTES

1. EROSION CONTROLS SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN DRAWINGS.
2. PROVIDE AND MAINTAIN SILT FENCE AROUND THE SITE ACCESS FOR EROSION CONTROL.
3. CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO DEMOLITION ACTIVITIES.
4. DEMOLITION ACTIVITIES SHALL NOT START UNTIL THE EROSION AND SEDIMENT CONTROL MEASURE HAVE BEEN ACCEPTED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED.
6. CONTRACTOR SHALL NOT INITIATE CONSTRUCTION UNTIL GIVEN WRITTEN APPROVAL BY THE HAS RESIDENT OR PROJECT ENGINEER.
7. EXCAVATED MATERIAL OR FILL SHALL NOT BE STOCKPILED WITHIN THE 100-YEAR FEMA FLOODPLAN.
8. ONCE GRADING IS COMPLETE, AREA SHALL BE STABILIZED WITH TEMPORARY SEEDING, MATTING, AND/OR SOD AS SHOWN ON PLANS.
9. NO AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
10. SEE SHEET CG102 TO CG501 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.



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REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
GENERAL NOTES

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY: _____

DIRECTOR
 HOUSTON AIRPORT SYSTEM

PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	

G-003

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SECURITY REQUIREMENTS

1. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY PLAN AND WITH THE SECURITY REQUIREMENTS SPECIFIED HEREIN BY HOUSTON AIRPORT SYSTEM (HAS) OPERATIONS. THE CONTRACTOR SHALL DESIGNATE TO THE ENGINEER AND AIRPORT OPERATIONS, IN WRITING, THE NAME OF HIS "CONTRACTOR SECURITY AND SAFETY OFFICER (CSSO)." THE CSSO SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONTRACT.
2. CONTRACTOR PERSONNEL SECURITY ORIENTATION: THE CSSO SHALL BE RESPONSIBLE FOR BRIEFING ALL CONTRACTOR PERSONNEL ON SECURITY REQUIREMENTS. ALL CONTRACTOR EMPLOYEES SHALL BE BRIEFED ON SECURITY REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREA.
3. ACCESS TO THE SITE: CONTRACTOR'S ACCESS TO THE SITE SHALL BE AS SHOWN ON THE PLANS. NO OTHER ACCESS POINTS SHALL BE ALLOWED UNLESS APPROVED BY AIRPORT OPERATIONS. ALL CONTRACTOR TRAFFIC AUTHORIZED TO ENTER THE SITE SHALL BE EXPERIENCED IN THE ROUTE OR GUIDED BY CONTRACTOR PERSONNEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE VARIOUS CONSTRUCTION AREAS ON THE SITE. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED CONSTRUCTION PERSONNEL OR TRAFFIC ON THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS DEPOSITED ALONG THE ACCESS ROUTE AS A RESULT OF HIS CONSTRUCTION TRAFFIC.
4. MATERIALS DELIVERY TO THE SITE: ALL CONTRACTOR'S MATERIAL ORDERS FOR DELIVERY TO THE WORK SITE WILL USE A DELIVERY ADDRESS, THE STREET NAME ASSIGNED TO THE ACCESS POINT AT THE CONTRACTOR'S STAGING SITE. THE NAME "WILLIAM P. HOBBY AIRPORT" SHALL NOT BE USED IN THE DELIVERY ADDRESS AT ANY TIME. HAS WILL NOT BE RESPONSIBLE FOR ACCEPTING OR DIRECTING CONTRACTOR MATERIAL DELIVERIES. CONSTRUCTION ACCESS SHALL BE ONLY VIA DESIGNATED ROUTING AND LOCATIONS.
5. CONSTRUCTION AREA LIMITS: FOR THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL ERECT AND MAINTAIN AROUND THE PERIMETER OF THESE AREAS, SUITABLE FENCING, MARKING AND/OR WARNING DEVICES VISIBLE FOR DAY/NIGHT USE. TEMPORARY BARRICADES, FLAGGING AND FLASHING WARNING LIGHTS, WILL BE REQUIRED AT CRITICAL ACCESS POINTS. TYPE OF MARKING AND WARNING DEVICES SHALL BE APPROVED BY AIRPORT OPERATIONS.

AIRPORT SAFETY REQUIREMENTS

1. THE CONTRACTOR SHALL CONDUCT THE CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE EMERGENCY REQUIREMENTS AND GUIDELINES ON SAFETY.
2. STOCKPILE EROSION AND DUST CONTROL - STOCKPILED MATERIAL AND OPEN EXCAVATIONS SHALL BE TREATED IN SUCH A MANNER AS TO PREVENT MOVEMENT RESULTING FROM WIND CONDITIONS IN EXCESS OF 10 KNOTS.
3. PRIOR TO OPENING FOR PUBLIC TRANSIT USE, THE OWNER'S AUTHORIZED REPRESENTATIVE WILL ARRANGE FOR INSPECTION BY HAS OPERATIONS OF ANY PAVEMENT THAT HAS BEEN CLOSED FOR WORK, OR THAT HAS BEEN USED FOR A CROSSING POINT OR HAUL ROUTE BY THE CONTRACTOR. THIS AREA MUST COMPLY WITH THE SAFETY REQUIREMENTS, AND APPROVED BY THE DESIGNATED OPERATION'S INSPECTOR, BEFORE PERMISSION FOR THE CONTRACTOR'S WORK CREWS TO DEPART WILL BE GRANTED.
4. THE CONTRACTOR SHALL SUBMIT A DESTRUCTIVE/INCLEMENT WEATHER PLAN TO SET FORTH GENERAL GUIDANCE AND INFORMATION FOR THE CONTRACTOR TO COORDINATE PREPAREDNESS PLANS WHEN DESTRUCTIVE WEATHER THREATENS THE WILLIAM P. HOBBY AIRPORT.
5. MATERIALS STORED OR STOCKPILED ON THE SITE SHALL BE SO PLACED, AND THE WORK SHALL, AT ALL TIMES, BE SO CONDUCTED AS TO CAUSE NO GREATER OBSTRUCTION TO THE TRAFFIC THAN IS CONSIDERED NECESSARY BY THE OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL CONFINE HIS/HER PERSONNEL, EQUIPMENT, OPERATIONS AND TRAVEL, TO THE AREA WITHIN THE DEFINED WORK LIMITS SHOWN ON THE PLANS.
7. THE CONTRACTOR SHALL INFORM ALL CONSTRUCTION PERSONNEL AS TO THE PROPER ROUTES, SPEEDS, AND PROCEDURES, FOR TRANSPORTING EQUIPMENT AND MATERIALS TO THE CONSTRUCTION SITE. DELIVERIES SHALL BE AS SHOWN IN THE PLANS.

8. MEASURES SHALL BE ADOPTED TO PREVENT POTENTIAL POLLUTANTS FROM ENTERING ANY DRAINAGE SYSTEM OR WATERWAY. MATERIALS AND DEBRIS SHALL NOT BE STORED IN THE WORK AREA IN A MANNER THAT WOULD ALLOW THEM TO ENTER THE DRAINAGE SYSTEM AS A RESULT OF SPILLAGE, NATURAL RUNOFF OR FLOODING. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMMEDIATELY NOTIFY THE SPONSOR SHOULD THERE BE A SPILLAGE OF MATERIAL WHICH MIGHT CONTAMINATE THE DRAINAGE SYSTEM. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND CLEAR UP SUCH SPILLAGE IN A MANNER ACCEPTABLE TO THE SPONSOR. MATERIAL SHALL BE SECURED SO THAT IT WILL NOT BE BLOWN BY THE WIND ONTO THE ADJACENT ROADWAYS.
9. SPECIAL ATTENTION TO DUST CONTROL WILL BE REQUIRED WHEN EARTHWORK OR HAULING OPERATIONS ARE IN PROGRESS OR WHEN WIND AND WEATHER CONDITIONS CAUSE EXCESSIVE BLOWING OF DUST. IN THIS REGARD, THE CONTRACTOR SHALL APPLY WATER TO THE AFFECTED SITES AS DIRECTED.
10. THE CONTRACTOR SHALL SUBMIT A SAFETY AND SECURITY PLAN TO THE HAS PROJECT MANAGER FOR REVIEW AND APPROVAL BY THE AIRPORT PRIOR TO CONSTRUCTION COMMENCING.

UTILITY NOTES

3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED, A MINIMUM OF 72 HOURS IN ADVANCE OF ANY EXCAVATION OR BORINGS, TO HAVE THEIR UTILITIES LOCATED AND MARKED IN THE FIELD.
 - A. THE CONTRACTOR SHALL CONTACT TEXAS ONE CALL (811) AND THE FOLLOWING LOCAL UTILITY OWNERS (LIST NOT INCLUSIVE OF ALL POTENTIAL UTILITY OWNERS) TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS IN THE VICINITY OF THE PROPOSED WORK:

CABLE OWNER	CONTACT PERSON	PHONE NUMBER
HOUSTON AIRPORT SYSTEM	OPERATIONS	713-845-6555
CENTERPOINT ENERGY SYSTEM	UTILITY COORDINATION	713-207-1111
 - B. ALL UNDERGROUND UTILITIES SHALL THEN BE LOCATED BY THE CONTRACTOR TO VERIFY LOCATION AND ELEVATION PRIOR TO COMMENCING CONSTRUCTION OPERATIONS.
 - C. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY OWNER IF A UTILITY INSPECTOR MUST BE ON SITE WHEN LOCATING OR EXCAVATING NEAR UTILITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING UP HIS/HER OWN WATER SOURCES WITH THE CITY. ALL CONSTRUCTION WATER WILL BE METERED BY THE CITY-OWNED METERS AND ONLY THOSE METERS. THE CONTRACTOR WILL BE RESPONSIBLE FOR PAYING ALL RELATED FEES TO THE CITY.
3. THE CONTRACTOR SHALL TAKE ALL STEPS TO PROTECT ALL COMMERCIAL AND AIRPORT UTILITIES DURING CONSTRUCTION IN ORDER TO ENSURE CONTINUOUS OPERATION WHEN NEEDED. THE CONTRACTOR SHALL, AT HIS/HER OWN EXPENSE, MAINTAIN IN PROPER WORKING ORDER AND WITHOUT INTERRUPTION OF SERVICE ALL EXISTING UTILITIES AND SERVICES WHICH MAY BE ENCOUNTERED IN THE WORK. WITH THE CONSENT OF THE OWNER'S REPRESENTATIVE, ENGINEER, AND/OR UTILITY OWNER, AS APPROPRIATE, SUCH SERVICE CONNECTIONS MAY BE TEMPORARILY INTERRUPTED TO PERMIT THE CONTRACTOR TO REMOVE DESIGNATED LINES OR TO MAKE TEMPORARY CHANGES IN THE LOCATIONS OF SERVICES. THE COST OF MAKING CHANGES SHALL BE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS.
4. ALL DAMAGED UTILITIES SHALL BE REPAIRED EXPEDITIOUSLY AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INSPECTIONS, AS NECESSARY, OF ANY UTILITY WORK BY THE UTILITY OWNER THROUGHOUT THE PROJECT. THIS SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE PROJECT.



HOUSTON AIRPORT SYSTEM
WILLIAM P. HOBBY AIRPORT / HOUSTON, TX

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REVISIONS

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**HOU TNC LOT PAVING
 SUMMARY OF BID QUANTITIES**

CoH Section Number	Spec. Number	Description	Unit	Estimated Quantities
N/A	TxDOT-500-6001	Mobilization and Demobilization	LS	1
CoH-01572	01572	Erosion Control	LS	1
CoH-02221	TxDOT-105-6002	Removing Stab. Base and Asphalt Pavement (2")	SY	4100
CoH-02221	TxDOT-105-6015	Removing Stab. Base and Asphalt Pavement (8")	SY	185
CoH-02713	TxDOT-247-6230	FL BS (CMP IN PLACE) (TY A GR 1-2) (8")	SY	210
CoH-02712	TxDOT-275-6001	Cement	TON	100
CoH-02712	TxDOT-275-6011	Cement Treat (EXIST MATL) (8")	SY	4100
CoH-02743	TxDOT-340-6272	Tack Coat	GAL	2
CoH-02621	TxDOT-SS5022	Repair High Tensile Geotextile	SY	205
CoH-01555	TxDOT-502-6001	Barricades, Signs and Traffic Handling	MONTH	1
N/A	TxDOT-644-6002	IN SM RD SN SUP&AM TY10BWG(1)SA(P-BM)	EA	2
CoH-02767	TxDOT-666-6170	Pavement Marker, Type II - 4-Inch White Solid Line	LF	3940
CoH-02767	TxDOT-666-6207	Pavement Marker, Type II - 4-Inch Yellow Solid Line	LF	230
CoH-02767	TxDOT-666-6182	Pavement Marker, Type II - 24-Inch White Solid Line	LF	40
CoH-02767	TxDOT-666-6184	Pavement Marker, Type II - Arrow (White)	EA	10
CoH-02767	TxDOT-668-6111	PRE PM TY C (ACC PRK) (BLU) (SYMBOL ONLY)	EA	4
CoH-02762	TxDOT-678-6006	Pavement Surface Preparation for Markings	LF	4300
N/A	TxDOT-738-6001	Cleaning and Sweeping Highways	LS	1
N/A	TxDOT-SS5067	Wheelstops	EA	100
CoH-02771	Bid Alternative: Monolithic Curb		LF	715
CoH-02960	Bid Alternative: Micro-milling (0.25 Inch) - TxDOT-483-6016		SY	4100

NOTE: USE TxDOT SPECIFICATIONS UNLESS OTHERWISE NOTED OR APPROVED BY HAS PROJECT ENGINEER.

**WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
 TNC PARKING LOT PAVING
 SUMMARY OF QUANTITIES**

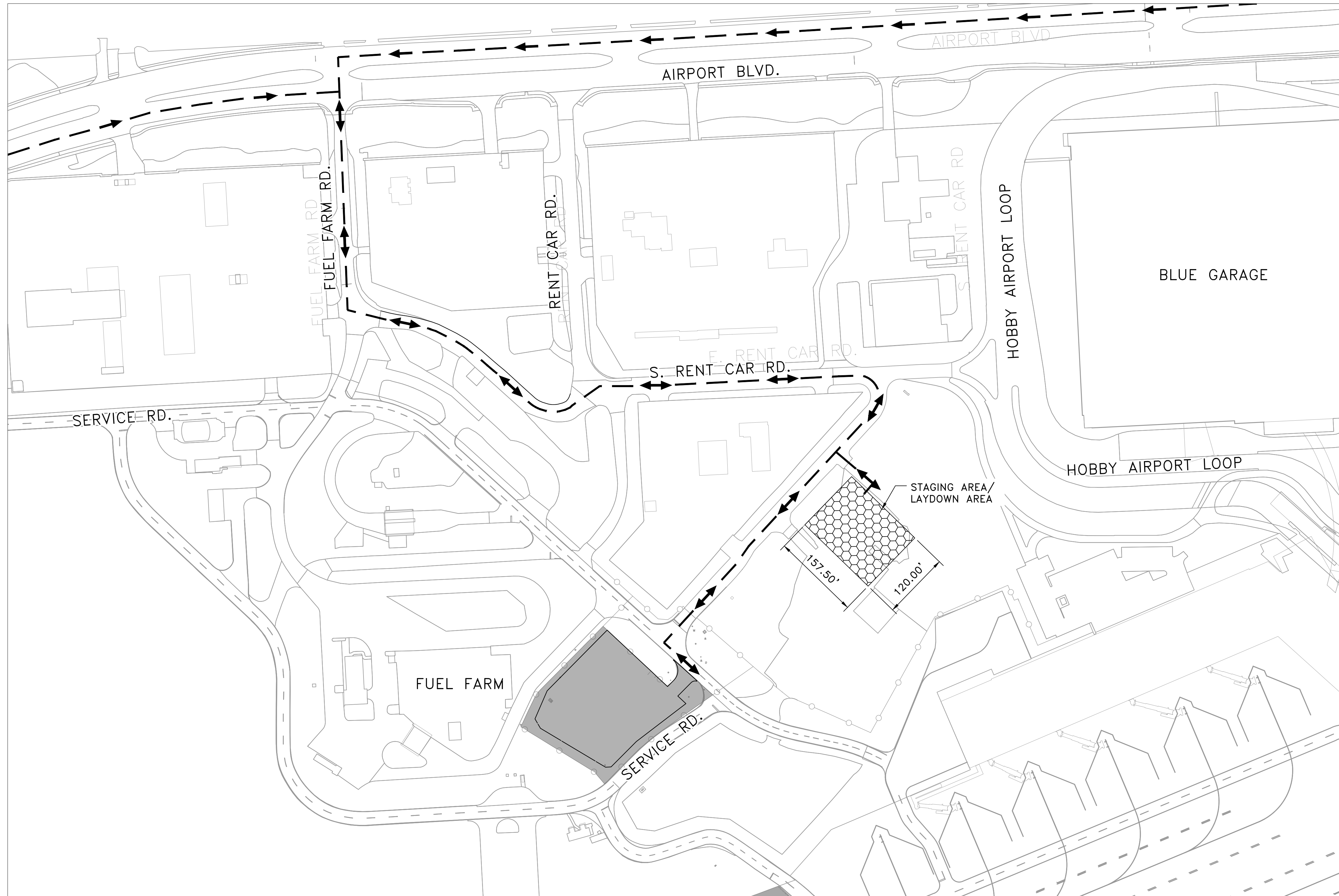
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LEGEND

- OVERALL PROPOSED PROJECT LIMITS
- STAGING AREA/LAYDOWN AREA
- ACCESS ROUTE/HAUL ROUTE

NOTES

1. PRIOR TO THE START OF CONSTRUCTION, THE EXISTING TNC LOT MUST BE RELOCATED TO THE TEMPORARY TNC LOT LOCATION AFTER THE SET UP OF THE TRAFFIC CONTROL PLAN FOR THE TEMPORARY TNC LOT IS COMPLETED. SEE SHEET CT101 FOR TEMPORARY TNC LOT LOCATION AND LAYOUT.



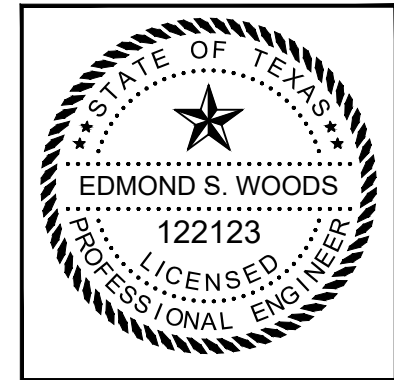
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 STE. 1100
 HOUSTON, TX 77079
 TEL: (713) 576-8500
 ATKINS NORTH
 AMERICA PE FIRM REG.
 #F-000474
 WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
OVERALL PROJECT SITE PLAN
AND ACCESS PLAN

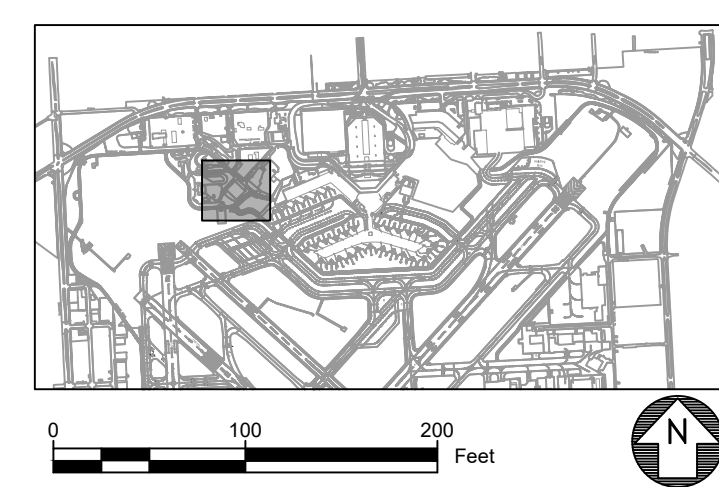
PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY:

 DIRECTOR
 HOUSTON AIRPORT SYSTEM

PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	



PLOT DATE: 6/12/2020 2:43 PM
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Construction Phasing Schedule

Major Work Item	Construction Time Allowable - Total: 20 Calendar Days																			
	Project Duration																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Mobilization	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Install and Maintain TCP	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Relocating TNC Lot to Temporary Lot	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Removal of Concrete Barriers/Restroom	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Surface Asphalt/Gravel Removal	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Grading Surface	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Pulverization/Reworking of Base Course	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Pavement Surface Micro-milling (Alternative)	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Pavement Marking Installation	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Concrete Barriers/Restroom Reinstallation	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Demobilization	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█

1

2

3

4

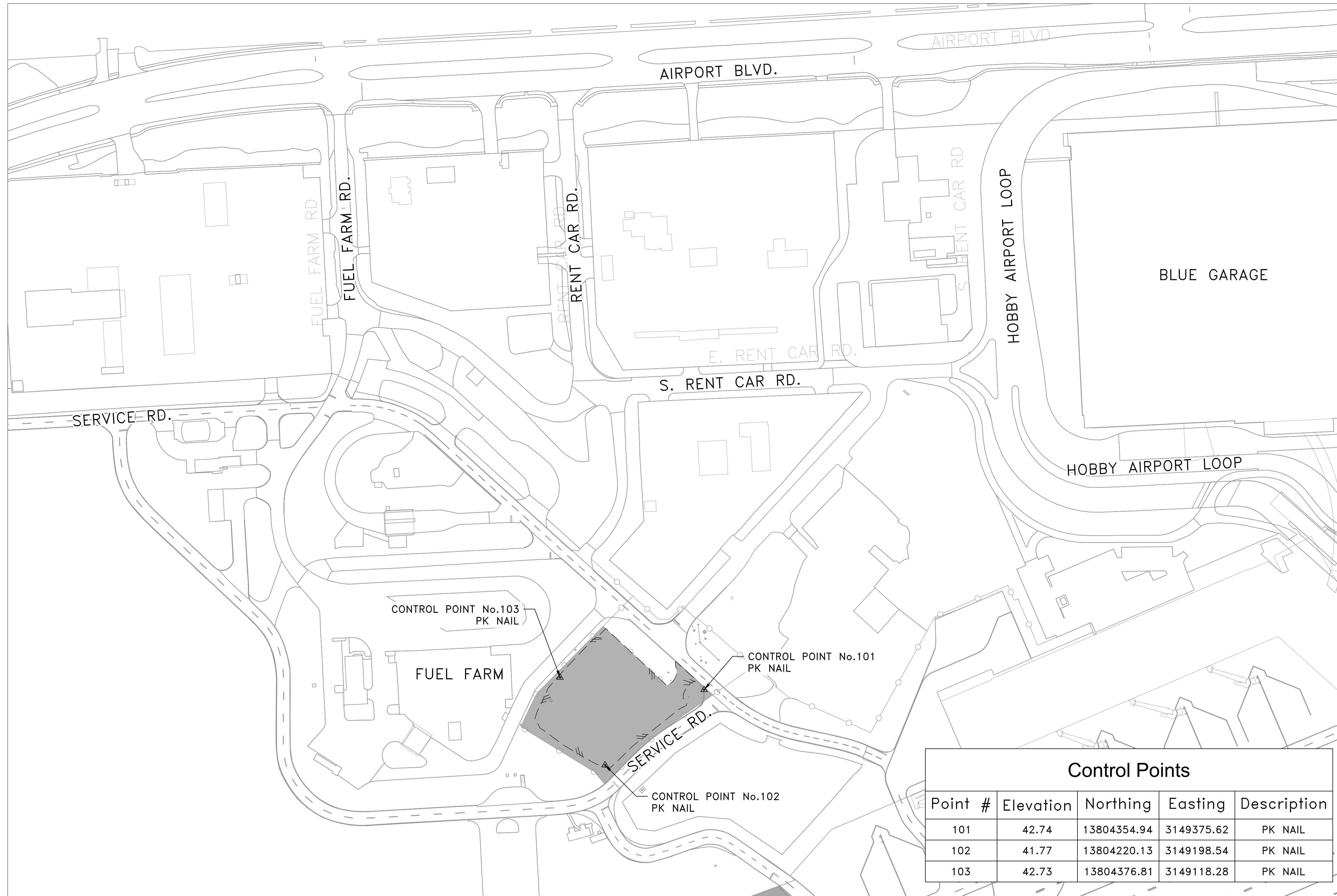
5

A



B

C

D



LEGEND

 OVERALL PROPOSED PROJECT LIMITS
 CONTROL POINT

Control Points				
Point #	Elevation	Northing	Easting	Description
101	42.74	13804354.94	3149375.62	PK NAIL
102	41.77	13804220.13	3149198.54	PK NAIL
103	42.73	13804376.81	3149118.28	PK NAIL

SURVEY INFORMATION:

1. THIS SURVEY WAS COMPLETED ON THE GROUND APRIL 08, 2020.
2. COORDINATES USED FOR THIS PROJECT ARE REFERENCED TO TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83, AS BASED ON HARRIS COUNTY FLOODPLAIN REFERENCE MARKS NOS. 030050R, 030290 AND 030380. COORDINATES SHOWN HEREON ARE SURFACE COORDINATES AND MAY BE CONVERTED TO GRID BY APPLYING A COMBINED SCALE FACTOR OF 0.999870017.
3. ELEVATIONS ARE REFERENCED TO NAVD88 (2001 ADJUSTMENT), AS BASED ON HARRIS COUNTY FLOODPLAIN REFERENCE MARK NO. 030290.

