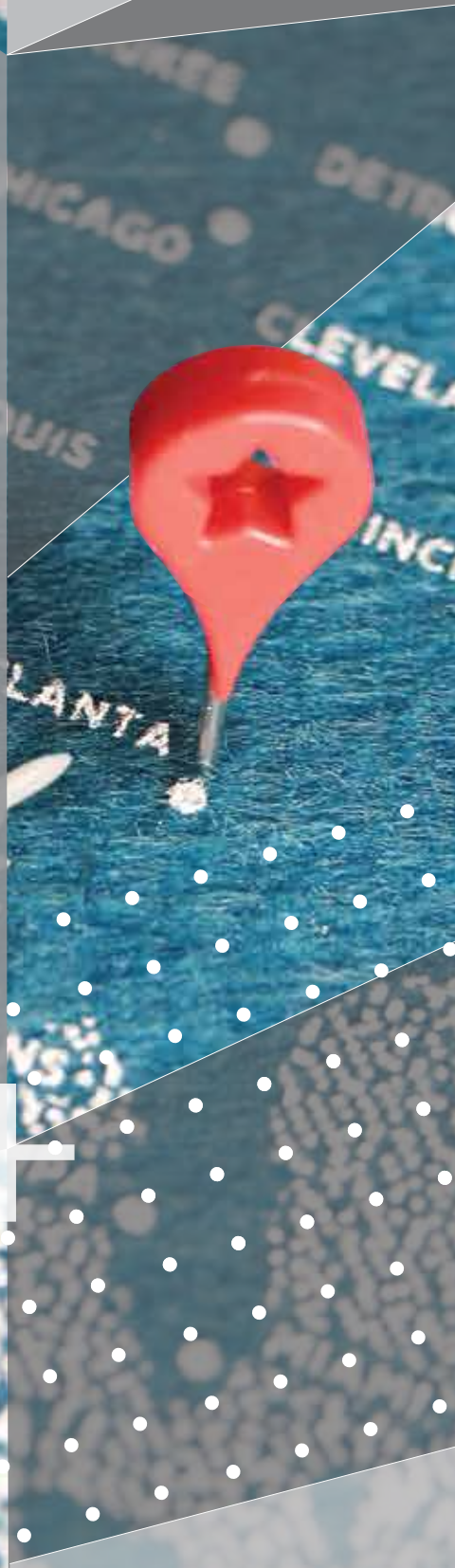
ATL P&D DESIGN STANDARDS

TENANT

Airlines / Other

New Construction and Modifications



Department of Aviation
Planning & Development Bureau

November 2020

Hartsfield-Jackson
Atlanta International Airport

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Cardinal®

Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Design Standards – Project Submittal & Review Standards

Tenant Project Submittal & Review Standards

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1.0 PURPOSE

The purpose of these standards is to provide airport tenants and their Designers of Record with procedures for submitting a project to the Department of Aviation's Planning & Development Bureau (P&D) for technical review and acceptance. All new construction and modifications to any airport's tenant space at Hartsfield-Jackson Atlanta International Airport (ATL) shall follow these standards.

2.0 SCOPE

These standards apply to all airport tenants and their Designers of Record, contractors and sub-contractors.

3.0 RESPONSIBILITIES

3.1 Tenants

3.1.1 Tenants/Designers of Record shall be responsible for submitting all project submittals to P&D per P&D's Electronic Design Review Process, Concessions/Tenants Flow Chart (Appendix A).

3.1.2 Tenants/Designers of Record shall be responsible for complying with all P&D's Tenant New Construction and Modifications Design and Construction Standards dated November 2020.[1]

3.1.3 Tenants/Designers of Record shall be responsible for submitting to P&D all revisions and/or modifications to the P&D stamped/accepted documents, for review and acceptance.

3.1.4 Tenants/Contractors/Subcontractors shall be responsible for obtaining all required building permits from appropriate agencies before start of any construction work**. City of Atlanta Office of Buildings shall not accept any submittals for permitting without the P&D/AFD stamped/accepted seal.**

3.2 DOA Planning & Development Bureau (P&D)

3.2.1 P&D shall be responsible for the cursory Architectural/Engineering technical review of all project submittals submitted to P&D by Tenants and/or their Designers of Record. **Code reviews, Fire/Life Safety code and Grease Interceptor requirement reviews are the responsibility of the City of Atlanta Office of Buildings (OOB), Atlanta Fire Department (AFD) and Department of Watershed Management (DWM) respectively.**

3.2.2 P&D shall be responsible for ensuring that all project submittals comply with P&D's Tenant New Construction and Modifications Design and Construction Standards dated January 2020.

3.2.3 P&D shall be responsible for transmitting (per P&D's Electronic Review Process, Concessions/Tenants-Appendix A) the technical review comments to Tenants and their Designers of Record.

3.2.4 P&D shall be responsible for issuing the final P&D/AFD hard copy stamped accepted project submittals to Tenants and their Designers of Record.

4.0 PROCEDURE

4.1 Project Submittals

4.1.1 Delivery of Submittals

4.1.1.1 All submittal shall be submitted electronically per P&D's Electronic Design Review Process, Concessions/Tenants Flow Chart (Appendix A).

4.1.2 Submittals to P&D

4.1.2.2 100% Design (Initial review submittal).
Sealed drawings by the State of Georgia Engineer/Architect of Record **are not required for this submittal.**

4.1.2.3 100% Design Re-Submittal *(Submit only the revised drawing(s) and specifications sheet(s) incorporating all review comments).*
Sealed drawings by the State of Georgia Engineer/Architect of Record **are not required for this submittal.**

4.1.2.4 Issue for Construction Drawings and Specifications. (Final Conformed set of documents).

4.1.2.4.1 **Sealed drawings by the State of Georgia Engineer/Architect of Record are required for this submittal.**

4.1.2.4.2 Submit six (6) full size hard copies of plans and specifications for P&D/AFD stamp acceptance.

4.1.2.4.3 Submit one (1) USB Flash drive containing the Engineer-of-Record stamped drawings in CAD/PDF format and specifications in Word/PDF format.

4.2 Review Timing

4.2.1 P&D's initial review time shall be fifteen(15) business days.[2]

4.2.2 P&D's re-submittal review time shall be a maximum of five (5) business days.

4.2.3 P&D/AFD final Issue for Construction stamp acceptance of hard copy drawings and Release Notification letter shall be a maximum of five (5) business days.

4.2.4 AFD's review time and their resolution of issues are not controlled by P&D. These conditions may be subject to additional review time and full acceptance of the documents.

4.3 Review Responsibility

4.3.1 P&D's cursory technical review and stamped acceptance of documents is solely for compliance with P&D's Tenant New Construction and Modifications Design and Construction Standards dated November 2020.[3]

4.3.2 City of Atlanta Office of Buildings, Atlanta Fire Department and Department of Watershed Management are responsible for code reviews. Compliance with City,

State and Federal Codes, Regulations and Ordinances shall be the responsibility of the Tenants/Designers of Record.

4.3.3 Tenants/Designers of Record shall be responsible for any liability resulting from their design and construction. As well as any errors, omissions and any other conditions resulting from the submitted Issue for Construction documents.

5.0 PROJECT REQUIREMENTS

5.1 Design/Construction Standards: Tenants/Designers of Record shall be responsible for adhering to all P&D's Tenant New Construction and Modifications Design and Constructions Standards dated January 2020. Access at: atlstandards.com

5.2 Building Permit: Tenants/Designer of Record shall be responsible for submitting the P&D/AFD stamped accepted documents and the copy of P&D's Release Letter (per OOB request) to OOB for permitting. **OOB will not accept any submittal and/or issue a permit without the P&D/AFD stamped acceptance and copy of P&D's Release Letter**.

5.3 As-Builts: At project completion, Tenants shall be responsible for submitting to P&D the following:

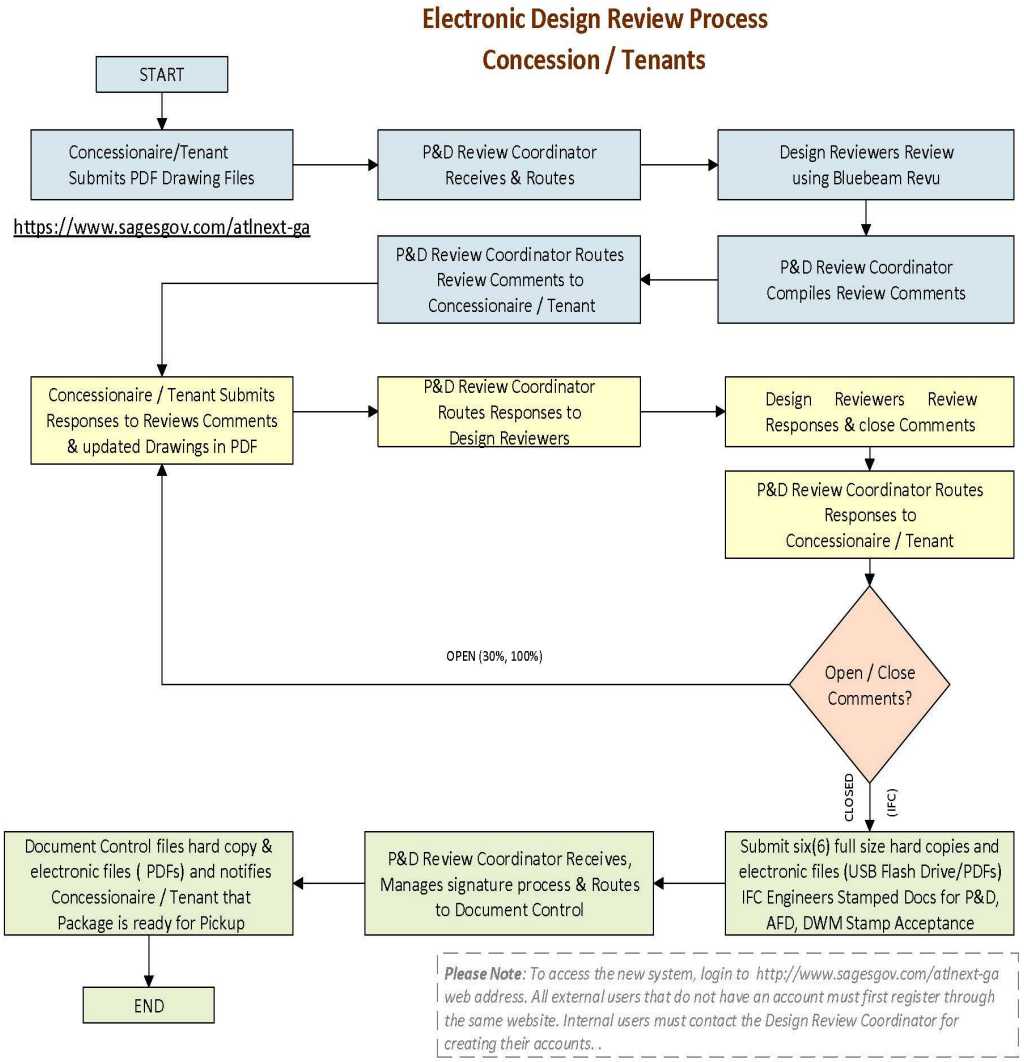
5.3.1 Two (2) USB Flash drives for P&D, containing the final AS-Built drawings in CAD/PDF format and specifications in Word/PDF format.

6.0 APPENDICES

6.1 Appendix A: Electronic Design Review Process, Concessions/Tenants

APPENDIX A

ELECTRONIC DESIGN REVIEW PROCESS CONCESSIONS/TENANTS



Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Design Standards – Civil

Design Standards
Civil

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Design Standards
Civil

1.0 Purpose

The purpose of this document is to provide the Tenant and their Designer of Record with the Civil design detail standards and specifications that shall be used for any new construction and/or modification at Hartsfield-Jackson Atlanta International Airport.

2.0 General

All design work shall be perform in accordance with generally accepted professional principles and practices for civil engineering and in compliance with all applicable Federal, State and City of Atlanta Design Codes, Standards and Regulations and the following DOA/P&D Civil Design Standards and Specifications:

3.0 DOA/P&D Civil Design Standards (Attached)[4]

3.1 Airside – Runways, Taxiways & Aprons

STD-01-100	Airfield Typical Pavement Sections
STD-01-200	Typical Pavement Sections NLVR
STD-01-300	Apron Underdrain Details – New Pavement
STD-01-301	Underdrain Details – Replacement Projects
STD-01-400	In-Pavement Manholes
STD-01-500	In-Pavement Inlets Type “A”
STD-01-501	In-Pavement Inlets Type “B” and Type “B” Mod. Detail
STD-01-502	In-Pavement Inlets type “D”
STD-01-503	Slope Drain Detail
STD-01-504	Paved Drainage Path Detail
STD-01-505	Miscellaneous Drainage Details
STD-01-600	Pavement Joint Details-New Projects
STD-01-700	Pavement Joint Details- Replacement Projects 1
STD-01-701	Pavement Joint Details- Replacement Projects 2
STD-01-702	Existing Pavement Removal and Replacement of Hydrants
STD-01-703	Spall and Joint Repair Details
STD-01-704	Typical Spall Repair Rebar Placement Detail
STD-01-705	Retrofit Conduit Trench Repair Detail
STD-01-800	Apron Striping and Marking – 1
STD-01-801	Apron NLVR Striping and Signage
STD-01-802	Runway Striping and Marking – 1
STD-01-803	Runway Striping and Marking – 2
STD-01-804	Taxiway Striping, Marking, and Signage
STD-01-805	Taxiway Striping and Marking
STD-01-900	Miscellaneous Airfield Details

3.2 Landside – Roads & Parking

STD-02-100	Typical Pavement Sections – Roadways
STD-02-101	Typical Pavement Sections - Parking
STD-02-200	Joints – NLVR or Landside Roads
STD-02-300	Landside Striping and Marking Details

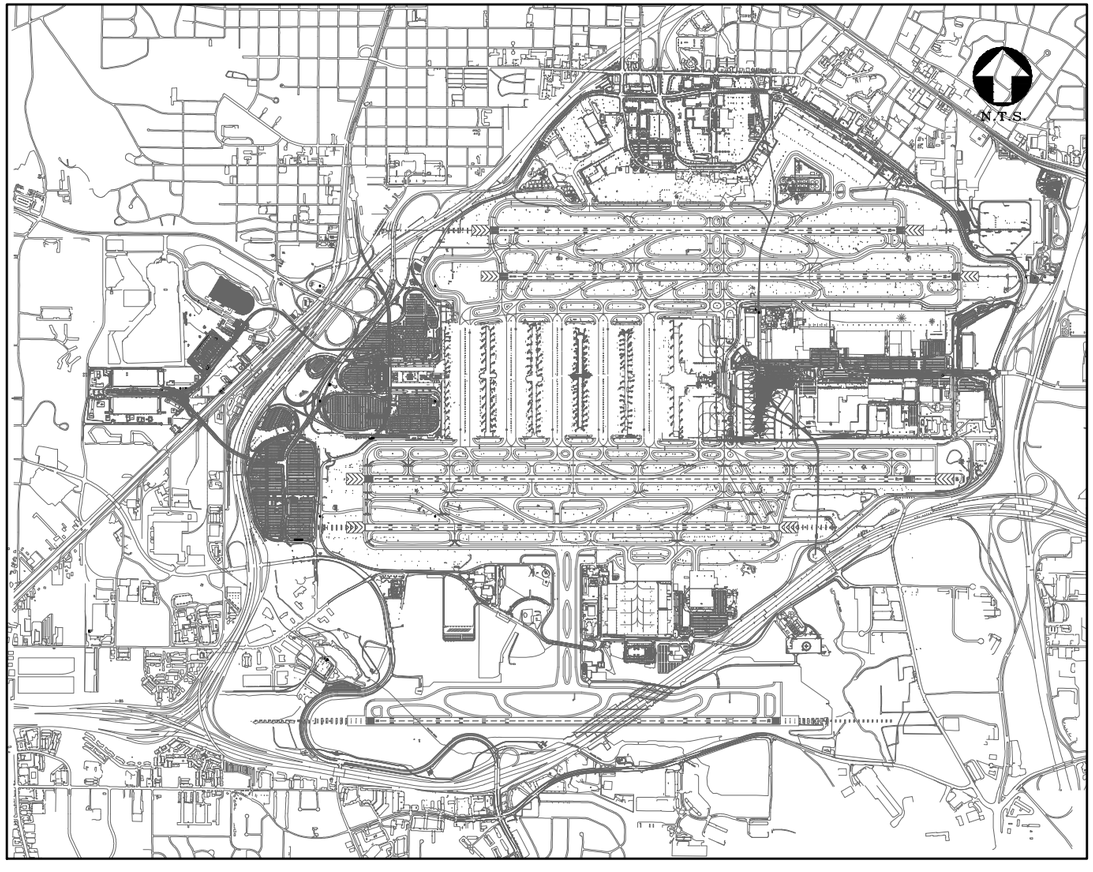
STD-02-400 Landside Signage
STD-02-500 Landside Drainage - 1
STD-02-501 Landside Drainage - 2

3.3 General Details

STD-03-100 Settlement Platforms
STD-03-200 Chain Link Fences – 1
STD-03-201 Chain Link Fences – 2
STD-03-202 Chain Link Fences – 3
STD-03-203 Chain Link Fences – 4
STD-03-204 Chain Link Fences – 5
STD-03-205 Chain Link Fences – 6
STD-03-206 Chain Link Fences- Signage
STD-03-300 Typical Grease Interceptor Installation
STD-03-301 Typical Grease Interceptor Installation
STD-03-302 Below Pavement Grease Interceptor
STD-03-303 Utility Slab Detail for Interceptor Below Pavement
STD-03-304 Additional Pavement Removal
STD-03-400 Pipe Bedding Type “B” and “C” Paved Ditch Detail
STD-03-401 Precast Junction Chamber
STD-03-402 Concrete Pipe Collar, Cleanout, Cap for Exist. Inlet
STD-03-403 Riser Tee Manhole for Existing or Proposed Pipe
STD-03-404 Misc Pipe Details
STD-03-405 Waterline Bedding and Excavation Section
STD-03-500 Standard Manhole and Type “E” Inlet
STD-03-600 Bollard Details
STD-03-601 Miscellaneous Paving and Bumper Block Details
STD-03-700 General Notes and Construction Control Plan Airside
STD-03-701 General Notes and Construction Control Plan Landside

CITY OF ATLANTA
HARTSFIELD–JACKSON ATLANTA INTERNATIONAL AIRPORT

DOA CIVIL STANDARD DETAILS



CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson
Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

CHANGES TO THESE STANDARDS SHALL BE APPROVED BY DOA IN ADVANCE OF SUBMITTAL.

DOA CIVIL STANDARD DETAILS

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

THESE DRAWINGS SHOULD NOT BE USED FOR CONSTRUCTION UNLESS NOTED BELOW AS "RELEASED FOR CONSTRUCTION" AND SIMILARLY NOTED ON EACH INDIVIDUAL DRAWING.

RELEASED FOR CONSTRUCTION BY: _____

DATE: _____

SHEET NO:

STD-00-100

DWG NO	SHEET NO.	CIVIL DOA STANDARD DETAILS SHEET TITLE	RELEASE STATUS SUMMARY DATE OF LATEST RELEASE ISSUED	REV1	REV2	REV3	REV4	REV5	REV6			COMMENTS
1	STD-00-100	Cover Sheet	06/20/2014	08/2019								
2	STD-00-200	DOA Civil Standard Details Index	06/20/2014	08/2019								
3	STD-00-201	DOA Civil Standard Details Index		08/2019								
		STD-01 AIRSIDE - RUNWAYS TAXIWAYS AND APRONS										
1	STD-01-100	Airfield Typical Pavement Sections	06/20/2014	08/2019	11/2020							
2	STD-01-200	Typical Pavement Sections NLVR	06/20/2014	08/2019								
3	STD-01-300	Apron Underdrain Details - New Pavement	06/20/2014									
4	STD-01-301	Underdrain Details - Replacement Projects	06/20/2014									
5	STD-01-400	In-Pavement Manholes	06/20/2014									
6	STD-01-500	In-Pavement Inlets Inlet Type 'A'	06/20/2014	08/2019								
7	STD-01-501	Infield Inlets Type 'B' and Type 'B' Modified	06/20/2014	08/2019								
8	STD-01-502	In-Pavement Inlet Type 'D'	06/20/2014									
9	STD-01-503	Slope Drain Detail	06/20/2014	08/2019								
10	STD-01-504	Paved Drainage Path Detail	06/20/2014									
11	STD-01-505	Miscellaneous Drainage Details	06/20/2014									
12	STD-01-600	Pavement Joint Details - New Projects	06/20/2014									
13	STD-01-700	Pavement Joint Details - Replacement Projects-1	06/20/2014									
14	STD-01-701	Pavement Joint Details - Replacement Projects-2	06/20/2014									
15	STD-01-702	Exist. Pavement Removal and Replacement for Fuel Hydrants	06/20/2014	08/2019								
16	STD-01-703	Spall and Joint Repair Details	06/20/2014									
17	STD-01-704	Typical Spall Repair Rebar Placement Detail	06/20/2014									
18	STD-01-705	Retrofit Conduit Trench Repair Details	06/20/2014									
19	STD-01-800	Apron Striping and Marking	06/20/2014									
20	STD-01-801	Apron NLVR Striping and Signage	06/20/2014		11/2020							
21	STD-01-802	Runway Striping and Marking-1	06/20/2014									
22	STD-01-803	Runway Striping and Marking-2	06/20/2014									
23	STD-01-804	Taxiway Striping, Marking, and Signage	06/20/2014									
24	STD-01-805	Taxiway Striping and Marking	06/20/2014									
25	STD-01-900	Miscellaneous Airfield Details	06/20/2014									
		STD-02 LANDSIDE - ROADS AND PARKING										
1	STD-02-100	Typical Pavement Sections - Roadways	06/20/2014	08/2019								
2	STD-02-101	Typical Pavement Sections - Parking	07/14/2016									
3	STD-02-200	Joints - NLVR or Landside Roads	06/20/2014	08/2019	11/2020							
4	STD-02-300	Landside Striping and Marking Details	06/20/2014									
5	STD-02-400	Landside Signage	06/20/2014									
6	STD-02-500	Landside Drainage-1	06/20/2014									
7	STD-02-501	Landside Drainage-2	06/20/2014									
		STD-03 GENERAL DETAILS										
1	STD-03-100	Settlement Platforms	06/20/2014									
2	STD-03-200	Chain Link Fences - 1	06/20/2014									
3	STD-03-201	Chain Link Fences - 2	06/20/2014	08/2019								
4	STD-03-202	Chain Link Fences - 3	06/20/2014	08/2019	11/2020							
5	STD-03-203	Chain Link Fences - 4	06/20/2014	08/2019								
6	STD-03-204	Chain Link Fences - 5	06/20/2014	08/2019								
7	STD-03-205	Chain Link Fences - 6	06/20/2014	08/2019								
8	STD-03-206	Chain Link Fence - Signage	06/20/2014	08/2019								
9	STD-03-300	Typical Grease Interceptor Installation	06/20/2014	08/2019								
10	STD-03-301	Typical Grease Interceptor Installation	06/20/2014	08/2019								
11	STD-03-302	Below Pavement Grease Interceptor Details	06/20/2014	08/2019								
12	STD-03-303	Utility Slab Detail For Interceptor Below Pavement	06/20/2014	08/2019								
13	STD-03-304	Additional Pavement Removal	06/20/2014	08/2019								
14	STD-03-400	Pipe Bedding Type 'B' and 'C', Paved Ditch Detail	06/20/2014	08/2019								
15	STD-03-401	Precast Junction Chamber	06/20/2014									
16	STD-03-402	Concrete Pipe Collar, Cleanout, Cap for Exist. Inlet	06/20/2014									
17	STD-03-403	Riser Tee Manhole for Existing or Proposed Pipe	06/20/2014									
18	STD-03-404	Misc Pipe Details	06/20/2014	08/2019								
19	STD-03-405	Waterline Bedding and Excavation Section	6/20/2014	08/2019								
20	STD-03-500	Standard Manhole and Type E Inlet	06/20/2014									
21	STD-03-600	Bollard Details	06/20/2014	08/2019								

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

DOA Civil Standard Details Index

WBS NUMBER: .
FC NUMBER: .
CONSULTANT PROJECT NUMBER: .
STANDARD SHEET NUMBER: STD-00-200

DRAWN BY: STAFF
DESIGNED BY: STAFF
CHECKED BY: STAFF
APPROVED BY: STAFF
DATE: .
SCALE:
SHEET NO: .

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23	STD-03-700	General Notes and Construction Control Plan Airside	06/20/2014									
24	STD-03-701	General Notes and Construction Control Plan Landside	06/20/2014									
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CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
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NO.	DATE	BY	REVISION
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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

DOA Civil Standard Details Index

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STANDARD SHEET NUMBER: STD-00-201

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DESIGNED BY: STAFF
CHECKED BY: STAFF
APPROVED BY: STAFF

DATE: .
SCALE:
SHEET NO: .

DOA CIVIL STANDARD DETAILS

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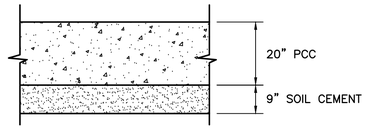
STD-01 AIRSIDE - RUNWAYS TAXIWAYS AND APRONS

Hartsfield-Jackson

Atlanta International Airport

NOTES FOR THE DESIGNER:

1. IDENTIFY BASELINE LOCATIONS ON TYPICAL SECTIONS.
2. TYPICAL SECTIONS SHALL SHOW STATION RANGES FOR THE ENTIRE BASELINE WITH NO GAPS.
3. TYPICAL SECTIONS SHALL BE SHOWN LOOKING IN THE DIRECTION OF THE STATIONING.
4. CONCRETE PAVEMENT JOINTS SHALL FOLLOW A LENGTH TO WIDTH RATIO LESS THAN OR EQUAL TO 1.25 L TO 1 W. WHERE THAT RATIO IS NOT ARCHIVED SLABS SHALL BE REINFORCED.
5. SEE STD-01-600 FOR JOINT DETAILS.