HOUSTON AIRPORT SYSTEM
WILLIAM P. HOBBY AIRPORT / HOUSTON, TX

ATKINS

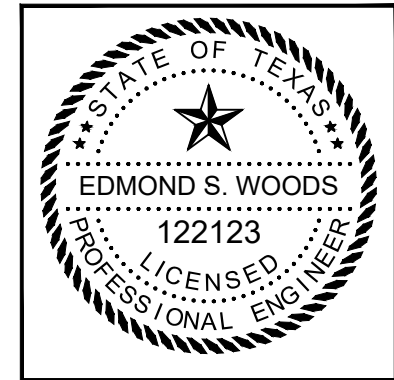
LOCAL OFFICE:
200 WESTLAKE PARK BLVD.,
STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH
AMERICA PE FIRM REG.
#F-000474
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REVISIONS

NO.	DESCRIPTION	DATE	BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
**TNC PARKING LOT PAVING
SURVEY AND HORIZONTAL
CONTROL PLAN**

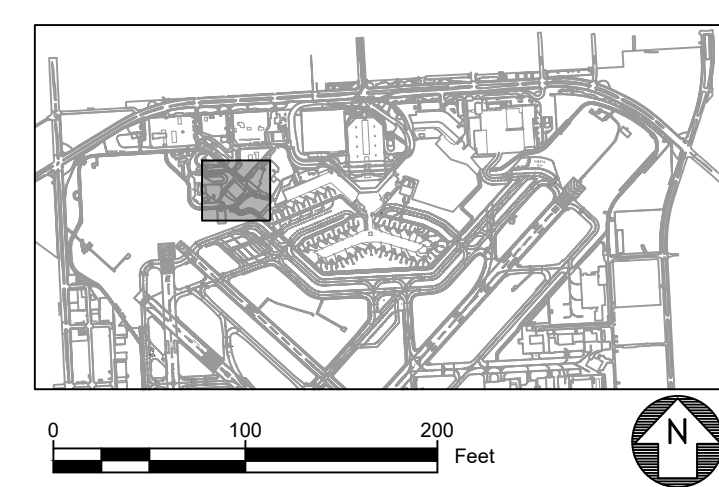
PROJECT MGR: JLV
DESIGNER: ESW
DRAWN BY: MRT
CHECK BY: MES
SCALE:
DATE: 06/12/2020



APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100069976
A.I.P. NO.
C.I.P. NO.
H.A.S. NO.
238
SHEET NO.



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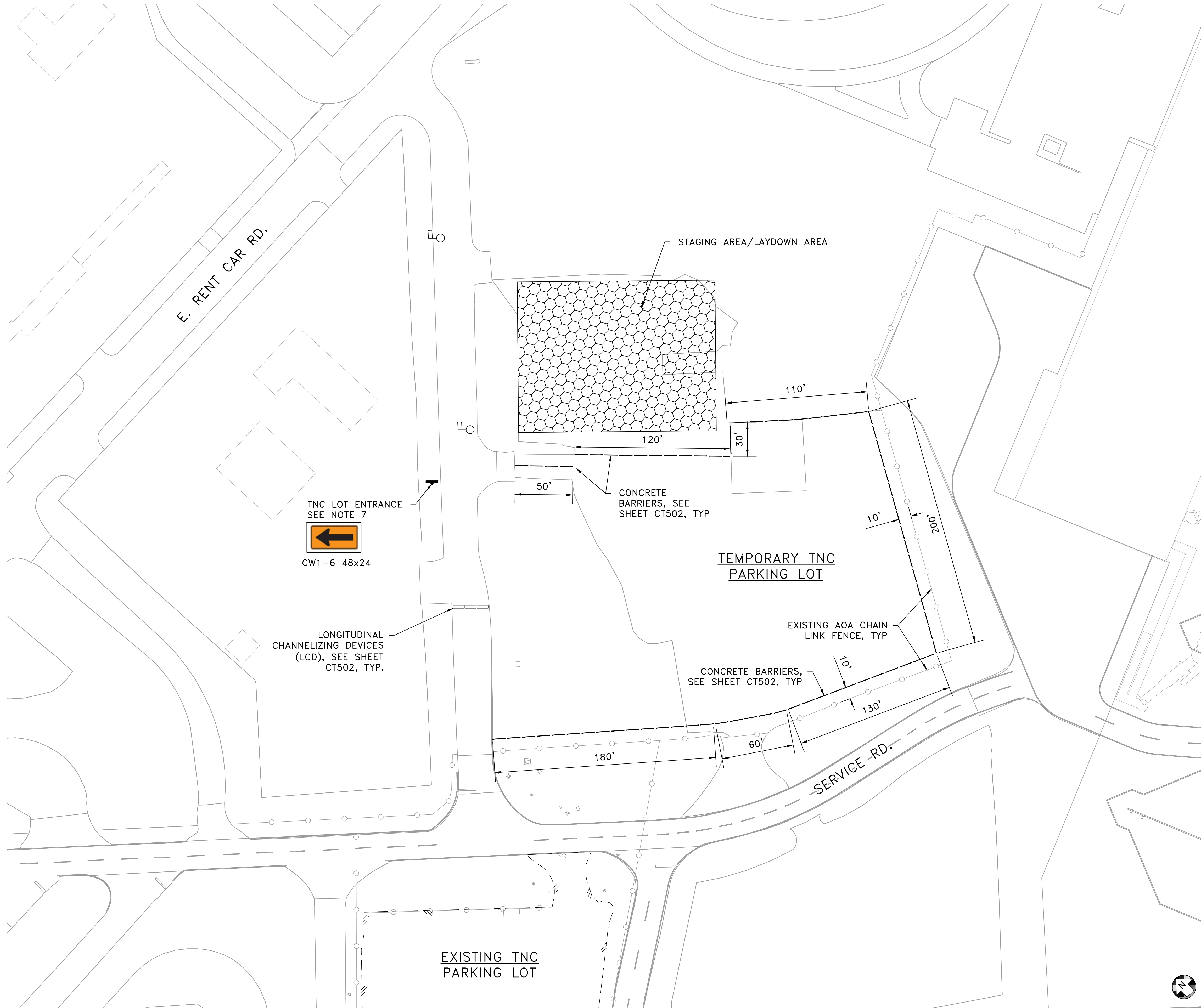
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3

4

5

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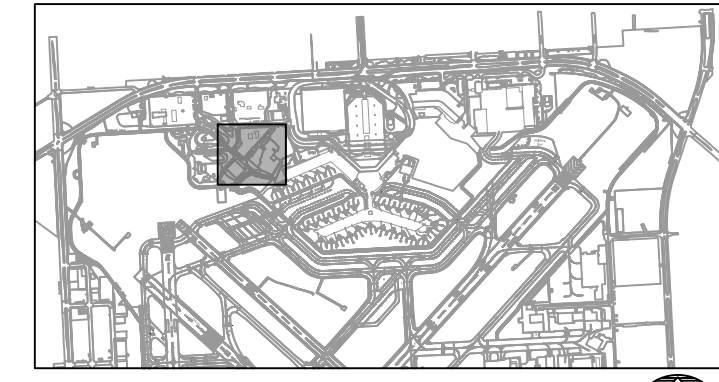


LEGEND

- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER
- LONGITUDINAL CHANNELIZING DEVICES (LCD)
- FLAGGER

NOTES

1. INSTALL AND OPERATE TRAFFIC CONTROLS TO DIRECT AND MAINTAIN ORDERLY FLOW OF TRAFFIC IN AREAS UNDER CONTRACTOR'S CONTROL, AND AREAS AFFECTED BY CONTRACTOR'S OPERATIONS.
2. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TRAFFIC MUTCD, MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
3. IF THE CONTRACTOR ELECTS TO USE A METHOD OF TRAFFIC CONTROL OTHER THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, HE/SHE SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING AN ALTERNATE SET OF PLANS TO THE HAS TRAFFIC ENGINEER FOR APPROVAL 14 WORKING DAYS PRIOR TO IMPLEMENTATION.
4. SEE SHEETS CT501 TO CT502 FOR TRAFFIC CONTROL DETAILS AND NOTES.
5. LONGITUDINAL CHANNELIZING DEVICES (LCD) OR CONCRETE BARRIERS SHALL ACT AS CONSTRUCTION SAFETY ZONE AND TRAFFIC CONTROL DEVICES DURING CONSTRUCTION. EFFECTIVELY SEPARATING THE WORK ZONE FROM THE TRAFFIC.
6. CONTRACTOR SHALL PROVIDE FLAGGER PERSON AS NEEDED FOR CONSTRUCTION VEHICLES TO ACCESS CONSTRUCTION AREA.
7. "TNC LOT ENTRANCE" SIGN SHALL BE PROVIDED BY THE CONTRACTOR. SIGN SHALL BE INSTALLED BY THE CONTRACTOR ALONG WITH THE DIRECTIONAL ARROW CW1-6 AS SHOWN ON PLANS, THIS SHEET.
8. APPROVED COPIES OF THE TRAFFIC CONTROL PLANS AND MOBILITY PERMITS SHALL BE MADE AVAILABLE FOR INSPECTION AT THE JOB SITE AT ALL TIMES. CONTRACTOR MUST SECURE MOBILITY PERMITS FROM THE CITY'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST 10 DAYS IN ADVANCE OF THE CLOSURE. NOTE THAT WORKING HOURS MAY BE RESTRICTED OR REQUEST MAY BE DENIED. CALL 832-395-3020 FOR AN APPLICATION OR LOG ON TO WWW.GIS.HOUSTONX.GOV.

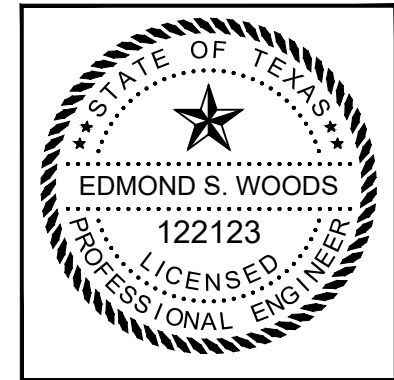


REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
TRAFFIC CONTROL PLAN

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY: _____
 DIRECTOR
 HOUSTON AIRPORT SYSTEM

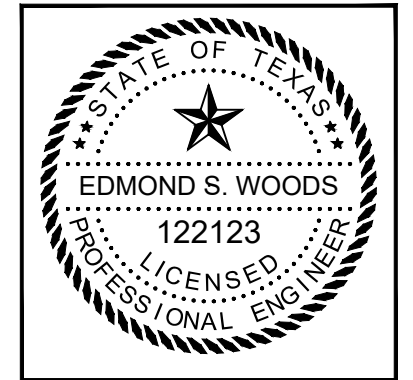
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A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	

REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
EXISTING CONDITIONS PLAN

PROJECT MGR: JLW
 DESIGNER: ESW
 DRAWN BY: MRT
 CHECK BY: MES
 SCALE:
 DATE: 06/12/2020



APPROVED BY: _____
 DIRECTOR
 HOUSTON AIRPORT SYSTEM

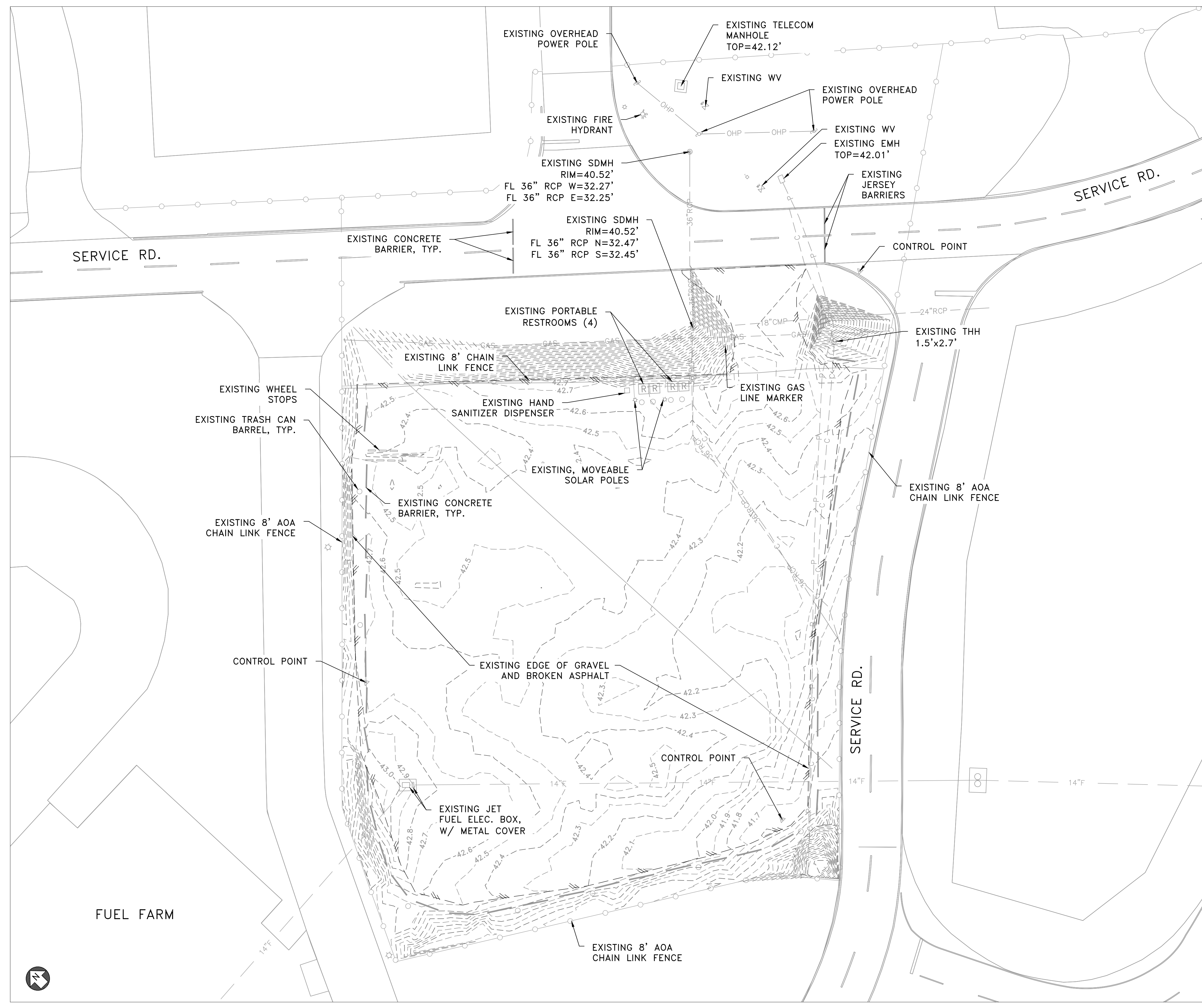
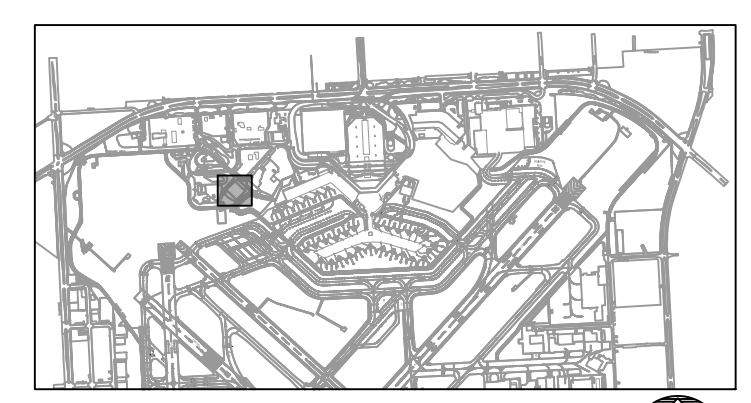
PROJECT NO. 100069976
 A.I.P. NO. _____
 C.I.P. NO. _____
 H.A.S. NO. 238
 SHEET NO. _____

LEGEND

- EXISTING EDGE OF PAVEMENT
- 36"RCP--- EXISTING STORM DRAIN LINE
- GAS--- EXISTING GAS LINE
- C--- EXISTING COMMUNICATION LINE
- 14"F--- EXISTING FUEL LINE
- P--- EXISTING UNDERGROUND POWER LINE
- OHP--- EXISTING OVERHEAD POWER LINE
- EXISTING UNKNOWN UNDERGROUND LINE
- EXISTING FENCE LINE
- ⊙ EXISTING FIRE HYDRANT
- ⊕ EXISTING WATER VALVE
- △ EXISTING CONTROL POINT
- ⊙ EXISTING STORM MANHOLE
- ⊙ EXISTING TELECOM MANHOLE/HANDHOLE
- ⊕ EXISTING TELECOM PEDESTAL
- ☆ EXISTING LIGHT POLE
- ⊙ EXISTING POWER POLE
- ◇ EXISTING PIPELINE MARKER
- ⊕ EXISTING WHEEL STOP
- EXISTING CONCRETE BARRIER
- ⊕ EXISTING PORTABLE RESTROOM

NOTES

1. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ALL MATERIAL RESULTING FROM THE WORK EFFORTS, FROM THE PROJECT SITE.
2. CONTRACTOR TO PROTECT ALL EXISTING CONCRETE PANELS NEAR THE PROJECT LIMITS.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ADEQUATE DUST CONTROL MEASURES DURING ALL CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL CLEANUP AT THE END OF EACH WORK SHIFT PRIOR TO OPENING THE AREA TO PUBLIC TRAFFIC. THE SUITABILITY OF THE READINESS OF THE SITE TO PUBLIC TRAFFIC SHALL BE SUBJECT TO APPROVAL BY HAS PERSONNEL.
5. REFER TO SHEET CD101 FOR DEMOLITION INFORMATION AND DETAILS.



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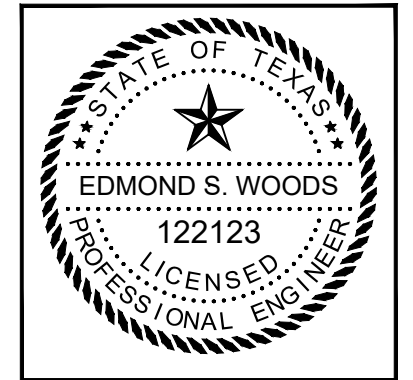
A
 B
 C
 D

REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
**TNC PARKING LOT PAVING
DEMOLITION PLAN**

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	

LEGEND

- PAVEMENT RECLAMATION LIMIT
- EXISTING EDGE OF PAVEMENT
- EXISTING STORM DRAIN LINE
- EXISTING GAS LINE
- EXISTING COMMUNICATION LINE
- EXISTING FUEL LINE
- EXISTING UNDERGROUND POWER LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING UNKNOWN UNDERGROUND LINE
- EXISTING FENCE LINE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING CONTROL POINT
- EXISTING STORM MANHOLE
- EXISTING TELECOM MANHOLE/HANDHOLE
- EXISTING TELECOM PEDESTAL
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- EXISTING PIPELINE MARKER
- EXISTING WHEEL STOP
- EXISTING CONCRETE BARRIER
- EXISTING PORTABLE RESTROOM

KEYNOTE LEGEND

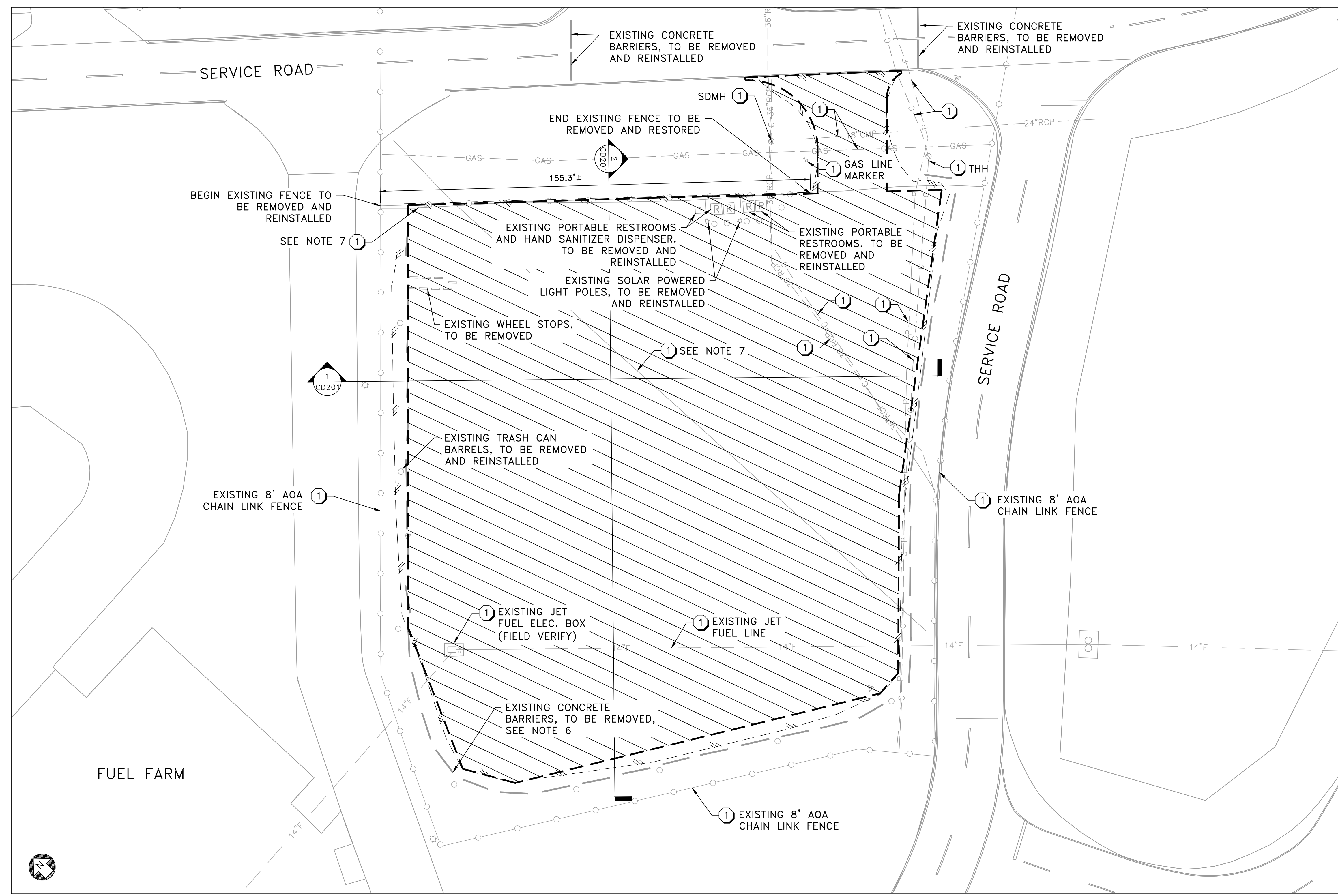
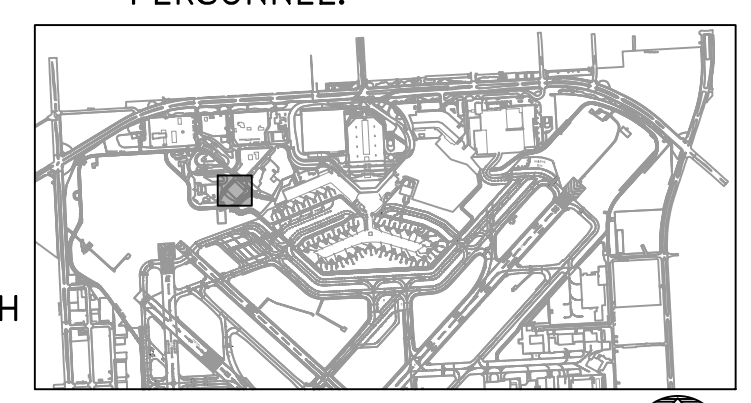
- PROTECT EXISTING

NOTES

1. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ALL MATERIAL RESULTING FROM THE WORK EFFORTS, FROM THE PROJECT SITE.
2. CONTRACTOR TO PROTECT ALL EXISTING CONCRETE PANELS NEAR THE PROJECT LIMITS.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ADEQUATE DUST CONTROL MEASURES DURING ALL CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL CLEANUP AT THE END OF EACH WORK SHIFT PRIOR TO OPENING THE AREA TO PUBLIC TRAFFIC. THE SUITABILITY OF THE SITE TO PUBLIC TRAFFIC SHALL BE SUBJECT TO APPROVAL BY HAS PERSONNEL.

NOTES (CONTINUED)

5. REFER TO SHEETS CD201 FOR DEMOLITION SECTIONS.
6. THE REMOVAL OF THE EXISTING CONCRETE BARRIERS SHALL BE PERFORMED PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION WORK. EXISTING CONCRETE BARRIERS WILL BE SALVAGED AND RETURNED TO HAS.
7. THE CONTRACTOR IS RESPONSIBLE FOR A THOROUGH UTILITY INVESTIGATION PRIOR TO THE BEGINNING OF WORK TO LOCATE ANY UTILITIES NOT IDENTIFIED HEREIN.

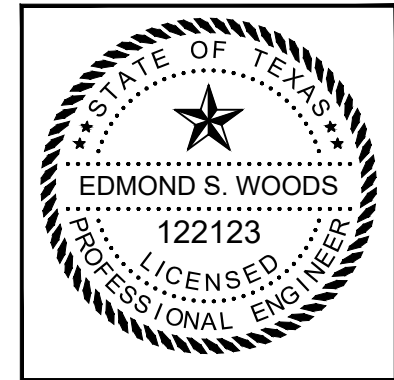


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REVISIONS		
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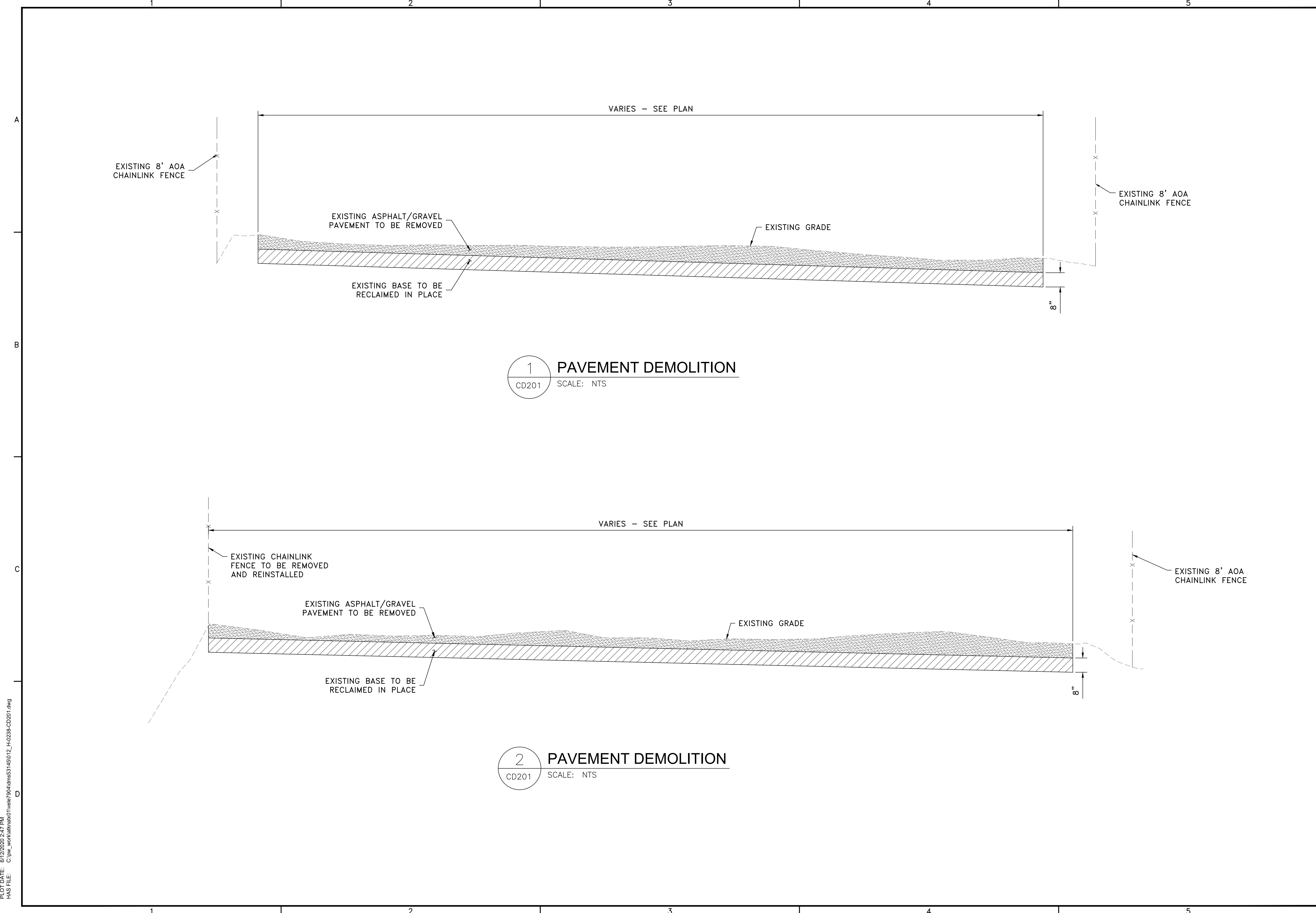
WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
DEMOLITION SECTIONS

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY: _____
DIRECTOR
 HOUSTON AIRPORT SYSTEM

PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	



1 PAVEMENT DEMOLITION
CD201 SCALE: NTS

2 PAVEMENT DEMOLITION
CD201 SCALE: NTS

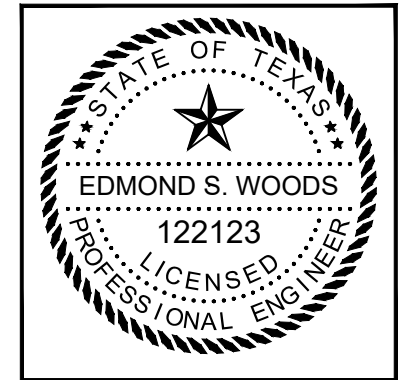
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REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
**TNC PARKING LOT PAVING
PROPOSED GEOMETRY
PAVEMENT LAYOUT**

PROJECT MGR: JLW
DESIGNER: ESW
DRAWN BY: MRT
CHECK BY: MES
SCALE:
DATE: 06/12/2020



APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

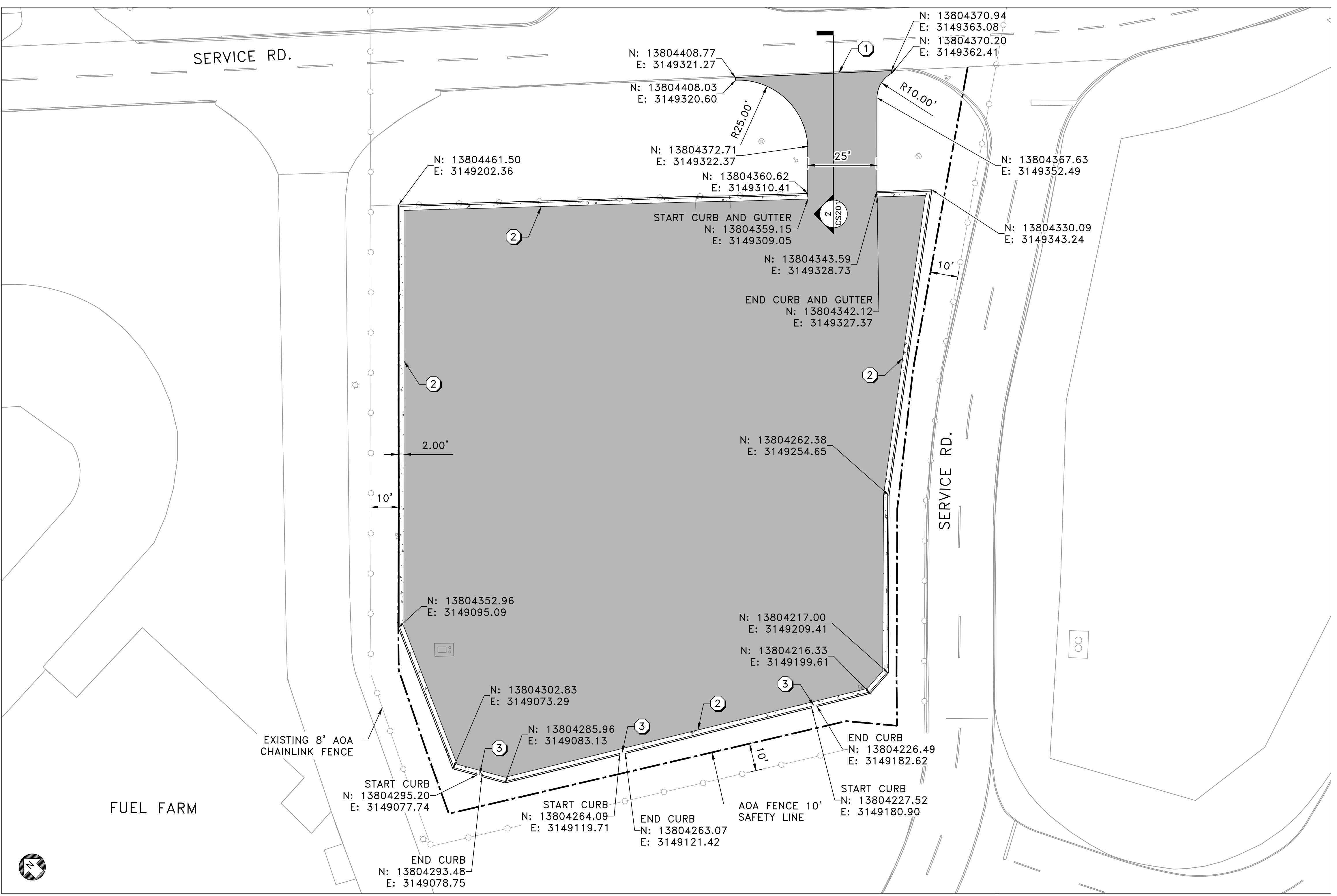
PROJECT NO. 100069976
A.I.P. NO. _____
C.I.P. NO. _____
H.A.S. NO. 238
SHEET NO. _____

LEGEND

- PROPOSED PAVEMENT
SEE DETAIL 1/CS201
- AOA FENCE 10' SAFETY LINE

KEYNOTE LEGEND

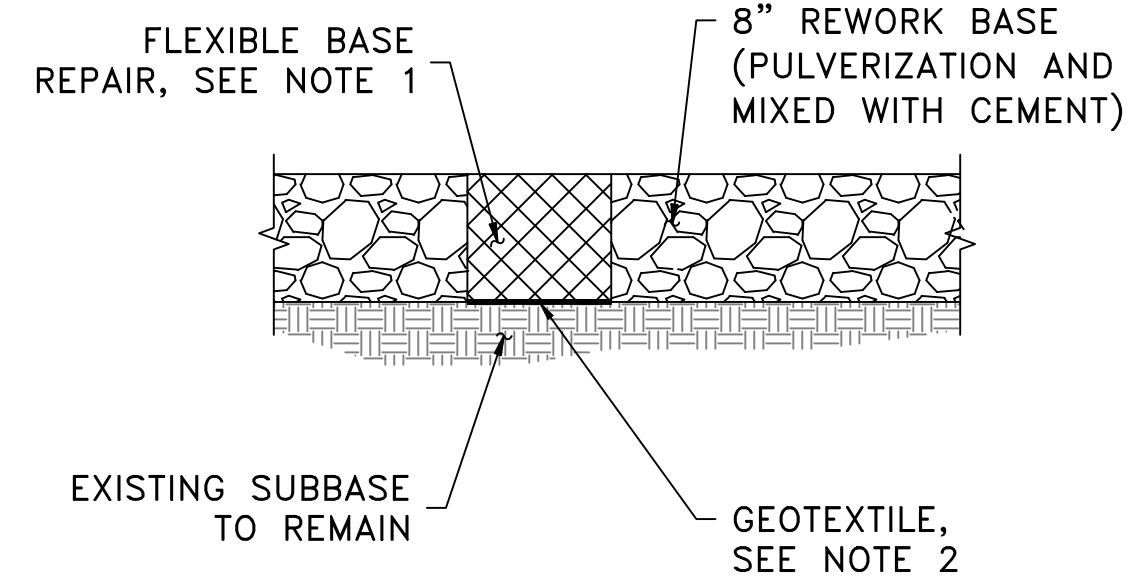
- ① MATCH EXISTING
- ② MONOLITHIC CURB AND GUTTER (SEE SHEET CS202) (ALTERNATIVE)
- ③ CURB DRAINAGE CUTOUT



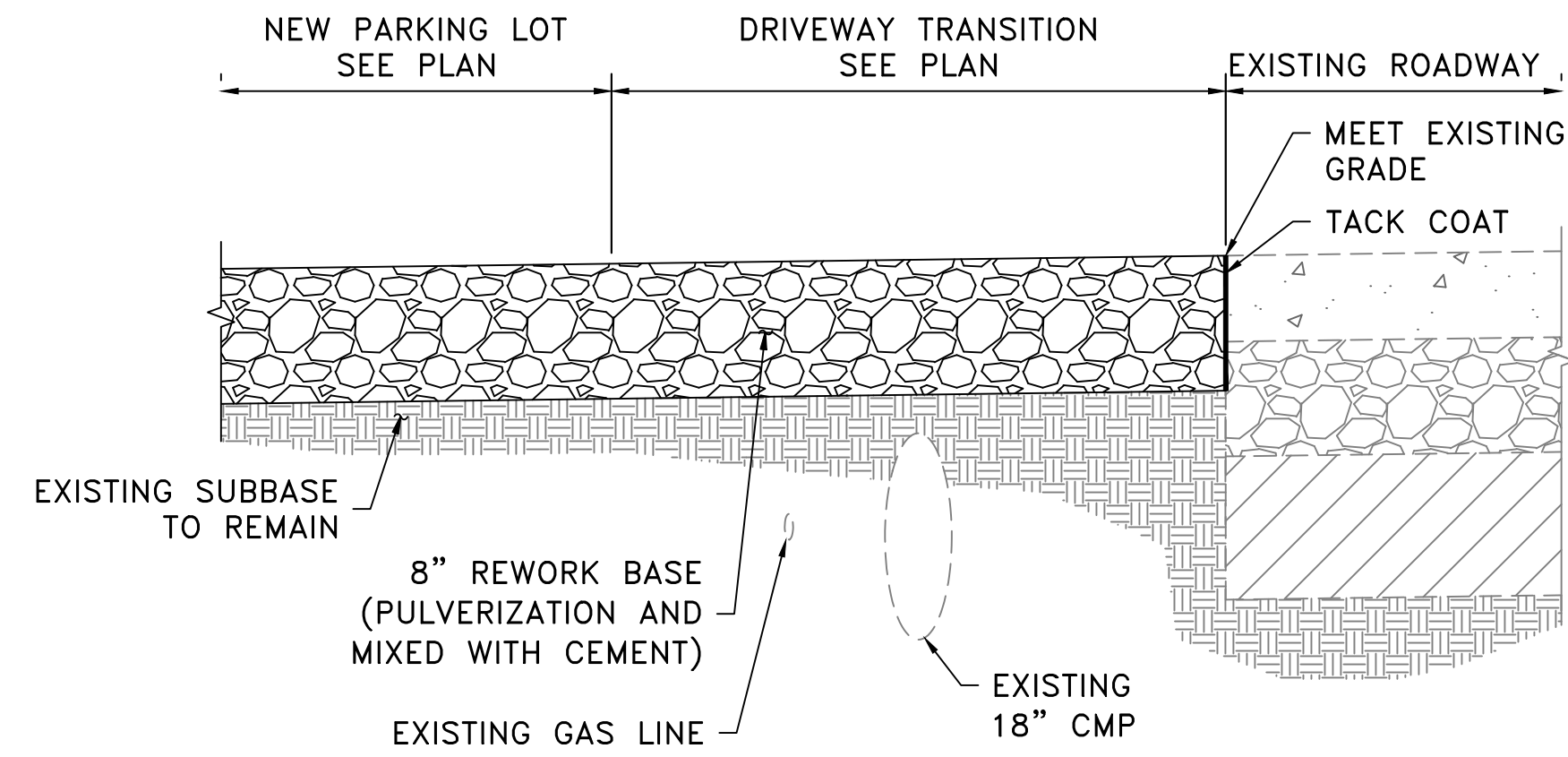
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NOTES

1. THE CONTRACTOR SHALL REPAIR DETERIORATED PORTIONS OF THE AGGREGATE BASE WITHIN THE LIMITS SHOWN WITHIN THE PLAN SET, AS DIRECTED BY THE HAS PROJECT ENGINEER. REPAIR MATERIALS SHALL CONFORM TO TXDOT SECTION 247 FLEXIBLE BASE.
2. GEOTEXTILE TO SUBGRADE SUPPORT SHALL BE GEOGRID (BI-AXIAL OR TRIAXIAL) OR HIGH TENSILE GEOTEXTILE (MIRAFI 380i OR 580i) OR APPROVED EQUAL BY THE HAS PROJECT ENGINEER.



1 TYPICAL PAVEMENT SECTION
 CS201 SCALE: NTS



2 TIE-IN SECTION
 CS201 SCALE: NTS

ATKINS
 LOCAL OFFICE:
 200 WESTLAKE PARK BLVD.,
 STE. 1100
 HOUSTON, TX 77079
 TEL: (713) 576-8500
 ATKINS NORTH
 AMERICA PE FIRM REG.
 #F-000474
 WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
 TYPICAL SECTIONS

PROJECT MGR: JLV
 DESIGNER: ESW
 DRAWN BY: MRT
 CHECK BY: MES
 SCALE:
 DATE: 06/12/2020



APPROVED BY:

 DIRECTOR
 HOUSTON AIRPORT SYSTEM

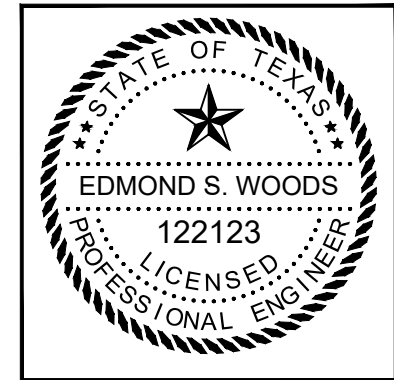
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 A.I.P. NO.
 C.I.P. NO.
 H.A.S. NO. 238
 SHEET NO.

CS201

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NO.	DESCRIPTION	DATE	BY

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



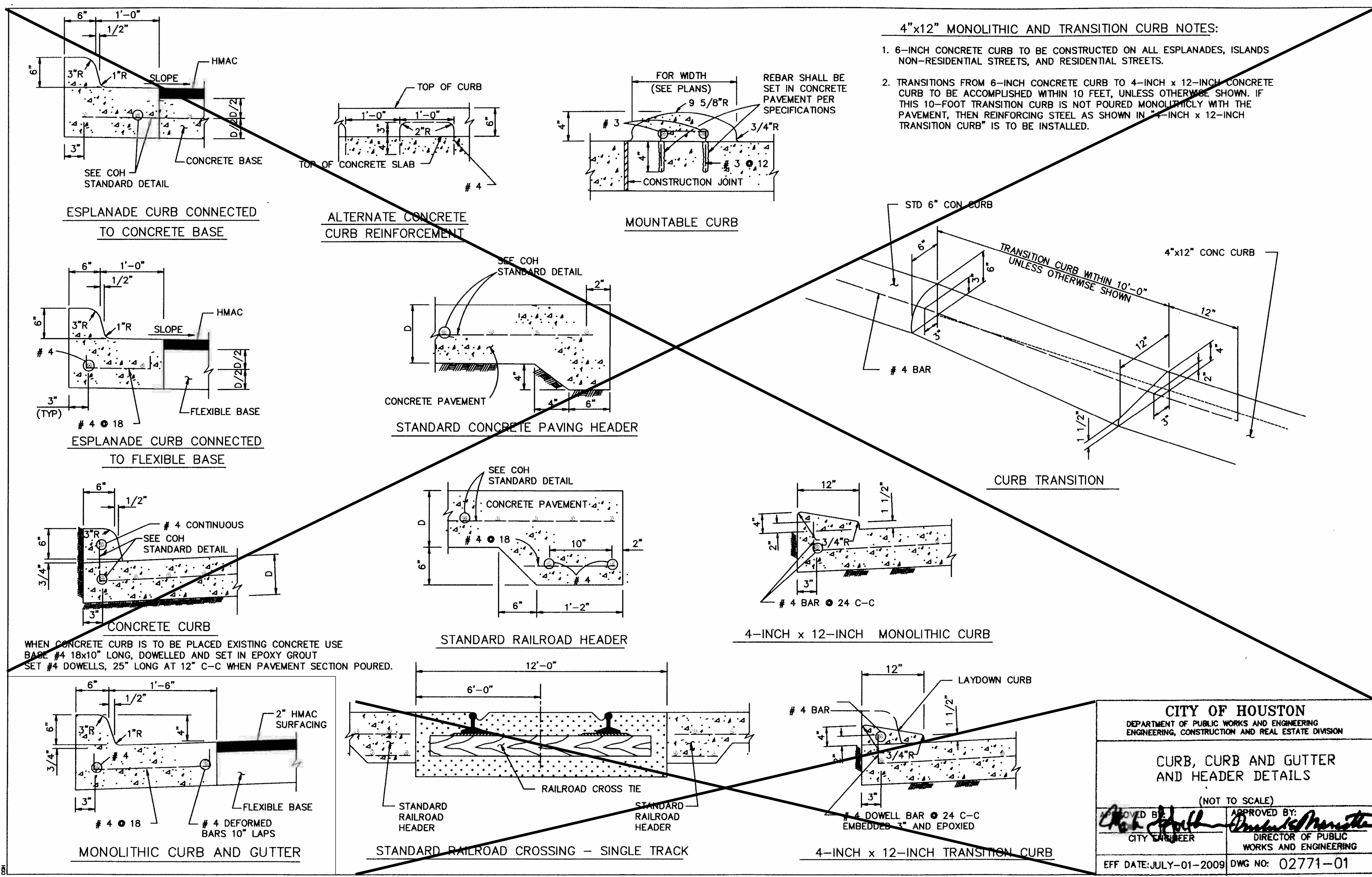
APPROVED BY:
 DIRECTOR
 HOUSTON AIRPORT SYSTEM

PROJECT NO.
 100069976
 A.I.P. NO.
 C.I.P. NO.

H.A.S. NO.
 238
 SHEET NO.

4"x12" MONOLITHIC AND TRANSITION CURB NOTES:

- 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS NON-RESIDENTIAL STREETS, AND RESIDENTIAL STREETS.
- TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH x 12-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10-FOOT TRANSITION CURB IS NOT POURED MONOLITHICALLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN IN "4-INCH x 12-INCH TRANSITION CURB" IS TO BE INSTALLED.



CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

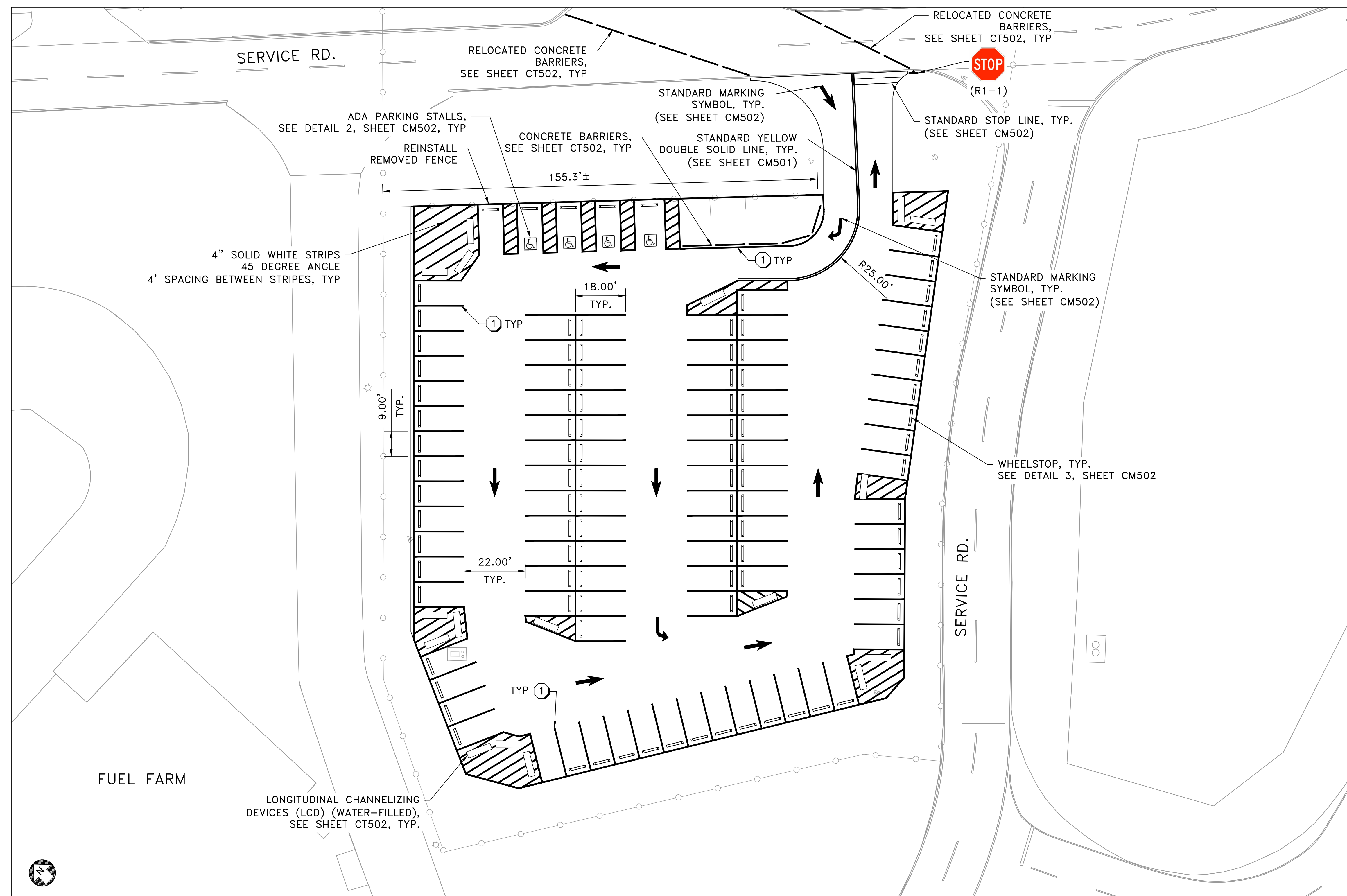
CURB, CURB AND GUTTER AND HEADER DETAILS
 (NOT TO SCALE)

APPROVED BY: *[Signature]* CITY ENGINEER
 APPROVED BY: *[Signature]* DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2009 DWG NO: 02771-01

PLOT DATE: 6/12/2020 2:48 PM
 PLOT FILE: C:\pwworking\atkins\146014_H0238-CS201.dwg

PLOT DATE: 6/12/2020 2:49 PM
 P&S FILE: C:\pwr_aork\ktrax01\wefr\904\dms53\45015_H0238-CM101.dwg



LEGEND

- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER (SEE SHEET CT502)
- LONGITUDINAL CHANNELIZING DEVICES (LCD) (WATER-FILLED) (SEE SHEET CT502)
- EXISTING 10' AOA FENCE

KEYNOTE LEGEND

- ① 4" SOLID WHITE STRIPE (SEE DETAIL 1, SHEET CM502)

NOTES

1. SEE SHEET CM502 FOR GENERAL PAVEMENT MARKING NOTES.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE PLACEMENT OF REBAR FOR THE WHEELSTOPS THROUGH THE PAVEMENT TO AVOID DAMAGING ANY UNDERGROUND UTILITIES.