APRON TYPICAL PAVEMENT SECTION
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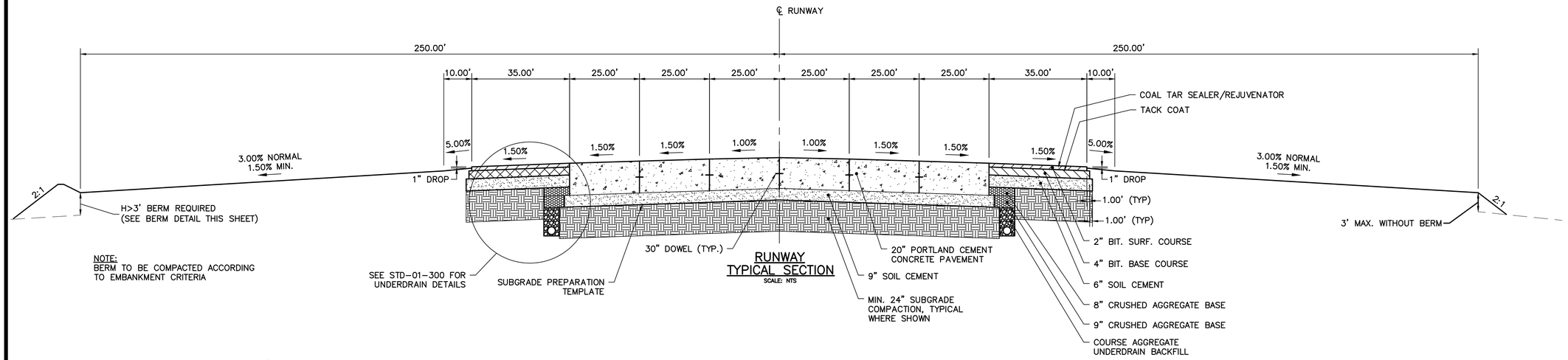

RUNWAY TYPICAL SECTION
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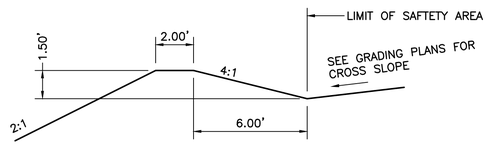

BERM DETAIL
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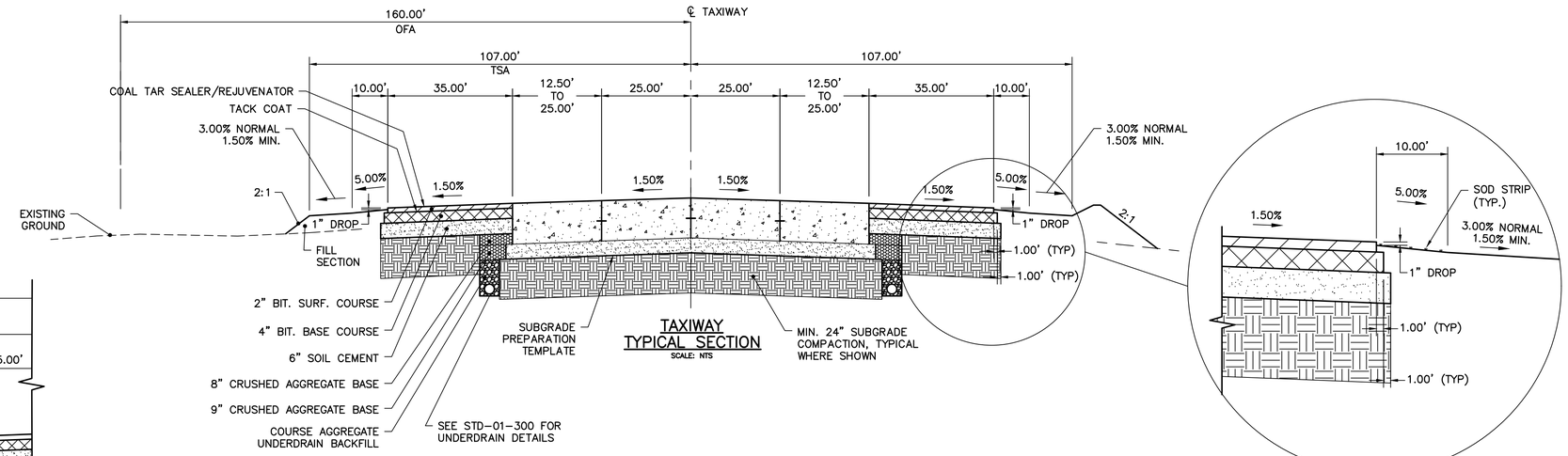

TAXIWAY TYPICAL SECTION
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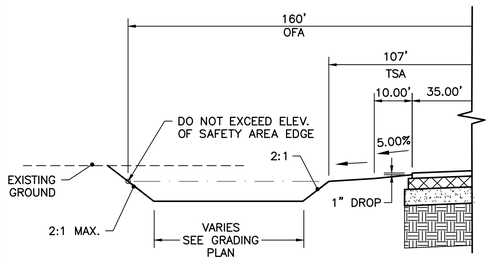

CUT SECTION
SCALE: NTS

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

DOA CIVIL STANDARD DETAILS

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2	8/2020	RFM	REVISED
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Airfield Typical Pavement Sections

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-100	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

NOT RELEASED FOR CONSTRUCTION

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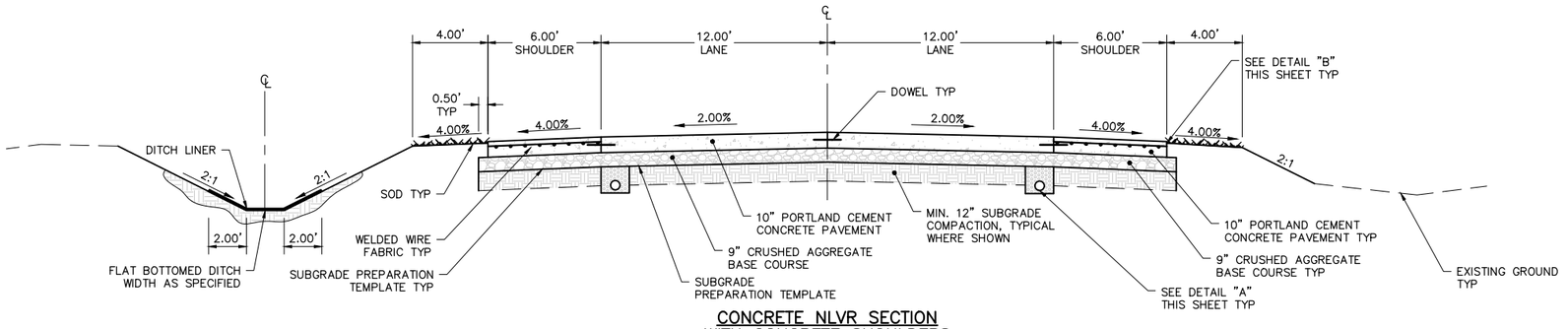
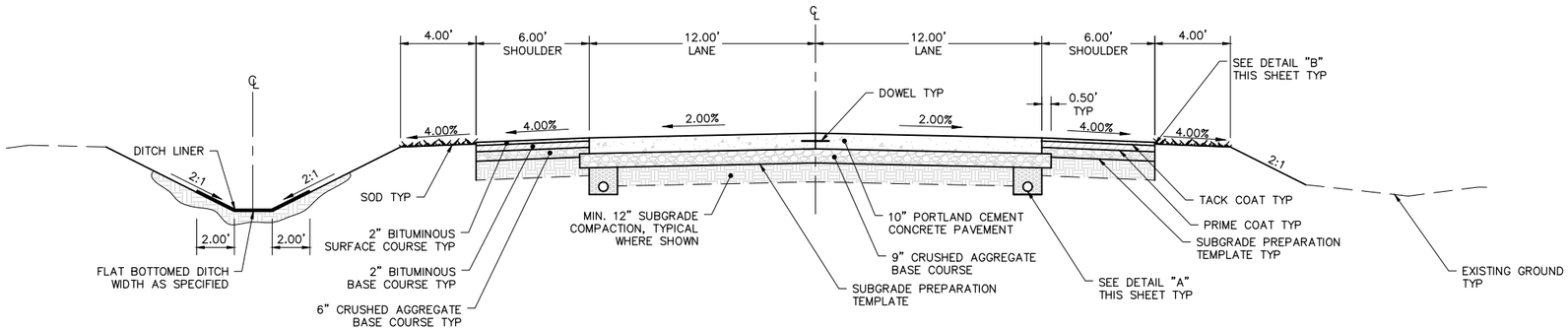
NOTES FOR THE DESIGNER:

1. IDENTIFY BASELINE LOCATIONS ON TYPICAL SECTIONS.
2. GUARDRAIL, FENCE, AND ALL OTHER ROADSIDE ELEMENTS SHALL BE SHOWN WHERE APPROPRIATE.
3. TYPICAL SECTIONS SHALL SHOW STATION RANGES FOR THE ENTIRE BASELINE WITH NO GAPS.
4. TYPICAL SECTIONS SHALL BE SHOWN LOOKING IN THE DIRECTION OF THE STATIONING.
5. CONCRETE PAVEMENT LANE JOINTS SHALL FOLLOW A LENGTH TO WIDTH RATIO LESS THAN OR EQUAL TO 1.5 L TO 1 W. WHERE THAT RATIO IS NOT ACHIEVED SLABS SHALL BE REINFORCED WITH 6X12 D4/D4 WELDED WIRE FABRIC.
6. SHOULDERS SHALL MATCH CONCRETE PAVEMENT LANE JOINT SPACING.
7. SEE STD-02-200 FOR JOINT DETAILS.
8. SEE STD-01-200 FOR LANDSIDE ROADWAY TYPICAL SECTIONS.
9. NLVR – NON-LICENCED VEHICLE ROADWAY



CONCRETE NLVR SECTION WITH CONCRETE SHOULDERS
SCALE: NTS



CONCRETE NLVR SECTION
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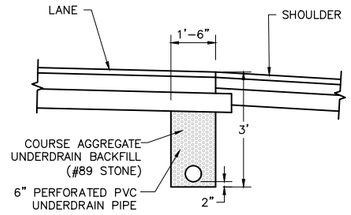
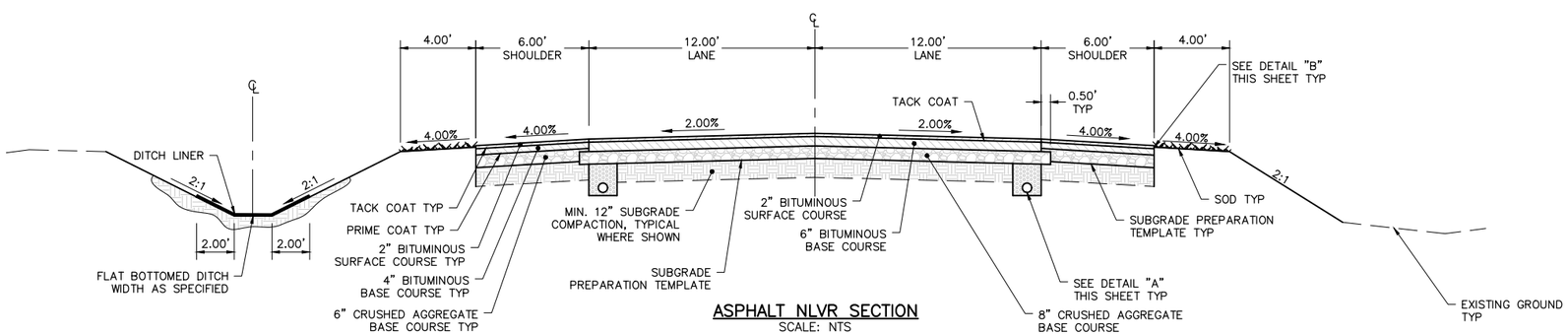
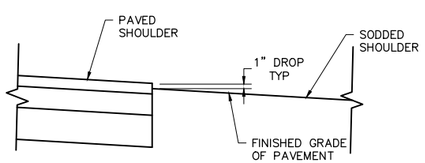


DETAIL "A"
SCALE: NTS



ASPHALT NLVR SECTION
SCALE: NTS



DETAIL "B"
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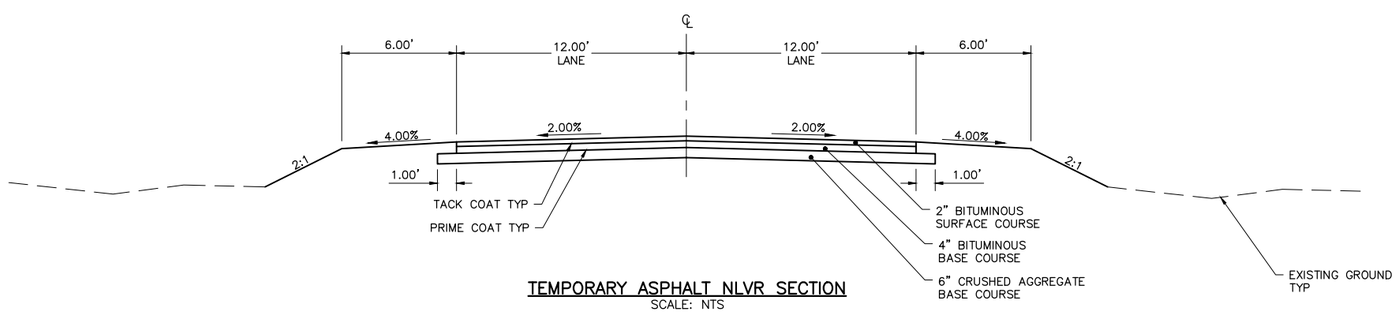


TEMPORARY ASPHALT NLVR SECTION
SCALE: NTS

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION

DOA CIVIL STANDARD DETAILS

Typical Pavement Sections NLVR

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-200	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

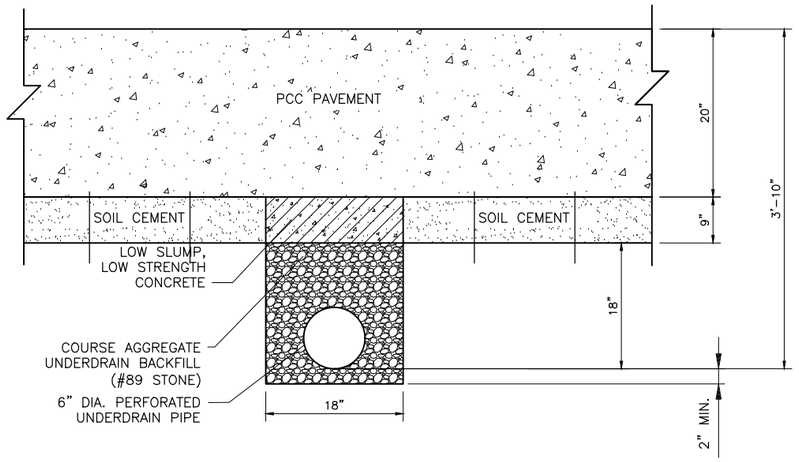
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

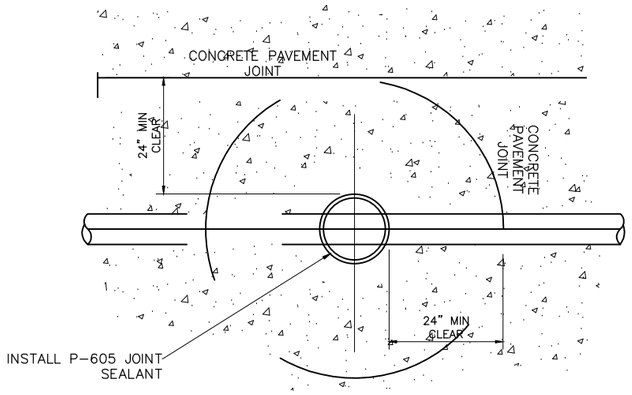
q:\facilities\engineering\cadd library\doa standard details\details\std-01-200 typical pavement sections nlvr.dwg

NOTES:

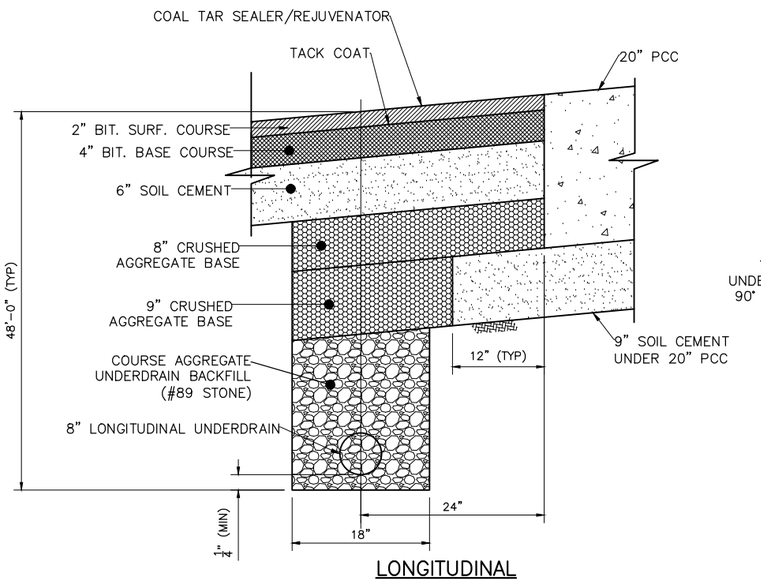
1. THE CONTRACTOR SHALL USE #89 STONE FOR THE POROUS UNDERDRAIN BACKFILL.



TRANSVERSE UNDERDRAIN
N.T.S.



PLAN



LONGITUDINAL UNDERDRAIN
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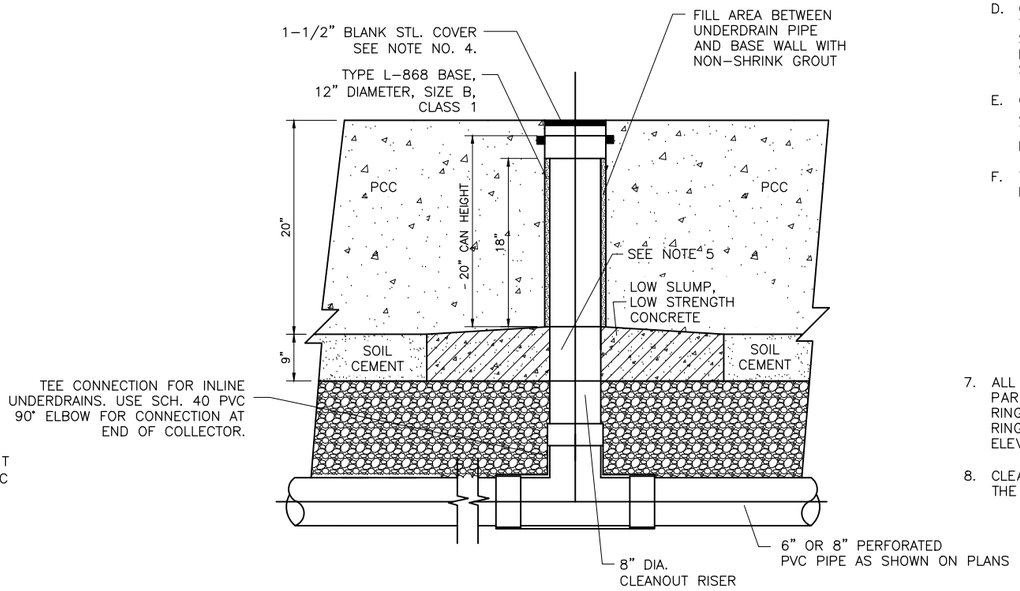

UNDERDRAIN CLEANOUT ELEVATION
(DETAIL SHOWN FOR INSTALLATION IN CONCRETE)
N.T.S

NOTES:

1. THE CONTRACTOR SHOULD BE AWARE THAT DUE TO THE DEPTH OF THE UNDERDRAINS, CERTAIN PREPARATIONS WILL BE NECESSARY BEFORE PCC IS PLACED, AS FOLLOWS:
   A. THE CONNECTION SHOULD BE IN PLACE AND THE LOCATION SURVEYED.
   B. THE CLEANOUT RISER SHOULD EXTEND TO 6"(MAX) BELOW THE SURFACE LEVEL OF SOIL CEMENT AND TEMPORARILY CAPPED TO PREVENT DIRT AND DEBRIS FROM ENTERING THE UNDERDRAIN SYSTEM.
2. ALL PAVEMENT AND GROUND AREA DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO ORIGINAL CONDITION BY THE CONTRACTOR.
3. SEE JOINT FILLER SPECIFICATION SECTION FOR SEALANT.
4. THE WORDS "UNDERDRAIN C.O." SHALL BE WELDED IN 1" LETTERS ONTO THE PLATE BY THE CONTRACTOR. AFTER WELDING, PLATE SHALL BE HOT-DIPPED AND GALVANIZED.
5. CUT 9" DIAMETER HOLE IN THE BOTTOM OF CAN TO PROVIDE FOR CLEAN OUT RISER CONNECTION.
6. FOR INSTALLATION OF UNDERDRAIN CLEANOUT IN CONCRETE PAVEMENT, REFER TO DETAILS OF TYPICAL INSTALLATION FOR TYPE L-868 BASE IN ELECTRICAL DETAILS.
   A. INSTALL L-868 BASE WITH 1/8" STEEL MUD PLATE TEMPORARILY BOLTED ON IN PLACE OF THE ADAPTER PLATE.
   B. IMMEDIATELY AFTER PAVING MACHINE PAVES OVER BASE, CONTRACTOR SHALL REMOVE AND CLEAR OUT ALL LOOSE MATERIAL LEAVING STEEL COVER IN PLACE.
   C. DO NOT REUSE SHIPPING BOLTS FOR COVER INSTALLATION.
   D. CONTRACTOR IS CAUTIONED TO OBSERVE THAT ALL SUBGRADE MATERIAL IS CEMENT STABILIZED. PROVISIONS MUST BE MADE FOR INSTALLING BASES IN CEMENT STABILIZED SUBBASE MATERIAL.
   E. CONTRACTOR SHALL INSTALL AND FURNISH JOINT SEALER COMPOUND IN SPACE AROUND TOP OF L-868 BASE AFTER COVER INSTALLATION.
   F. THE FOLLOWING TYPES OF BOLTS SHALL BE FURNISHED AND INSTALLED WITH EACH BASE:
      a. SHIPPING BOLTS, 1/2" LONG DISPOSABLE.
      b. SETTING BOLTS, 1/8" MUD PLATE, THICKNESS OF JIG (DETERMINED BY CONTRACTOR).
      c. STAINLESS STEEL FINISHING BOLTS, LENGTH AS REQUIRED TO HOLD IN COVER AND FINISHING RING, AS REQUIRED.
7. ALL ITEMS SHOWN FOR THE BASES SHALL BE PART OF THE INSTALLATION ASSEMBLY, FINISHING RING SHALL BE FURNISHED AND INSTALLED TO RING THE COVER FIXTURE UP TO THE SPECIFIED ELEVATION.
8. CLEANOUTS SHALL BE AT LEAST 24" CLEAR OF THE NEAREST PCC JOINT LINE.

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Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

DETAILS ON THIS SHEET ARE INTENDED FOR USE IN NEW APRON CONSTRUCTION

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

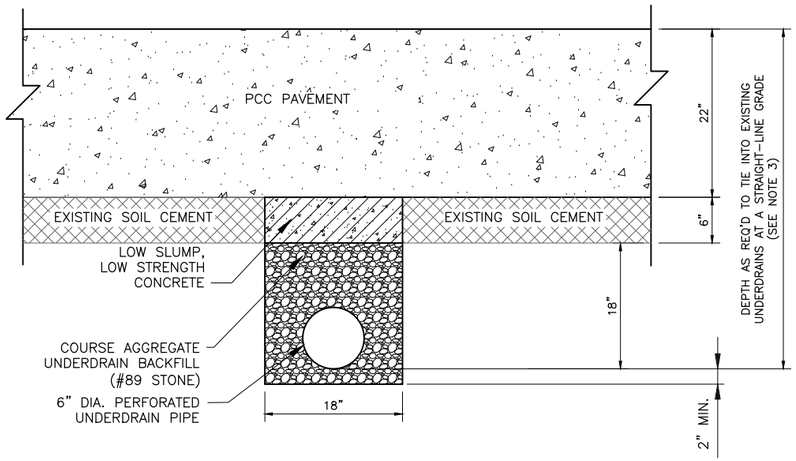
DOA CIVIL STANDARD DETAILS

Apron Underdrain Details - New Pavement

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-300	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO:

DOA CIVIL STANDARD DETAILS

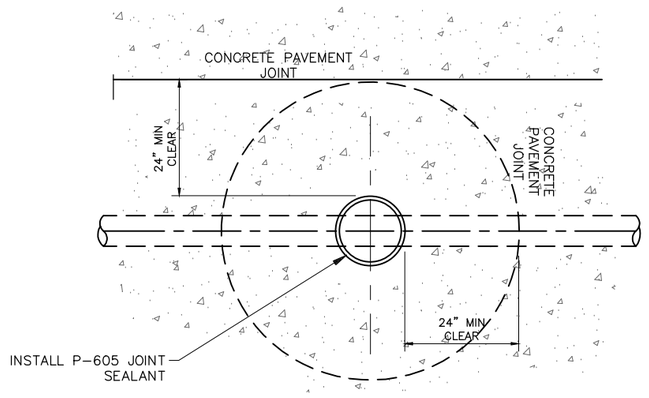
NOT RELEASED FOR CONSTRUCTION



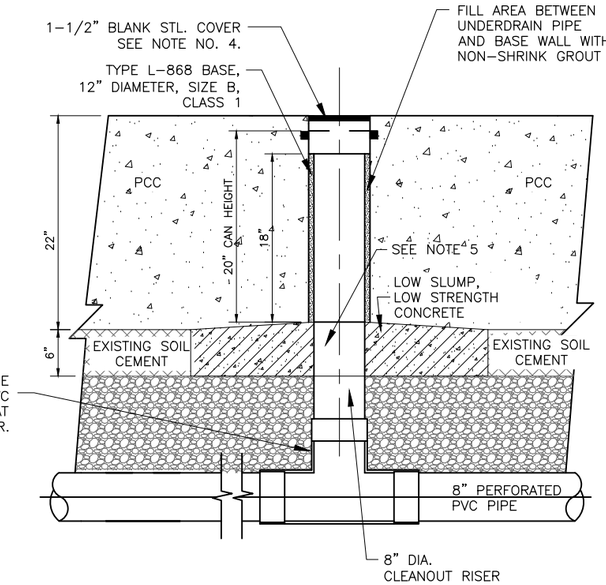
TRANSVERSE UNDERDRAIN UNDER TAXIWAY
N.T.S.

NOTES:

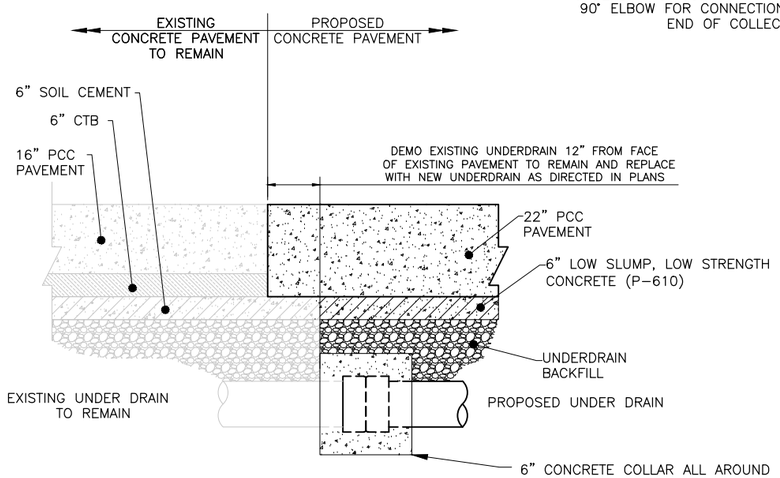
1. THE CONTRACTOR SHALL USE #89 STONE FOR THE POROUS UNDERDRAIN BACKFILL.
2. UNDERDRAIN INVERT ELEVATIONS SHALL MATCH EXISTING. EXISTING INVERTS ARE TYPICALLY 3'–10" BELOW TOP OF PCC PAVEMENT.



PLAN



UNDERDRAIN CLEANOUT ELEVATION
(SHOWN FOR INSTALLATION IN CONCRETE)
N.T.S.



UNDERDRAIN TIE–IN COUPLING
N.T.S.

NOTES:

1. THE CONTRACTOR SHOULD BE AWARE THAT DUE TO THE DEPTH OF THE UNDERDRAINS, CERTAIN PREPARATIONS WILL BE NECESSARY BEFORE PCC IS PLACED, AS FOLLOWS:
   A. THE CONNECTION SHOULD BE IN PLACE AND THE LOCATION SURVEYED.
   B. THE CLEANOUT RISER SHOULD EXTEND TO 6" (MAX) BELOW THE SURFACE LEVEL OF SOIL CEMENT AND TEMPORARILY CAPPED TO PREVENT DIRT AND DEBRIS FROM ENTERING THE UNDERDRAIN SYSTEM.
2. ALL PAVEMENT AND GROUND AREA DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO ORIGINAL CONDITION BY THE CONTRACTOR.
3. SEE JOINT FILLER SPECIFICATION SECTION FOR SEALANT.
4. THE WORDS "UNDERDRAIN C.O." SHALL BE WELDED IN 1" LETTERS ONTO THE PLATE BY THE CONTRACTOR. AFTER WELDING, PLATE SHALL BE HOT–DIPPED AND GALVANIZED.
5. CUT 9" DIAMETER HOLE IN THE BOTTOM OF CAN TO PROVIDE FOR CLEAN OUT RISER CONNECTION.
6. FOR INSTALLATION OF UNDERDRAIN CLEANOUT IN CONCRETE PAVEMENT, REFER TO DETAILS OF TYPICAL INSTALLATION FOR TYPE L–868 BASE IN ELECTRICAL DETAILS.
   A. INSTALL L–868 BASE WITH 1/8" STEEL MUD PLATE TEMPORARILY BOLTED ON IN PLACE OF THE ADAPTER PLATE.
   B. IMMEDIATELY AFTER PAVING MACHINE PAVES OVER BASE, CONTRACTOR SHALL REMOVE AND CLEAR OUT ALL LOOSE MATERIAL LEAVING STEEL COVER IN PLACE.
   C. DO NOT REUSE SHIPPING BOLTS FOR COVER INSTALLATION.
   D. CONTRACTOR IS CAUTIONED TO OBSERVE THAT ALL SUBGRADE MATERIAL IS CEMENT STABILIZED. PROVISIONS MUST BE MADE FOR INSTALLING BASES IN CEMENT STABILIZED SUBBASE MATERIAL.
   E. CONTRACTOR SHALL INSTALL AND FURNISH JOINT SEALER COMPOUND IN SPACE AROUND TOP OF L–868 BASE AFTER COVER INSTALLATION.
   F. THE FOLLOWING TYPES OF BOLTS SHALL BE FURNISHED AND INSTALLED WITH EACH BASE:
      a. SHIPPING BOLTS, 1/2" LONG DISPOSABLE.
      b. SETTING BOLTS, 1/8" MUD PLATE, THICKNESS OF JIG (DETERMINED BY CONTRACTOR).
      c. STAINLESS STEEL FINISHING BOLTS, LENGTH AS REQUIRED TO HOLD IN COVER AND FINISHING RING, AS REQUIRED.
7. ALL ITEMS SHOWN FOR THE BASES SHALL BE PART OF THE INSTALLATION ASSEMBLY, FINISHING RING SHALL BE FURNISHED AND INSTALLED TO RING THE COVER FIXTURE UP TO THE SPECIFIED ELEVATION.
8. CLEANOUTS SHALL BE AT LEAST 24" CLEAR OF THE NEAREST PCC JOINT LINE.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

DETAILS ON THIS SHEET ARE INTENDED FOR USE IN PAVEMENT REPLACEMENT AND RETROFIT PROJECTS.