Houston Airport System
 WILLIAM P. HOBBY AIRPORT / HOUSTON, TX

ATKINS

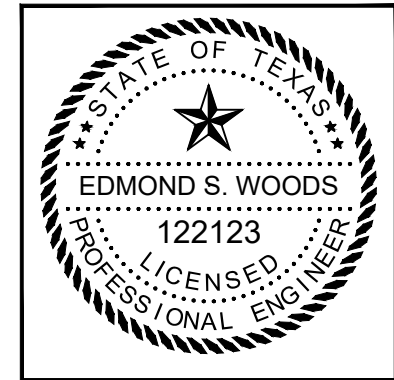
LOCAL OFFICE:
 200 WESTLAKE PARK BLVD.,
 STE. 1100
 HOUSTON, TX 77079
 TEL: (713) 576-8500
 ATKINS NORTH
 AMERICA PE FIRM REG.
 #F-000474
 WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
PROPOSED PAVEMENT
MARKINGS LAYOUT

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY: _____
 DIRECTOR
 HOUSTON AIRPORT SYSTEM

PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	

0 20 40 Feet

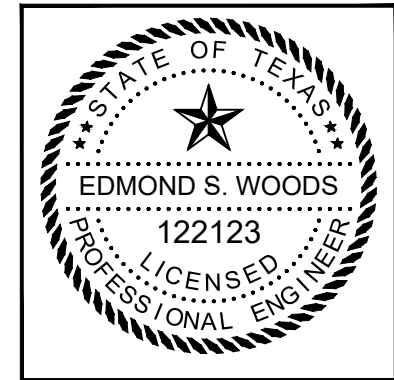
ATKINS
 LOCAL OFFICE:
 200 WESTLAKE PARK BLVD.,
 STE. 1100
 HOUSTON, TX 77079
 TEL: (713) 576-8500
 ATKINS NORTH
 AMERICA PE FIRM REG.
 #F-000474
 WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
PROPOSED PAVEMENT MARKING NOTES

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100069976

A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
238

SHEET NO.

GENERAL PAVEMENT MARKING NOTES:

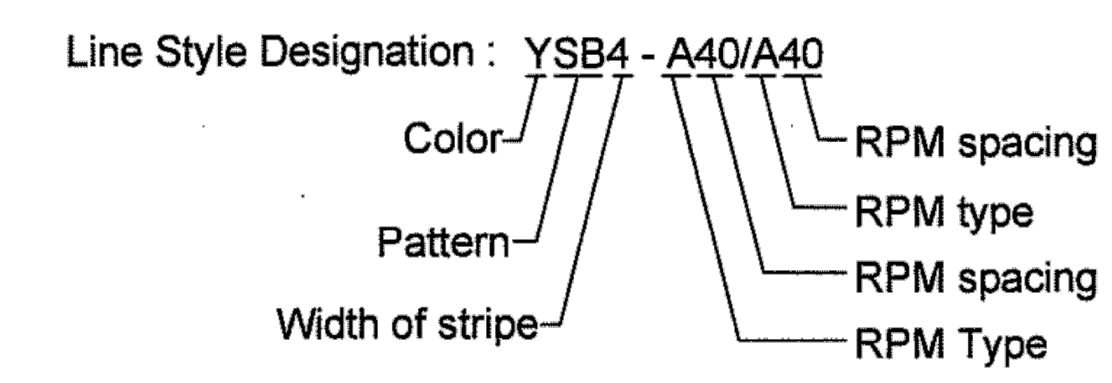
- PRIOR TO START OF CONSTRUCTION, ALL EXISTING PAVEMENT MARKINGS WITHIN THE AREA OF CONSTRUCTION SHALL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE CITY INSPECTOR AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING ALL EXISTING PAVEMENT MARKINGS AND LANE CONFIGURATIONS WILL BE DUPLICATED AGAIN. THIS REVIEW CAN BE DONE IN CONJUNCTION WITH SIGN INVENTORY. THE CONTRACTOR IS HELD ACCOUNTABLE FOR EXISTING AND TEMPORARY CONSTRUCTION PAVEMENT MARKINGS THROUGHOUT THE PROJECT AND AT THE PROJECT'S COMPLETION.
- ALL PAVEMENT MARKINGS SHALL CONFORM TO CITY OF HOUSTON STANDARDS AND SPECIFICATIONS AND GENERAL GUIDELINES OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
- THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE CITY TRAFFIC ENGINEER.
- THE DESIGN SPEED FOR THE ROAD IS: _____. THE POSTED SPEED LIMIT IS: _____.
- ALL LANE DIMENSIONS ARE FROM CENTER OF LANE LINE, CENTER OF DOUBLE LANE LINE, FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT MARKINGS AND SYMBOLS.
- THE FINAL LONGITUDINAL STRIPINGS SHALL BE 60 MIL (0.060") THICK HOT-SPRAYED THERMOPLASTIC PLACED OVER THE TEMPORARY STRIPING WITHIN 14 TO 30 CALENDAR DAYS AFTER COMPLETION OF THE FINAL PAVEMENT SURFACE, OR AS DIRECTED BY THE CITY TRAFFIC ENGINEER. ALL OTHER PAVEMENT MARKINGS SHALL BE APPLIED AT THE SAME TIME. TEMPORARY STRIPING SHALL BE WATER BASED PAINT.
- ALL FINAL TRANSVERSE MARKINGS SHALL BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. ALL PAVEMENT ARROWS AND LEGENDS SHALL ALSO BE 90 MIL (0.090") HOT-SPRAYED THERMOPLASTIC. PREFORMED THERMOPLASTIC APPLICATIONS MAY BE USED IF ONLY APPROVED BY THE CITY TRAFFIC ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PAVEMENT MARKINGS OF FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE IMPLEMENTED. IN TANGENT SECTIONS OF A ROAD WHERE THE PAVEMENT MARKING PATTERN DOES NOT CHANGE, CONTROL POINTS CAN BE SET AT 200 FEET SPACING. THE LAYOUT AND INSPECTION OF ALL PAVEMENT MARKINGS SHALL BE APPROVED BY CITY OF HOUSTON REPRESENTATIVE PRIOR TO THE APPLICATION OF MATERIALS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE STRIPING IS OFFSET NO MORE THAN ONE FOOT CLEAR OF THE CONSTRUCTION JOINT, UNLESS OTHERWISE DIRECTED BY THE CITY TRAFFIC ENGINEER.
- ALL RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. TYPE C PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE CLEAR FACE OF EACH MARKER IS FACING THE APPROACHING TRAFFIC FLOW AND PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW.
- ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED IN ACCORDANCE TO CITY OF HOUSTON STANDARD SPECIFICATION 02762. APPLYING OVER EXISTING PAVEMENT MARKINGS DOES NOT CONSTITUTE AS APPROVED OBLITERATION METHOD.
- THE ENGINEER OF RECORD SHALL BE REQUIRED TO PRODUCE AS-BUILT OF PAVEMENT MARKING PLANS WITHIN 30 DAYS AFTER COMPLETION OF PAVEMENT MARKING IMPLEMENTATION.
- BLUE RPMS MAY BE PLACED ADJACENT TO FIRE HYDRANTS WITH THE APPROVAL OF THE CITY TRAFFIC ENGINEER.
- FOR ALL CONSTRUCTION, ALL PAVEMENT MARKINGS AND SIGNING SHALL BE INSTALLED AND SHALL BE PAID BY THE PROJECT OWNER/DEVELOPER.
- FINAL INSPECTION AND ACCEPTANCE OF PAVEMENT MARKINGS SHALL BE PERFORMED BY TRANSPORTATION & DRAINAGE OPERATION REPRESENTATIVE (713-803-3054).

Description and Application of Pavement Marking Lines

Line Series	Color	Description	Width Inches	Typical Applications
WB	White	Broken (10' stripe w/ 30' gap)	4"	- Lane lines between travel lanes in the same direction where changing of lanes is permitted.
WS	White	Solid	4"	- Edge lines to delineate the right edge of the roadway.
			6"	- Left edge of bicycle lane and lane lines between travel lanes in the same direction where changing of lanes is discouraged.
			12"	- Perpendicular crosswalk lines.
			24"	- Stop bars at intersections (signalized and unsignalized). - Hatching at high visibility crosswalks.
WG	White	Guide (2' stripe w/6' gap)	6"	- Diagonal hatching used in gores between same direction of travel lanes.
			12", 24"	- Guide lines through intersections. - Taper lines for turn lanes. - Guide lines for bicycle lanes.
YS	Yellow	Solid	4"	- Edge lines to delineate the left edge of a divided roadway, a one-way road, or ramp.
			12", 24"	- Diagonal hatching used in gores between opposing direction of travel lanes.
YDS	Yellow	Double Solid	4" - (4") - 4" (gap)	- Centerline that separates opposing travel lanes and delineation of median islands.
YDB	Yellow	Double Broken	4" - (4") - 4" (gap)	- Defines the edges of center reversible lanes that are used as TWLTLs during intermittent periods.
YB	Yellow	Broken (10' stripe w/ 30' gap)	4"	- Separates travel lanes in opposite directions where passing is permitted in both directions of travel.
YB (BIKE)	Yellow	Broken (3' stripe w/ 9' gap)	4"	- Separates bicycle travel lanes in opposite directions where passing is permitted in both directions of travel.
YSB	Yellow	Solid & Broken Broken (10' stripe w/ 30' gap)	4" - (4") - 4" (gap)	- Separates travel lanes in opposite directions where passing is permitted in one direction and prohibited in the opposite direction. - Used for edge of two-way left-turn lanes (TWLTL).
BICYCLE GREEN	Green	Solid Colored Pavement	Varies	- Ped/Bike crossing - Vehicle / Bike/ Conflict Area
YIELD LINE	White	Triangle	16" x 24"	- Mid-Block crossing.

Description and Application of Reflective Raised Pavement Markers (RPM)

RRPM Types	Color	COH Spec. Sec. 02764 Equivalent	Description
C	Clear	Type I-C	- Approach face that reflects white light, and the other side does not reflect.
R	Clear & Red	Type II-C-R	- Approach face that reflects white light, and the other side reflects red light.
A	Amber & Amber	Type II-A-A	- Approach face and the other side both reflect amber light.

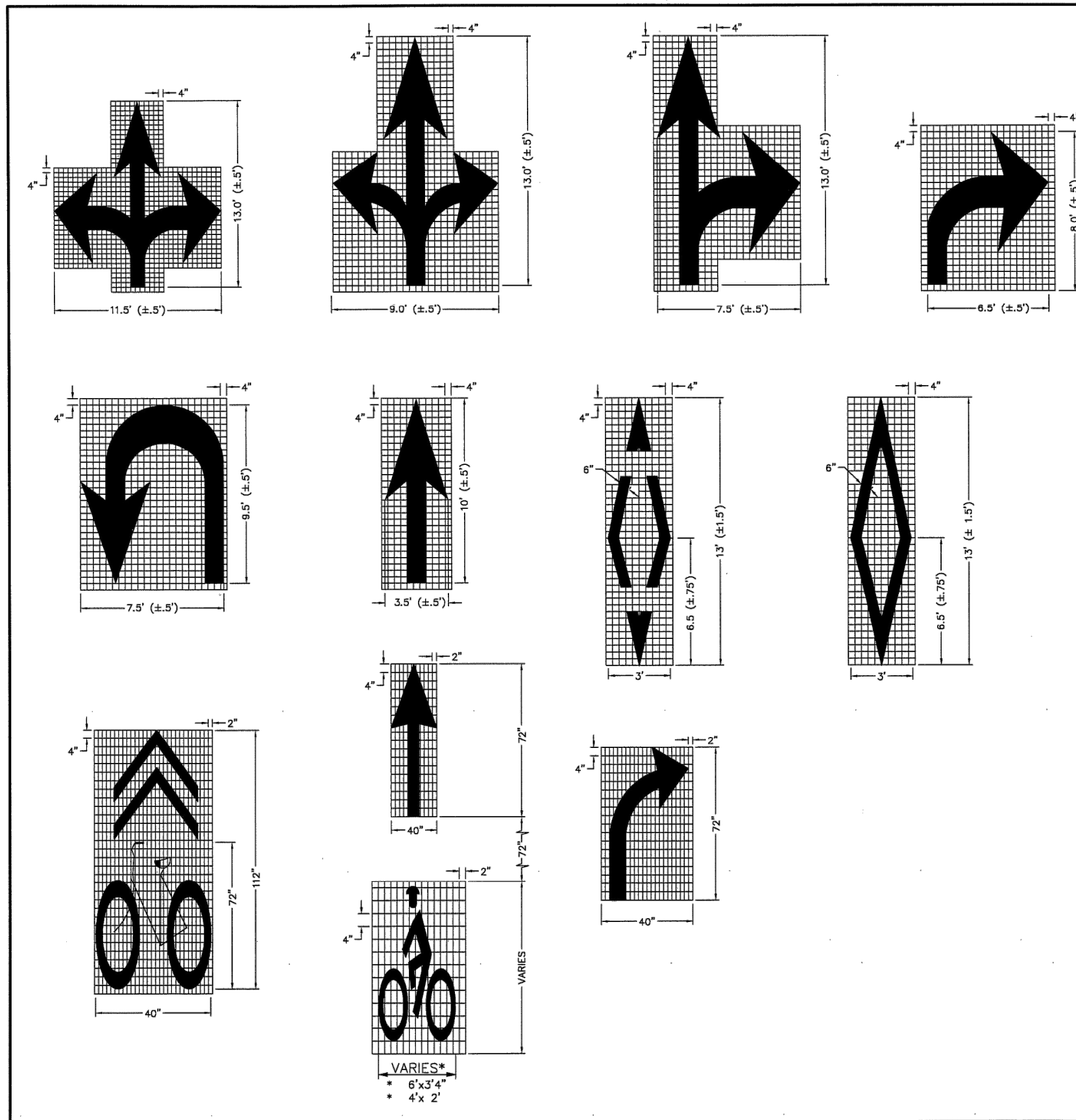


CITY OF HOUSTON
HOUSTON PUBLIC WORKS

GENERAL NOTES
AND LEGENDS
(NOT TO SCALE)

 CITY TRAFFIC ENGINEER CITY ENGINEER	 DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2018	DWG NO: 01510-01

PLOT DATE: 6/12/2020 2:49 PM
 PLOT FILE: C:\pwworkspace\atkins\116677904\ms5145016_H0238-CM501.dwg



NOTES FOR PAVEMENT MARKINGS "SYMBOLS" AND "ARROWS":

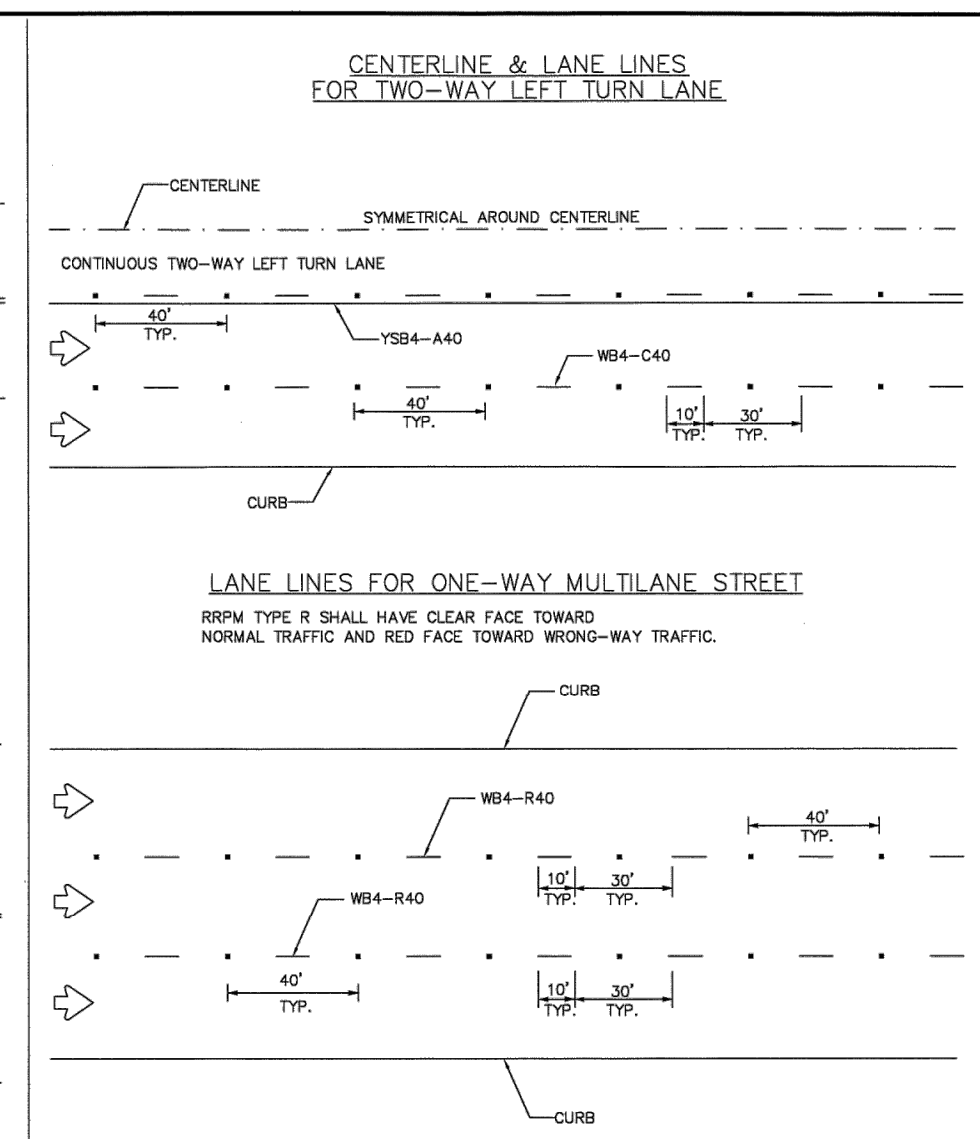
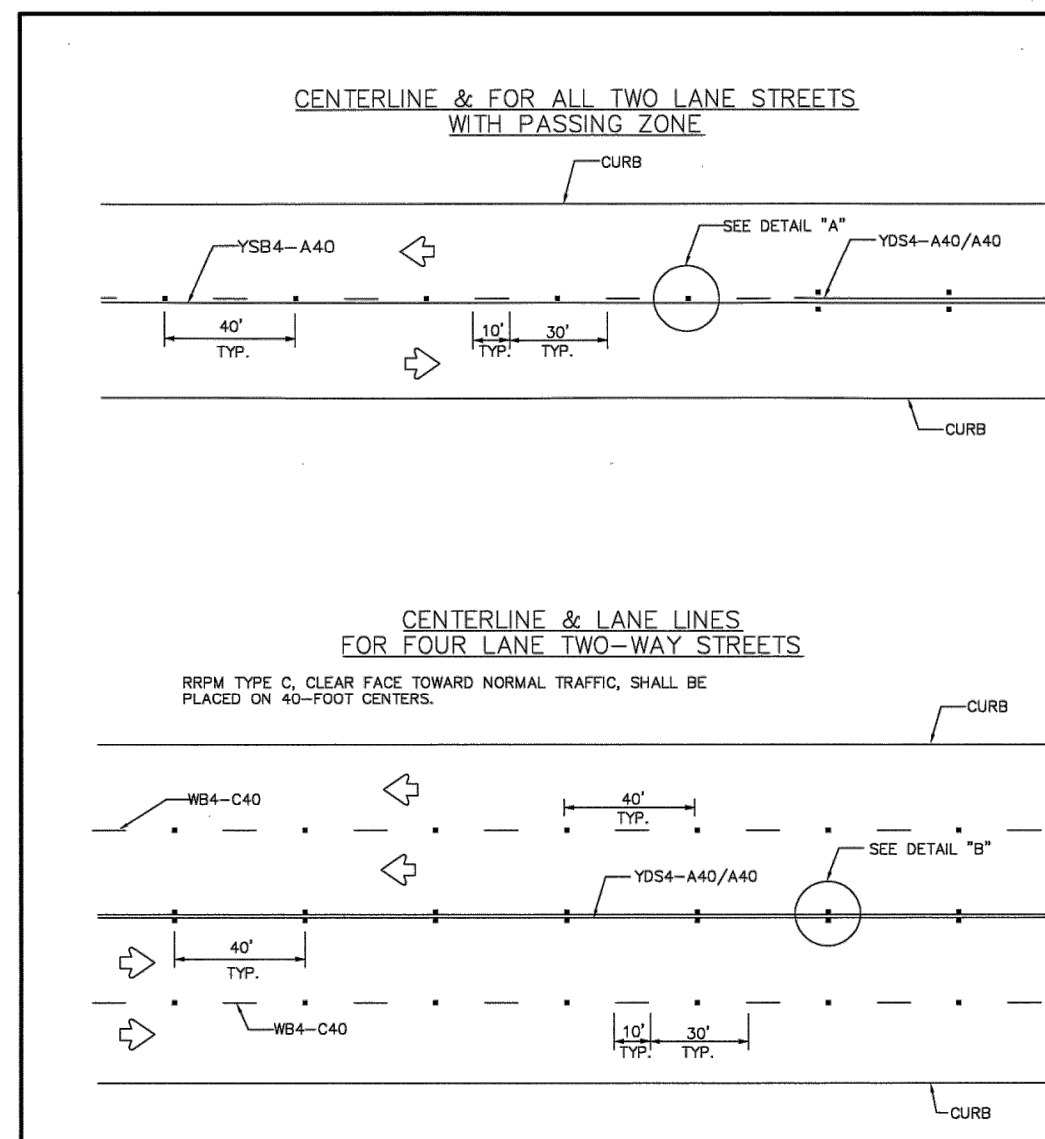
- MINIMUM 8 FOOT WHITE MARKINGS SHALL BE USED, UNLESS OTHERWISE NOTED. IF MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD BE PLACED WITH FIRST WORD NEAREST THE DRIVER.
- THESE DETAILS ARE STANDARD SIZE FOR NORMAL INSTALLATION. SIZES MAY BE REDUCED APPROXIMATELY ONE-THIRD DEPENDING ON CONDITIONS. SPECIAL PERMISSION NEEDED BY CITY TRAFFIC ENGINEER FOR REDUCTION BELOW ONE-THIRD OF STANDARD SIZES.
- THE LONGITUDINAL SPACE BETWEEN MARKINGS SHOULD BE 30 FEET, OR AS INDICATED ON THE PLANS.
- MARKINGS CONSIDERED APPROPRIATE FOR USE WHEN WARRANTED INCLUDE THE FOLLOWING:
 - REGULATORY
 - STOP
 - RIGHT (LEFT) TURN ONLY, SYMBOL, ARROWS
 - WARNING
 - STOP AHEAD
 - SIGNAL AHEAD
 - SCHOOL
 - SCHOOL X-ING
 - PEDESTRIAN
 - 8 X 8 (SEE SHEET 01510-08 DETAILS)
 - OTHER WORDS OR SYMBOLS MAY BE NECESSARY UNDER CERTAIN CONDITIONS. SPECIAL PERMISSION NEEDED BY CITY TRAFFIC ENGINEER FOR SPECIAL CONDITIONS.
 - UNCONTROLLED USE OF PAVEMENT MARKINGS CAN RESULT IN DRIVER CONFUSION. WORD AND SYMBOL MARKINGS SHOULD BE NO MORE THAN THREE LINES.
 - THE WORD "STOP" SHALL NOT BE USED ON THE PAVEMENT UNLESS ACCOMPANIED BY A STOP LINE AND STOP SIGN. THE WORD "STOP" SHALL NOT BE PLACED ON THE PAVEMENT IN ADVANCE TO A STOP LINE, UNLESS EVERY VEHICLE IS REQUIRED TO STOP AT ALL TIMES (ALL-WAY STOP).
 - PAVEMENT MARKINGS SHOULD GENERALLY BE NO MORE THAN ONE LANE IN WIDTH, WITH SCHOOL MESSAGES BEING THE EXCEPTION. FOR DETAILS OF SCHOOL AND SCHOOL CROSSING PAVEMENT MARKINGS, REFER TO PART 16 OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 - SPACING BETWEEN STANDARD SIZE LETTERS SHOULD BE 4 INCHES (MIN). THE WIDTH OF NON-STANDARD SIZE LETTERS MAY VARY DEPENDING ON THE WIDTH OF THE TRAVEL LINES. APPROVAL BY CITY TRAFFIC ENGINEER, SPECIAL PERMISSION NEEDED FOR NON-STANDARD SIZE "LETTERS" AND/OR "ARROWS".
 - LANE-USE ARROW MARKINGS MAY BE USED TO CONVEY EITHER GUIDANCE OR MANDATORY MESSAGES. SINGLE TURN ARROWS USED TO CONVEY A MANDATORY MOVEMENT MUST BE ACCOMPANIED STANDARD SIGNS AND THE PAVEMENT MARKING WORD "ONLY".
 - PAVEMENT MARKINGS ARE TO BE LOCATED AS SPECIFIED IN THE DESIGN PLANS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

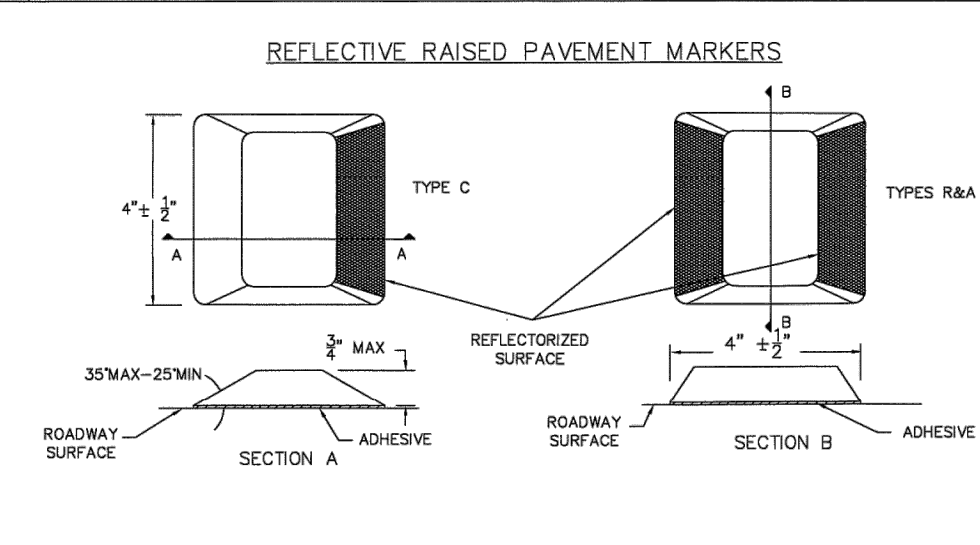
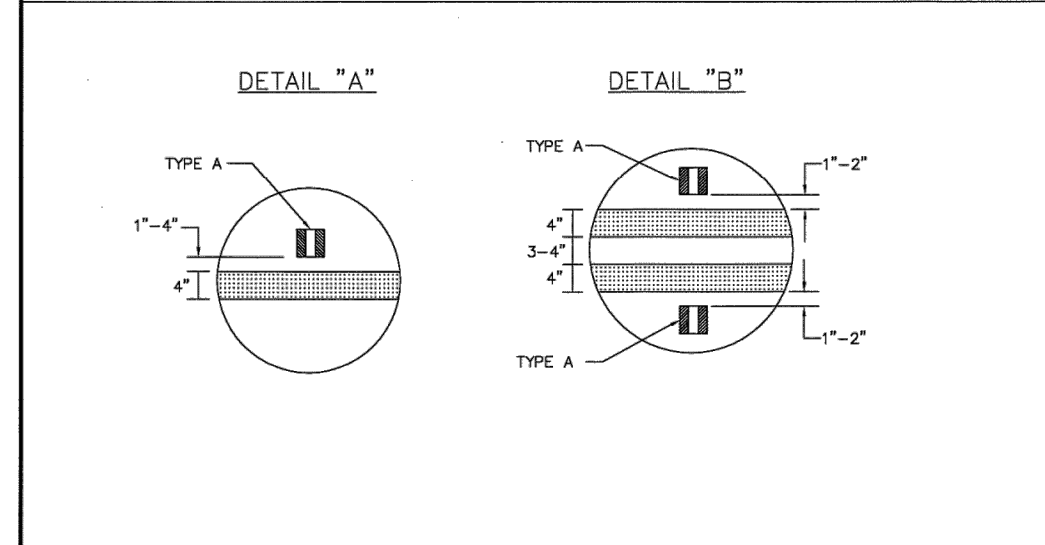
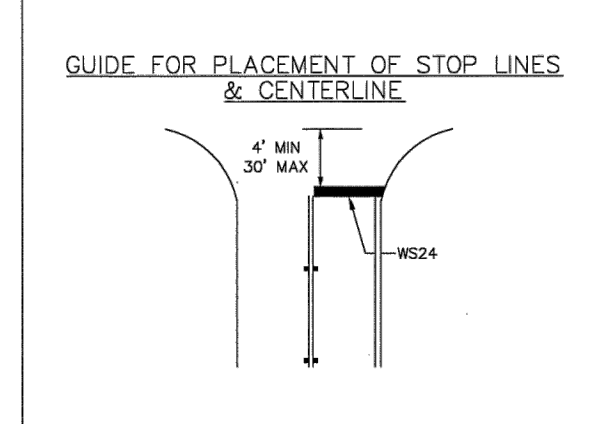
STANDARD PAVEMENT MARKING - SYMBOLS
(NOT TO SCALE)

[Signatures]
CITY TRAFFIC ENGINEER DIRECTOR OF HOUSTON PUBLIC WORKS
CITY ENGINEER

EFF DATE: JUL-01-2018 DWG NO: 01510-04



- GENERAL NOTES:**
- EDGE LINE ADJACENT TO CURB AND CUTTER IS NOT REQUIRED IN ALL CASES, HOWEVER SHALL BE PLACED AS DIRECTED BY CITY TRAFFIC ENGINEER.
 - THE TRAVELED WAY INCLUDES ONLY THAT PORTION OF THE ROADWAY USED FOR VEHICULAR TRAVEL AND NOT THE PARKING LANES, SIDEWALKS, BERMS AND SHOULDERS. THE TRAVELED WAY SHALL BE MEASURED FROM THE INSIDE OF EDGE LINE TO INSIDE OF EDGE LINE OF A TWO LANE ROADWAY.
 - ALL RAISED PAVEMENT MARKERS PLACED IN BROKEN LINES SHALL BE PLACED IN LINE WITH AND MIDWAY BETWEEN THE STRIPES.
 - ON CONCRETE PAVEMENTS THE RAISED PAVEMENT MARKERS SHOULD BE PLACED TO ONE SIDE OF THE LONGITUDINAL JOINTS.
 - ALL PAVEMENT MARKING MATERIAL SHALL MEET THE REQUIRED MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.

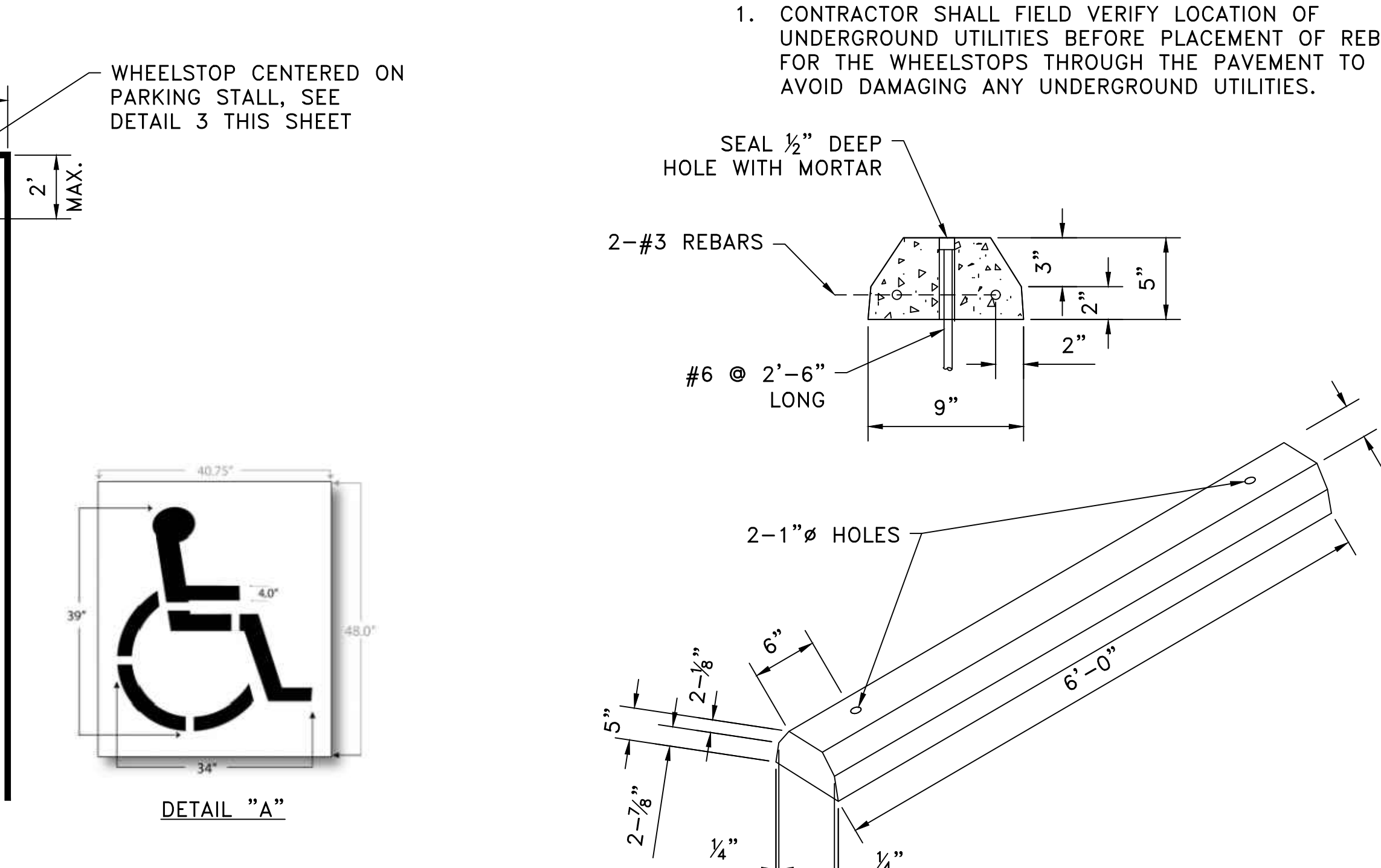
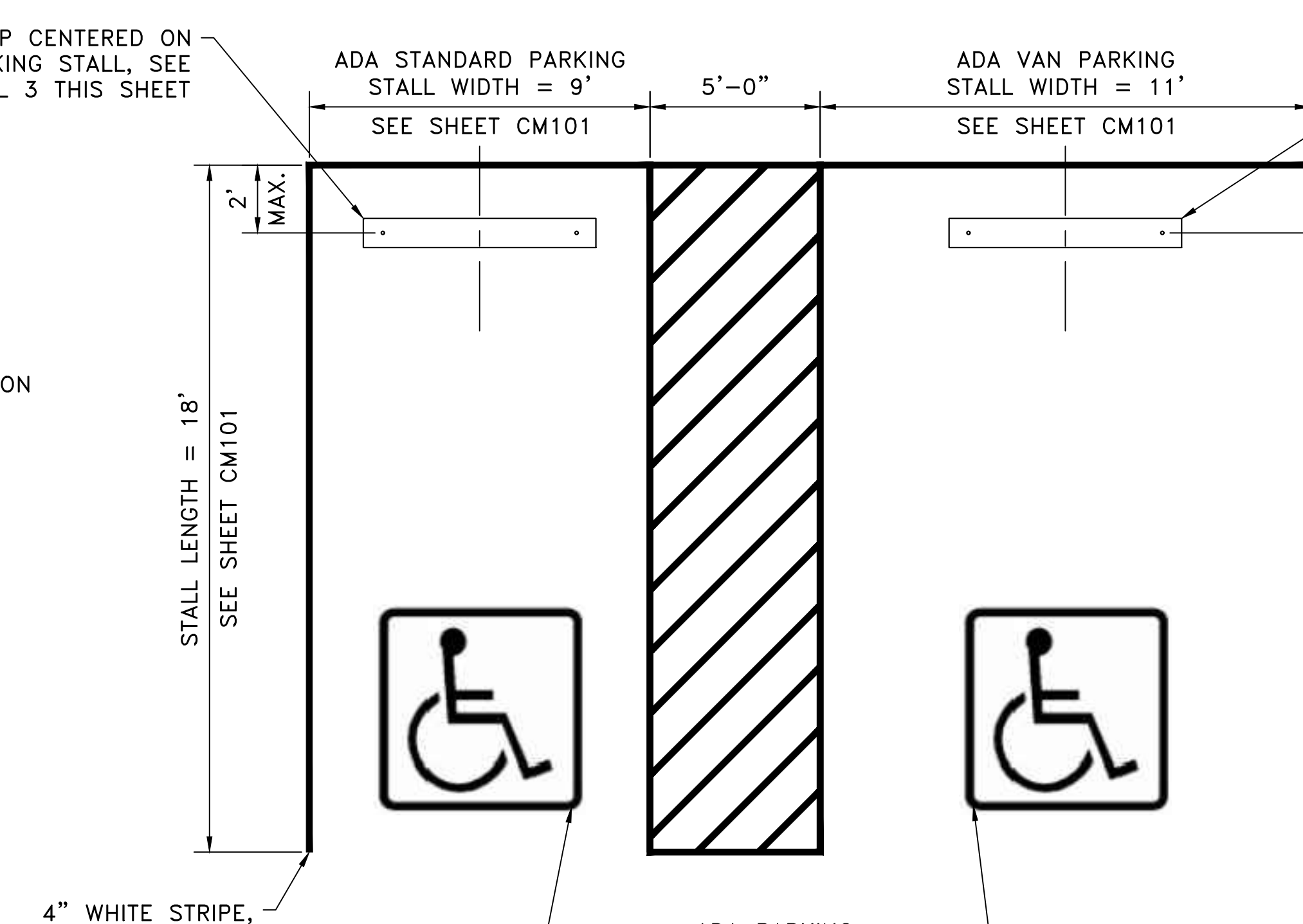
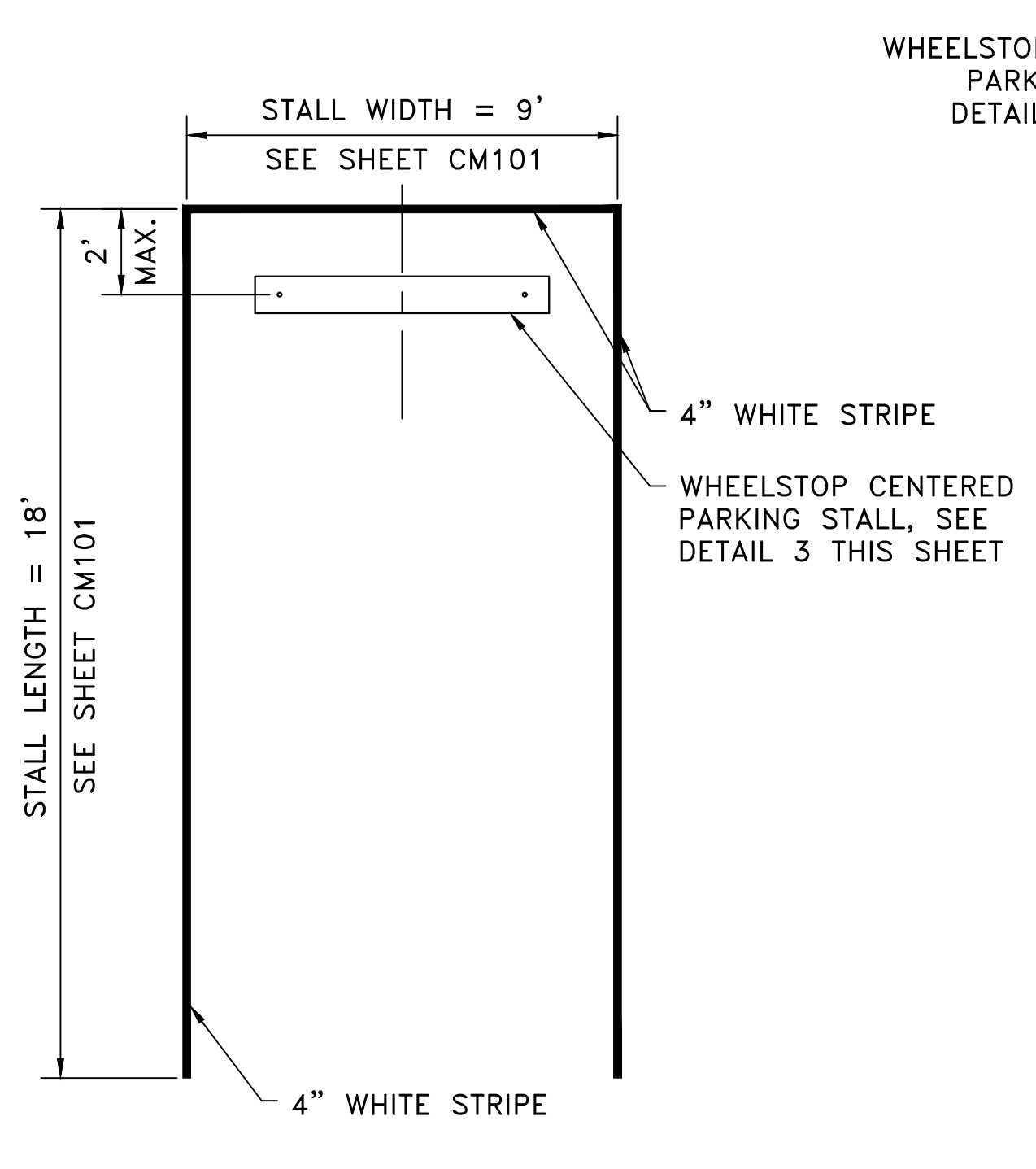


CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STANDARD PAVEMENT MARKINGS WITH REFLECTIVE RAISED PAVEMENT MARKERS FOR POSITION GUIDANCE
(NOT TO SCALE)

[Signatures]
CITY TRAFFIC ENGINEER DIRECTOR OF HOUSTON PUBLIC WORKS
CITY ENGINEER

EFF DATE: JUL-01-2018 DWG NO: 01510-05



ATKINS

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#F-000474

REVISIONS

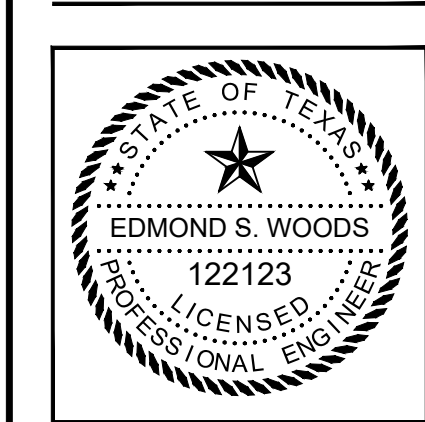
NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)

TNC PARKING LOT PAVING

PROPOSED PAVEMENT MARKING DETAILS

PROJECT MGR: JLV
DESIGNER: ESW
DRAWN BY: MRT
CHECK BY: MES
SCALE:
DATE: 06/12/2020



APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.
100069976

A.I.P. NO.

C.I.P. NO.

H.A.S. NO.
238

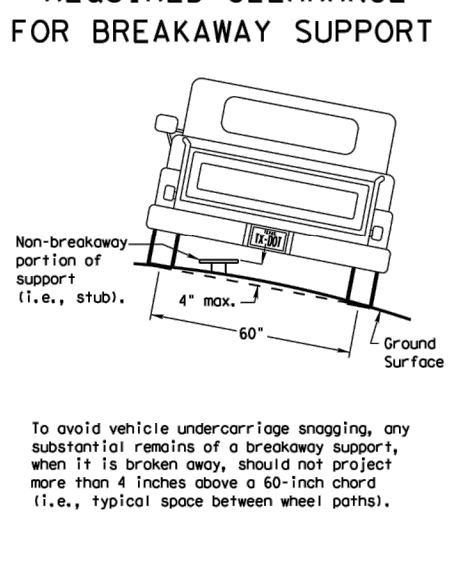
SHEET NO.

PLOT DATE: 6/12/2020 2:50 PM
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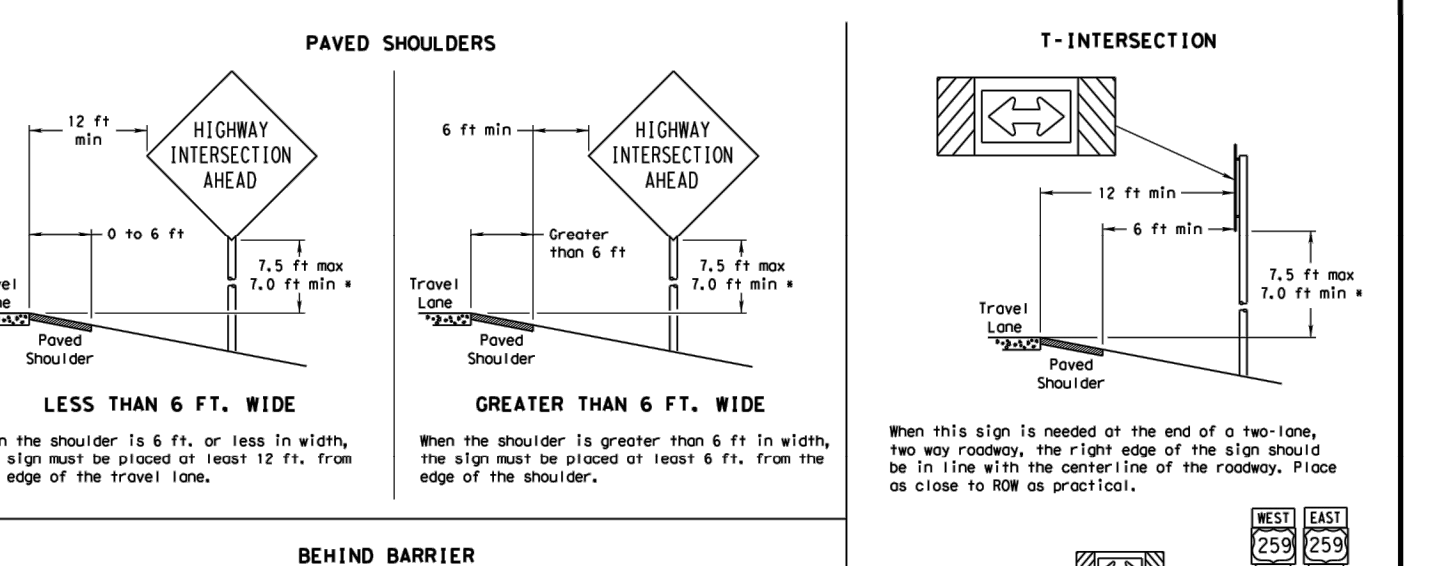
SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)
SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)
Post Type
FRP = Fiberglass Reinforced Plastic Pipe (see SMD(GEN)-1)
TW = Thin-Walled Tubing (see SMD(TW)-1)
10BG = 10 Bore Tubing (see SMD(SLIP-1) to (SLIP-3))
SBO = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))
Anchor Type
UA = Universal Anchor - Concrete (see SMD(FRP) and (TW))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TW))
WA = Wedge Anchor Steel (see SMD(TW))
WP = Wedge Anchor Plastic (see SMD(TW))
SA = Sillpost - Concrete (see SMD(SLIP-1) to (SLIP-3))
SB = Sillpost - Bolted down (see SMD(SLIP-1) to (SLIP-3))
Sign Mounting Designation
P = Prefab. "Plate" (see SMD(SLIP-1) to (SLIP-3), (TW), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TW))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3), (TW))
E = Extruded Aluminum (see SMD(SLIP-1) to (SLIP-3), (TW))
W = Extruded Aluminum (see SMD(SLIP-1) to (SLIP-3), (TW))
X = 1.12 x 1/4" Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