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

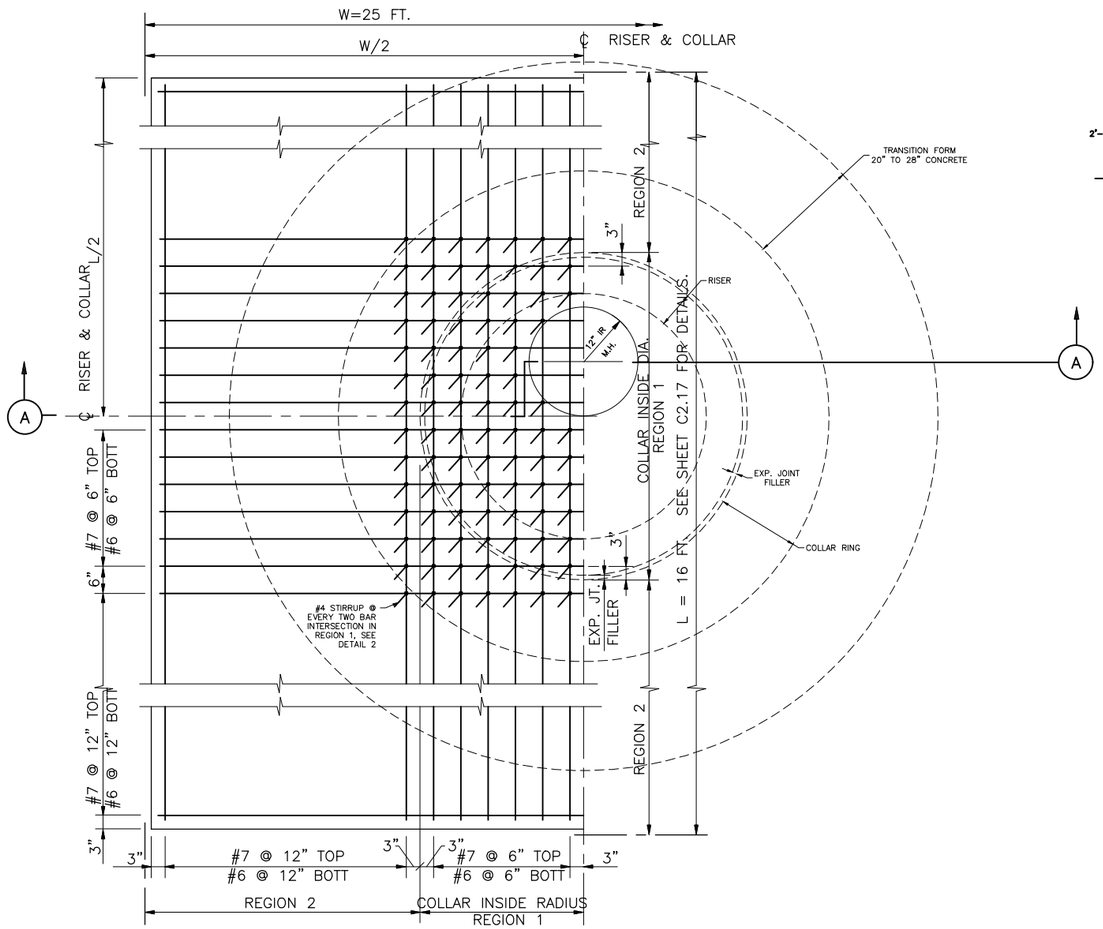
DOA CIVIL STANDARD DETAILS

Underdrain Details - Replacement Projects

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-301	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO:

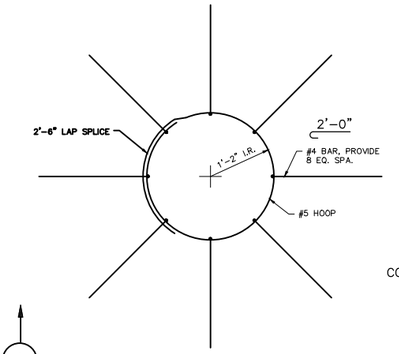
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION



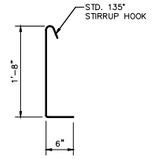
PLAN – PAVEMENT WITH UTILITY MANHOLE

NTS



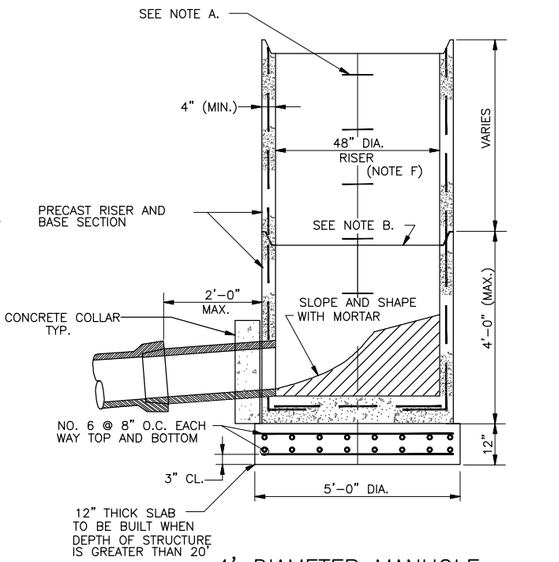
DETAIL 1

NTS



DETAIL 2

NTS



4' DIAMETER MANHOLE FOR STORM AND SANITARY SEWER

NTS

NOTES:

A. STANDARD STEPS SPACED AT 16" O.C. SHALL BE CAST IRON.

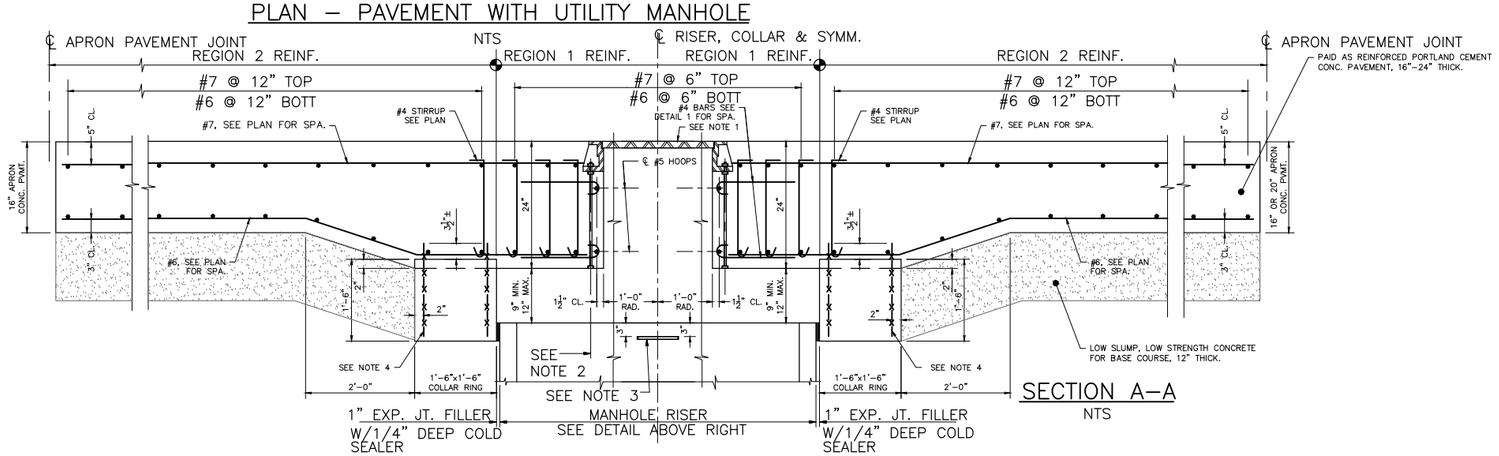
B. JOINTS BETWEEN ALL PRECAST MANHOLE COMPONENTS SHALL BE O-RING, OR PROFILE TYPE.

C. HEAVY DUTY MANHOLE FRAME AND COVER WITH NO. 4 STEEL DOWELS BEDDED IN STIFF MORTAR.

D. ALL PRECAST BASE SECTIONS MUST BE FOUNDED ON A COMPACTED LAYER OF NO. 89 COARSE AGGREGATE AT LEAST 18" THICK.

E. PRECAST MANHOLE RISERS AND BASE SHALL CONFORM TO THE PROVISIONS OF ASTM C-478.

F. MANHOLE INSIDE DIAMETER MAY BE UP TO 5', AS SPECIFIED.



SECTION A-A

NTS

NOTES FOR PAVEMENT WITH MANHOLE

1. MANHOLE FRAME AND LID SHALL BE CAPABLE OF WITHSTANDING REPEATED LOADING OF 240 PSI OVER ENTIRE AREA, BOLTED AND GASKET SEALED, VENT HOLES, AND WITH 2 PICK HOLES.
2. OPTIONAL LEVELING BOLTS (3/4"ø) TO BE PLACED ON FORMS FOR BOTTOM OF PAVEMENT (8 PER FRAME.)
3. STANDARD STEPS SPACED 16" O.C. SHALL BE CAST IRON NEENAH PATTERN NO. R-1980-C, OR EQUAL.
4. COLLAR RING WELDED WIRE REINFORCING SHALL BE W6@6 x W2.9 IN EACH FACE.
5. REINFORCING STEEL SHOWN IN PLAN IS SYMMETRICAL IN BOTH DIRECTIONS ABOUT CENTERLINE RISER AND COLLAR FIELD CUT REINFORCING AT MANHOLE SUCH THAT TOP REINFORCING CLEARS FRAME BY 1" AND BOTTOM REINFORCING CLEARS THE 2'-0" OPENING BY 2" INSTALL ADDITIONAL REINFORCING AT MANHOLE IN ACCORDANCE WITH DETAIL 1.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

In-Pavement Manholes

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-400	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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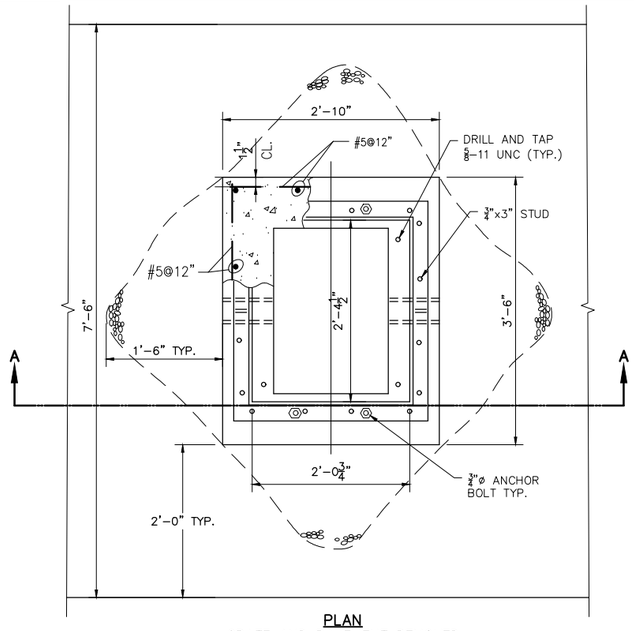
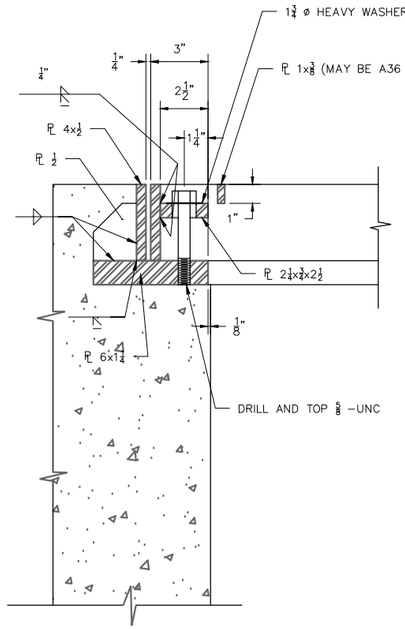
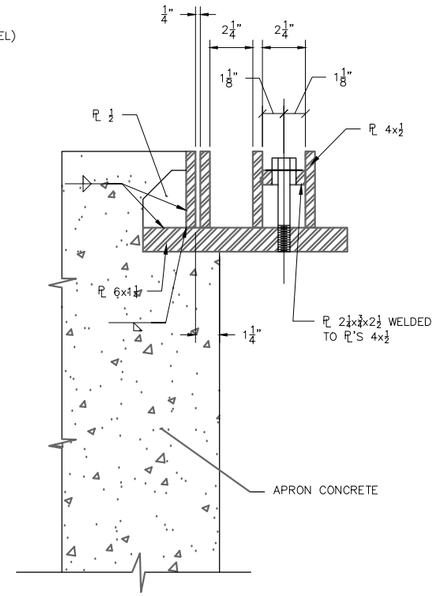


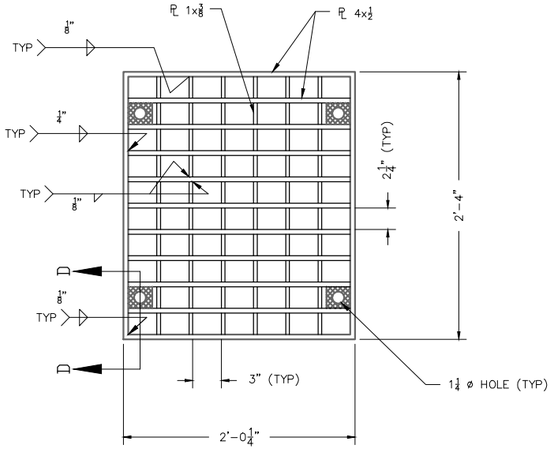
PLAN
GRATE AND PAVEMENT REMOVED



DETAIL A
GRATE SHOWN

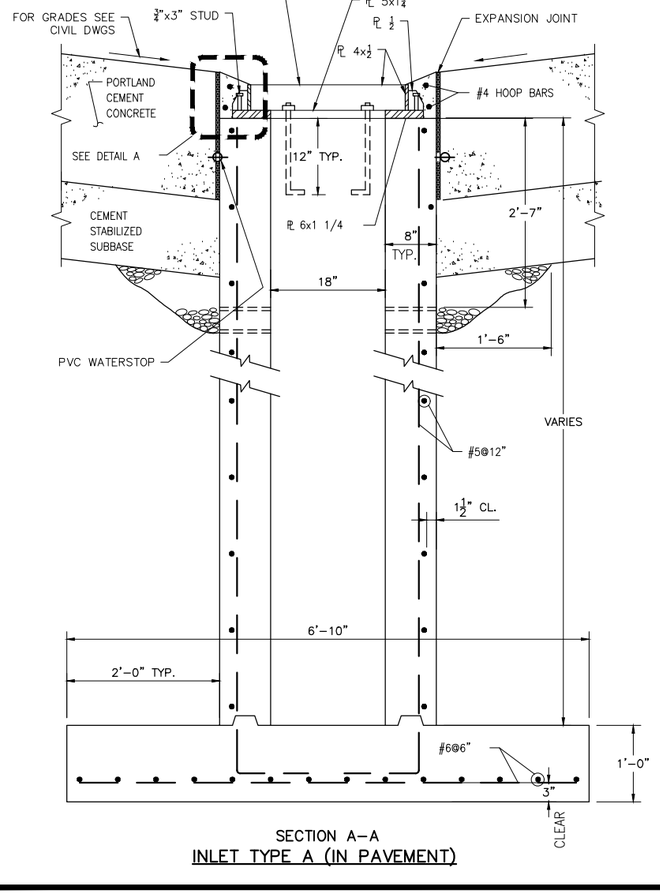


SECTION D-D



GRATE DETAIL
N.T.S.

STEEL FRAME AND GRATING
N.T.S.



SECTION A-A
INLET TYPE A (IN PAVEMENT)

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson
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DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

In-Pavement Inlets
Inlet Type 'A'

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-500	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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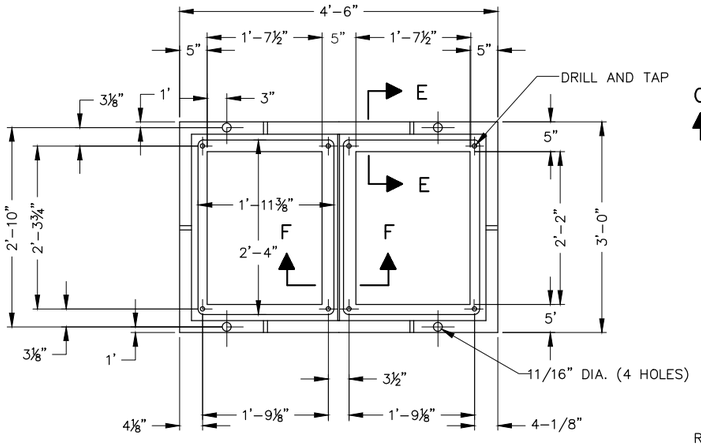

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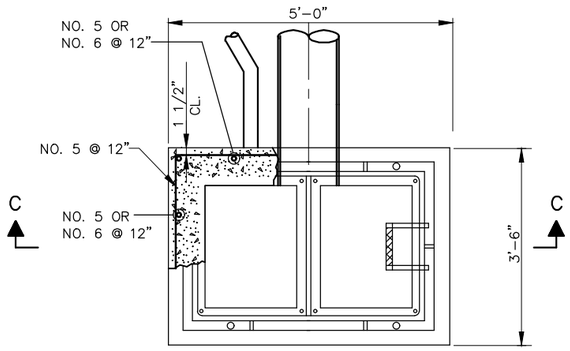
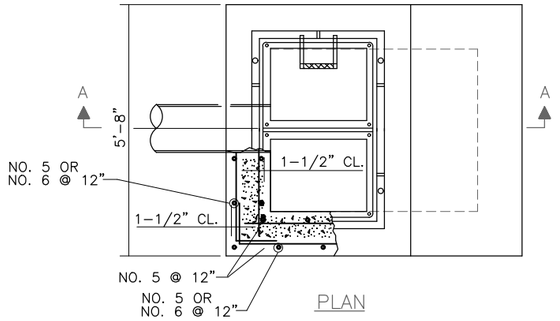


GRATES AND CONCRETE APRON REMOVED

PLAN



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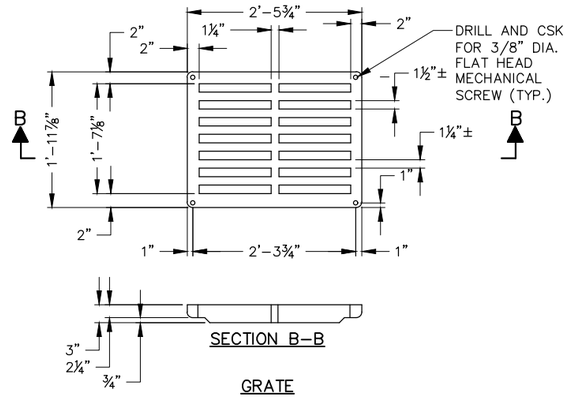
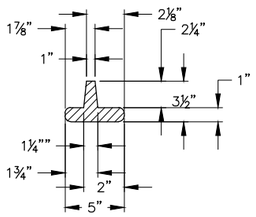
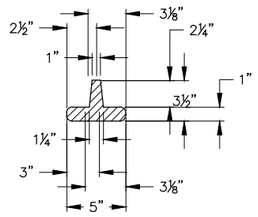


SECTION B-B

GRATE



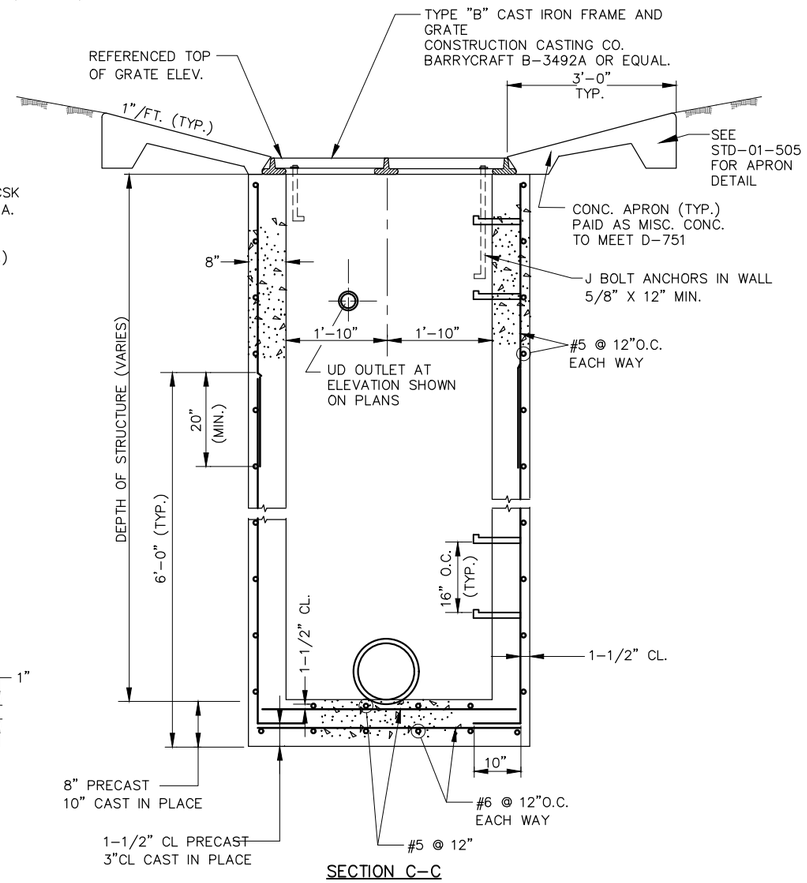
SECTION E-E



SECTION F-F

TYPE "B" GRATE DETAIL

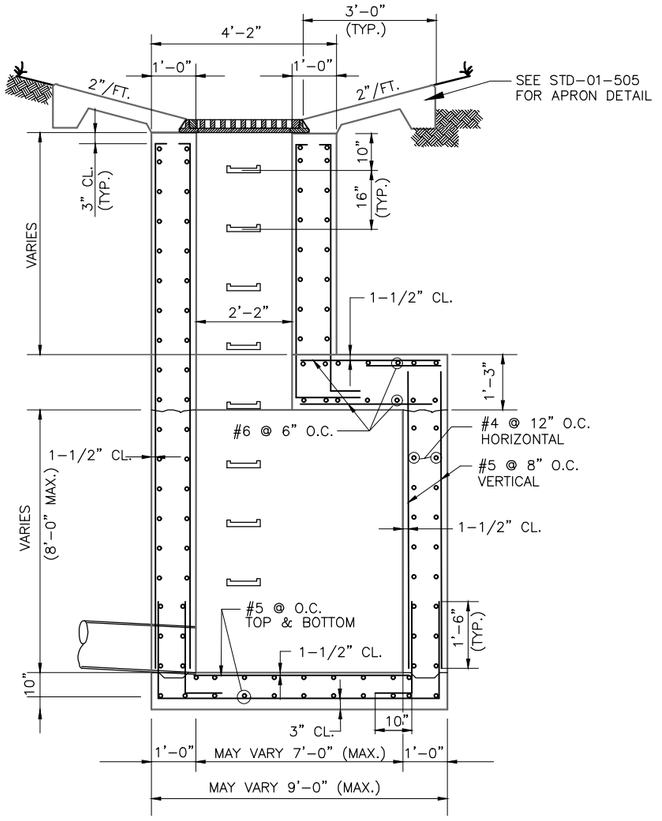
N.T.S.



SECTION C-C

INLET TYPE "B"

N.T.S.



SECTION A-A

MODIFIED INLET TYPE "B"

N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson
Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

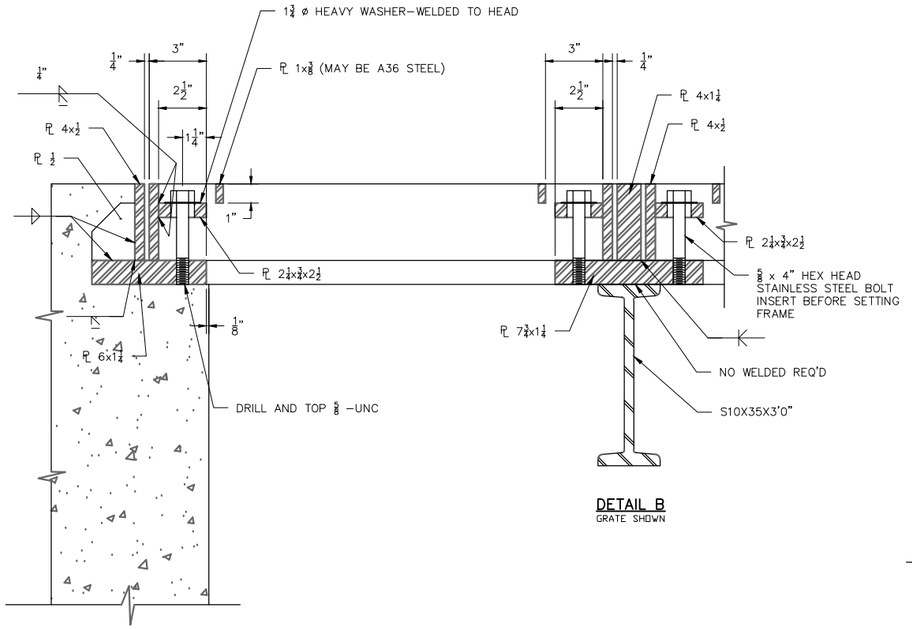
Infield Inlets Type 'B' and Type 'B' Modified

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-01-501	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

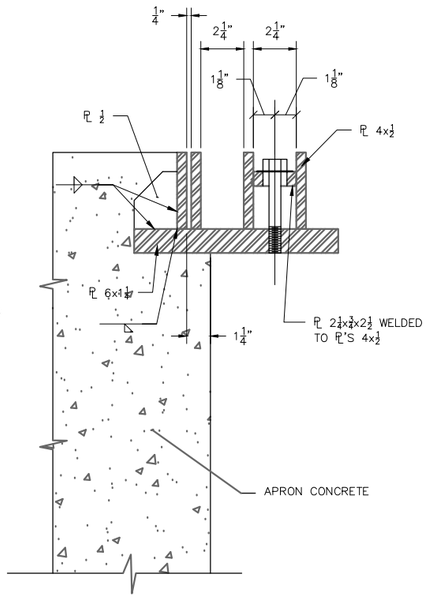
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

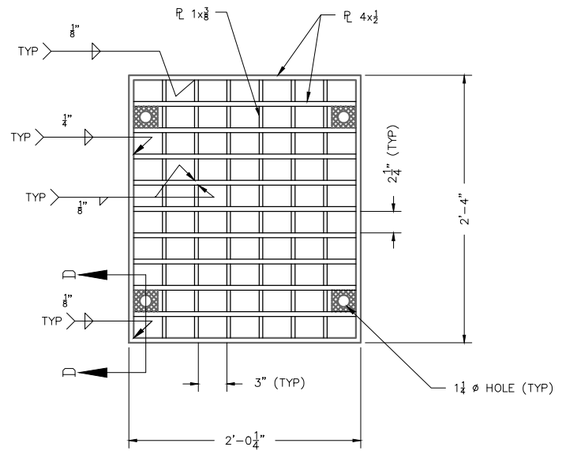
q:\facilities\engineering\cadd library\doa standard details\details\std-01-501 infield inlets type 'b' and type 'b' modified.dwg



DETAIL A
GRATE SHOWN

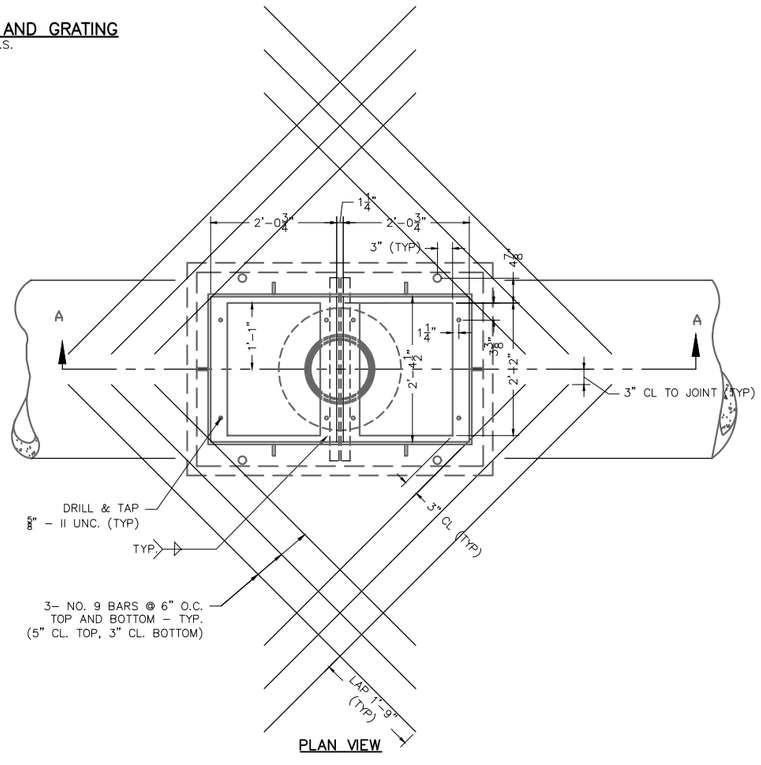


SECTION D–D

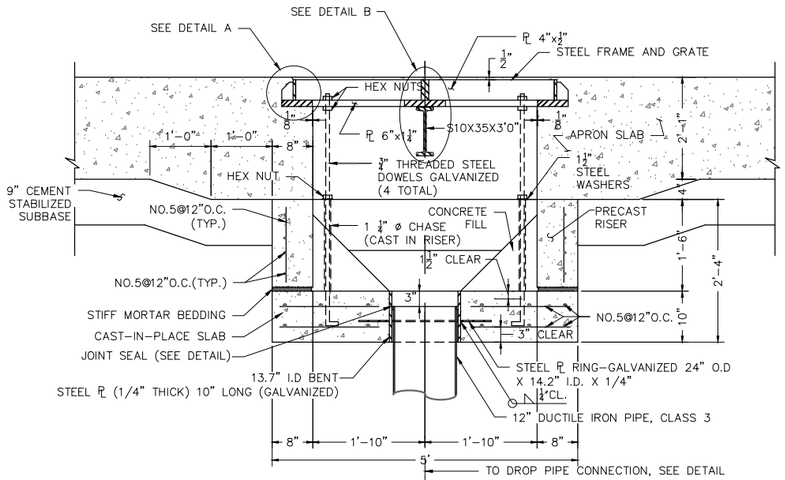


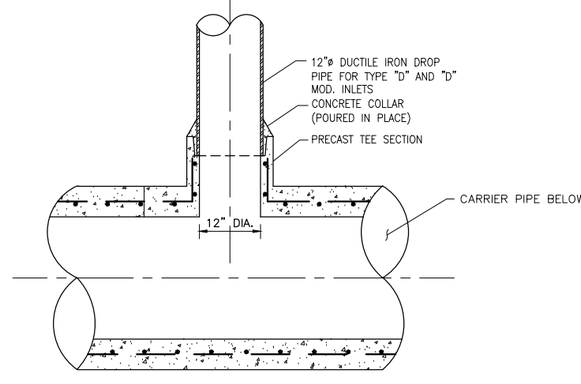
GRATE DETAIL
N.T.S.

STEEL FRAME AND GRATING
N.T.S.



PLAN VIEW





SECTION A–A

INLET TYPE "D" DETAIL
N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION

DOA CIVIL STANDARD DETAILS

In-Pavement Inlet Type 'D'

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-502	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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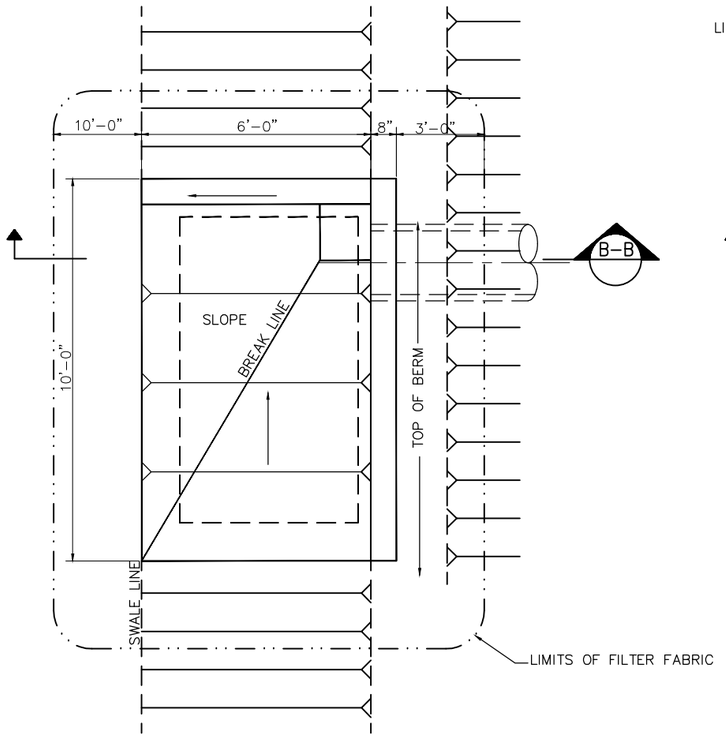
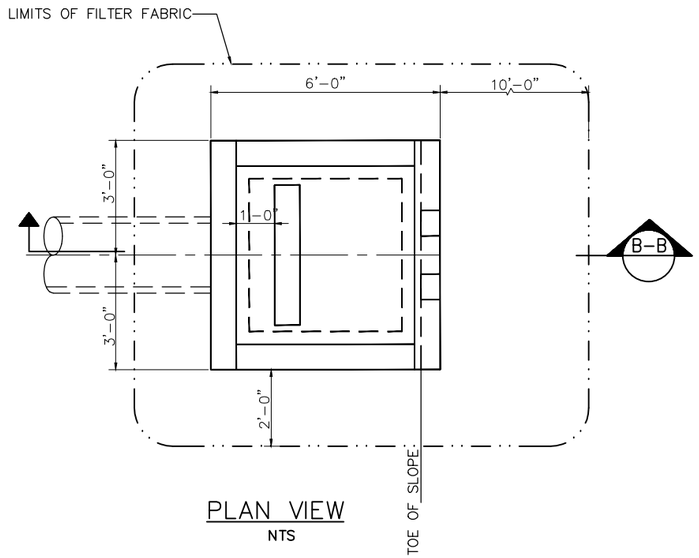
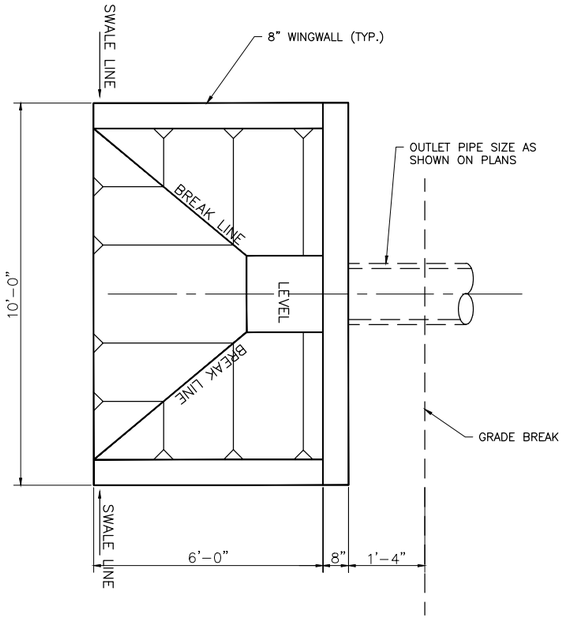


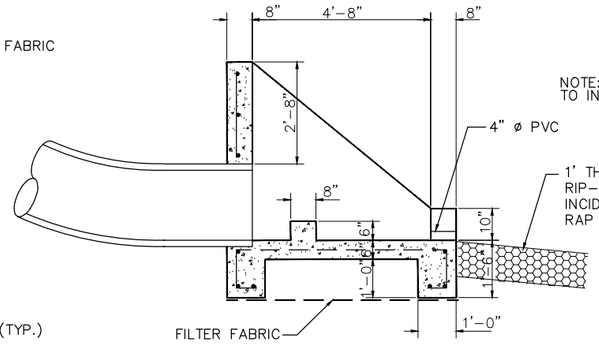
PLAN VIEW
FOR ONE WAY DITCH FLOW
NTS



PLAN VIEW
NTS



PLAN – SLOPE DRAIN INLET
FOR USE IN LOW–POINT LOCATION
NTS



NOTE: REINFORCING SIMILAR TO INLET DETAIL

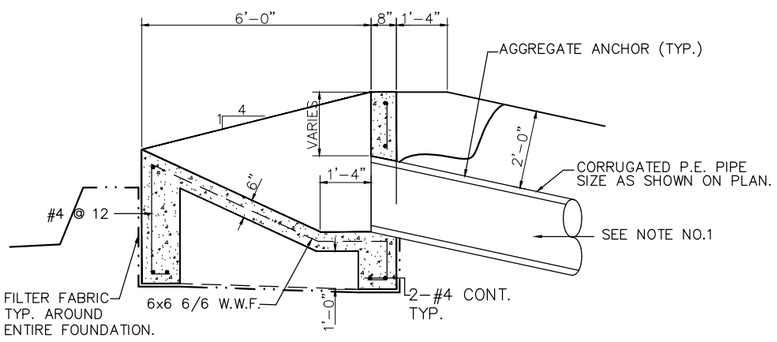
1' THICK PLAIN STONE RIP–RAP STONE. RIP–RAP COST TO BE CONSIDERED INCIDENTAL TO COST OF SLOPE DRAIN. RIP RAP PAD TO BE 6 FT SQUARE.

SECTION B–B
SLOPE DRAIN OUTLET
NTS
FOR IMFORMATION ONLY

NOTES:

1. PIPE SHALL BE ONE CONTINUOUS PIECE IF POSSIBLE. IF JOINTS ARE REQUIRED THEY SHALL BE MADE WITH COLLARS CONSISTENT WITH THE PIPE MATERIAL. THE ENDS OF THE PIPE SHALL BE COATED WITH A THICK LAYER OF MASTIC PRIOR TO INSTALLING THE COLLAR. AFTER THE COLLAR IS MADE SNUG THE ENTIRE JOINT SHALL BE ENCASED IN NOT LESS THAN 6" THICK CONCRETE ALL AROUND.

2. CUT–OFF WALLS, REINFORCING AND FILTER FABRIC PLACEMENT ARE SIMILAR FOR BOTH TYPES OF SLOPE DRAIN INLET PIPE STRUCTURES.



SECTION B–B
SLOPE DRAIN INLET
NTS
FOR IMFORMATION ONLY

CITY OF ATLANTA, GEORGIA

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PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Slope Drain Detail

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-503	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO:

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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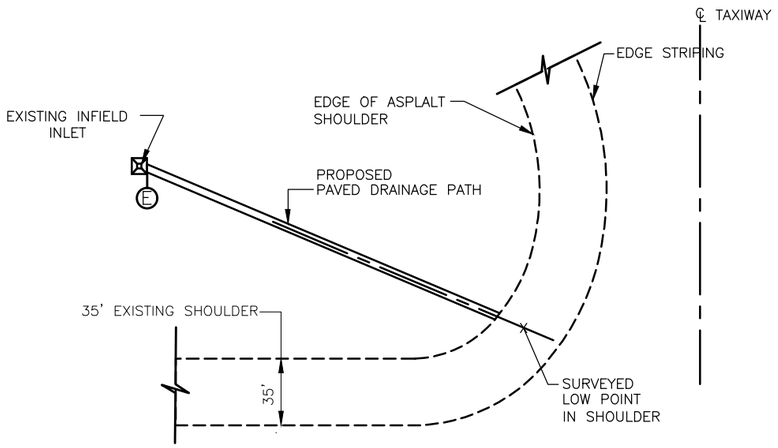
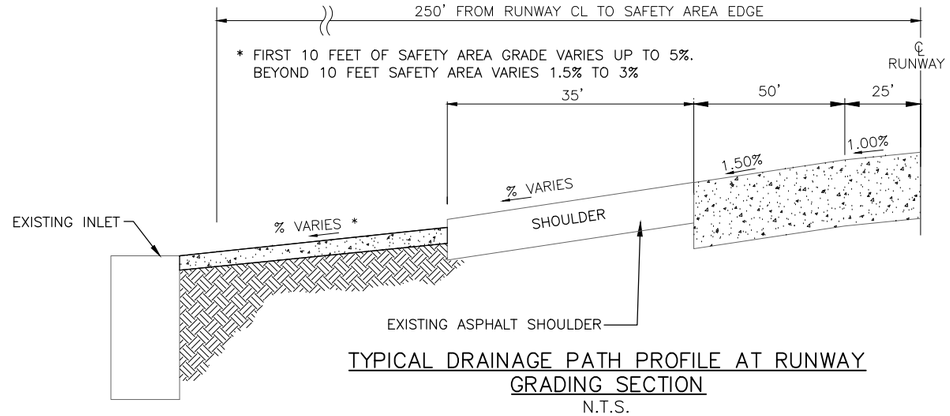
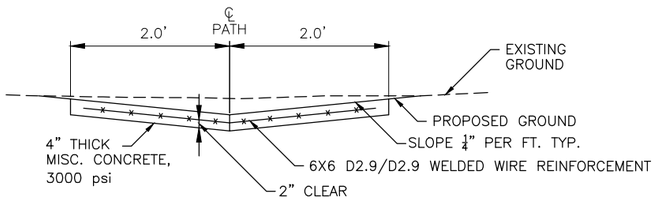


PAVED DRAINAGE PATH PLAN VIEW
N.T.S.



TYPICAL DRAINAGE PATH PROFILE AT RUNWAY GRADING SECTION
N.T.S.

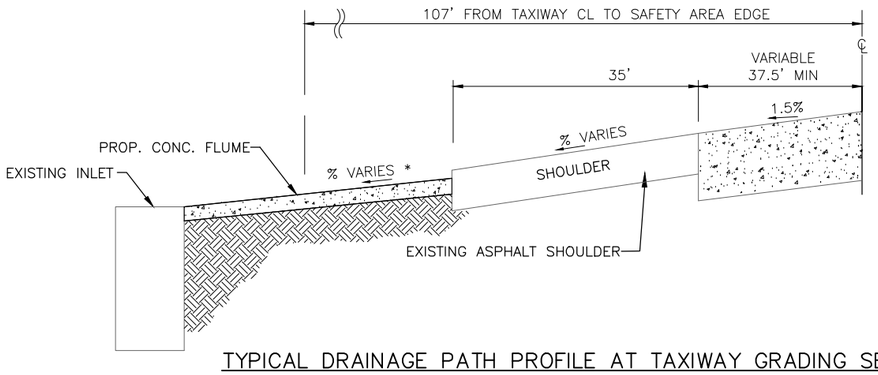
FOR USE IN RELIEVING PONDING DUE TO TURF BUILD UP ON SHOULDER LOW POINTS



PAVED DRAINAGE PATH DETAIL
N.T.S.

NOTE: 1. DRAINAGE PATH MUST BE LOCATED AT SURVEYED LOW POINT IN ASPHALT SHOULDER.

2. JOINTING PATTERN: SCORE JOINT ALONG THE DRAINAGE PATH CENTERLINE AND SCORE TRANSVERSE JOINTS EVERY 4 FEET.



TYPICAL DRAINAGE PATH PROFILE AT TAXIWAY GRADING SECTION
N.T.S.

* FIRST 10 FEET OF SAFETY AREA GRADE VARIES UP TO 5%.
BEYOND 10 FEET SAFETY AREA VARIES 1.5% TO 3%

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

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PLANNING & DEVELOPMENT

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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

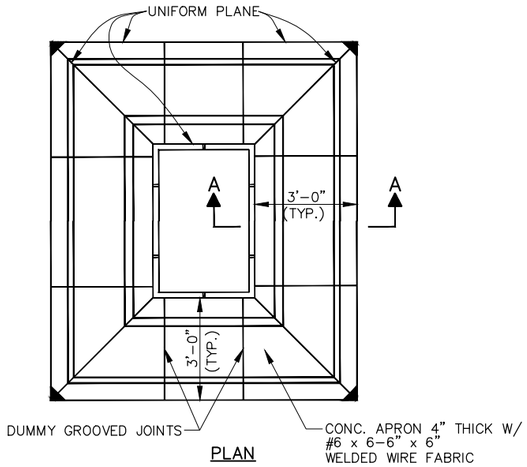
Paved Drainage Path Detail

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-01-504	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

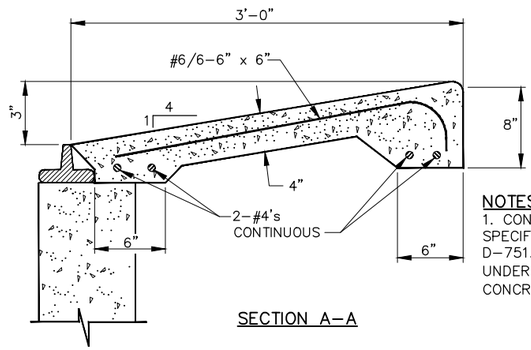
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

q:\facilities\engineering\cadd library\doa standard details\details\std-01-504 paved drainage path detail.dwg



PLAN



SECTION A-A

NOTES:
1. CONCRETE TO MEET SPECIFICATIONS OF SECTION D-751. PAYMENT WILL BE UNDER "MISCELLANEOUS CONCRETE".

TYPICAL CONCRETE APRON DETAIL FOR INLETS

N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson
Atlanta International Airport

DEPARTMENT OF AVIATION
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0	06/20/2014	RFM	FIRST ISSUE

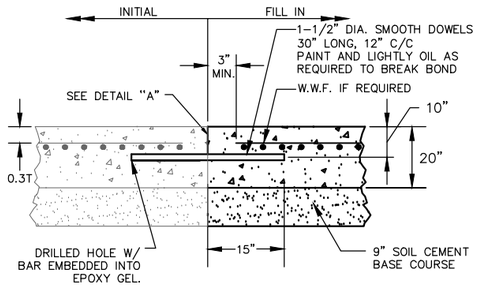
DOA CIVIL STANDARD DETAILS

Miscellaneous
Drainage Details

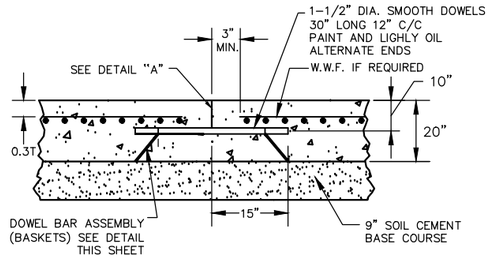
WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-505	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO:

DOA CIVIL STANDARD DETAILS

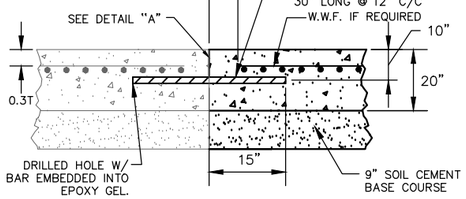
NOT RELEASED FOR CONSTRUCTION



SMOOTH DOWELED
LONGITUDINAL CONSTRUCTION JOINT
SCALE: NTS



SMOOTH DOWELED TRANSVERSE
CONTRACTION JOINT
SCALE: NTS



DEFORMED DOWELED
LONGITUDINAL CONSTRUCTION JOINT
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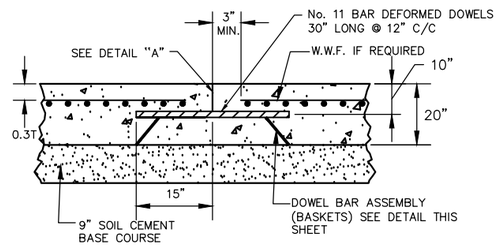
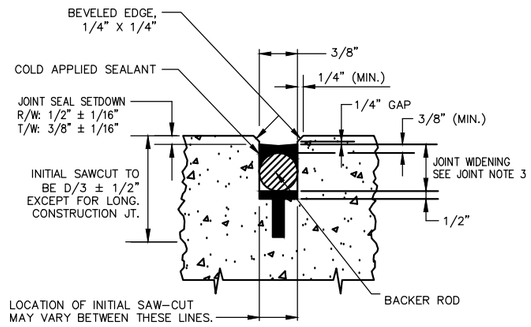
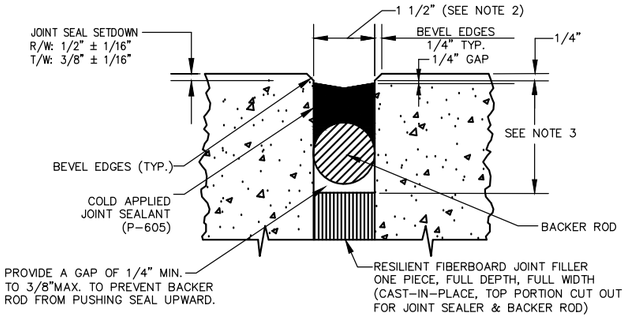


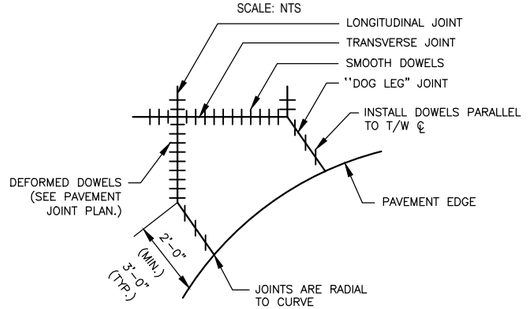
DEFORMED DOWELED
TRANSVERSE CONTRACTION JOINT
SCALE: NTS



LONGITUDINAL OR TRANSVERSE JOINT SEAL
DETAIL "A"
SCALE: NTS



EXPANSION JOINT SEAL
DETAIL "B"
SCALE: NTS



SKEWED DOWEL INSTALLATION
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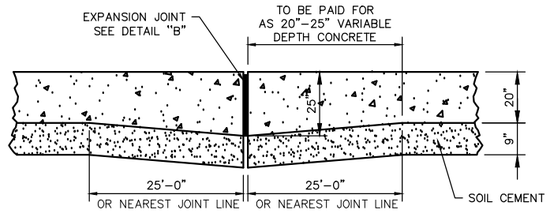
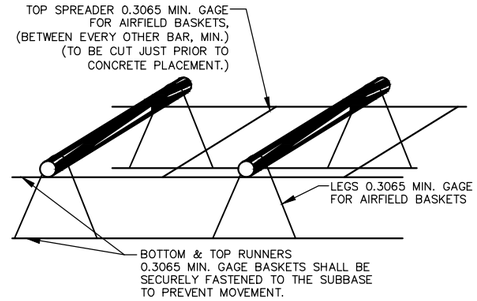
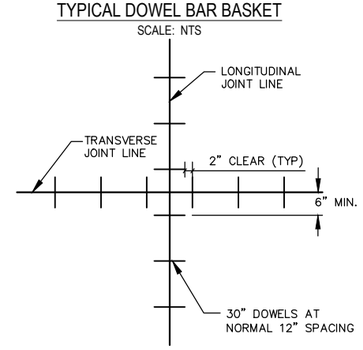


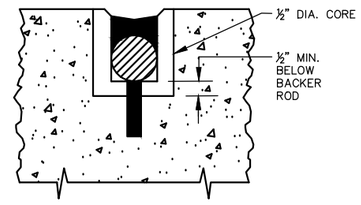
THICKENED EDGE EXPANSION JOINT
SCALE: NTS



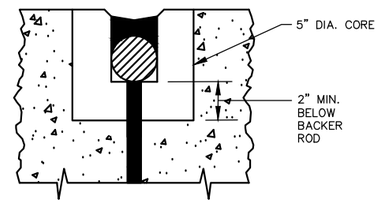
TYPICAL DOWEL BAR BASKET
SCALE: NTS



DETAIL FOR DOWEL SPACING AT JOINT CORNERS
SCALE: NTS



CONTRACTION / CONSTRUCTION JOINT CORE DETAIL
SCALE: NTS



EXPANSION JOINT CORE DETAIL
SCALE: NTS

GENERAL NOTES

1. FOR ALL JOINTS, BACKER ROD MATERIAL SHALL BE COMPATIBLE WITH THE SEALANT AND SLIGHTLY OVERSIZED TO PREVENT MOVEMENT DURING THE JOINT SEALANT OPERATION.
2. THE WIDTH OF THE JOINTS SHALL BE CORRECTED FOR 68°F.
3. JOINT CONFIGURATION SHALL MEET JOINT SEAL MANUFACTURER'S SPECIFICATIONS (EXCEPT AS NOTED ON PLANS OR SPECIFICATIONS).
4. ALL DOWEL BARS ARE TO BE INSTALLED WITH BASKETS FOR TRANSVERSE JOINTS.

DOWEL AND TIE BAR HOLE DRILLING AND INSTALLATION NOTES

1. DRILLING AND INSTALLATION METHOD SHALL BE CAPABLE OF MAINTAINING DRILL HOLES AND EMBEDDED BARS:
   A. PARALLEL TO THE CONCRETE SURFACE, AND
   B. NORMAL TO THE JOINT LINE, WITHIN 1/4" AT THE END OF THE DOWEL OR TIE BAR EXCEPT WHERE SPECIFIED OTHERWISE.

   DRILL HOLES SHALL BE ACCURATELY LAID OUT SO THAT THE MAXIMUM DEVIATION DOES NOT EXCEED 1". DRILL HOLE DIAMETER TO BE APPROXIMATELY 1/8" CLEAR OF BAR ALL AROUND.
2. AFTER THE DRILLING IS COMPLETE AND PRIOR TO INSTALLATION OF THE DOWEL OR TIE BARS, THE HOLES SHALL BE THOROUGHLY CLEANED TO REMOVE DRILLING DUST, CONCRETE CHIPS, AND ANY MATERIAL ETRIMENTAL TO BONDING.
3. EPOXY GEL SHALL BE APPLIED TO THE DOWEL AND SUFFICIENT GEL INJECTED IN THE BACK OF THE TIE BAR HOLE BY A MECHANICAL MIXING/PUMP DEVICE, SO THAT A SLIGHT AMOUNT OF GEL WILL BE FORCED OUT WHEN THE DOWEL OR TIE BAR IS INSERTED AND TAPPED TO THE CORRECT POSITION. IT WILL BE NECESSARY TO TWIST THE BAR BACK AND FORTH SEVERAL TIMES TO ELIMINATE THE AIR ENTRAPPED IN THE HOLE. SMALL WEDGES MAY BE USED TO SUPPORT THE DOWEL OR TIE BAR IN CORRECT ALIGNMENT UNTIL THE GEL HARDENS.
4. EPOXY SHALL MEET THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, SECTION 886 FOR TYPE VIII EPOXY GEL.
5. REINFORCING WELDED WIRE FABRIC
   DEFORMED WELDED WIRE FABRIC
   (FOR IRREGULAR OR ODD SHAPED SLABS)

   AS NOTED ON PLANS
   LONGITUDINAL D6, 6" C. TO C.
   TRANSVERSE D4, 12" C. TO C.

   ALL STEEL TO BE DELIVERED IN FLAT SHEETS.

   THIS REINFORCING DOES NOT APPLY TO 25' X 75' SLABS.

DOWEL BAR BASKET NOTES

1. WIRE USED IN BASKETS SHALL CONFORM TO ASTM-A82 COLD DRAWN WIRE.
2. DOWEL BAR ATTACHMENT MAY BE FABRICATED BY ARC OR RESISTANCE TYPE WELDING.
3. WIRE FRAME MEMBERS SHALL BE RESISTANCE WELDED EXCEPT FOR SPREADER WIRES WHICH MAY BE ARC WELDED.
4. DOWEL BASKETS SHALL BE TAPERED TO ACCOMMODATE THICKENED EDGE PAVEMENT.

CITY OF ATLANTA, GEORGIA

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0	06/20/2014	RFM	FIRST ISSUE

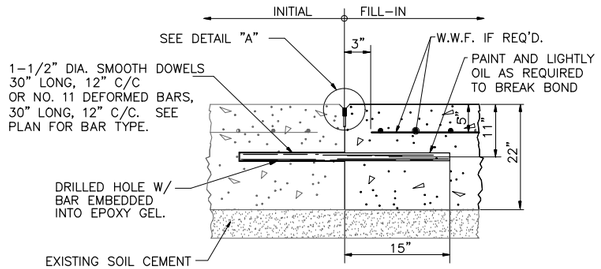
DOA CIVIL STANDARD DETAILS

Pavement Joint Details -
New Projects

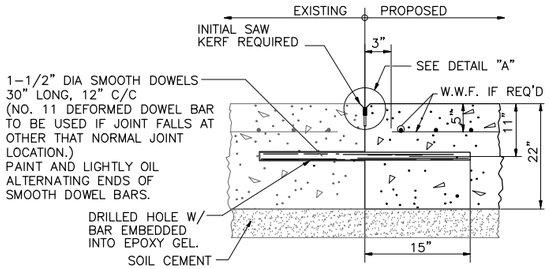
WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-600	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

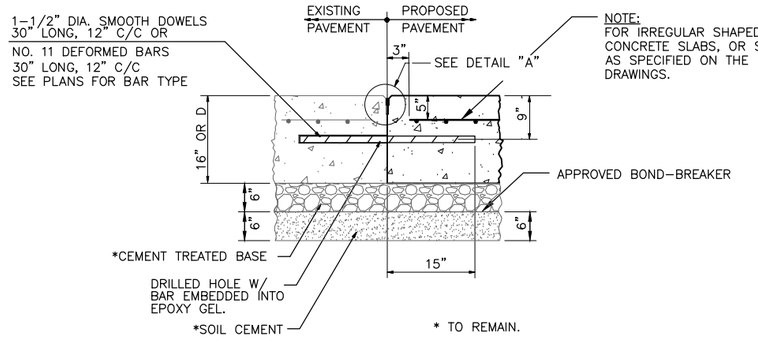
NOT RELEASED FOR CONSTRUCTION



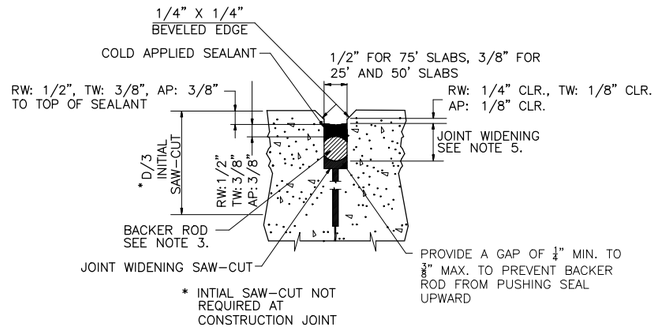
LONGITUDINAL CONSTRUCTION JOINT
N.T.S.