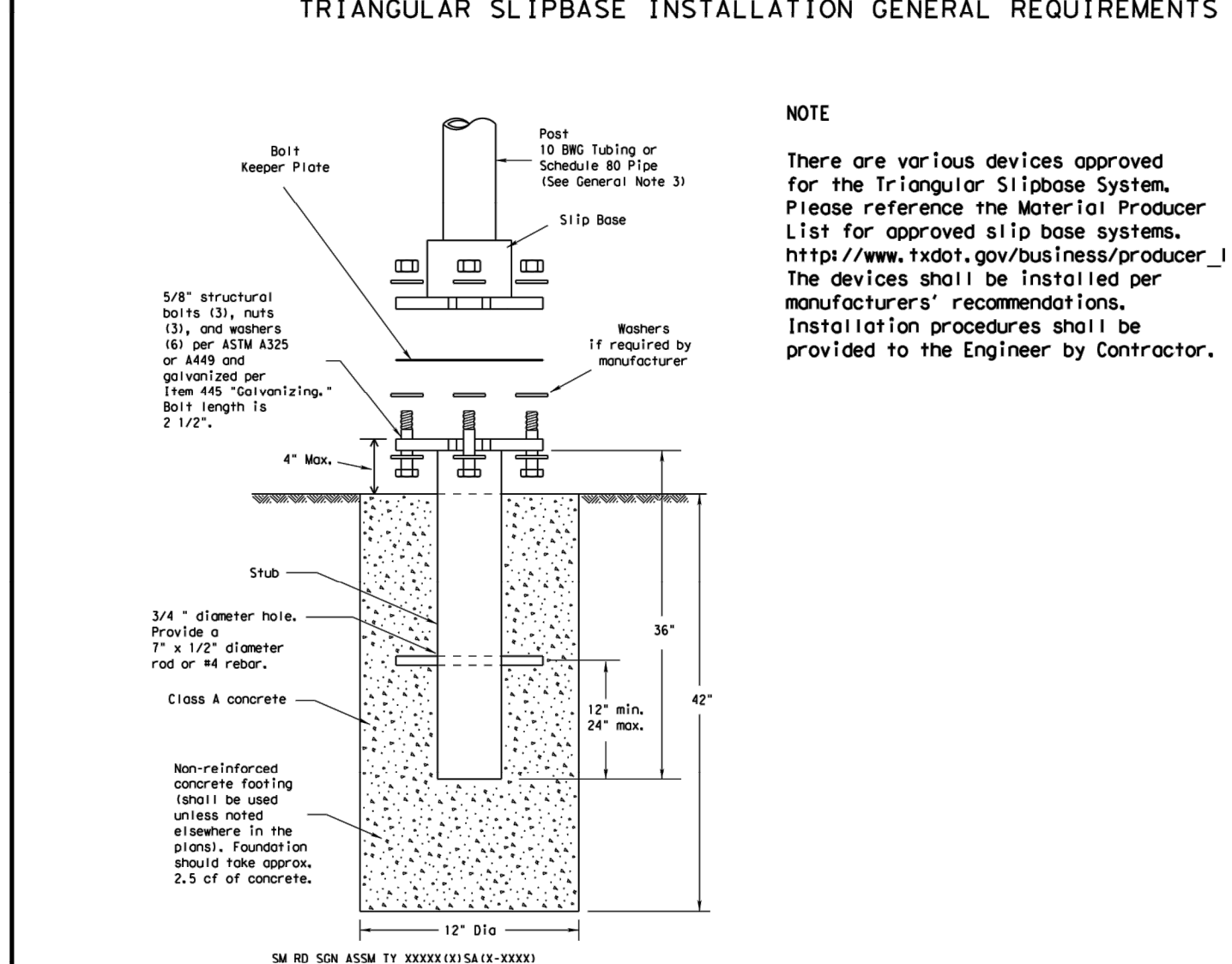
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



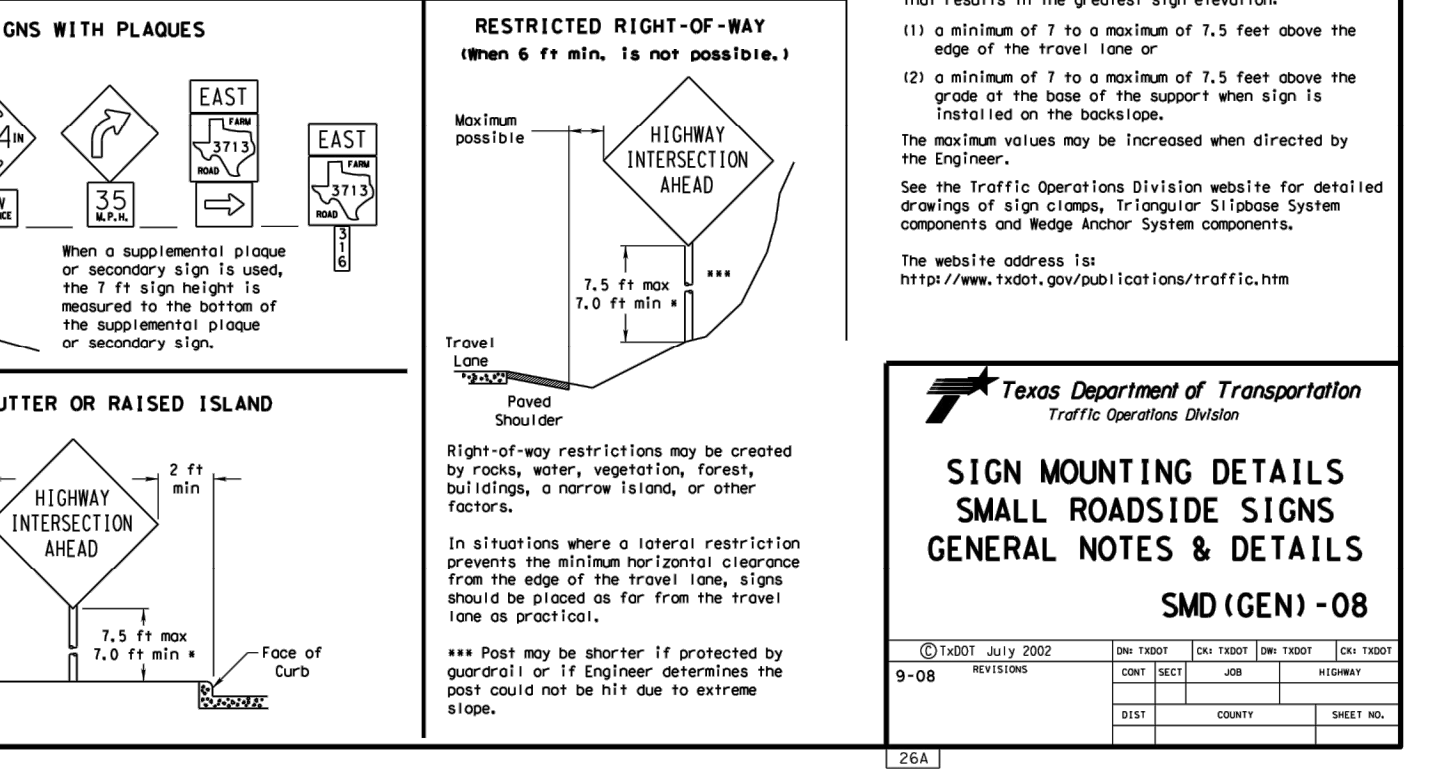
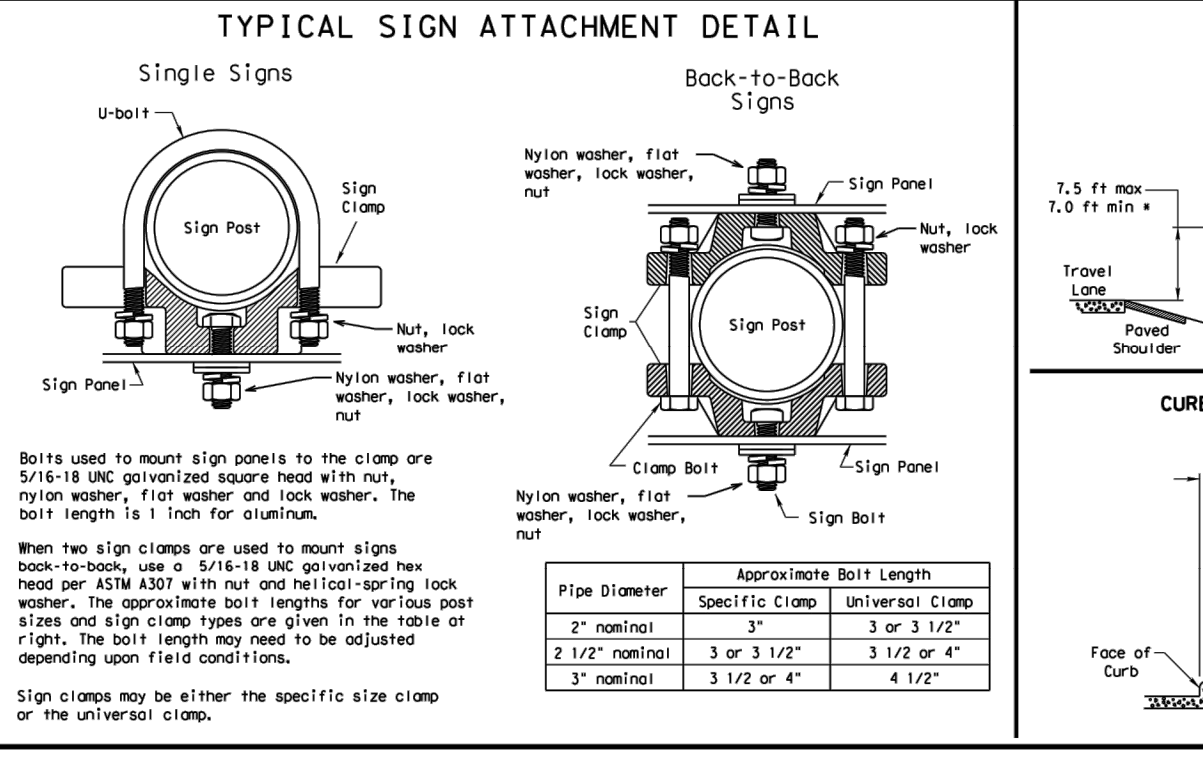
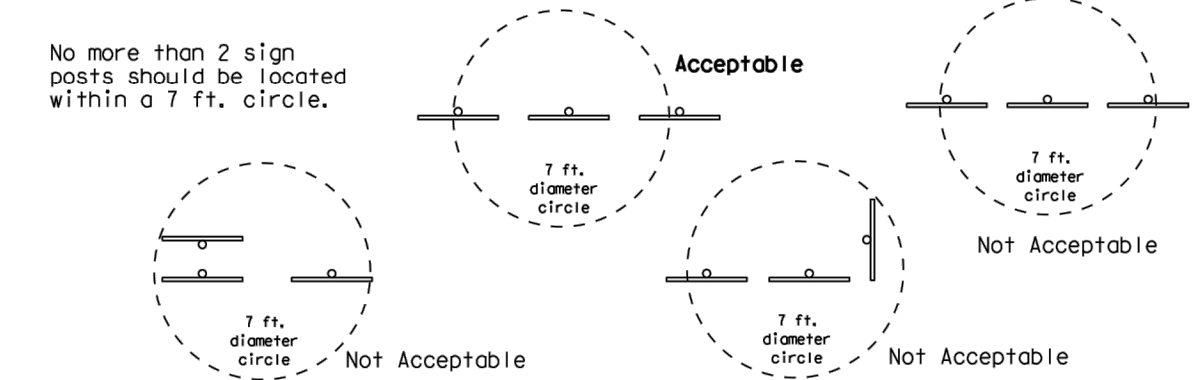
SIGN LOCATION



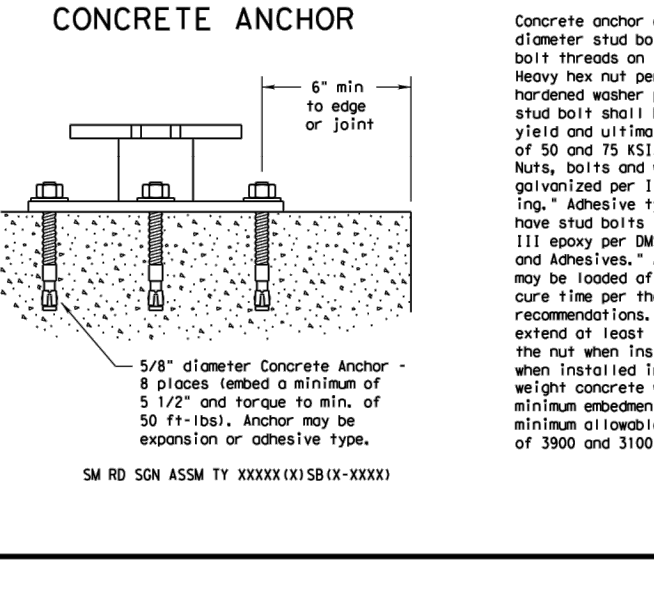
TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



NOTE: There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems.
GENERAL NOTES:
1. Slip base shall be permanently marked to indicate manufacturer, Method, design, and location of marking as subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
10 Bore Tubing (12.875" outside diameter)
0.134" nominal wall thickness
Seamless or electric-resistance welded steel tubing or pipe
Steel shall be A5013 or 55 per ASTM A5013 or ASTM A1009
Other steels may be used if they meet the following:
50,000 PSI minimum yield strength
70,000 PSI minimum tensile strength
200 minimum elongation in 2"



Texas Department of Transportation Traffic Operations Division
SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
GENERAL NOTES & DETAILS
SMD(GEN)-08
Revision: 9-08



Diagrams showing various sign mounting details (Detail A through Detail D) and a friction cap detail. Includes a table for Required Support and a table for Sign Mounting Details.
REQUIRED SUPPORT TABLE:
SIGN DESCRIPTION | SUPPORT
48-Inch STOP sign (R1-1) | TY 10BGW(TX)XT
60-Inch YIELD sign (R1-2) | TY 10BGW(TX)XT
108x16-Inch ONE-WAY sign (R6-1) | TY 10BGW(TX)XT
36x48, 48x36, and 48x48-Inch signs | TY 10BGW(TX)XT
48x60-Inch signs | TY SBO(TX)XT
48x48-Inch signs (diamond or square) | TY 10BGW(TX)XT
48x60-Inch signs | TY SBO(TX)XT
48-Inch Advance School X-ing sign (S1-1) | TY 10BGW(TX)XT
48-Inch School X-ing sign (S2-1) | TY 10BGW(TX)XT
Large Arrow sign (R1-6 & R1-7) | TY 10BGW(TX)XT

Texas Department of Transportation Traffic Operations Division
SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
GENERAL NOTES & DETAILS
SMD(GEN)-08
Revision: 9-08

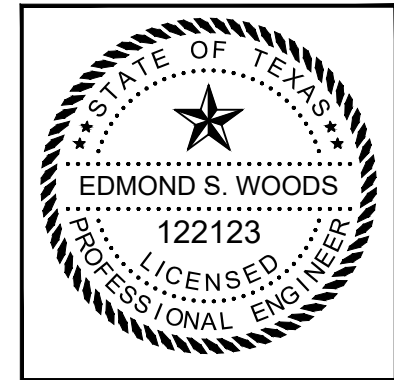
Texas Department of Transportation Traffic Operations Division
SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM
SMD(SLIP-1)-08
Revision: 9-08

ATKINS
LOCAL OFFICE:
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HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH
AMERICA PE FIRM REG.
#E-000474

REVISIONS table with columns: NO., DESCRIPTION, DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
SIGN MOUNTING DETAILS

PROJECT MGR: JLV
DESIGNER: ESW
DRAWN BY: MRT
CHECK BY: MES
SCALE:
DATE: 06/12/2020



APPROVED BY:
DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO. 100069976
A.I.P. NO.
C.I.P. NO.
H.A.S. NO. 238
SHEET NO.

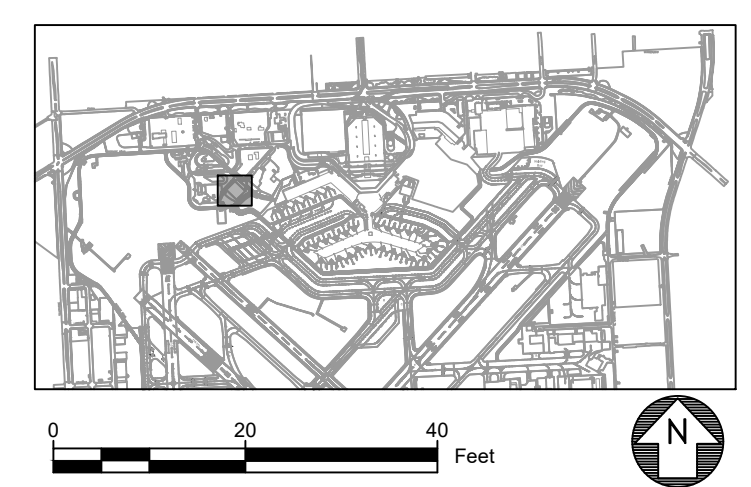
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LEGEND	
--- 40.0 ---	EXISTING MAJOR CONTOUR
--- 40.1 ---	EXISTING MINOR CONTOUR
— 40.00 —	PROPOSED CONTOUR
x 42.00	PROPOSED PAVEMENT ELEVATION

KEYNOTE LEGEND	
①	PROTECT EXISTING

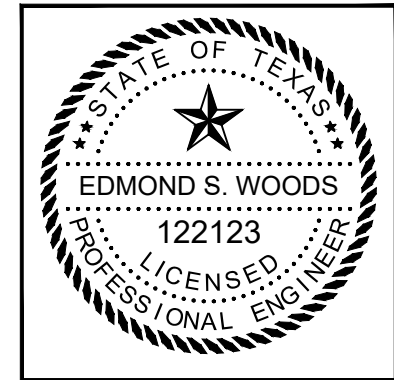
- | NOTES | |
|-------|---|
| 1. | SEE SHEET CG102 FOR DETENTION AND STORMWATER CALCULATIONS. |
| 2. | CALL BEFORE YOU DIG. BY LAW, CONTRACTORS MUST CALL 811 AT LEAST 48 HOURS IN ADVANCE BEFORE DIGGING. FREE OF CHARGE, THE NOTIFICATION CENTER ALERTS UTILITIES SUCH AS ELECTRIC, GAS, CABLE, AND PHONE COMPANIES SO THEY CAN MARK THE LOCATION OF THE UNDERGROUND LINES. VISIT WWW.TEXAS811.ORG FOR ADDITIONAL INFORMATION. |



REVISIONS		
NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
**TNC PARKING LOT PAVING
 GRADING AND STORMWATER
 QUALITY PLAN**

PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



APPROVED BY:	
DIRECTOR HOUSTON AIRPORT SYSTEM	
PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	

HOU TNC Lot Paving
Detention Calculations

DETENTION:

TRACT SIZE =	52852 SF	1.21 ACRES
EXISTING IMPERVIOUS =	38180 SF	0.88 ACRES
EXISTING PERVIOUS =	14672 SF	0.34 ACRES
PROPOSED (FINAL) IMPERVIOUS AREA =	36549 SF	0.84 ACRES
DIFFERENCE IN IMPERVIOUS AREA =	-1631 SF	-0.04 ACRES
TOTAL PROPOSED PERVIOUS =	16303 SF	0.37 ACRES

According to the City of Houston Infrastructure Design Manual, Section 9.2.01H3a of Chapter 9, Stormwater Design and Water Quality Requirements, detention volume will be required at 0.20 acre-feet per acre of disturbed area that results in impervious surface.

REQUIRED DETENTION VOLUME = $V(t) = [43,560 \times (0.20 \times A)]$
 $A = 0.84$ ACRES
 $V(t) = 7318.08$ CF
 $V(t) = 0.16$ ACRE-FEET

According to the City of Houston Infrastructure Design Manual, Section 9.2.01H5b5 of Chapter 9, Stormwater Design and Water Quality Requirements, backslope drainage systems are required where the natural ground slopes towards the drainage basin. A basin that is within 30 feet of a parking lot or roadway with berms that drain away from the basin does not require a backslope swale. Comply with criteria provided in HCFCD Criteria Manual.

According to the City of Houston Infrastructure Design Manual, Section 9.2.01H3g of Chapter 9, Stormwater Design and Water Quality Requirements, private parking areas, private streets, and private storm sewers may be used for detention provided the maximum depth of ponding does not exceed 9 inches directly over the inlet, and paved parking areas are provided with signage stating that the area is subject to flooding during rainfall events.

PROVIDED DETENTION VOLUME = $V(d) = A \times D$
 $A = 0.84$ ACRES
 $D = 0.5$ FEET
 $V(t) = 0.42$ ACRE-FEET

0.42 > 0.16 - GOOD

By using the parking lot surface as detention, the provided detention volume exceeds required detention volume.

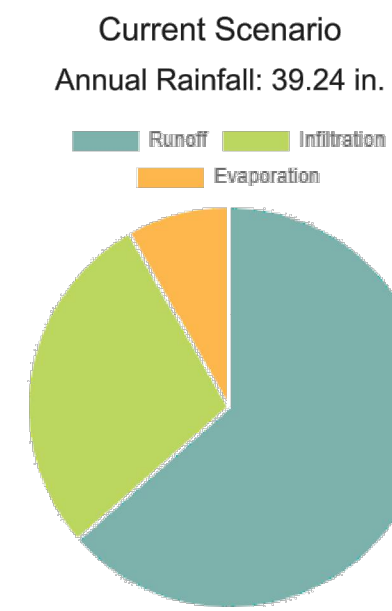
National Stormwater Calculator Report
Results

Site Description

Parameter	Current Scenario
Site Characteristics	
Site Area (acres)	1.21
Hydrologic Soil Group	
Hydrologic Soil Group	B
Hydraulic Conductivity (in/hr)	0.4
Surface Slope (%)	2
Precip. Data Source	
Precip. Data Source	HOUSTON HOBBY AP
Evap. Data Source	HOUSTON HOBBY AP
Climate Change Scenario	
Climate Change Scenario	None
Land Cover	
% Forest	0
% Meadow	0
% Lawn	31
% Desert	0
% Impervious	69
LID Controls	
% Disconnection	0
% Rain Harvesting	0
% Rain Gardens	0
% Green Roofs	0
% Street Planters	0
% Infiltration Basins	0
% Permeable Pavement	0
Analysis Options	
Years Analyzed	2
Ignore Consecutive Wet Days	False
Wet Day Threshold (inches)	0.07