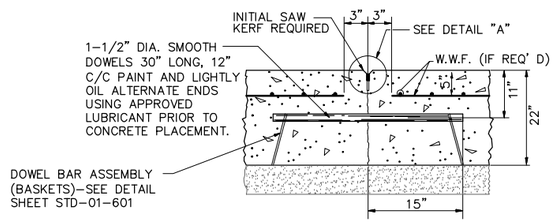
TRANSVERSE CONSTRUCTION JOINT
N.T.S.



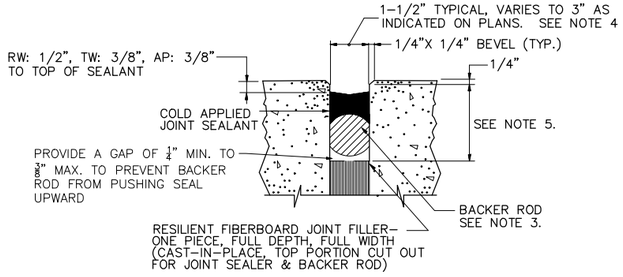
LONGITUDINAL OR TRANSVERSE JOINT AT EXISTING 16-INCH PAVEMENT
N.T.S.



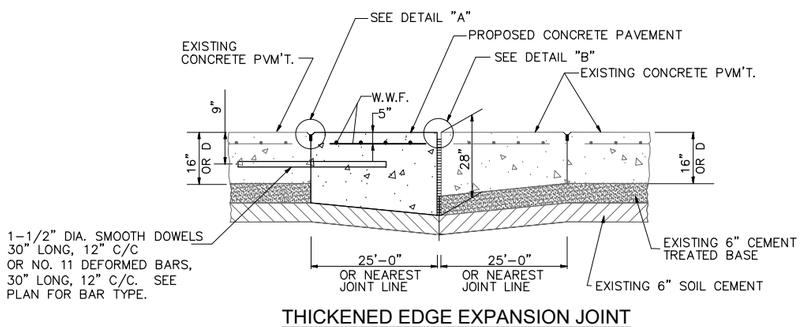
DETAIL "A" LONGITUDINAL AND TRANSVERSE JOINT SEAL DETAIL
N.T.S.



TRANSVERSE CONTRACTION JOINT
N.T.S.



EXPANSION JOINT SEAL DETAIL DETAIL "B"
N.T.S.



THICKENED EDGE EXPANSION JOINT
N.T.S.

NOTES FOR DOWEL AND TIE BAR HOLE DRILLING AND INSTALLATION:

A. DRILLING AND INSTALLATION METHOD SHALL BE CAPABLE OF MAINTAINING DRILL HOLES AND EMBEDDED BARS: (A) PARALLEL TO THE CONCRETE SURFACE, AND (B) NORMAL TO THE JOINT LINE, WITHIN 1/4" AT THE END OF THE DOWEL OR TIE BAR EXCEPT WHERE SPECIFIED OTHERWISE. DRILL HOLES SHALL BE ACCURATELY LAID OUT SO THAT THE MAXIMUM DEVIATION DOES NOT EXCEED 1". DRILL HOLE DIAMETER TO BE APPROXIMATELY 1/8" CLEAR OF BAR ALL AROUND.

B. AFTER THE DRILLING IS COMPLETE AND PRIOR TO INSTALLATION OF THE DOWEL OR TIE BARS, THE HOLES SHALL BE THOROUGHLY CLEANED TO REMOVE DRILLING DUST, CONCRETE CHIPS, AND ANY MATERIAL DETRIMENTAL TO BONDING.

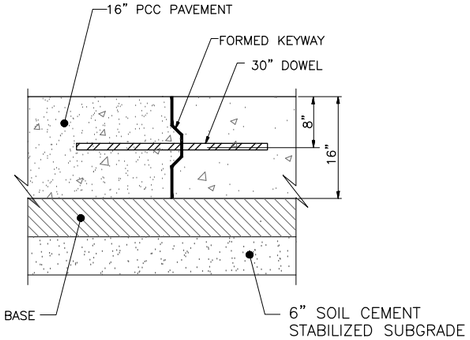
C. EPOXY GEL SHALL BE APPLIED TO THE DOWEL AND SUFFICIENT GEL INJECTED IN THE BACK OF THE TIE BAR HOLE BY A MECHANICAL MIXING/PUMP DEVICE, SO THAT A SLIGHT AMOUNT OF GEL WILL BE FORCED OUT WHEN THE DOWEL OR TIE BAR IS INSERTED AND TAPPED TO THE CORRECT POSITION. IT WILL BE NECESSARY TO TWIST THE BAR BACK AND FORTH SEVERAL TIMES TO ELIMINATE THE AIR ENTRAPPED IN THE HOLE. SMALL WEDGES MAY BE USED TO SUPPORT THE DOWEL OR TIE BAR IN CORRECT ALIGNMENT UNTIL THE GEL HARDENS.

D. EPOXY SHALL MEET THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION, SECTION 886 FOR TYPE VIII EPOXY GEL.

E. DAMAGED CEMENT TREATED BASE SHALL BE REPAIRED OR REPLACED WITH LOW SLUMP LOW STRENGTH CONCRETE.

NOTES:

1. LONGITUDINAL AND TRANSVERSE JOINTS SHALL BE SAWED AS INDICATED.
2. TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED ONLY WHEN APPROVED BY THE ENGINEER.
3. FOR ALL JOINTS THE BACKER ROD MATERIAL SHALL BE COMPATIBLE WITH THE COLD POURED SEALANT AND SLIGHTLY OVERSIZED TO PREVENT MOVEMENT DURING THE JOINT SEALANT OPERATION.
4. THE WIDTH OF THE JOINTS SHALL BE CORRECTED FOR 68° F.
5. JOINT CONFIGURATION SHALL MEET JOINT SEAL MANUFACTURER'S SPECIFICATIONS, EXCEPT AS NOTED ON PLANS AND IN SPECIFICATIONS.
6. WELDED WIRE REINFORCING SHALL BE 6X6 D6/D6. ALL REINFORCING STEEL SHALL BE DELIVERED IN FLAT SHEETS. NO ROLL STOCK WILL BE ACCEPTABLE.



EXISTING APRON SECTION CPTC, NORTH AND SOUTH CARGO
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NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

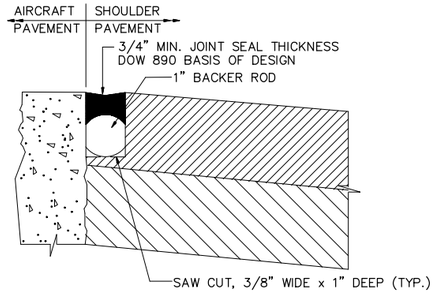
DOA CIVIL STANDARD DETAILS

Pavement Joint Details - Replacement Projects-1

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-700	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

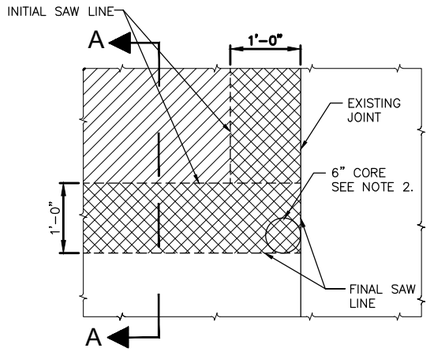
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION



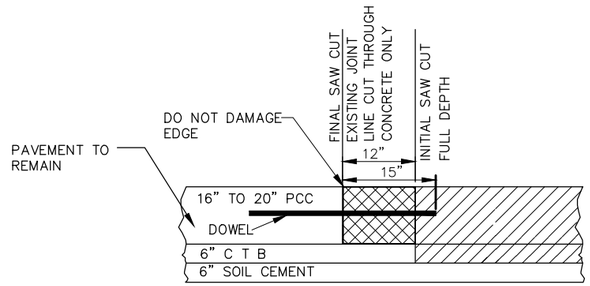
ASPHALT/ PCC PAVEMENT JOINT DETAIL

N.T.S.



PAVEMENT REMOVAL TYPICAL PLAN

N.T.S.



SECTION A-A: TYPICAL SAWCUT ADJACENT TO EXISTING PAVEMENT TO REMAIN

N.T.S.

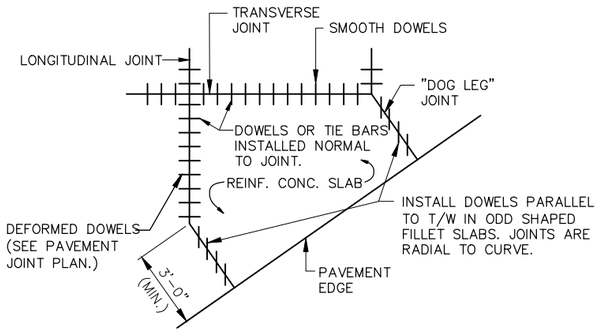
LEGEND

FINAL CONC. PAVEMENT REMOVAL ZONE

INITIAL CONC. PAVEMENT REMOVAL ZONE

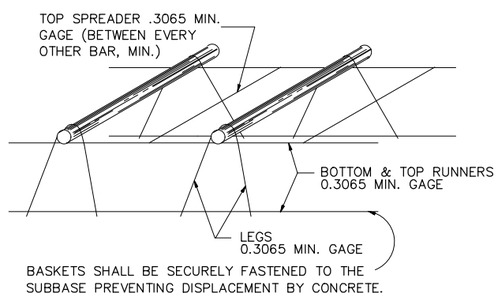
DEMOLITION NOTES:

1. ALL PAVEMENT REMOVAL EXCEPT FOR 1'-0" PERIMETER AREA SHALL BE COMPLETED PRIOR TO FINAL CUT.
2. NO SAW CUTS WILL BE PERMITTED TO EXTEND BEYOND THE FINAL SAWCUT LINE. PRIOR TO THE FINAL SAW CUT, THE CONTRACTOR SHALL CORE THE CORNERS OF THE PAVEMENT AREA TO BE DEMOLISHED. THE DIAMETER OF THE CORES SHALL BE 6 INCHES.
3. ADDITIONAL SAW CUTS WILL BE PERMITTED WITHIN THE FINAL SAW CUT PERIMETER AT THE CONTRACTOR'S DISCRETION.
4. WHEN SAW CUTTING CONCRETE, CONTRACTOR SHALL MAKE TWO SAW CUTS AS PER DETAIL THIS SHEET. THE INITIAL SAW CUT SHALL BE CUT THROUGH CONCRETE AND ALL STABILIZED BASE COURSES. THE SECOND CUT SHALL BE THROUGH CONCRETE ONLY. FOLLOWING FINAL SAW CUT, CONCRETE SHALL CAREFULLY BE REMOVED TO AVOID DAMAGING THE REMAINING EDGE.
5. CONTRACTOR SHALL REPLACE ALL EXISTING CEMENT STABILIZED BASE THAT IS DAMAGED DURING PAVEMENT REMOVAL OR AS DEEMED BY THE ENGINEER OR OUTLINED IN THE SPECIFICATIONS AT NO ADDITIONAL COST TO THE CITY.



SKEWED DOWEL INSTALLATION

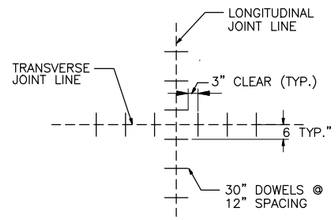
N.T.S.



TYPICAL DOWEL BAR BASKET

N.T.S.

NOTES:
1. WIRE USED IN BASKETS SHALL CONFORM TO ASTM-A82 COLD DRAWN WIRE.
2. DOWEL BAR ATTACHMENT MAY BE FABRICATED BY ARC OR RESISTANCE TYPE WELDING.
3. WIRE FRAME MEMBERS SHALL BE RESISTANCE WELDED EXCEPT FOR SPREADER WIRES WHICH MAY BE ARC WELDED.



DOWEL SPACING DETAIL AT JOINT CORNERS

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1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Pavement Joint Details - Replacement Projects-2

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-701	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO:

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

GENERAL NOTES:

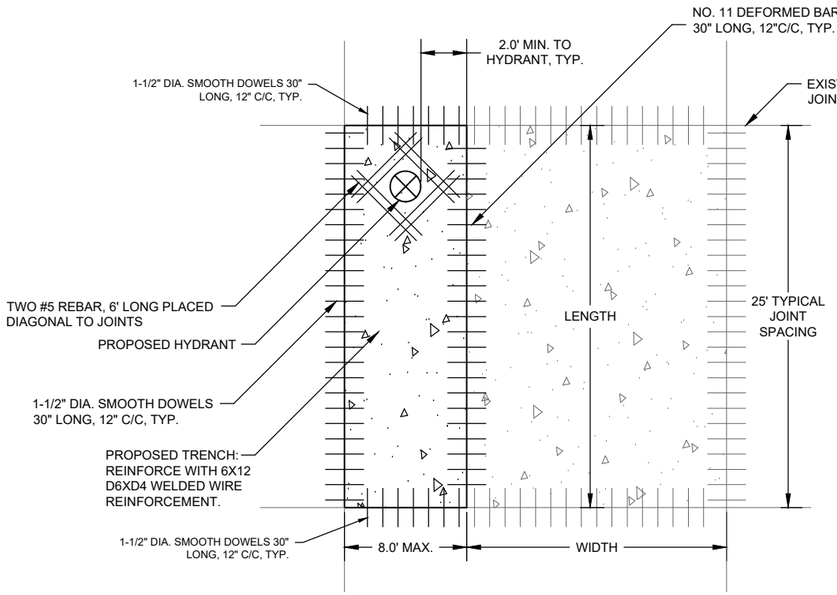
1. NO "U"- OR "L"-SHAPED REMAINING SLABS WILL BE PERMITTED.

2. THE LENGTH/WIDTH RATIO OF REMAINING SLABS MUST BE LESS THAN OR EQUAL TO 1.5. THE LENGTH IS DEFINED AS THE LONGER DIMENSION.

3. THE MAXIMUM PERMISSIBLE TRENCH WIDTH IS 8 FEET. ANY DEMOLITION IN EXCESS OF 8 FEET WILL REQUIRE RECONSTRUCTION OF THE FULL LENGTH AND WIDTH OF THE ORIGINAL PANEL.

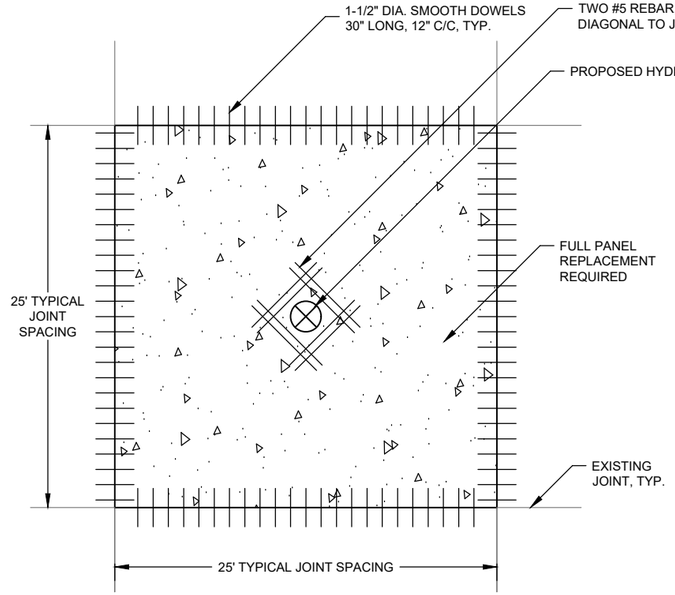
4. IF TRENCHING CREATES REMAINING CONCRETE AREAS THAT VIOLATE THE 1.5 TO 1 LENGTH TO WIDTH RATIO, SLAB REPLACEMENT IS REQUIRED.

5. TRENCHING THROUGH ADJACENT SLABS IS SUBJECT TO THE SAME LENGTH TO WIDTH RATIO REQUIREMENTS.



CASE 1:

HYDRANT, PENETRATION, OR TRENCH NEAR SLAB CORNER OR EDGE



CASE 2:

HYDRANT, PENETRATION, OR TRENCH AT OR NEAR CENTER OF SLAB

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1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Exist. Pavement Removal and Replacement for Fuel Hydrants

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-702	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

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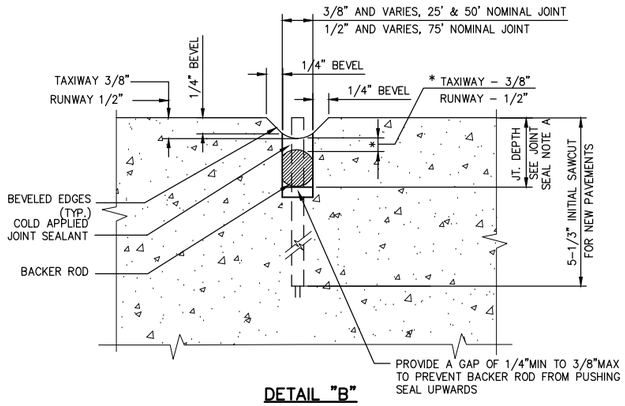
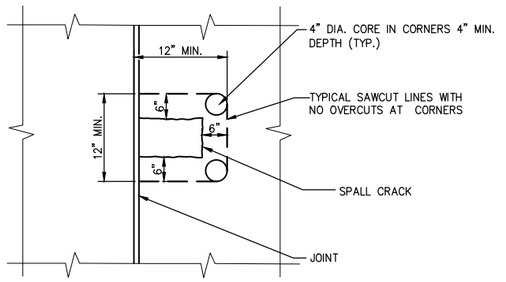


DETAIL "B"

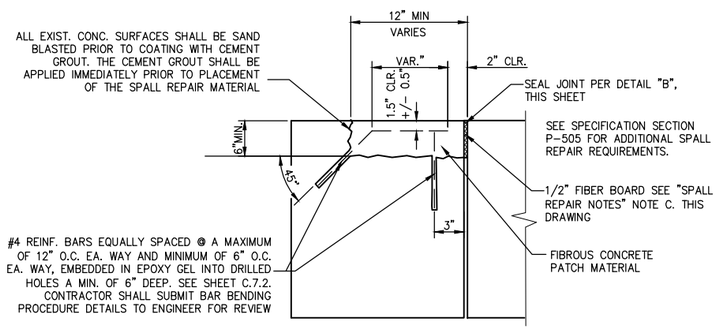
LONGITUDINAL AND TRANSVERSE JOINT SEAL

SCALE: NTS



TYPICAL REMOVAL PLAN FOR SPALL REPAIR

SCALE: NTS



TYPICAL SPALL REPAIR DETAIL

SCALE: NTS

JOINT SEAL PROCEDURE NOTES

IN GENERAL, THE PROCEDURE FOR RESEALING THE JOINT SHALL BE AS FOLLOWS: (ADDITIONAL REQUIREMENTS AND STEPS FOR RESEALING THE EXPANSION JOINTS ARE GIVEN IN SUBSEQUENT SECTIONS OF THE PLANS AND SPECIFICATIONS.)

A. THE CONTRACTOR SHALL REMOVE THE EXISTING SEALS, THE EXISTING JOINT SEAL AND SEALANT MUST BE REMOVED ENTIRELY TO ULTIMATELY PROVIDE A THOROUGHLY CLEANED SURFACE ON WHICH TO RESEAL. THE EXISTING SEAL IS TO BE REMOVED BY SAWCUTTING BOTH SIDES OF THE PAVEMENT EDGE TO WHICH THE SEAL IS ATTACHED TO THE FULL DEPTH OF THE SEAL AND APPROXIMATELY 1/16" INTO EACH PAVEMENT EDGE.

B. ALL SPALLED AND CRACKED SURFACES ADJACENT TO A JOINT WHICH ARE DEEMED UNSATISFACTORY FOR RESEALING BY THE ENGINEER SHALL BE REPAIRED BY THE CONTRACTOR PRIOR TO RESEALING. THE PATCH MATERIAL USED FOR SPALLING REPAIR SHALL BE AS SPECIFIED IN SPECIFICATIONS SECTION P-505, CONCRETE PAVEMENT SPALL REPAIR.

C. PAVEMENT JOINT EDGES ARE TO BE SAWCUT BEVELED ON A 1/4" X 1/4" SLOPE, AS SHOWN IN DETAIL B. NOTE, THE CONTRACTOR SHALL BE REQUIRED TO DEVELOP A MEANS TO CONTAIN THE SLURRY PRODUCED DURING THE BEVELING OPERATIONS. IMMEDIATELY FOLLOWING THE BEVELING THE JOINT OPENING IS TO BE CLEANED BY THE USE OF HIGH PRESSURE WATER BLASTING. THE AREA SHALL THEN BE SWEPT CLEAN BY USE OF A VACUUM SWEEPER. THE BEVELING AND SLURRY CLEANUP OPERATIONS IN CONJUNCTION WITH THE SEAL REMOVAL SHALL CONSTITUTE THE INITIAL CLEANING.

D. IMMEDIATELY PRECEDING APPLICATION OF THE JOINT SEAL, THE PAVEMENT EDGE WHICH WILL RECEIVE THE NEW JOINT MATERIAL SHALL BE THOROUGHLY CLEANED AND SAND BLASTED. THE CONTRACTOR SHALL BE REQUIRED TO ESTABLISH A MEANS TO CONTAIN THE SAND DURING THE SAND BLASTING OPERATION SINCE SAND OR ANY FOREIGN OBJECT ON AIRCRAFT PAVEMENT IS DETRIMENTAL TO AIRCRAFT SAFETY. THE METHODS ESTABLISHED TO CONTAIN THE SAND MUST BE APPROVED BY THE ENGINEER PRIOR TO ITS USE UPON COMPLETION OF THE SAND BLASTING OPERATION OR AT INTERVALS DIRECTED BY THE ENGINEER, PRIOR TO ITS USE. THE CONTRACTOR SHALL BE REQUIRED TO SWEEP THE SAND WITH A VACUUM SWEEPER.

E. BACKER ROD AS SPECIFIED IN THE SPECIFICATIONS SHALL BE INSTALLED AS CALLED FOR IN DETAIL B. THE INSTALLATION OF THE BACKER ROD IN CONJUNCTION WITH THE SANDBLASTING OPERATION SHALL CONSTITUTE THE FINAL JOINT PREPARATION.

F. THE JOINT SEAL AS CALLED FOR IN THE SPECIFICATIONS SHALL THEN BE APPLIED; SEE DETAIL B. AS A PRECAUTION TO ENSURE THAT PAVEMENT IS MOISTURE FREE, THE CONTRACTOR SHALL HAVE AT HIS DISPOSAL ON SITE, PRIOR TO THE ACTUAL SEALING OPERATION, A NONRESIDUAL HEATER/BLOWER UNIT PER SEALING CREW, TO DRY THE PAVEMENT EDGES.

JOINT SEAL NOTES:

A. THE JOINT SEAL MANUFACTURER'S SPECIFICATIONS SHALL BE COMPATIBLE WITH JOINT CONFIGURATION.

B. FOR ALL JOINTS THE BACKER ROD MATERIAL SHALL BE COMPATIBLE WITH THE COLD POURED SEALANT AND SLIGHTLY OVERSIZED TO PREVENT MOVEMENT DURING THE JOINT SEALANT OPERATION.

C. SEE DRAWING C.7.3 FOR EXPANSION JOINT SEAL DETAIL. REPLACE EXISTING SEAL AND BACKER ROD. EXISTING EXPANSION BOARD TO REMAIN.

SPALL REPAIR NOTES:

A. SPALL REPAIR LIMITS SHALL BE APPROVED BY ENGINEER PRIOR TO ANY CUTTING OR REMOVAL. MINIMUM SPALL AREA IS ONE SQUARE FOOT. REPAIR DEPTH MAY VARY BEYOND 6 INCHES. EXISTING SPALLED CONCRETE SHALL BE REMOVED TO SOUND CONCRETE. WITH ENGINEER'S APPROVAL, PRE-SAWING MAY BE PERMITTED AS FOLLOWS:

1. TAXIWAYS MAY BE PRESAWED 48 HOURS IN ADVANCE OF SPALL REPAIR CONSTRUCTION.

2. RUNWAYS MAY BE PRESAWED 24 HOURS IN ADVANCE OF SPALL REPAIR CONSTRUCTION.

B. JOINT SEAL INSTALLATION AROUND SPALL REPAIRS SHALL BE ACCOMPLISHED IMMEDIATELY AFTER SPALL REPAIRS ARE COMPLETED AND CURED.

C. FIBER BOARD USED FOR SPALL PATCH IS FOR FORMING PURPOSES. THE TOP PORTION SHALL BE REMOVED PRIOR TO JOINT REPAIR SEAL INSTALLATION.

D. SPALL REPAIRS ALONG UTILITY CUTS CAN BE LESS THAN 12" WIDE.

E. SPALL REPAIR WORK WILL BE SCHEDULED NOT ONLY TO OBTAIN THE 450 PSI STRENGTH REQUIRED FOR OPENING TO AIRCRAFT TRAFFIC BUT ALSO TO PROVIDE SUFFICIENT TIME TO WATER CURE THE FIBROUS CONCRETE MIX AS REQUIRED BY THE TECHNICAL SPECIFICATIONS.

F. ELECTRICAL CONTRACTOR SHALL BE ON SITE DURING SAW CUTTING, REMOVAL, AND REPLACEMENT OF CONCRETE SPALLS WITHIN 3 FEET OF IN-PAVEMENT ELECTRICAL ITEMS.

G. CONTRACTOR SHALL BE REQUIRED TO COORDINATE WITH DOA MAINTENANCE TO LOCK OUT AFFECTED ELECTRICAL CIRCUITS AND RE-ENERGIZE CIRCUITS.

H. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CRACK ROUTING AND SEALING

A. PREPARATION FOR CONCRETE PAVEMENT CRACK ROUTING AND SEALING SHALL BE BY PROPERLY ROUTING THE CRACK TO BE SLIGHTLY LOWER THAN THE EXISTING CRACK TO ENSURE PROPER ADHESION TO THE SIDEWALLS. THE CRACKS SHOULD BE ROUTED OUT TO PROVIDE A MINIMUM SEALANT RESERVOIR 3/8" WIDE WITH A MINIMUM DEPTH OF 3/8". THICKNESS AND DEPTH BELOW THE PAVEMENT SURFACE SHALL BE AS SPECIFIED FOR JOINT SEALANT.

B. CRACKS SHOULD BE FREE OF DIRT, DUST, AND MOISTURE, AND SHOULD BE FROST-FREE. WIRE BRUSHING OR COMPRESSED AIR SHOULD CLEAN THEM AND A HEAT LANCE MAY BE USED TO DRY THE SURFACES.

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1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Spall and Joint Repair Details

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-703	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

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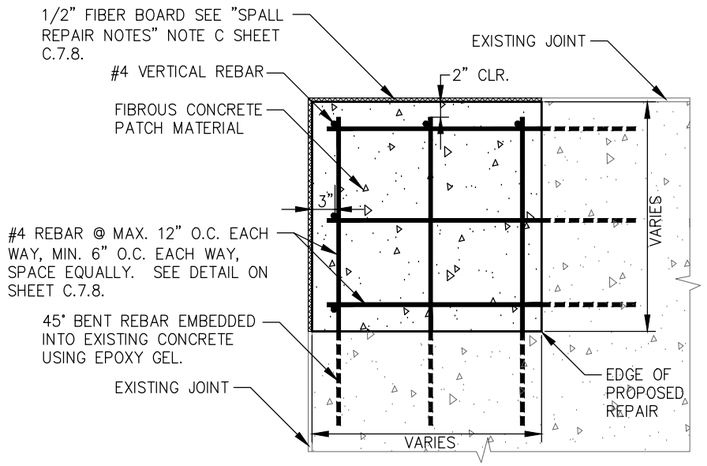
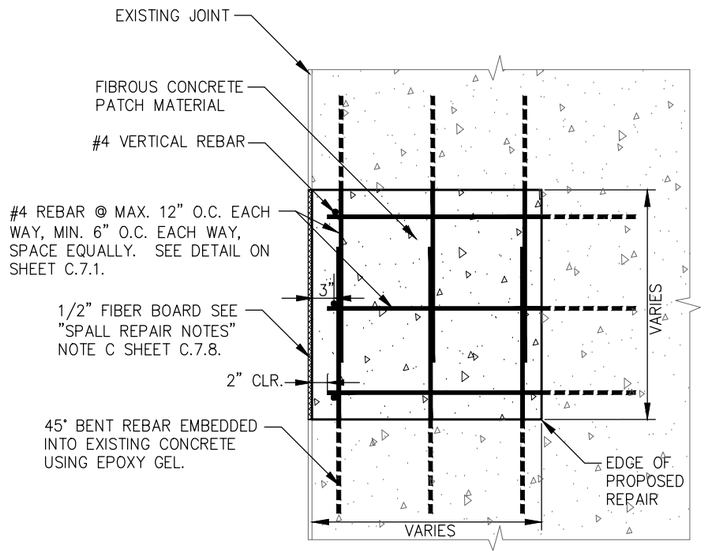


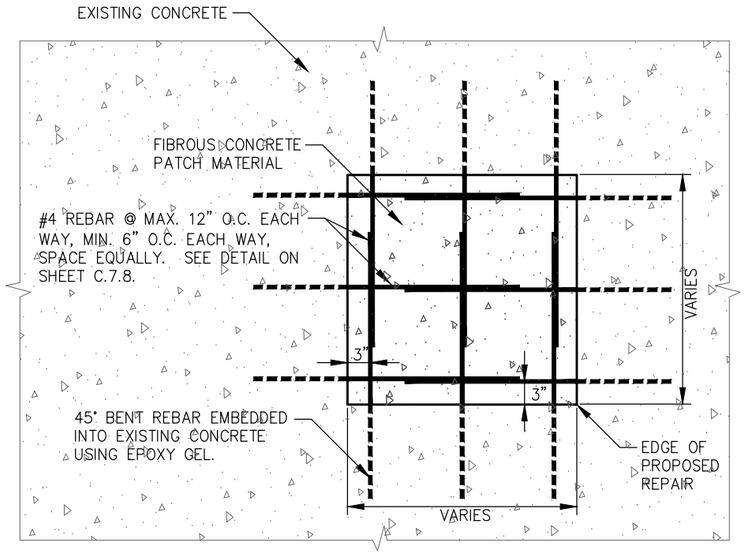
SPALL ADJACENT TO 2 JOINTS

SCALE: NTS



SPALL ADJACENT TO SINGLE JOINT

SCALE: NTS



SPALL NOT ADJACENT TO JOINT

SCALE: NTS

NOTES:

VERTICAL #4 REINFORCING BARS
- PLACE BARS 3 INCHES FROM JOINTS
- SPACE EQUALLY, MAX. SPACING IS 12 INCHES, MIN. SPACING IS 6 INCHES.
- USE VERTICAL BARS ONLY ALONG JOINTS.

45° BENT #4 REINFORCING BARS
- ON PERIPHERY, PLACE BARS 3 INCHES FROM EDGES OF REPAIR. IF VERTICAL BARS ARE PRESENT, PLACE IMMEDIATELY INSIDE VERTICAL BARS,
- SPACE EQUALLY, MAX. SPACING IS 12 INCHES, MIN. SPACING IS 6 INCHES.

GENERAL
- SPLICES ARE 30 BAR DIAMETERS.
- IF SPALL IS NOT IMMEDIATELY ADJACENT TO A JOINT, BUT IS WITHIN 6 INCHES OF A JOINT, EXTEND REPAIR TO JOINT AND USE VERTICAL BARS.
- SEE SHEET C.7.9 FOR ADDITIONAL DETAILS.

TYPICAL SPALL REPAIR REBAR PLACEMENT DETAILS

SCALE: NTS

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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Typical Spall Repair Rebar Placement Detail

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-704	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

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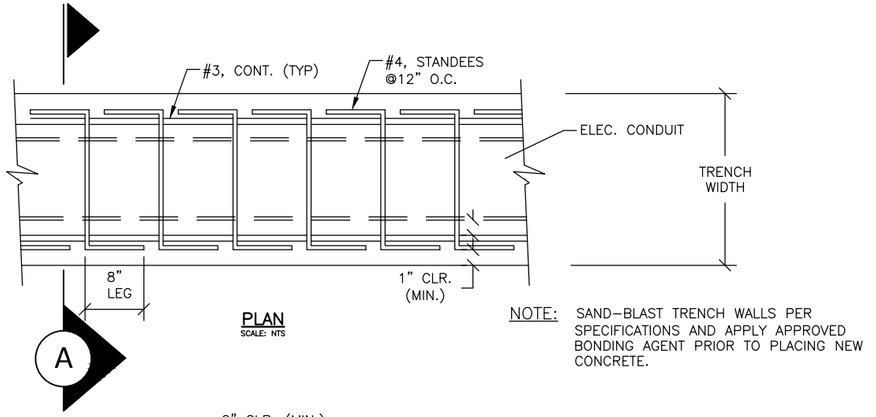
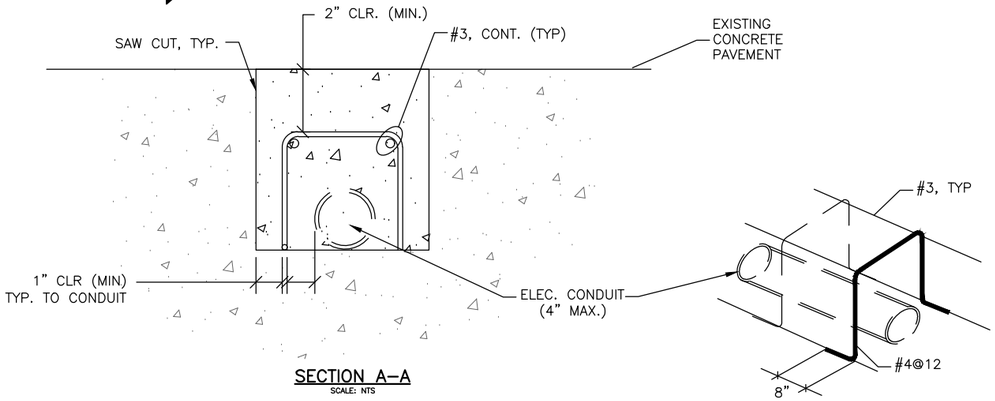


PLAN
SCALE: NTS

NOTE: SAND–BLAST TRENCH WALLS PER SPECIFICATIONS AND APPLY APPROVED BONDING AGENT PRIOR TO PLACING NEW CONCRETE.

NOTE: TRENCH DEPTH IS 8+/–". CONTRACTOR SHALL FIELD VERIFY ACTUAL TRENCH DEPTH.



SECTION A–A
SCALE: NTS

GENERAL NOTES

1. ALL REINFORCEMENT TO CONFORM TO ASTM A–615, GRADE 60
2. ALL BAR BENDING DETAILS SHALL CONFORM TO REQ'TS OF ACI 318–05
3. ALL CONCRETE SHALL MEET THE REQUIREMENTS OF SPECIFICATION SECTION P–505.
4. ALL REINFORCEMENT SPLICES SHALL BE CLASS A, PER ACI 318–05
5. ALLOW FOR 5% OF THE TOTAL WEIGHT OF REINFORCING STEEL AS BARS TO BE PLACED AS DIRECTED BY THE ENGINEER.
6. SEE SPALL REPAIR NOTES ON SHEET STD–01–704 FOR ADDITIONAL REQUIREMENTS.
7. STANDEES AND LONGITUDINAL BARS SHALL NOT BE CONTINUOUS THROUGH EXISTING JOINTS. CLIP BARS AS REQUIRED. MAINTAIN 1–INCH CLEARANCE.
8. INSTALL EXPANSION/DEFLECTION FITTINGS ON CONDUITS AT PAVEMENT JOINTS.
9. WHERE TRENCH ENDS AT EXISTING CONCRETE, TIE–IN NEW #3 BARS BY EPOXY GROUTING INTO EXISTING CONCRETE 6". HILTI HIT RE 500 IS THE BASIS OF DESIGN.

TYPICAL REPAIR FOR RETROFIT CONDUIT TRENCH

SCALE: NTS

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NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

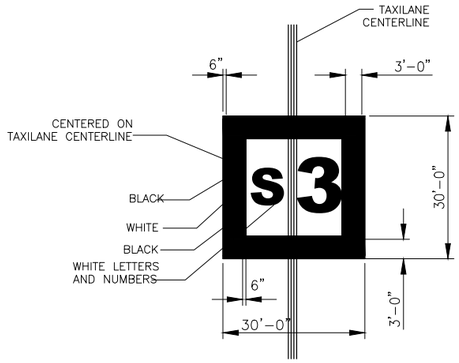
DOA CIVIL STANDARD DETAILS

Retrofit Conduit Trench Repair Details

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-705	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

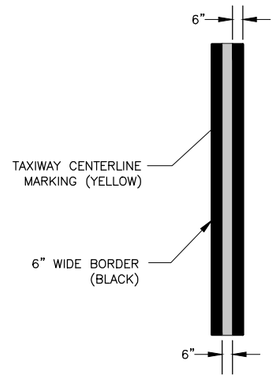
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION



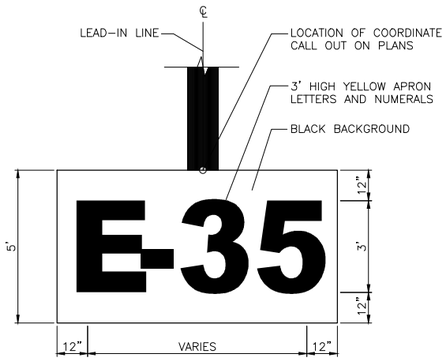
TAXILANE / RAMP DESCRIPTION

N.T.S



TAXILANE CENTER MARKING

N.T.S



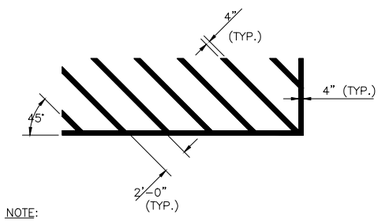
NOTE:
FOR ADDITIONAL DETAILS REFER TO FAA ADVISORY AC 150/5340–1L.

TAXILANE / RAMP DESCRIPTION

N.T.S

DOGLEG STRIPING

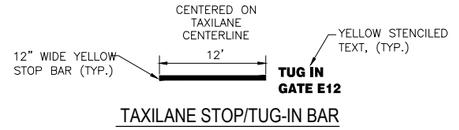
N.T.S



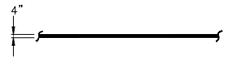
NOTE:
ALL STRIPES SHALL BE PAINTED WITH YELLOW PAINT THAT COMPLIES WITH FS TT–P–115, TYPE 1, OR AASHTO M–248, TYPE N.

CHEVRON STRIPING

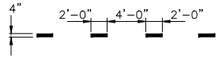
N.T.S



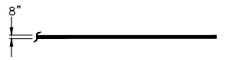
TAXILANE STOP/TUG-IN BAR



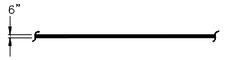
WHITE SOLID LANE LINE (WSLL)



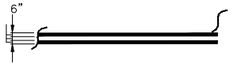
WHITE DASHED LANE LINES (WDLL)



RED SOLID LANE LINE (RSLL)

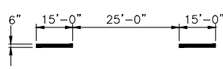


SINGLE YELLOW CENTER LINE (SYCL)

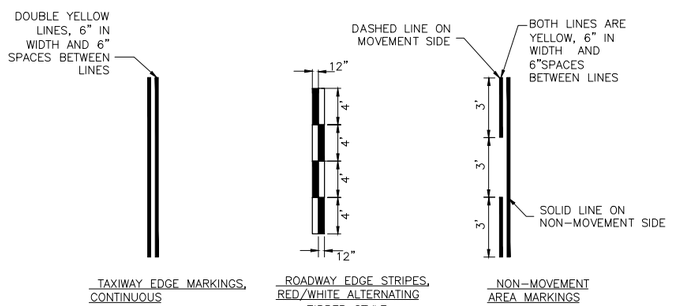


DOUBLE YELLOW CENTER LINE (DYCL)

WHITE STOP BAR (WSB)



. WHITE SKIP LANE LINES (WSLL)



TAXIWAY EDGE MARKINGS, CONTINUOUS

ROADWAY EDGE STRIPES, RED/WHITE ALTERNATING ZIPPER STYLE

NON–MOVEMENT AREA MARKINGS

APRON PAVING STRIPING

N.T.S

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

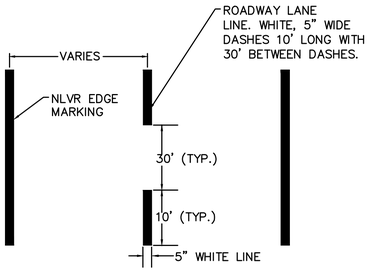
Apron Striping and Marking

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-800	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

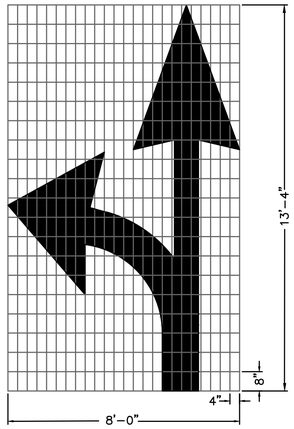
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

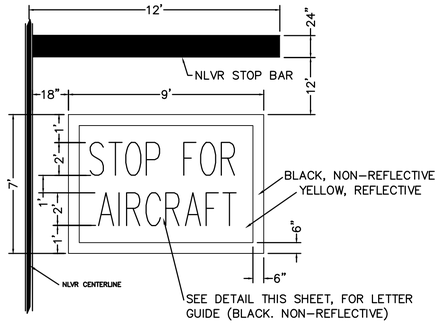
q:\facilities\engineering\cadd library\doa standard details\details\std-01-800 apron striping and marking.dwg



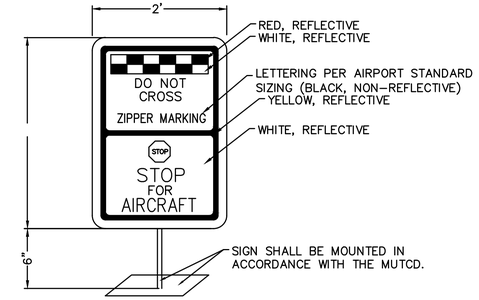
ROADWAY LANE LINE DETAIL
N.T.S.



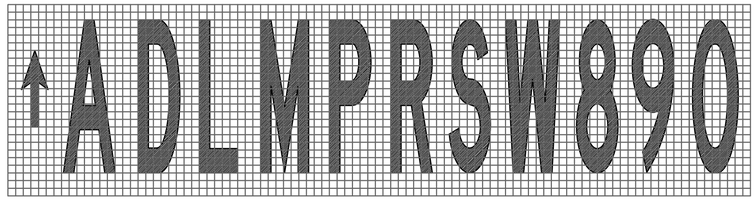
PAVMENT MARKING, ARROW, TYPE '3'
N.T.S.



STOP FOR AIRCRAFT PAVEMENT MARKING
N.T.S.

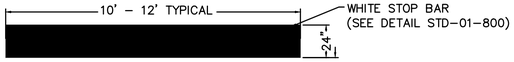


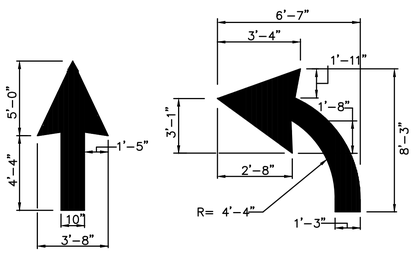
TAXIWAY/TAXILANE CROSSING SIGN
N.T.S.



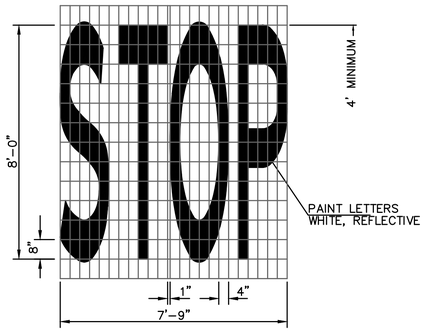
SURFACE PAINTED SIGN LETTERING GUIDE
N.T.S.

NOTES:
1. FOR VERTICAL AND HORIZONTAL PLACEMENT OF THE ARROW WITH RESPECT TO OTHER CHARACTERS SEE PLAN SHEETS.

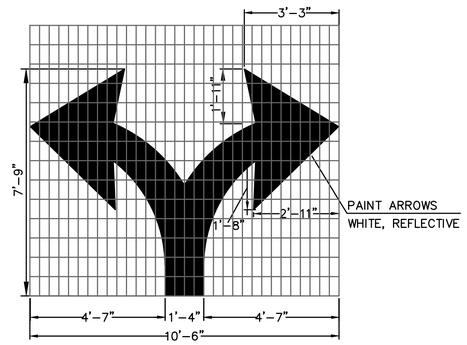




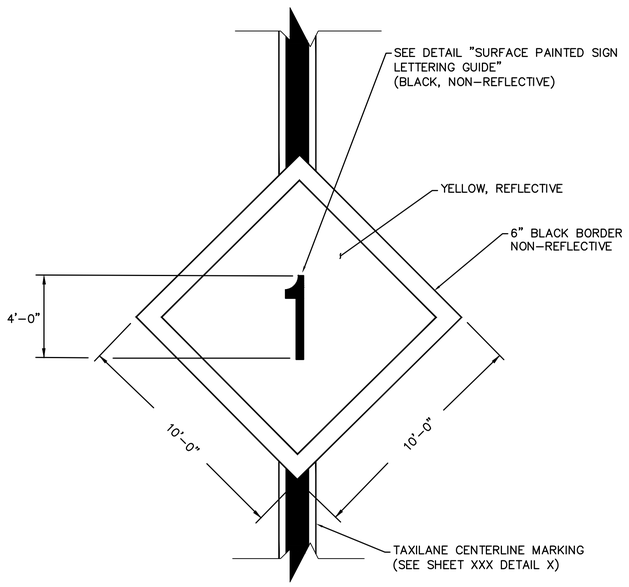
PAVEMENT ARROW DIMENTIONS
N.T.S



PAVEMENT MARKING, WORD, TYPE '2'
N.T.S.



PAVMENT MARKING, ARROW, TYPE '5'
N.T.S.



TAXIWAY/TAXILANE POWERUP MARKER
N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
3	07/2020	RFM	REVISED
2	07/2020	RFM	REVISED
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

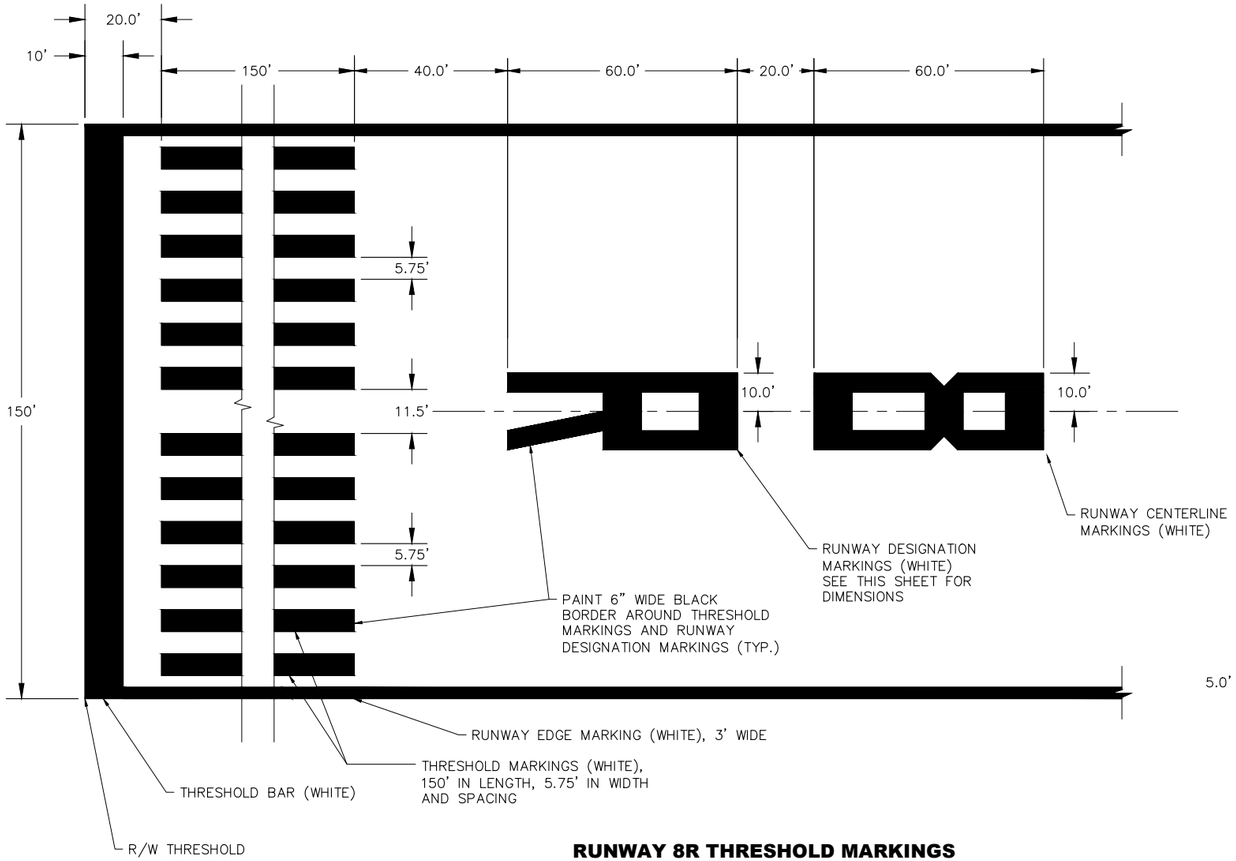
DOA CIVIL STANDARD DETAILS

Apron NLVR Striping and Signage

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-801	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

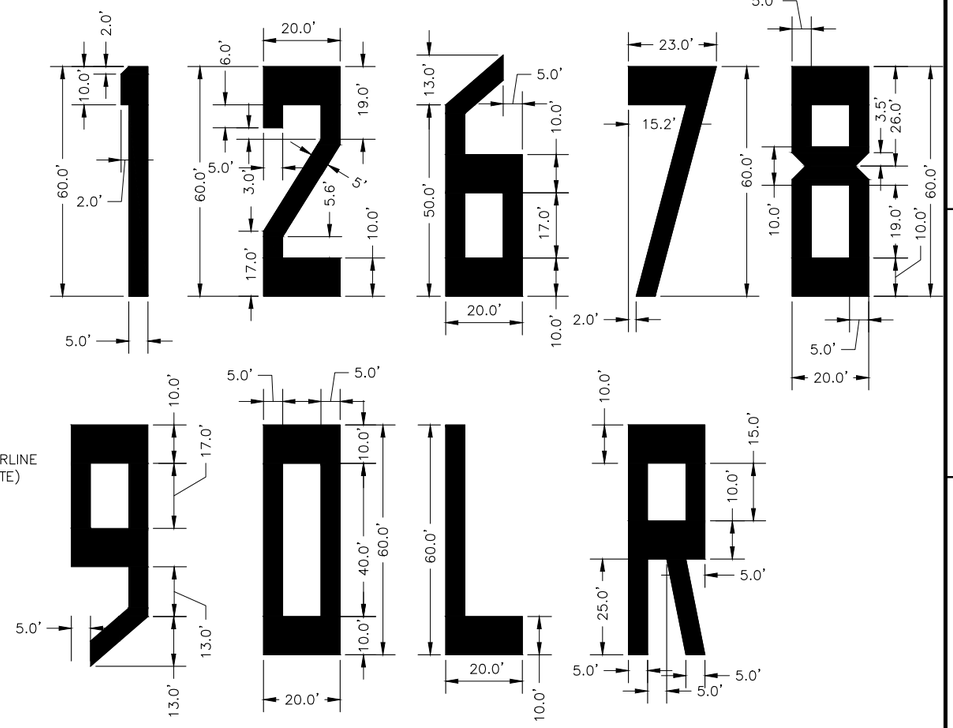
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

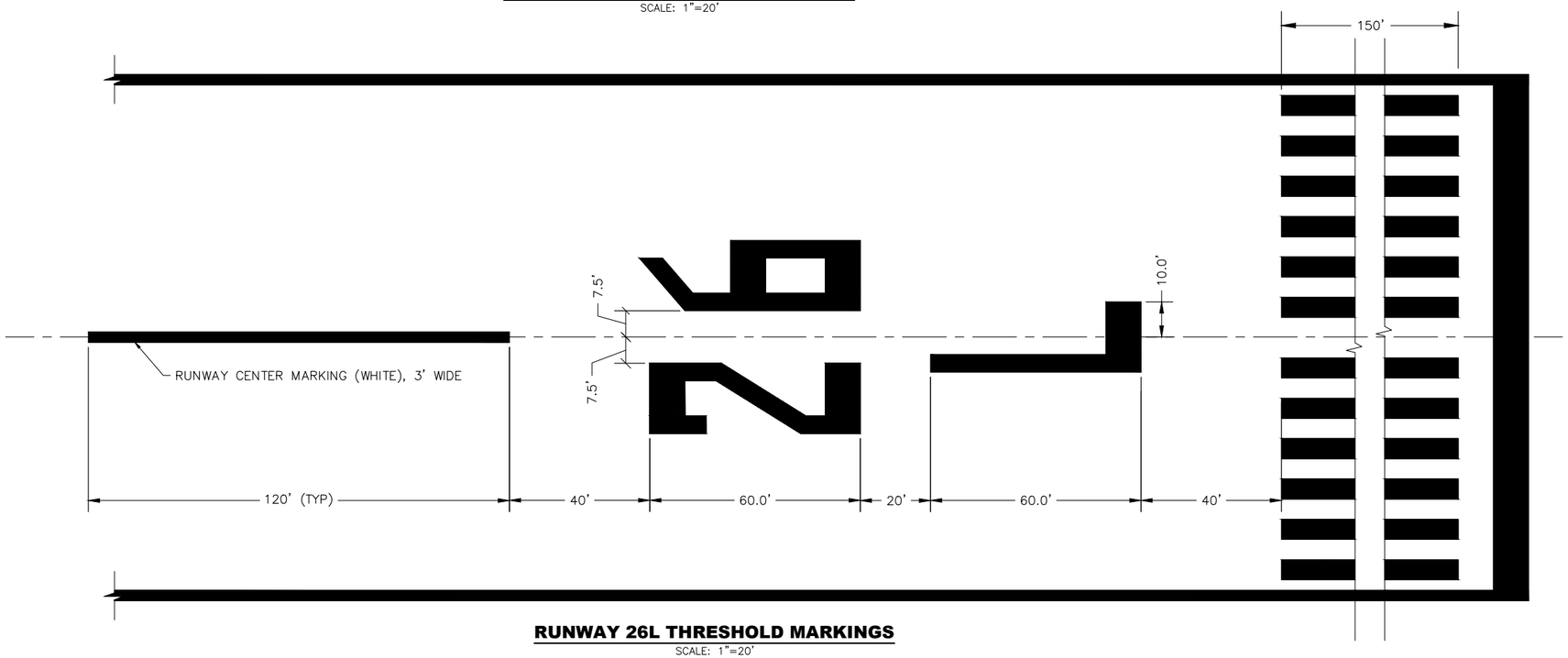


RUNWAY 8R THRESHOLD MARKINGS

SCALE: 1"=20'



RUNWAY DESIGNATION MARKINGS



RUNWAY 26L THRESHOLD MARKINGS

SCALE: 1"=20'

NOTES:

1. PAINT 6" WIDE BLACK BORDER AROUND RUNWAY DESIGNATION MARKINGS.
2. ALL CHARACTERS SHALL HAVE THESE DIMENSIONS (UNLESS OTHERWISE SPECIFIED)
   60 HIGH
   20 WIDE
3. ALL NUMERALS AS SHOWN ARE HORIZONTALLY SPACED 15 APART.
4. SINGLE DESIGNATIONS ARE CENTERED ON THE RUNWAY PAVEMENT CENTERLINE. FOR DOUBLE DESIGNATIONS, THE CENTER OF THE OUTER EDGES OF THE TWO NUMERALS IS CENTERED ON THE RUNWAY PAVEMENT CENTERLINE.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

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NO.	DATE	BY	REVISION

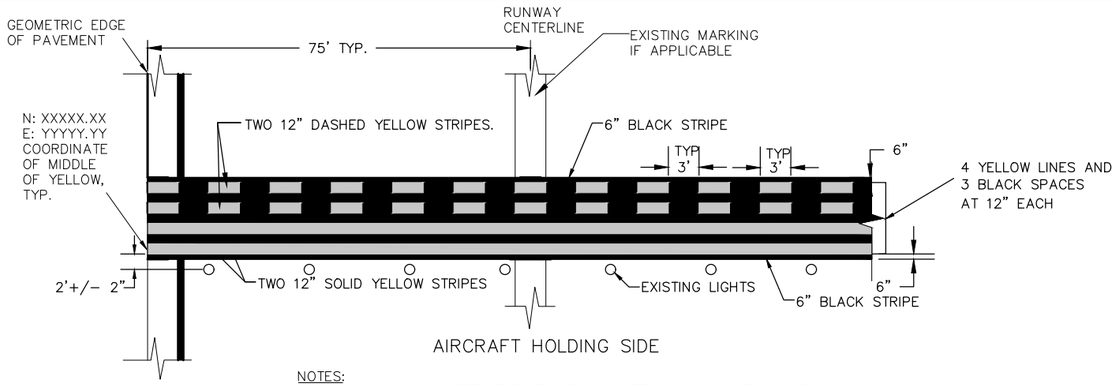
DOA CIVIL STANDARD DETAILS

Runway Striping and Marking-1

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-802	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

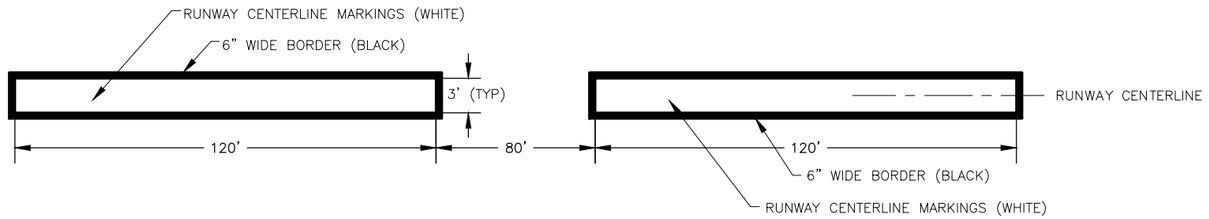
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

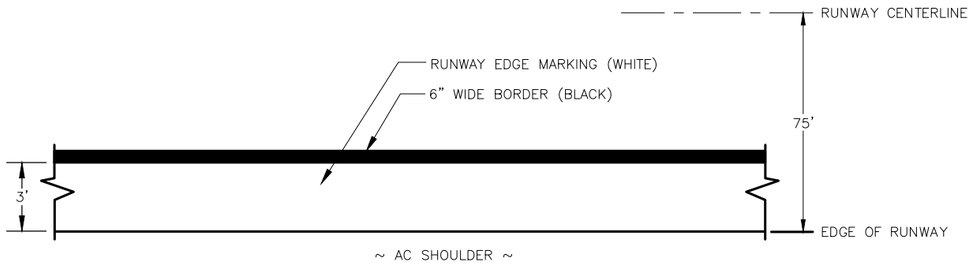


NOTES:
1. LAHSO MARKING SUPERCEDES EXISTING CENTERLINES AND EDGE LINES.
2. MARKING IS NOT PAINTED ON THE ASPHALT SHOULDER.
3. SEE PLANS FOR LOCATIONS.