National Stormwater Calculator Report
Results

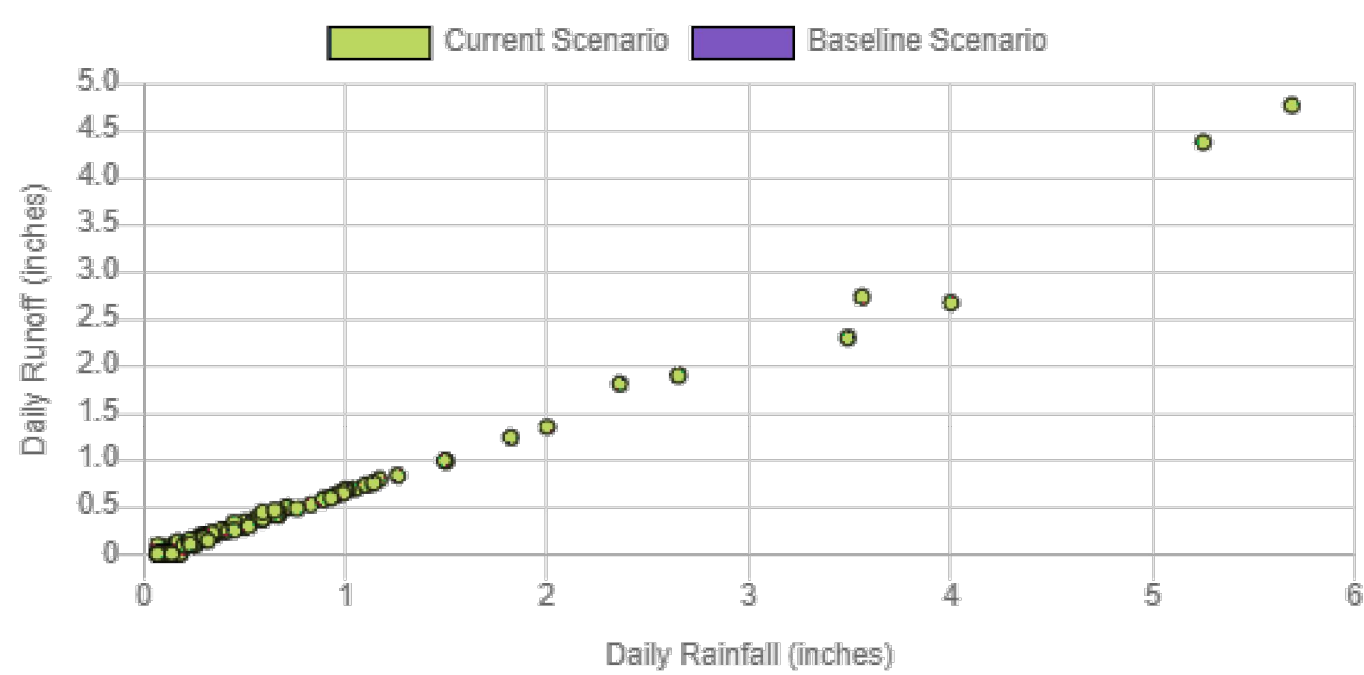
Site Summary



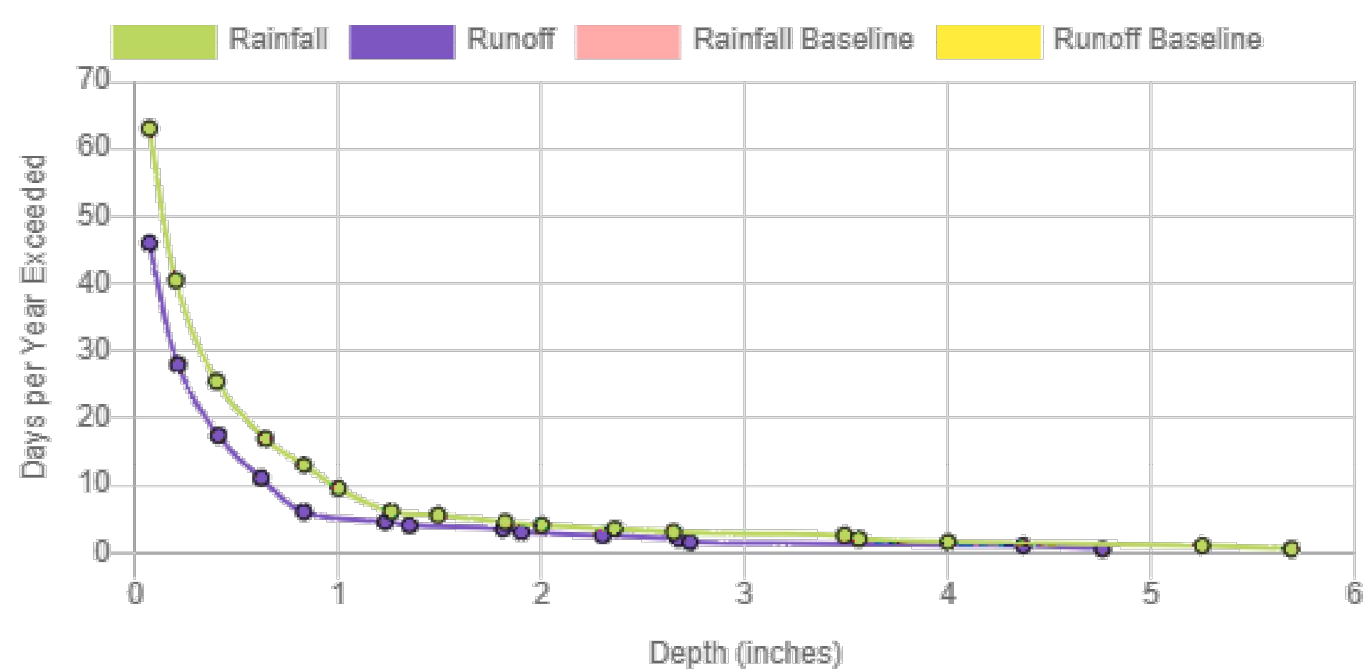
Statistic	Current Scenario
Average Annual Rainfall (inches)	39.24
Average Annual Runoff (inches)	25.02
Days per Year with Rainfall	63.00
Days per Year with Runoff	46.00
Percent of Wet Days Retained	26.98
Smallest Rainfall w/ Runoff (inches)	0.07
Largest Rainfall w/o Runoff (inches)	0.18
Max Rainfall Retained (inches)	1.33

National Stormwater Calculator Report
Results

Rainfall / Runoff Events

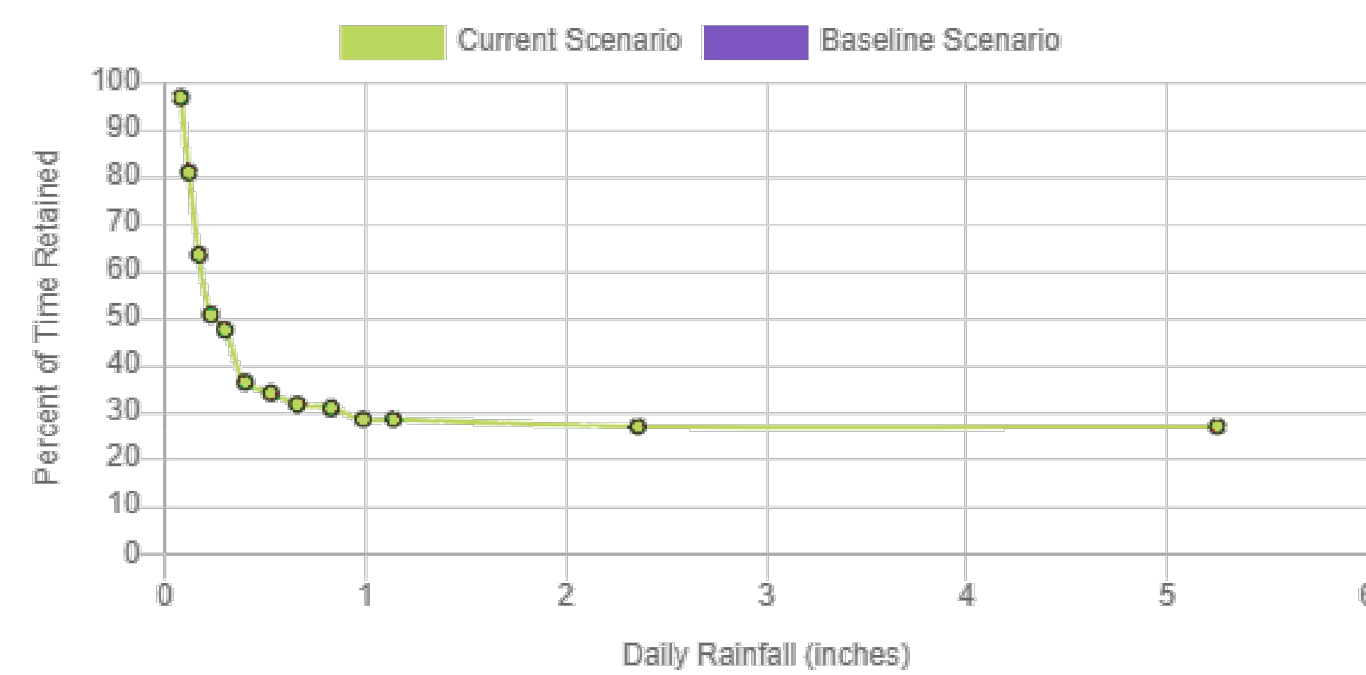


Rainfall / Runoff Exceedance Frequency

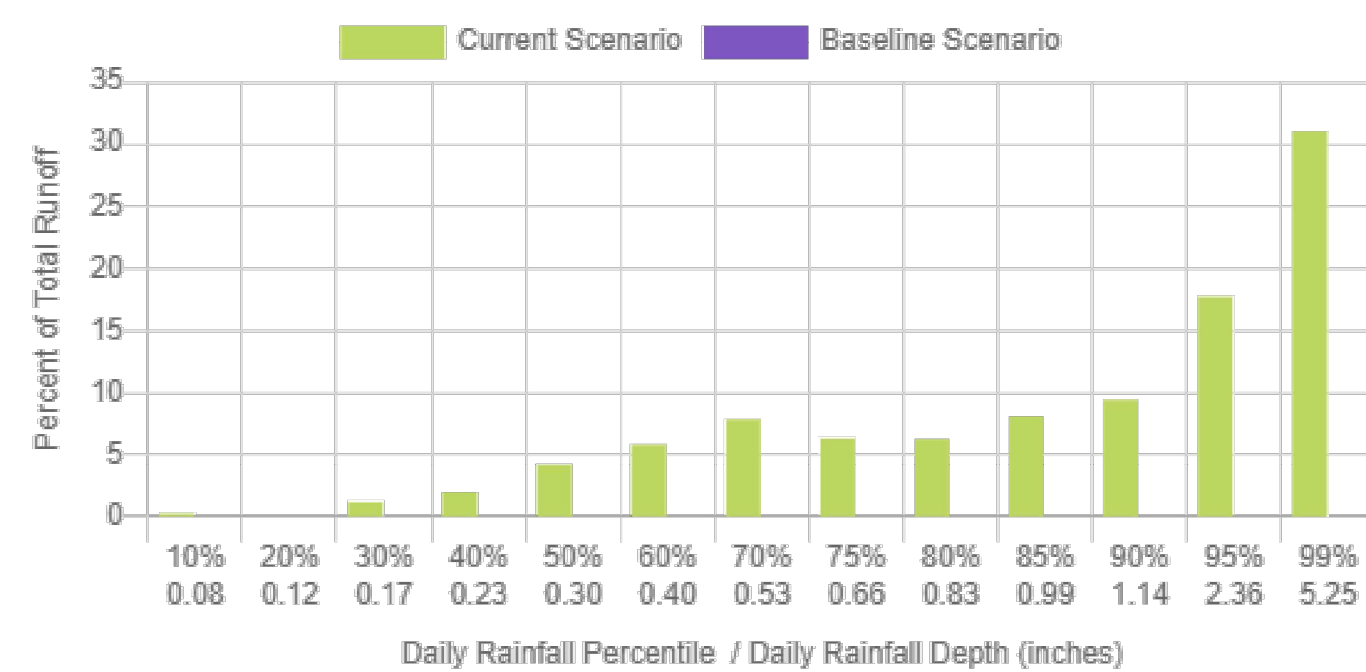


National Stormwater Calculator Report
Results

Rainfall Retention Frequency

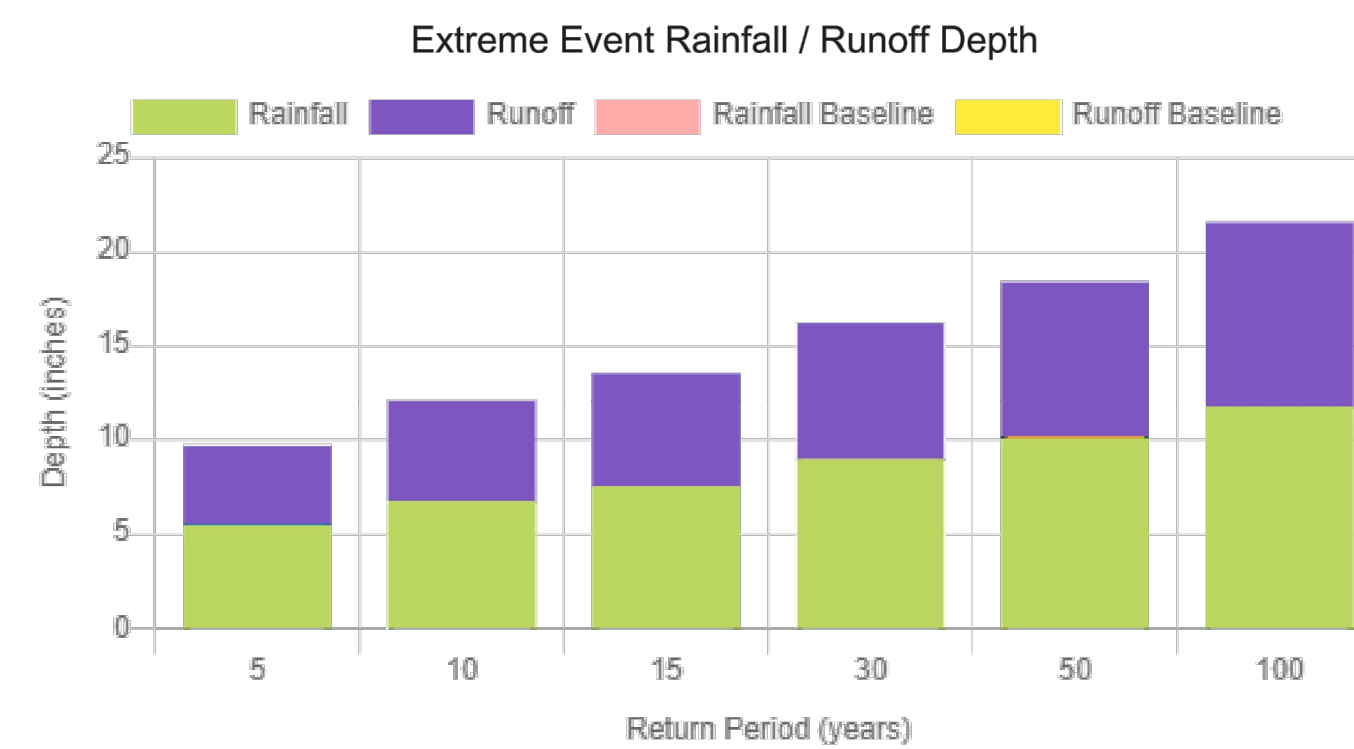


Runoff Contribution by Rainfall Percentile

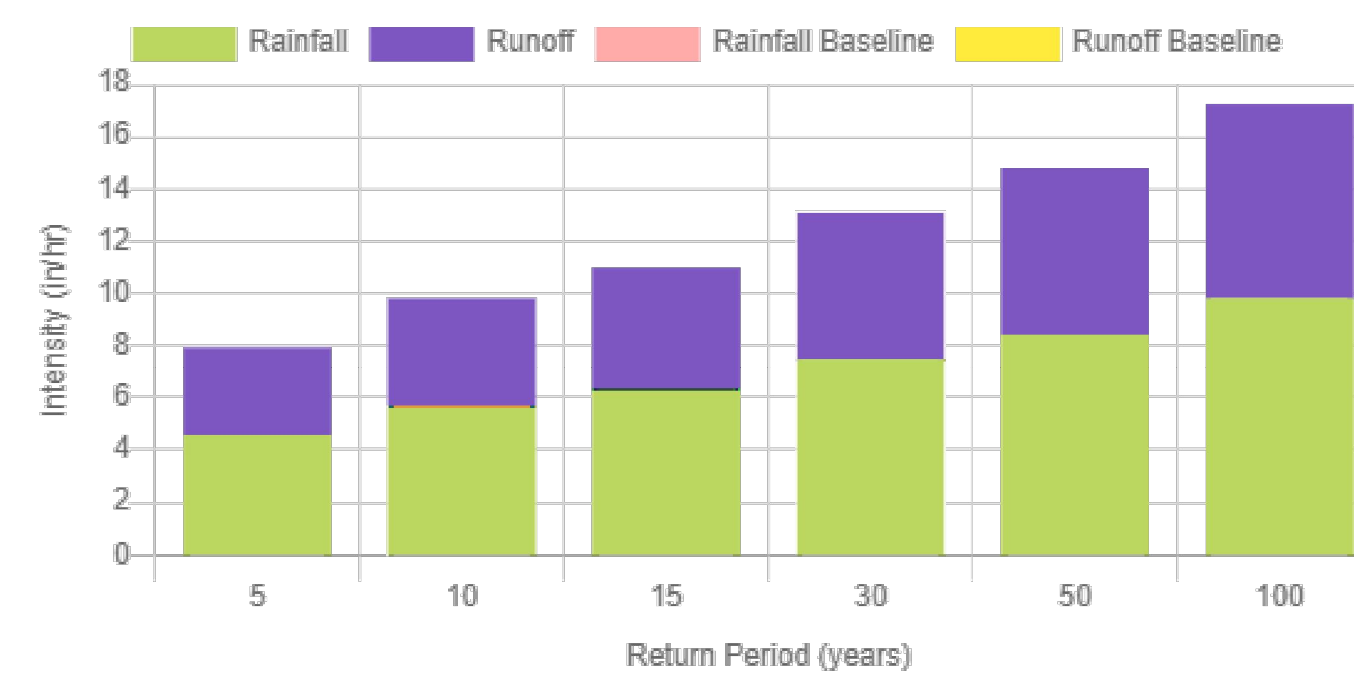


National Stormwater Calculator Report
Results

Extreme Event Rainfall / Runoff



Extreme Event Peak Rainfall / Runoff



LOCAL OFFICE:
200 WESTLAKE PARK BLVD.,
STE. 1100
HOUSTON, TX 77079
TEL: (713) 576-8500
ATKINS NORTH
AMERICA PE FIRM REG.
#F-000474
WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE	BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
**TNC PARKING LOT PAVING
DETENTION AND STORMWATER
CALCULATIONS**

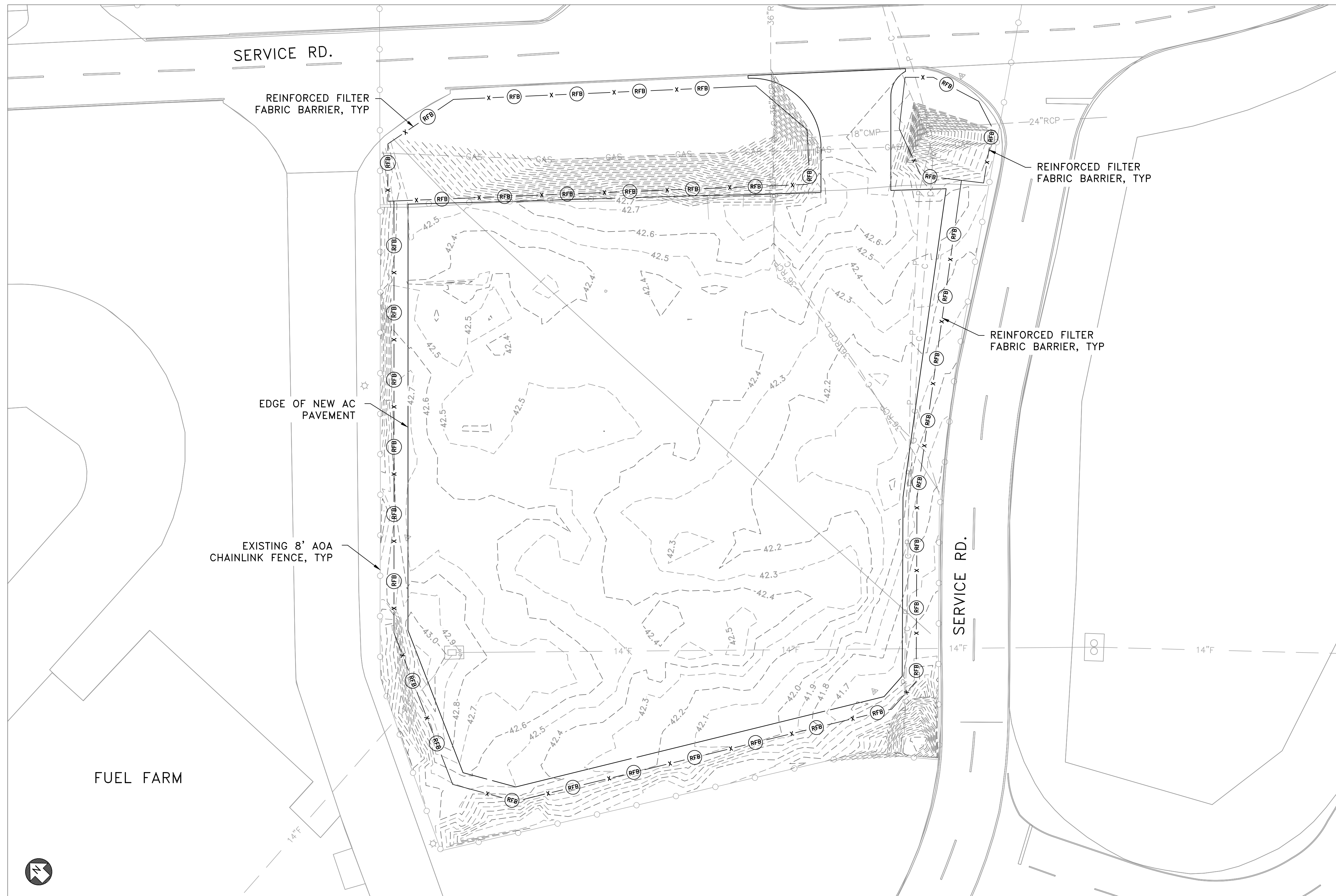
PROJECT MGR: JLV
DESIGNER: ESW
DRAWN BY: MRT
CHECK BY: MES
SCALE:
DATE: 06/12/2020



APPROVED BY:
DIRECTOR
HOUSTON AIRPORT SYSTEM
PROJECT NO.
100069976
A.I.P. NO.
C.I.P. NO.
H.A.S. NO.
238
SHEET NO.

PLT DATE: 6/12/2020 2:51 PM
H&S FILE: C:\pwr\ork\atkins\1\w\167904\dms53145018_H0238-CG102.dwg

6/12/2020 2:52 PM
 C:\pwworking\atkins\1\w\145019_H0238-CG103.dwg
 PLOT DATE: 6/12/2020 2:52 PM
 PLOT FILE: C:\pwworking\atkins\1\w\145019_H0238-CG103.dwg



LEGEND

— x — (RFB) — REINFORCED FILTER FABRIC BARRIER

NOTES

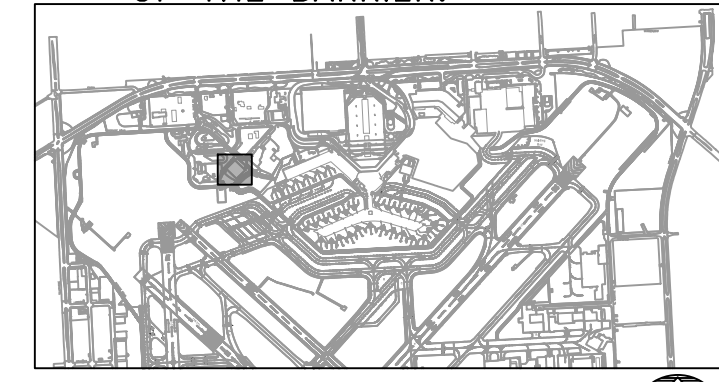
1. CONTRACTOR SHALL IMPLEMENT REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND DITCH AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION PLANS (SWPPP) TO KEEP SILT AND/OR DEMOLITION MATERIAL FROM ENTERING INTO THE STORM WATER INLETS, EVENTUALLY POLLUTING THE RECEIVING STORM WATER SYSTEM.
2. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
3. EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE SWPPP DRAWINGS.
4. PROVIDE AND MAINTAIN REINFORCED FILTER FABRIC BARRIER AROUND THE SITE ACCESS FOR EROSION CONTROL.
5. CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURE PRIOR TO DEMOLITION ACTIVITIES.
6. DEMOLITION ACTIVITIES SHALL NOT START UNTIL THE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN ACCEPTED BY RESIDENT ENGINEER.
7. CONTRACTORS SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED.
8. CONTRACTOR SHALL NOT INITIATE CONSTRUCTION UNLESS APPROVED BY RESIDENT ENGINEER.
9. EXCAVATED MATERIAL OF FILL SHALL NOT BE STOCKPILED WITHIN THE 100-YEAR FEMA FLOOD PLAN.
10. NO AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
11. SEE SHEET CG501 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.
12. ALL LITTER, TRASH, AND FLOATABLE DEBRIS WILL BE CONTAINED.
13. INLET PROTECTION BARRIERS SHALL PROVIDE PROPER PROTECTION FROM EROSION AND SEDIMENT. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD OF THE HEIGHT OF THE BARRIER.

SWPPP GENERAL NOTES

1. SEDIMENT WILL BE RETAINED ON SITE TO THE MAXIMUM EXTENT PRACTICABLE.
2. WHEN PUMPING (DEWATERING) STANDING STORM WATER FROM THE SITE, THE OPERATOR SHALL USE APPROPRIATE BEST MANAGEMENT PRACTICES (BMPs) FROM THE STORM WATER MANAGEMENT HANDBOOK FOR CONSTRUCTION ACTIVITIES THAT ADDRESS DEWATERING ACTIVITIES. UNTREATED/DIRECT DISCHARGE INTO A STORM SEWER WILL NOT BE ALLOWED.
3. IF THE INTERIM PERIOD BETWEEN CONSTRUCTION OF UTILITIES AND STREET CONSTRUCTION WILL BE MORE THAN 21 DAYS, THE STREETS RIGHTS-OF-WAY WILL BE MULCHED OR OTHERWISE STABILIZED WITHIN 14 DAYS.
4. AFTER PAVING COMPLETION, NEWLY GRADED AREAS AND ALL EXPOSED SOILS WILL BE COMPLETELY STABILIZED.

NOTES (CONTINUED)

14. IF DAMAGED OR RENDERED INEFFECTIVE, THE EROSION AND SEDIMENT CONTROLS WILL BE REPAIRED OR REPLACED IMMEDIATELY. EROSION AND SEDIMENT CONTROL MEASURES THAT HAVE BEEN IMPROPERLY INSTALLED OR HAVE BEEN DISABLED, RUN-OVER, REMOVED, OR OTHERWISE RENDERED INEFFECTIVE MUST BE REPLACED OR CORRECTED IMMEDIATELY.