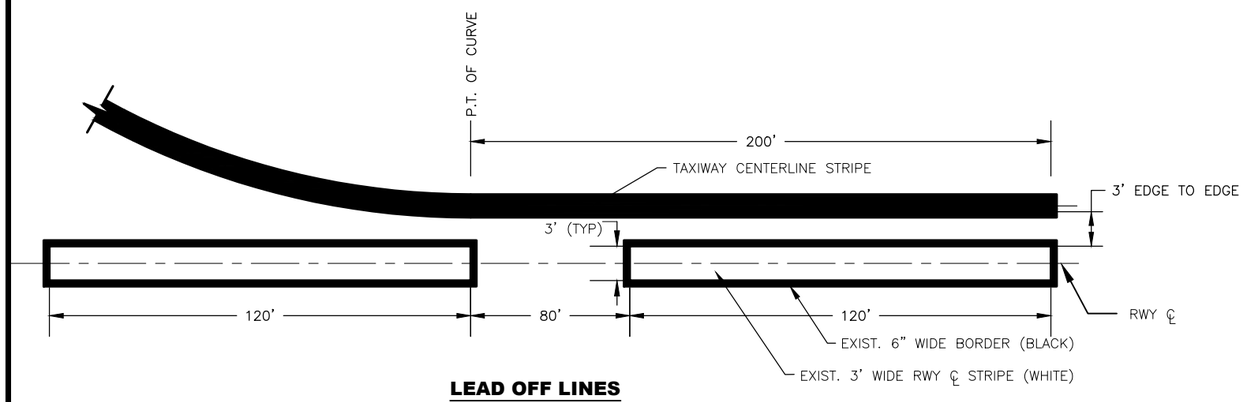
LAHSO MARKING
NOT TO SCALE



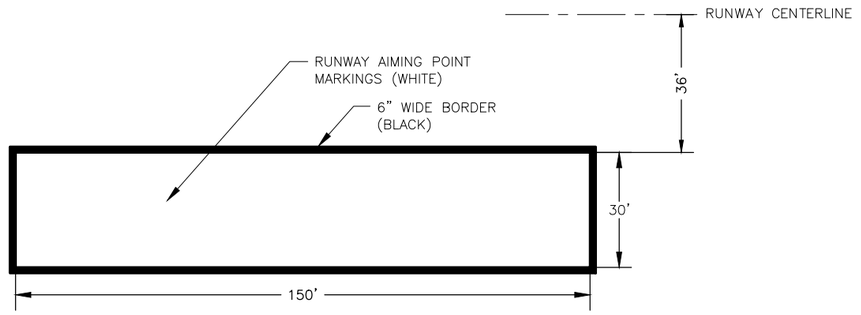
RUNWAY CENTERLINE MARKINGS
NOT TO SCALE



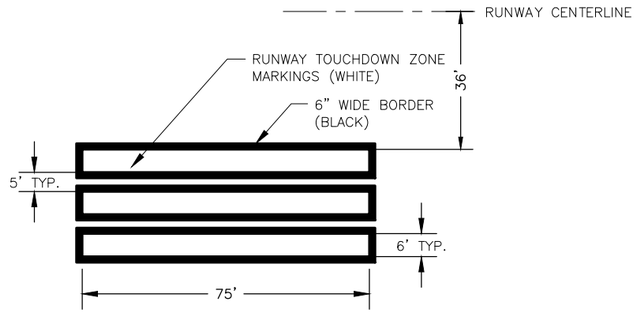
RUNWAY EDGE MARKING
NOT TO SCALE



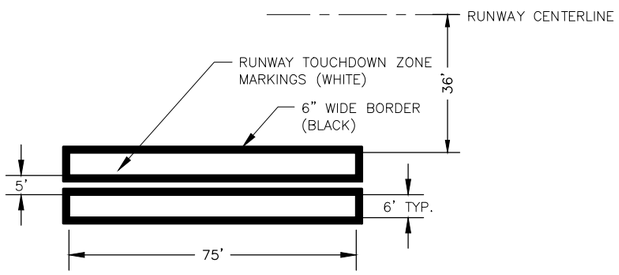
LEAD OFF LINES
NOT TO SCALE



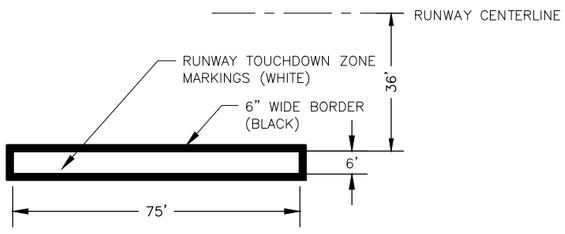
AIMING POINT MARKING
NOT TO SCALE



TOUCHDOWN ZONE MARKINGS (3 BARS)
NOT TO SCALE



TOUCHDOWN ZONE MARKINGS (2 BARS)
NOT TO SCALE



TOUCHDOWN ZONE MARKINGS (1 BAR)
NOT TO SCALE

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION

DOA CIVIL STANDARD DETAILS

Runway Striping and Marking-2

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-01-803	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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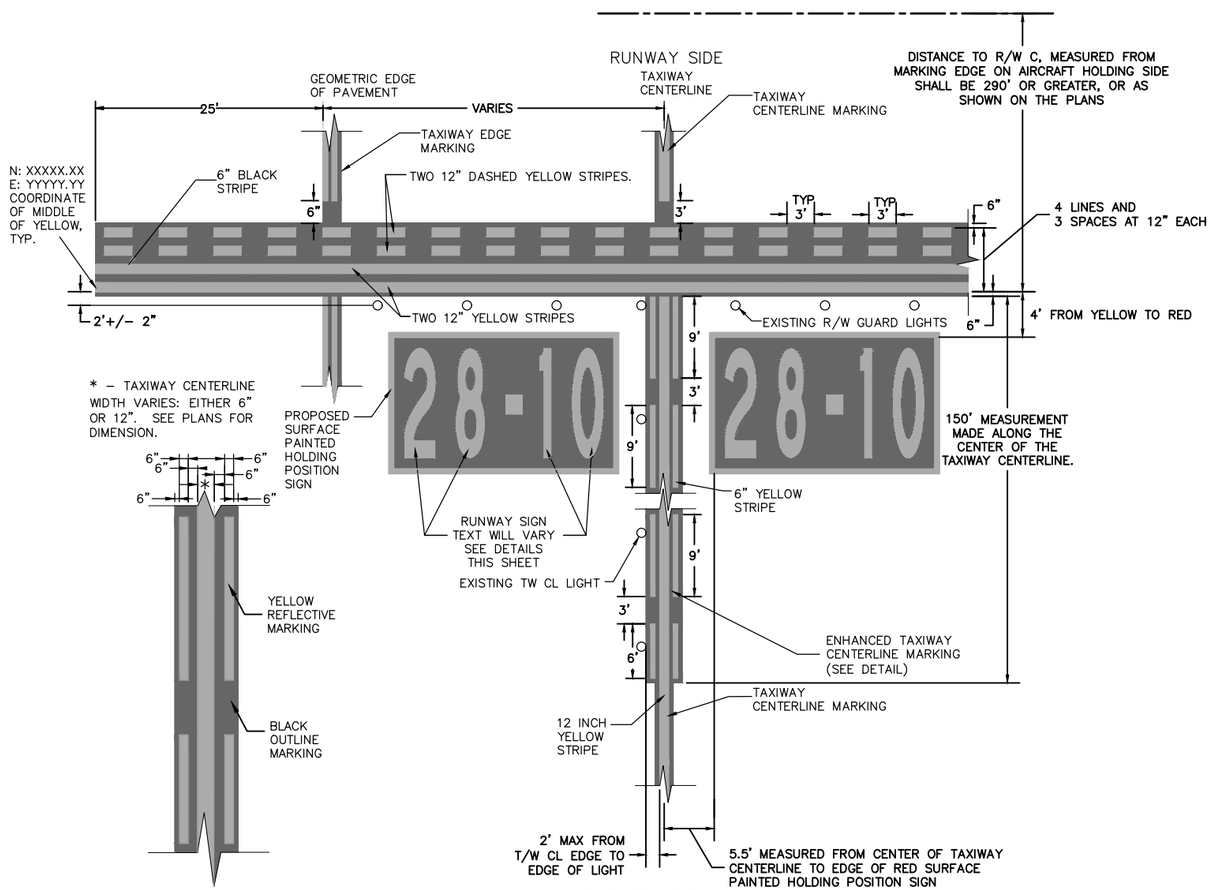


ENHANCED TAXIWAY CENTERLINE MARKING DETAIL

N.T.S.

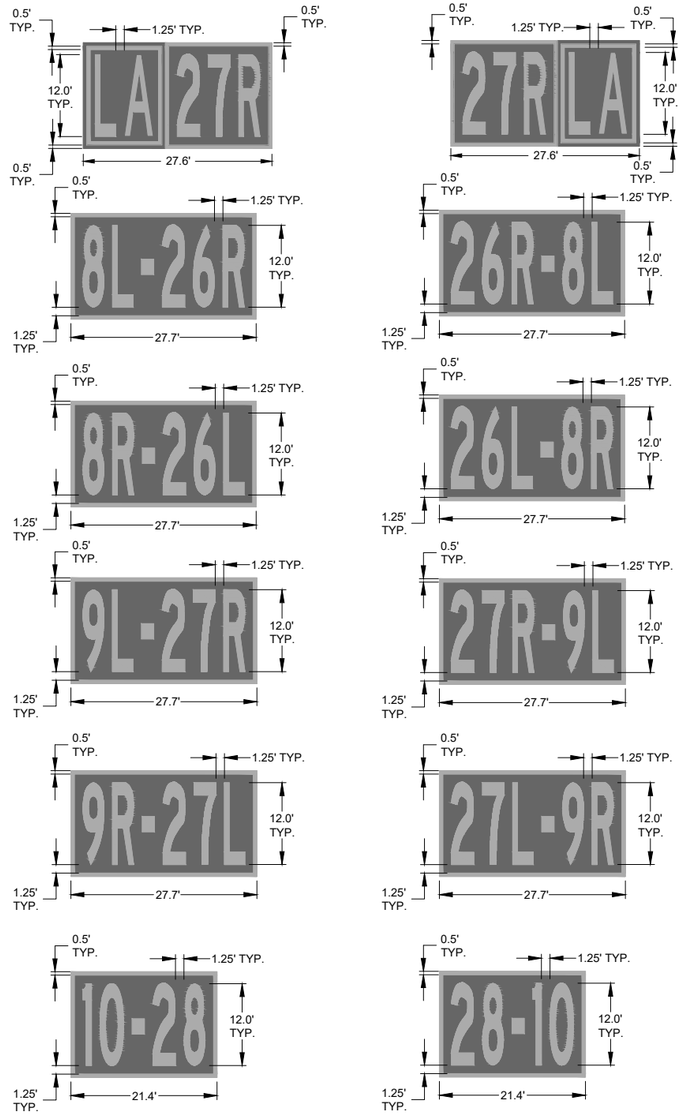
1. EXHANCED MARKINGS TO BEGIN AT RUNWAY HOLDING POSTION MARKING AND EXTEND 150' IN THE HOLDING DIRECTION
2. ALL MARKINGS TO BE OUTLINED WITH 6" WIDE BORDERS (BLACK, NON-REFLECTIVE)

RUNWAY HOLDING POSITION MARKINGS

N.T.S.

NOTES:

1. ALL HOLDING POSTITON MARKINGS SHALL BE OUTLINED IN BLACK PAINT 6" BEYOND OUTSIDE EDGE OF WHITE, RED, OR YELLOW MARKINGS.
2. EXISTING HOLDBARS AND ENHANCED CENTERLINE MARKINGS TO BE REMOVED PRIOR TO PLACING THERMOPLASTICS.
3. RUNWAY HOLDING POSTION MARKINGS SHALL OVERLAP TAXIWAY EDGE MARKINGS.



PROPOSED HOLDING POSITION SIGNS

N.T.S.

NOTES:

1. ALL MARKINGS SHALL MEET REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5340-1L.
2. SIGNS HAVE WHITE TEXT ON RED BACKGROUNDS UNLESS OTHERWISE NOTED.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION

DOA CIVIL STANDARD DETAILS

Taxiway Striping, Marking, and Signage

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-01-804	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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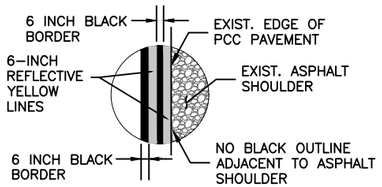
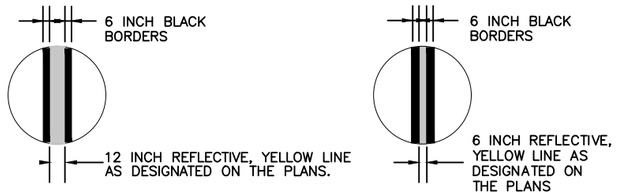


TAXIWAY EDGE MARKING DETAIL

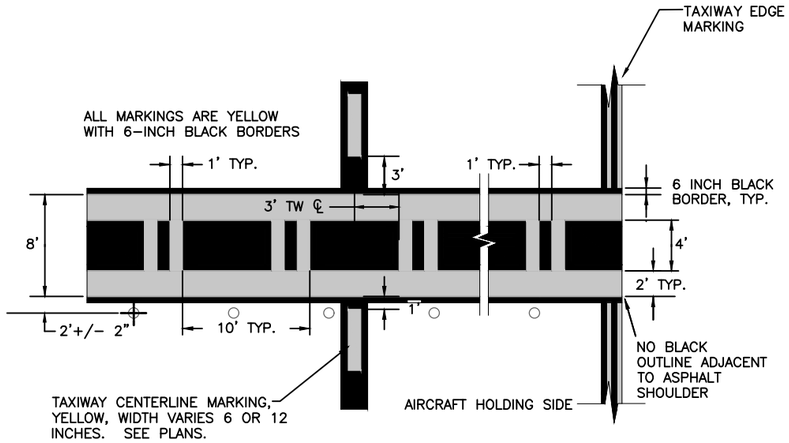
N.T.S.



TAXIWAY CENTERLINE MARKING DETAILS

N.T.S.

1. ALL TAXIWAY CENTERLINE MARKINGS SHALL BE OUTLINED WITH 6" WIDE BORDERS (BLACK, NON–REFLECTIVE).



ILS HOLDING POSITION MARKING DETAIL

N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NOTES:

1. DURING LAYOUT OF PROPOSED MARKINGS, THE CONTRACTOR SHALL IMMEDIATELY ADVISE THE ENGINEER IF ANY PROPOSED MARKINGS FALL OUTSIDE OF REQUIRED TOLERANCES. LAYOUT SHALL CEASE UNTIL REVISIONS ARE PROVIDED BY THE ENGINEER.

2. ALL MARKINGS SHALL MEET THE REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5340–1L

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Taxiway Striping and Marking

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-805	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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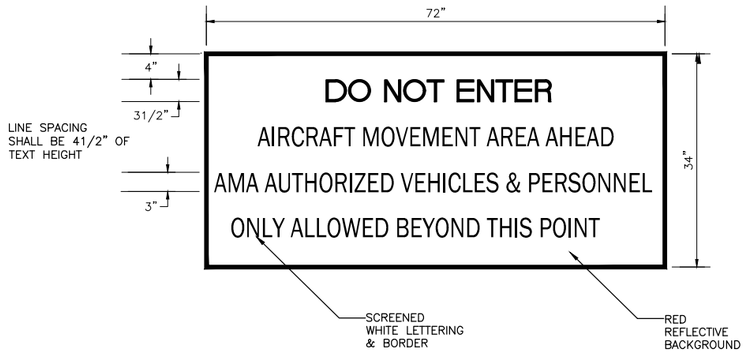

RUNWAY/TAXIWAY WARNING SIGN DETAIL

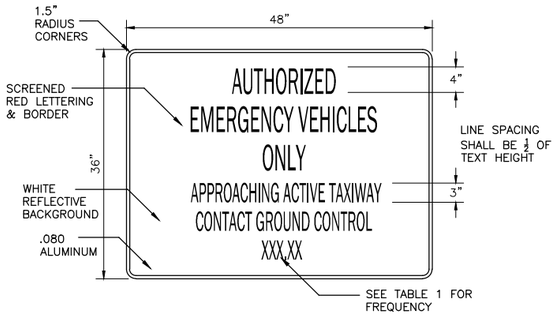

TABLE 1

RUNWAY COMPLEX	FREQUENCY
NORTH (8L–26R, 8R–26L):	121.9
CENTER (9L–27R, 9R–27L):	121.75
SOUTH (10–28):	121.65

TAXIWAY WARNING SIGN DETAIL

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson
Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Miscellaneous Airfield Details

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-01-900	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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STD-02 LANDSIDE - ROADS AND PARKING

Hartsfield-Jackson

Atlanta International Airport

NOTES FOR THE DESIGNER:

1. IDENTIFY BASELINE LOCATIONS ON TYPICAL SECTIONS.

2. GUARDRAIL, FENCE, AND ALL OTHER ROADSIDE ELEMENTS SHALL BE SHOWN WHERE APPROPRIATE.

3. TYPICAL SECTIONS SHALL SHOW STATION RANGES FOR THE ENTIRE BASELINE WITH NO GAPS.

4. TYPICAL SECTIONS SHALL BE SHOWN LOOKING IN THE DIRECTION OF THE STATIONING.

5. CONCRETE PAVEMENT LANE JOINTS SHALL FOLLOW A LENGTH TO WIDTH RATIO LESS THAN OR EQUAL TO 1.5 L TO 1 W. WHERE THAT RATIO IS NOT ACHIEVED SLABS SHALL BE REINFORCED WITH 6X12 D4/D4 WELDED WIRE FABRIC.

6. SHOULDERS SHALL MATCH CONCRETE PAVEMENT LANE JOINT SPACING.

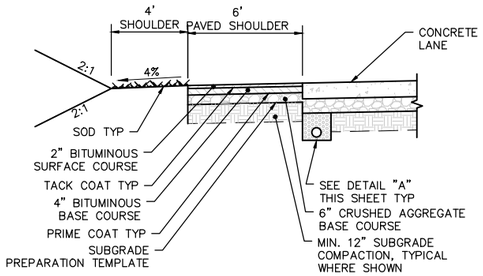
7. CURB JOINTS SHALL MATCH CONCRETE PAVEMENT LANE JOINT SPACING.

8. SEE STD-02-200 FOR JOINT DETAILS.

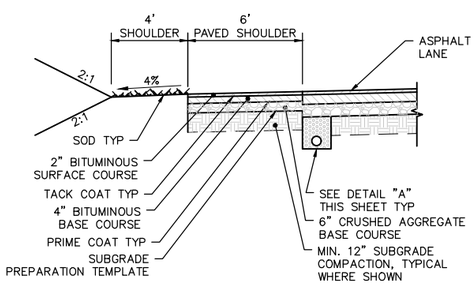
9. SEE STD-01-200 FOR AIRSIDE ROADWAY TYPICAL SECTIONS.

10. SEE STD-03-601 FOR TYPE 2 CURB AND GUTTER DETAILS.

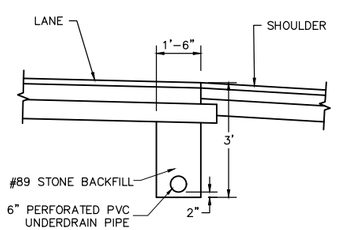
11. MINIMUM LENGTH OF DOGLEG IS 2'



ALTERNATE CONCRETE ROADWAY SHOULDER SECTION
SCALE: NTS



ALTERNATE ASPHALT ROADWAY SHOULDER SECTION
SCALE: NTS



DETAIL "A"
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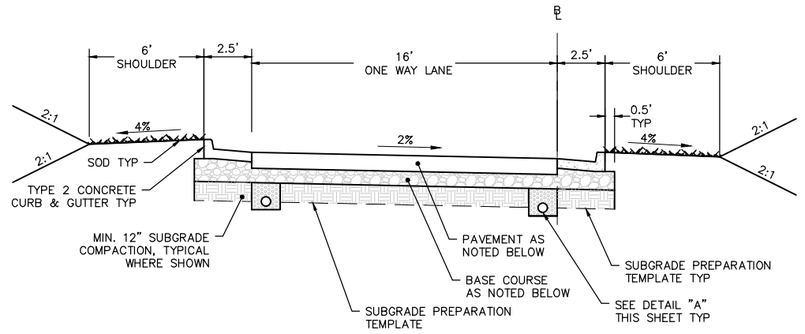

ONE WAY ROADWAY LANDSIDE SECTION
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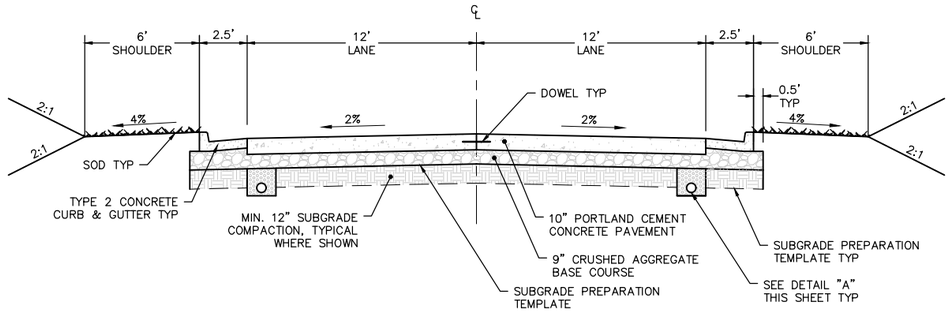

CONCRETE ROADWAY LANDSIDE SECTION
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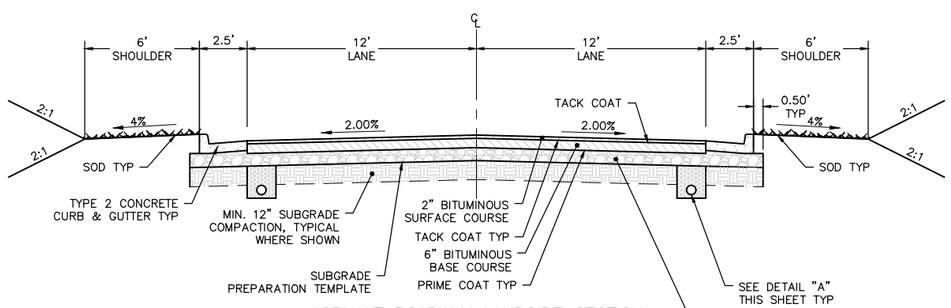
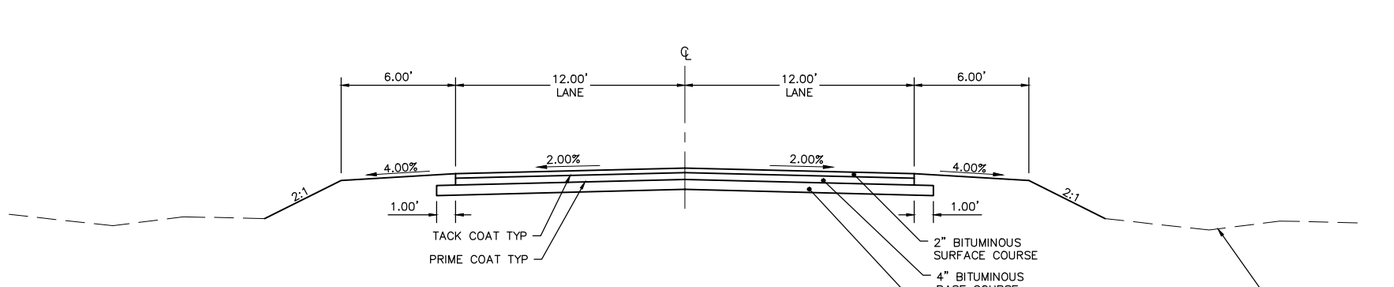


ASPHALT ROADWAY LANDSIDE SECTION
SCALE: NTS



TEMPORARY ASPHALT ROADWAY LANDSIDE SECTION
SCALE: NTS

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

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0	06/28/2004	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Typical Pavement Sections - Roadways

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-02-100	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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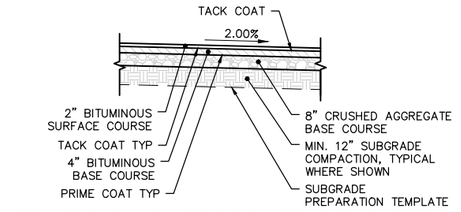
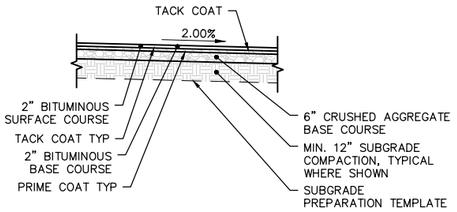


ASPHALT PARKING LOT CIRCULATION ROAD SECTION

SCALE: NTS



ASPHALT PARKING LOT SECTION

SCALE: NTS

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION

DOA CIVIL STANDARD DETAILS

Typical Pavement Sections - Parking

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-02-101	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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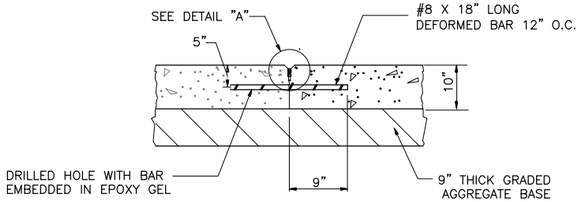
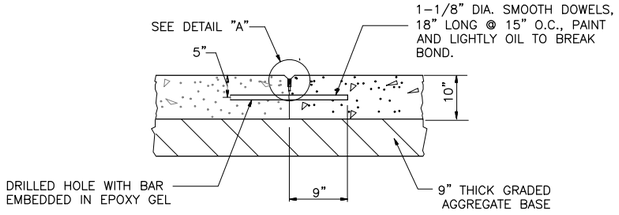


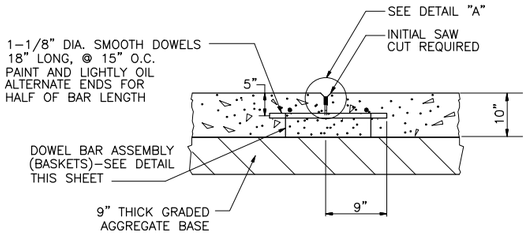
DEFORMED DOWEL LONGITUDINAL CONSTRUCTION JOINT

N.T.S.



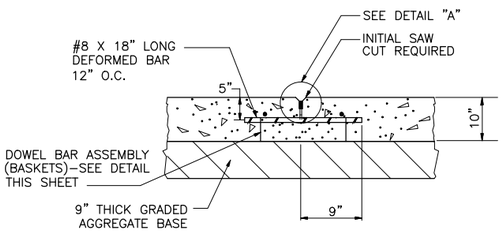
SMOOTH DOWEL LONGITUDINAL CONSTRUCTION JOINT

N.T.S.



SMOOTH DOWEL TRANSVERSE CONTRACTION JOINT

N.T.S.



DEFORMED DOWEL TRANSVERSE CONTRACTION JOINT

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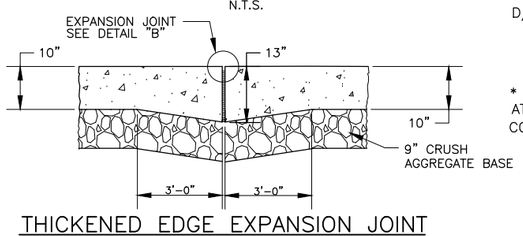
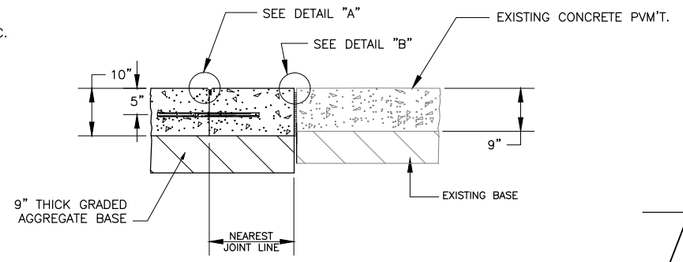


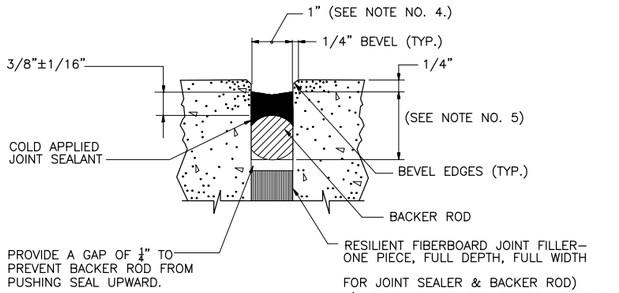
THICKENED EDGE EXPANSION JOINT

N.T.S.



EXPANSION JOINT AT EXISTING 9" PAVEMENT

N.T.S.



EXPANSION JOINT SEAL DETAIL "B"

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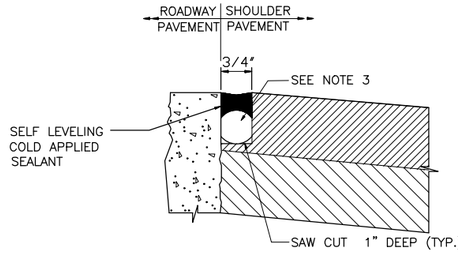

ASPHALT/PCC PAVEMENT JOINT

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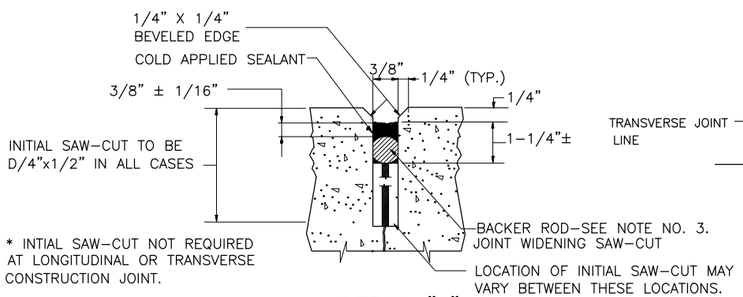

DETAIL "A" LONGITUDINAL AND TRANSVERSE JOINT SEAL

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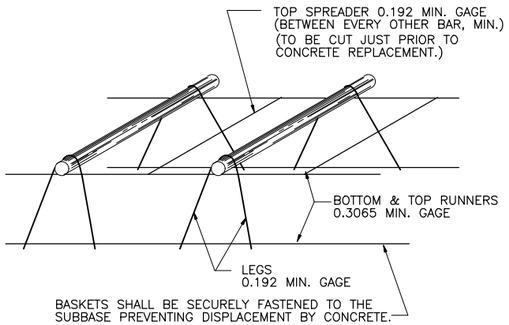
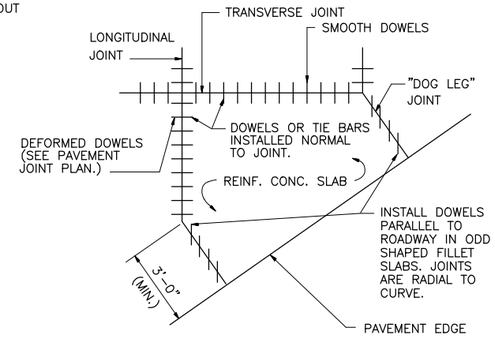


TYPICAL DOWEL BAR BASKET

N.T.S.

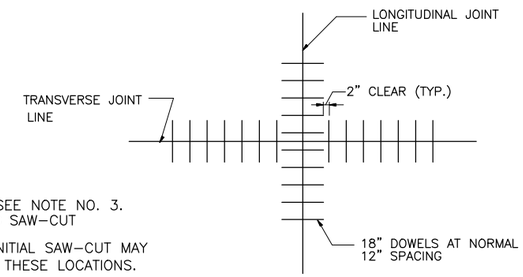
NOTES:

1. WIRE USED IN BASKETS SHALL CONFORM TO ASTM-A82 COLD DRAWN WIRE.
2. DOWEL BAR ATTACHMENT MAY BE FABRICATED BY ARC OR RESISTANCE TYPE WELDING.
3. WIRE FRAME MEMBERS SHALL BE RESISTANCE WELDED EXCEPT FOR SPREADER WIRES WHICH MAY BE ARC WELDED.



SKEWED DOWEL INSTALLATION

N.T.S.



DOWEL SPACING AT JOINT CORNERS

N.T.S.

NOTES:

1. LONGITUDINAL AND TRANSVERSE JOINTS SHALL BE SAWED AS INDICATED.
2. ALL TRANSVERSE JOINTS SHALL BE NORMAL TO PAVEMENT EDGE.
3. FOR ALL JOINTS THE BACKER ROD MATERIAL SHALL BE COMPATIBLE WITH THE COLD POURED SEALANT AND SLIGHTLY OVERSIZED TO PREVENT MOVEMENT DURING THE JOINT SEALANT OPERATION.
4. THE WIDTH OF THE JOINTS SHALL BE CORRECTED FOR 68°F.
5. JOINT CONFIGURATION SHALL MEET JOINT SEAL MANUFACTURER'S SPECIFICATIONS. (EXCEPT AS NOTED ON PLANS AND IN SPECIFICATIONS.).
6. REINFORCING WELDED WIRE FABRIC DEFORMED WELDED WIRE FABRIC (FOR ALL NEW CONCRETE PAVEMENT SLABS)
   - A) AS NOTED ON PLANS: LONGITUDINAL D4, 6" ON CENTERS. TRANSVERSE D4, 12" ON CENTERS.
   - B) ALL STEEL TO BE DELIVERED IN FLAT SHEETS, ROLL STOCK IS NOT ACCEPTABLE.
   - C) PLACE 4" BELOW THE TOP OF THE CONCRETE SURFACE.

NOTES FOR DOWEL AND TIE BAR HOLE DRILLING AND INSTALLATION

A. DRILLING AND INSTALLATION METHOD SHALL BE CAPABLE OF MAINTAINING DRILL HOLES AND EMBEDDED BARS: (A) PARALLEL TO THE CONCRETE SURFACE, AND (B) NORMAL TO THE JOINT LINE, WITHIN 1/4" AT THE END OF THE DOWEL OR TIE BAR EXCEPT WHERE SPECIFIED OTHERWISE. DRILL HOLES SHALL BE ACCURATELY LAID OUT SO THAT THE MAXIMUM DEVIATION DOES NOT EXCEED 1". DRILL HOLE DIAMETER TO BE APPROXIMATELY 1/8" CLEAR OF BAR ALL AROUND.

B. AFTER THE DRILLING IS COMPLETE AND PRIOR TOINSTALLATION OF THE DOWEL OR TIE BARS, THE HOLES SHALL BE THOROUGHLY CLEANED TO REMOVE DRILLING DUST, CONCRETE CHIPS, AND ANY MATERIAL DETRIMENTAL TO BONDING.

C. EPOXY GEL SHALL BE APPLIED TO THE DOWEL AND SUFFICIENT GEL INJECTED IN THE BACK OF THE TIE BAR HOLE BY A MECHANICAL MIXING/PUMP DEVICE, SO THAT A SLIGHT AMOUNT OF GEL WILL BE FORCED OUT WHEN THE DOWEL OR TIE BAR IS INSERTED AND TAPPED TO THE CORRECT POSITION. IT WILL BE NECESSARY TO TWIST THE BAR BACK AND FORTH SEVERAL TIMES TO ELIMINATE THE AIR ENTRAPPED IN THE HOLE. SMALL WEDGES MAY BE USED TO SUPPORT THE DOWEL OR TIE BAR IN CORRECT ALIGNMENT UNTIL THE GEL HARDENS.

D. EPOXY SHALL MEET THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION, SECTION 886 FOR TYPE VIII EPOXY GEL.

CITY OF ATLANTA, GEORGIA

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

DOA CIVIL STANDARD DETAILS

NO.	DATE	BY	REVISION
2	8/2020	RFM	REVISED
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Joints - NLVR or Landside Roads

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-02-200	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

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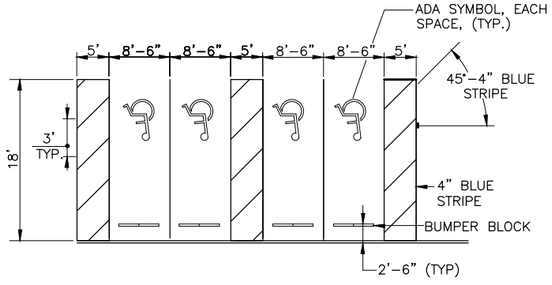
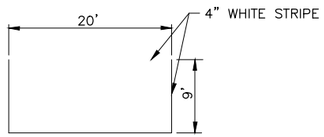


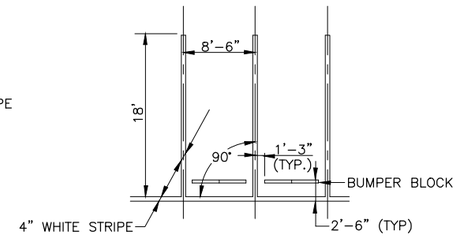
ADA PARKING SPACES

SCALE: N.T.S.



PARALLEL PARKING SPACES

SCALE: N.T.S.



90° PARKING SPACES

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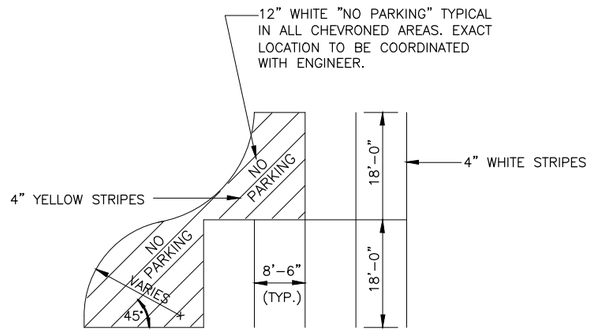

NO PARKING AREA DETAIL

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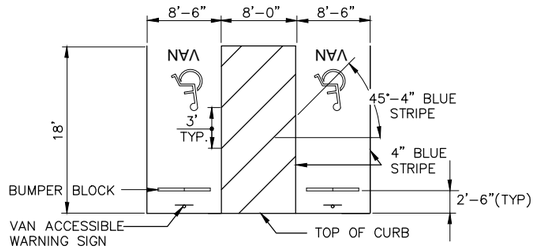

ADA VAN PARKING SPACES

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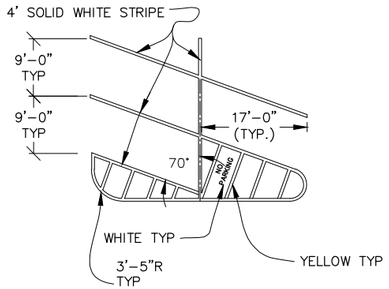
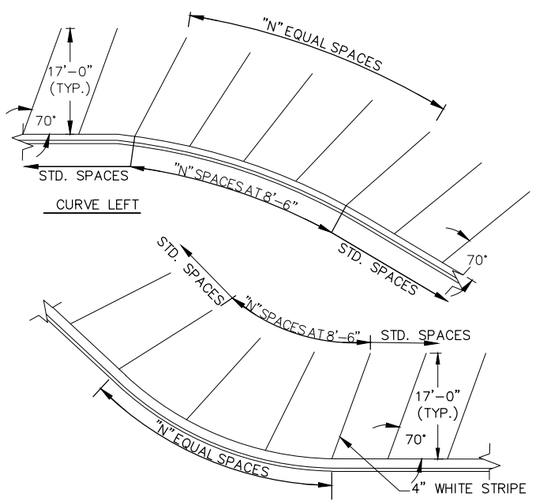


TYPICAL 70° PARKING SPACES

SCALE: N.T.S.
NOTE: 12" MESSAGE "NO PARKING" TYPICAL ALL CHEVRONED AREAS. EXACT LOCATION TO BE COORDINATED WITH THE ENGR.



PARKING SPACES ALONG CURVES

NOTE: "N" DENOTES NUMBER OF SPACES IN CURVE. SEE STRIPING AND MARKING PLANS FOR LOCATIONS.
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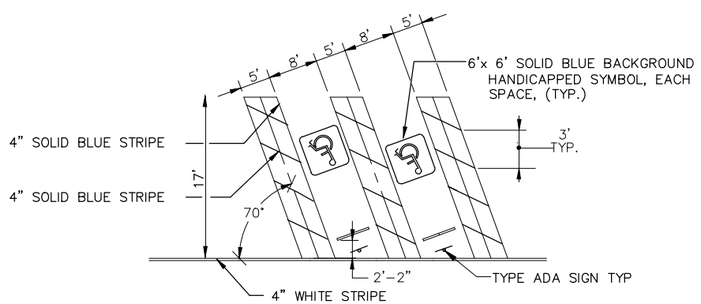

70° ADA PARKING SPACES

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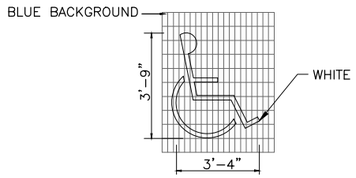
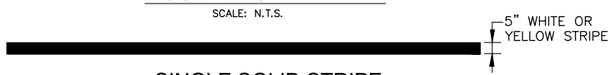


ADA PARKING SYMBOL

SCALE: N.T.S.

DOUBLE SOLID STRIPE

SCALE: N.T.S.



SINGLE SOLID STRIPE

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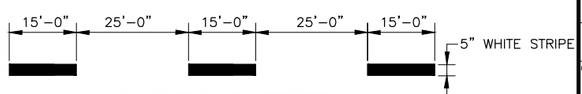

SINGLE SKIP STRIPE

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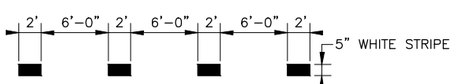

SINGLE DASHED STRIPE

SCALE: N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Landside Striping and Marking Details

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-02-300	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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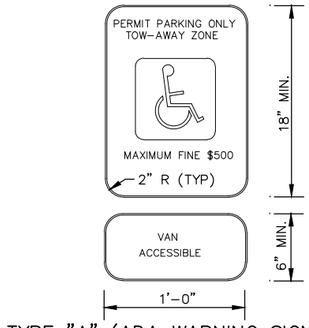


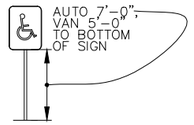
TYPE "A" (ADA WARNING SIGN)
N.T.S.

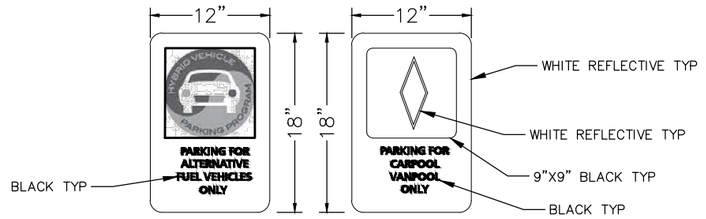
1. SIGNAGE. ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED BY A SIGN COMPLYING WITH AMERICAN DISABILITY ACT (ADA) RULE 120-3-20.41(7) AND THE FOLLOWING:

   O.C.G.A. 40-6-221
   PROVIDE A BLUE METAL REFLECTIVE SIGN WHICH IS AT LEAST 12" INCHES IN WIDTH AND 18" INCHES IN LENGTH AND IS ERECTED AT 60" FROM GROUND TO BOTTOM OF THE SIGN IN SUCH A MANNER THAT IT WILL NOT BE OBSCURED BY A VECHICLE PARKED IN THE SPACE AND BEARING THE INTERNATIONAL SYMBOL FOR ACCESSIBILITY. THE WARNING REQUIRED IN THIS SUBPARAGRAPH SHALL BE CENTERED ON THE SIGN, PRINTED IN WHITE, AND SHALL OCCUPY NOT LESS THAN 75% OF THE SIGN.

   SPACES COMPLYING WITH ADA RULE 120-3-20-07(E)(2) SHALL HAVE AN ADDITIONAL SIGN STATING "VAN-ACCESSIBLE" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY.

2. SIGN POSTS SHALL BE GALVANIZED STEEL POSTS, TYPE 7.





CARPOOL AND ALTERNATIVE FUEL VEHICLE SIGNS
NTS

NOTE: TEXT BELOW EACH SYMBOL IS FRUTIGER 65 BOLD.

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1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Landside Signage

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-02-400	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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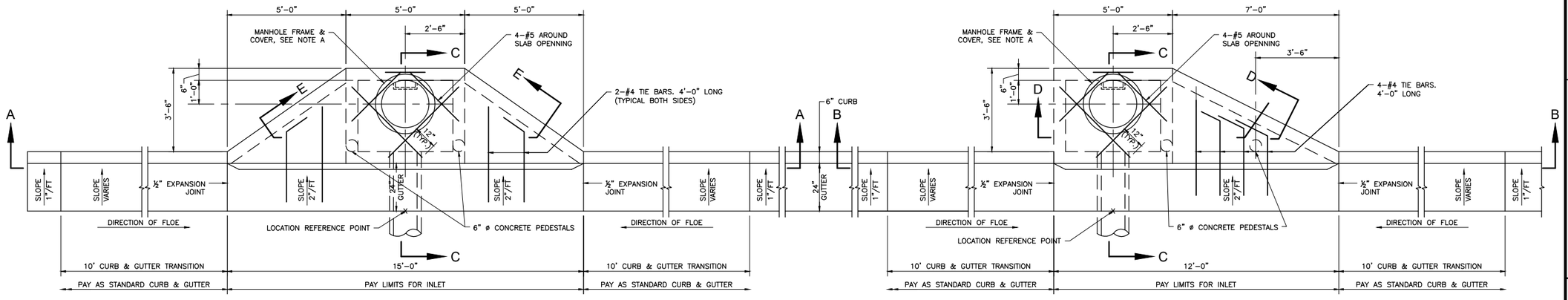
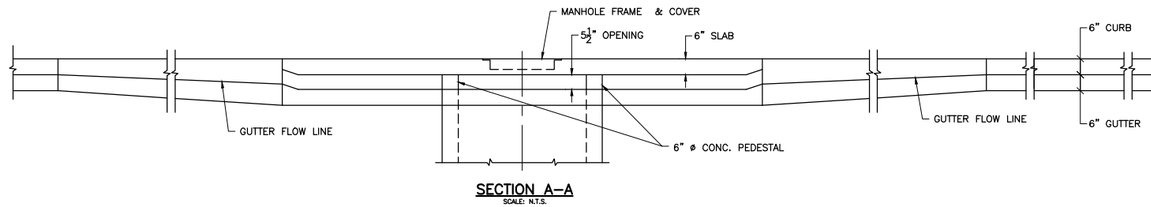
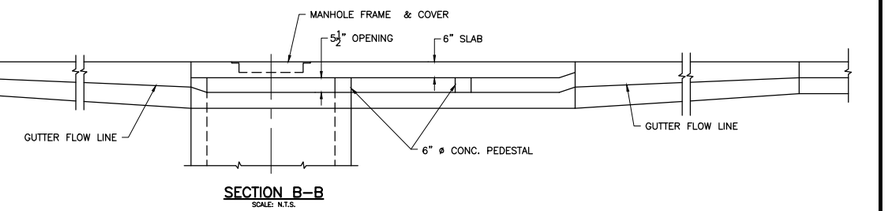


PLAN
DOUBLE WING CATCH BASIN TYPE A2
SCALE: N.T.S.

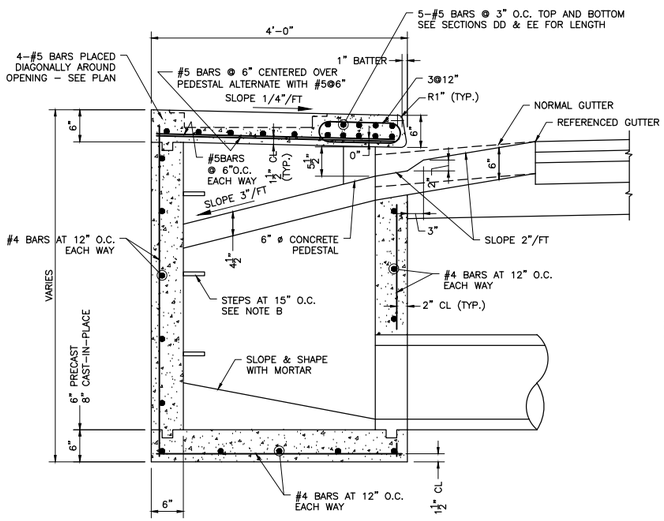
PLAN
SINGLE WING CATCH BASIN TYPE A1
SCALE: N.T.S.



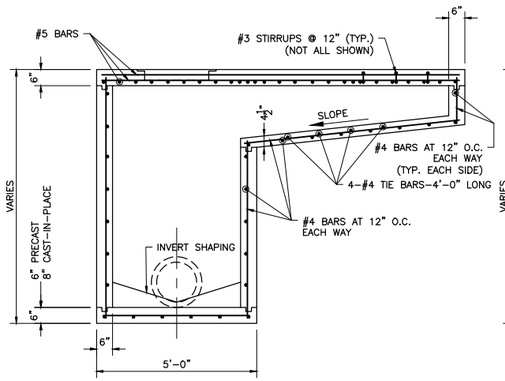
SECTION A-A
SCALE: N.T.S.



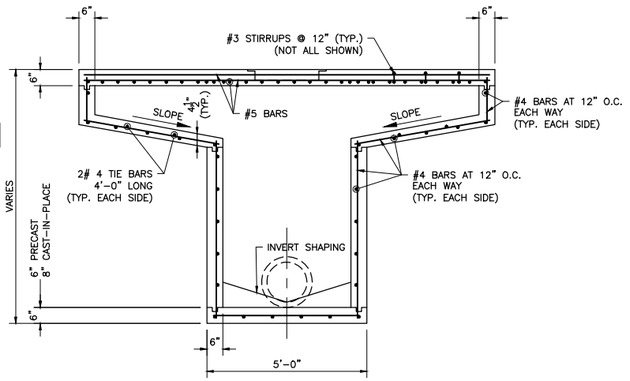
SECTION B-B
SCALE: N.T.S.



SECTION C-C
SCALE: N.T.S.



SECTION D-D
SCALE: N.T.S.



SECTION E-E
SCALE: N.T.S.

NOTES:

A. MANHOLE FRAME AND COVER TO BE BARRY PATTERN B-1650-F OR APPROVED EQUAL.

B. STEPS SHALL BE NEENAH PATTERN R-1980-C OR APPROVED EQUAL.

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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Landside Drainage-1

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-02-500	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

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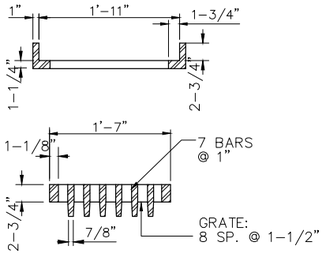
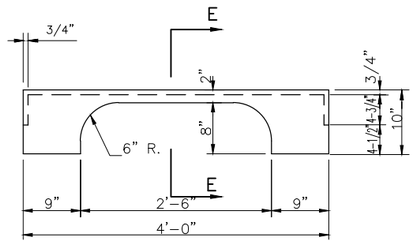
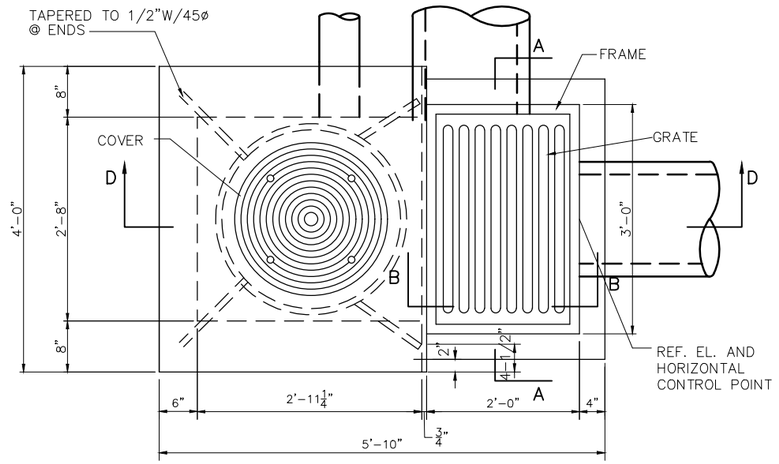


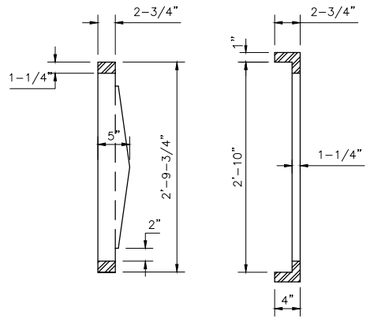
SECTION B–B
1" = 1'-0"



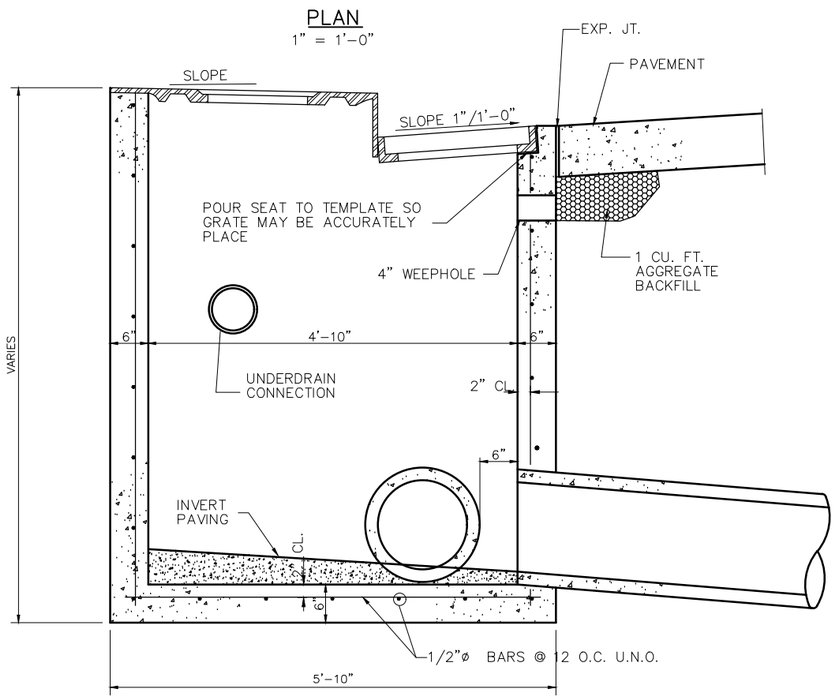
FRAME & COVER
1" =1'-0"