Houston Airport System
 WILLIAM P. HOBBY AIRPORT / HOUSTON, TX

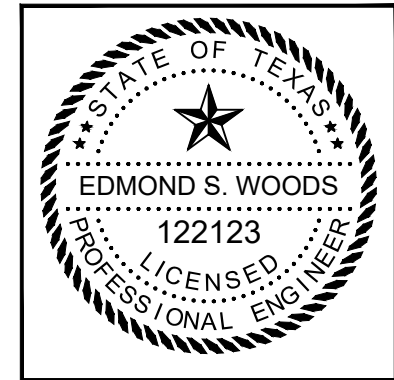
ATKINS
 LOCAL OFFICE:
 200 WESTLAKE PARK BLVD.,
 STE. 1100
 HOUSTON, TX 77079
 TEL: (713) 576-8500
 ATKINS NORTH
 AMERICA PE FIRM REG.
 #F-000474
 WWW.ATKINSGLOBAL.COM

REVISIONS

NO.	DESCRIPTION	DATE BY

WILLIAM P. HOBBY AIRPORT / HOUSTON (HOU)
TNC PARKING LOT PAVING
SWPPP PLAN

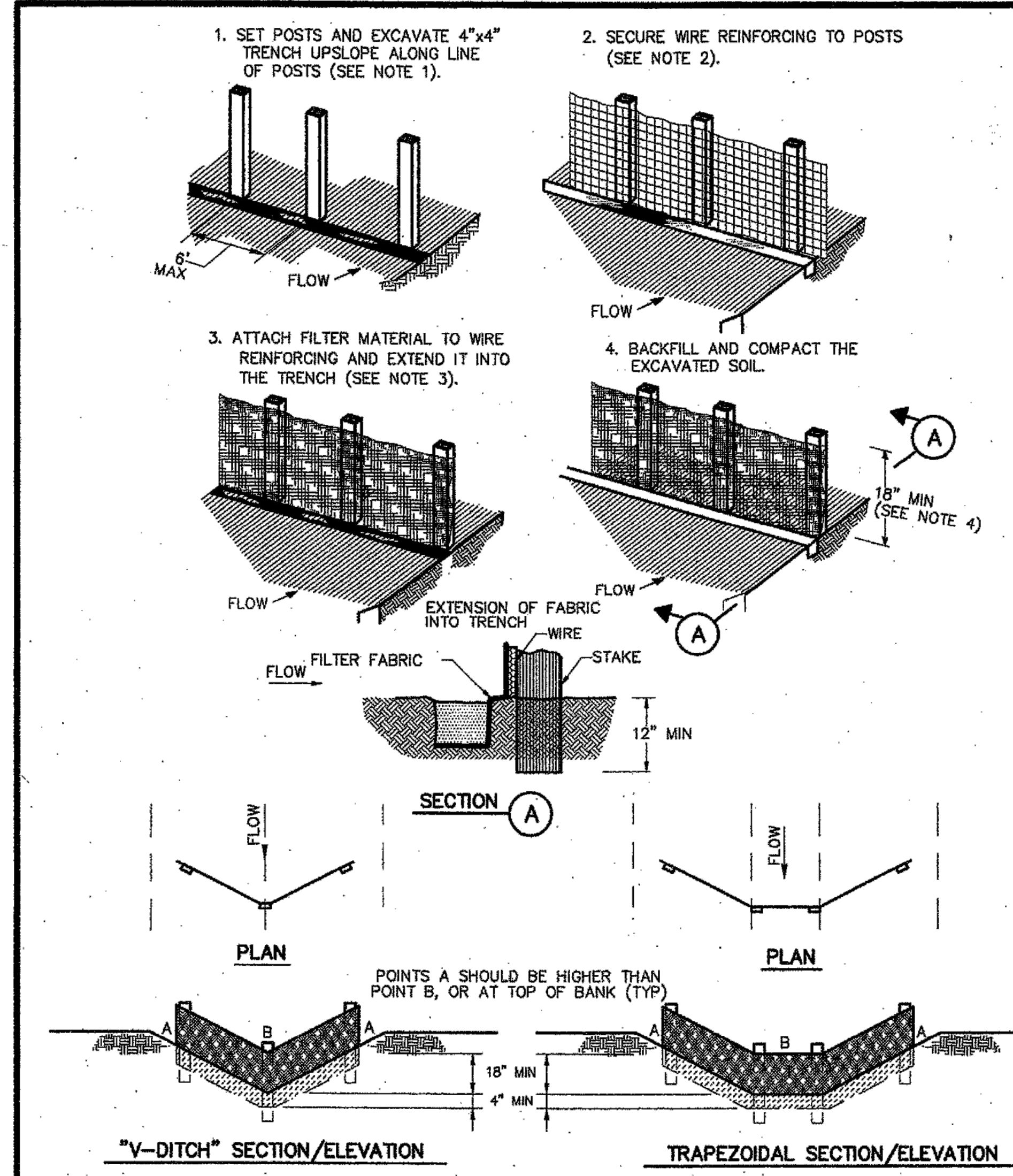
PROJECT MGR:	JLV
DESIGNER:	ESW
DRAWN BY:	MRT
CHECK BY:	MES
SCALE:	
DATE:	06/12/2020



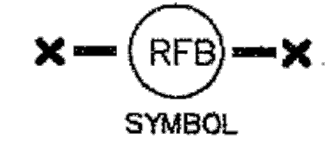
APPROVED BY: _____
 DIRECTOR
 HOUSTON AIRPORT SYSTEM

PROJECT NO.	100069976
A.I.P. NO.	
C.I.P. NO.	
H.A.S. NO.	238
SHEET NO.	

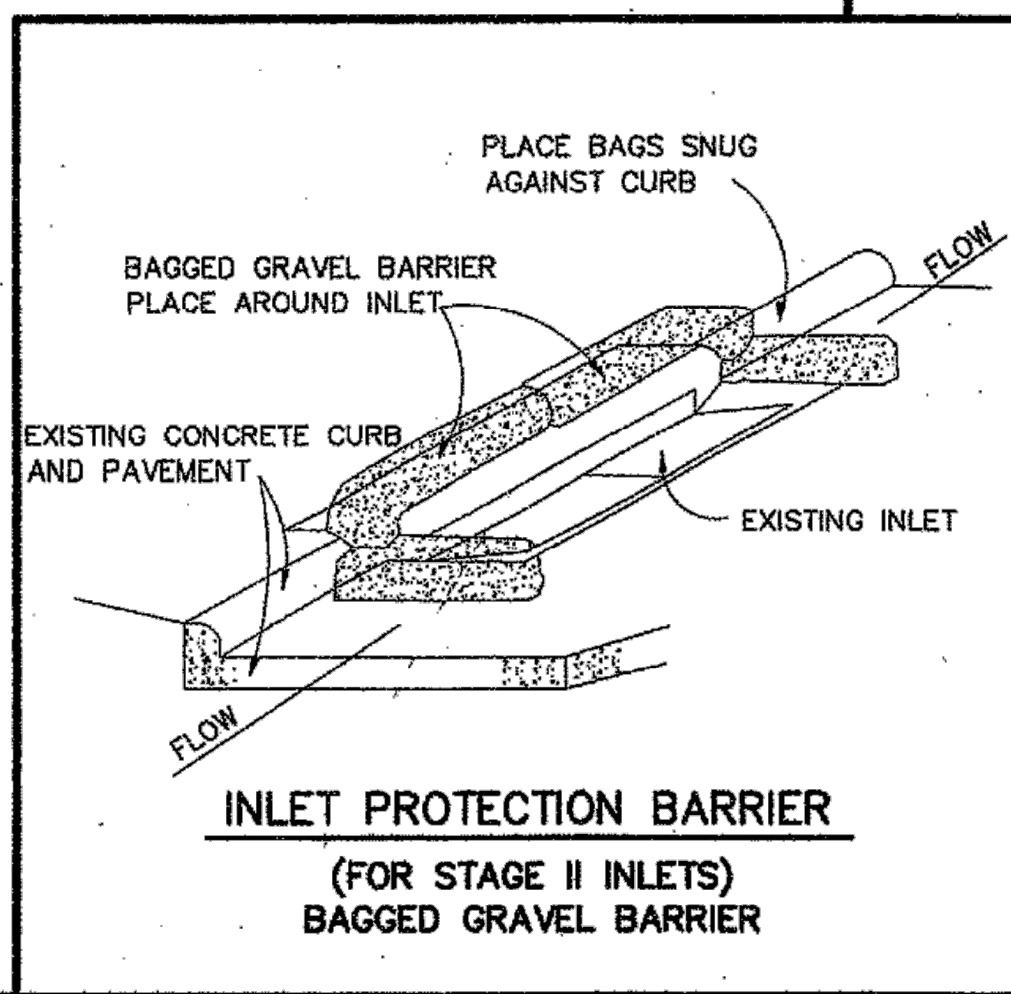
CG103



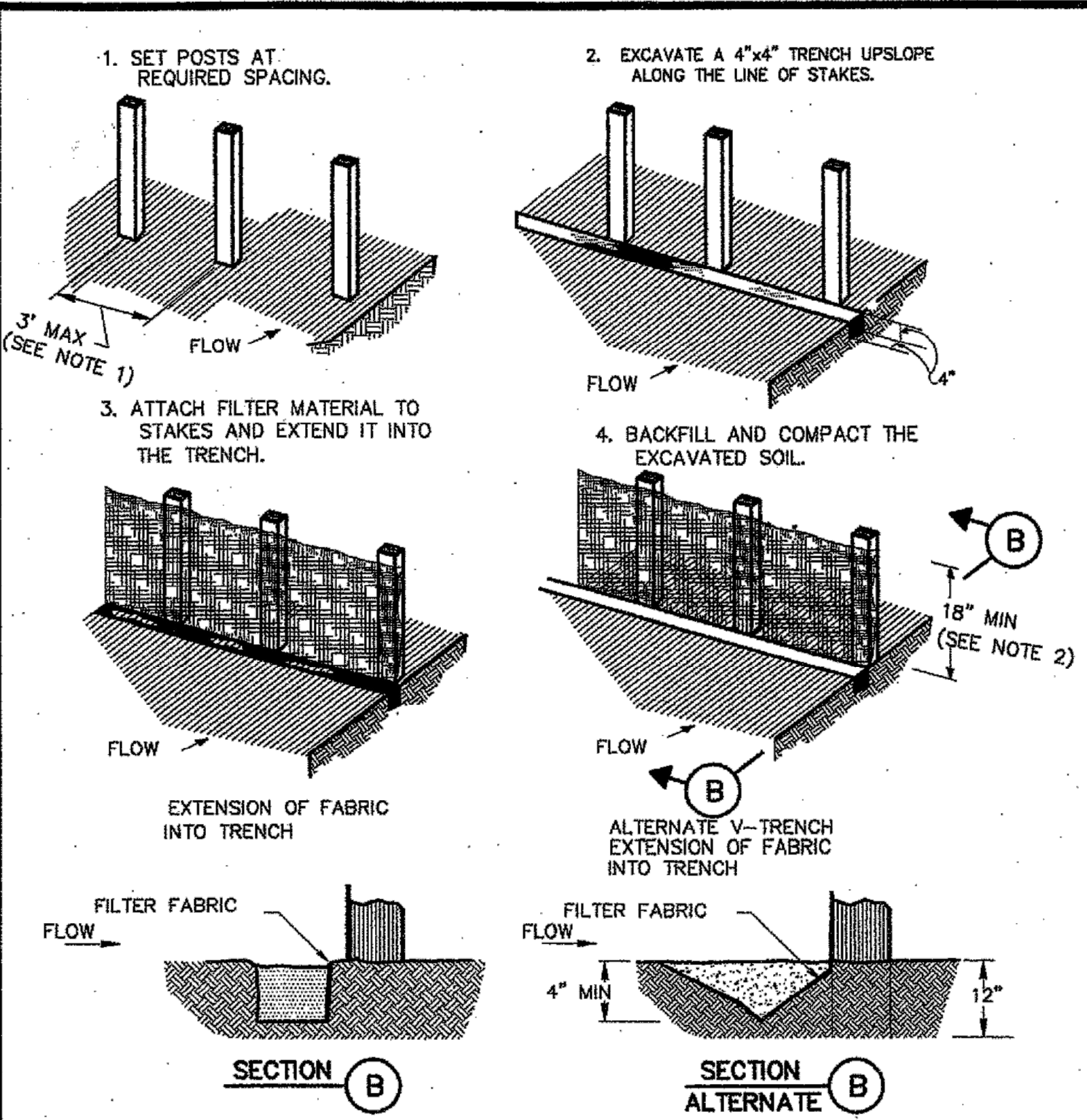
- CONSTRUCTION NOTES:**
1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
 2. WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
 3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
 4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
 5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
 6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.



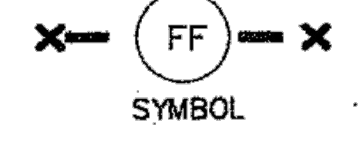
REINFORCED FILTER FABRIC BARRIER



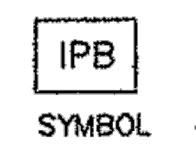
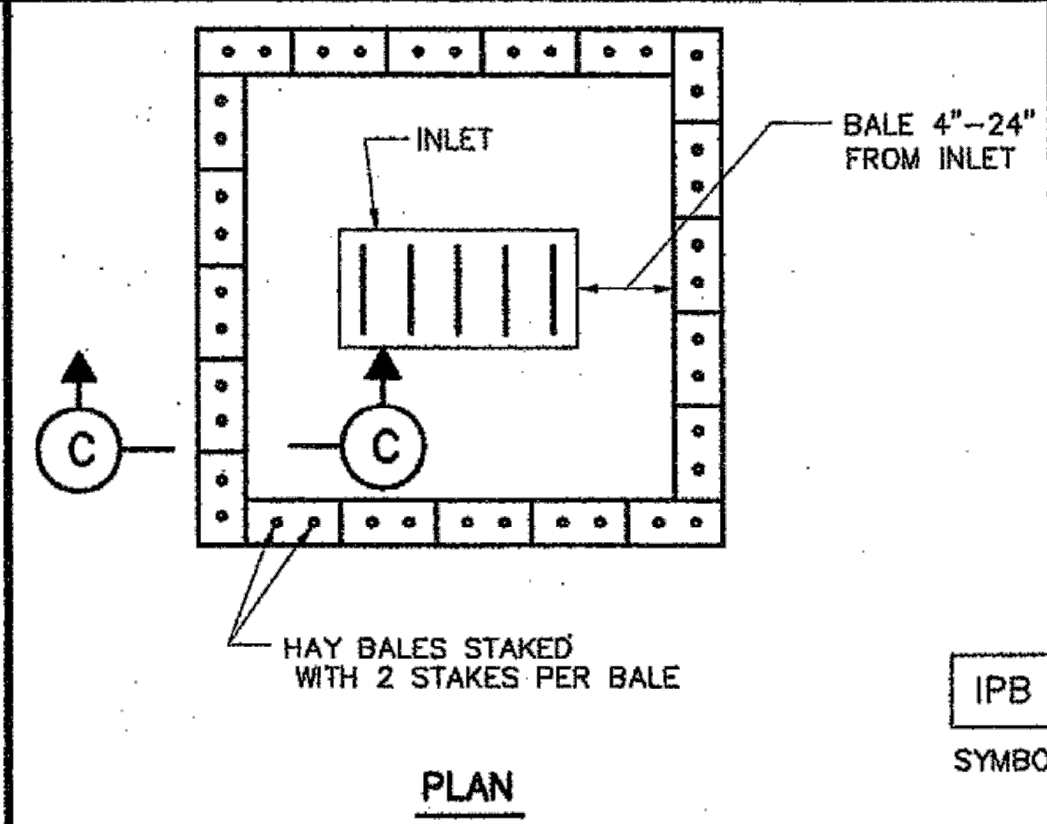
**INLET PROTECTION BARRIER (FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER**



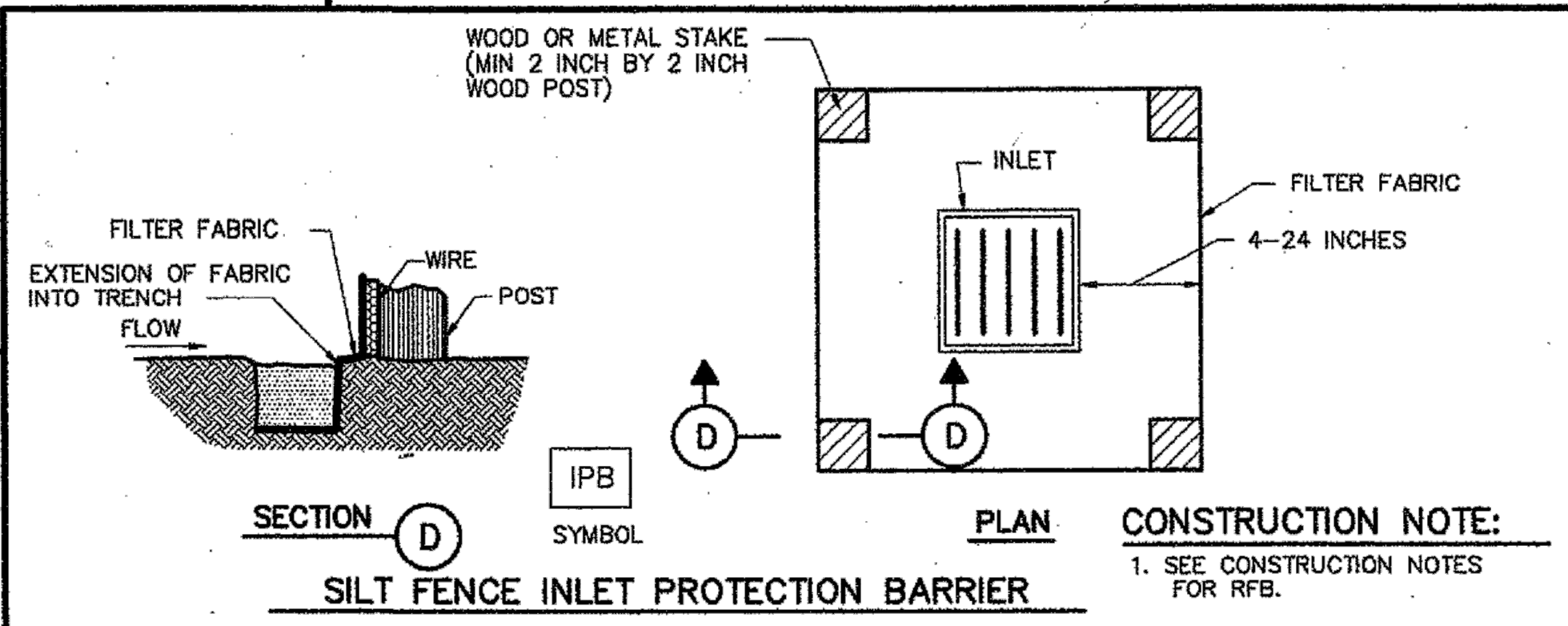
- CONSTRUCTION NOTES:**
1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
 2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
 4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.



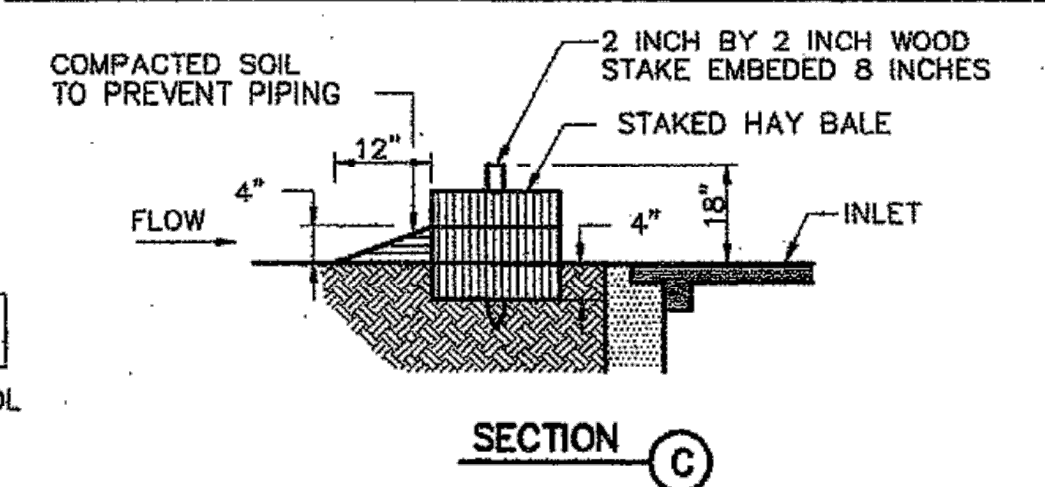
FILTER FABRIC BARRIER



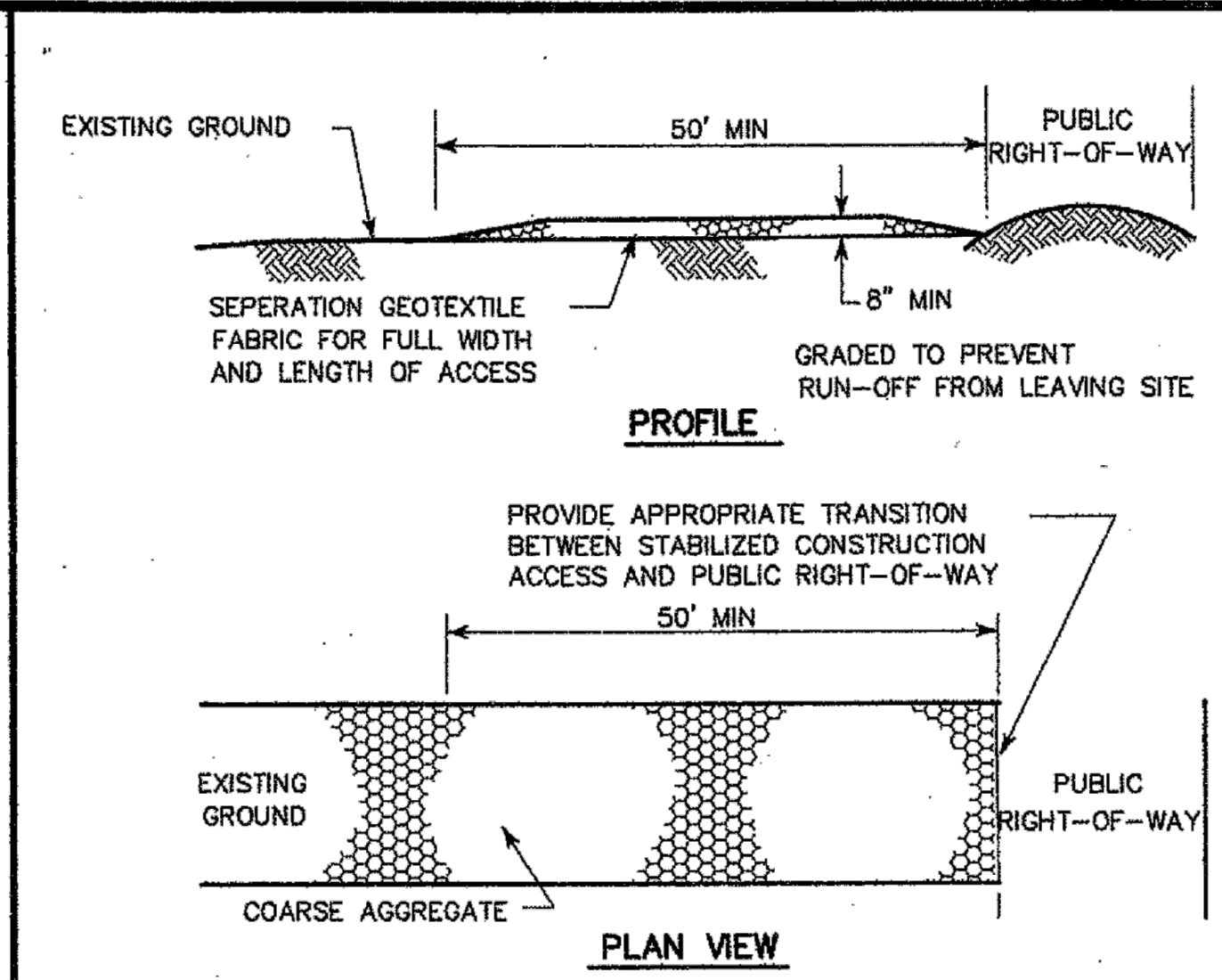
HAY BALE INLET PROTECTION BARRIER



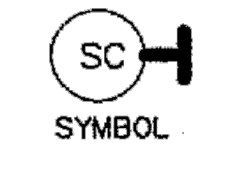
SILT FENCE INLET PROTECTION BARRIER



HAY BALE INLET PROTECTION BARRIER



- CONSTRUCTION NOTES:**
1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
 2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
 3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
 4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
 5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
 6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
 7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.



STABILIZED CONSTRUCTION ACCESS

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS
(NOT TO SCALE)

APPROVED: [Signature] CITY ENGINEER

APPROVED: [Signature] DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 DWG NO: 01571-01

PROJECT MGR: JLV
DESIGNER: ESW
DRAWN BY: MRT
CHECK BY: MES
SCALE:
DATE: 06/12/2020



APPROVED BY:

DIRECTOR
HOUSTON AIRPORT SYSTEM

PROJECT NO.: 100069976
A.I.P. NO.:
C.I.P. NO.:
H.A.S. NO.: 238
SHEET NO.: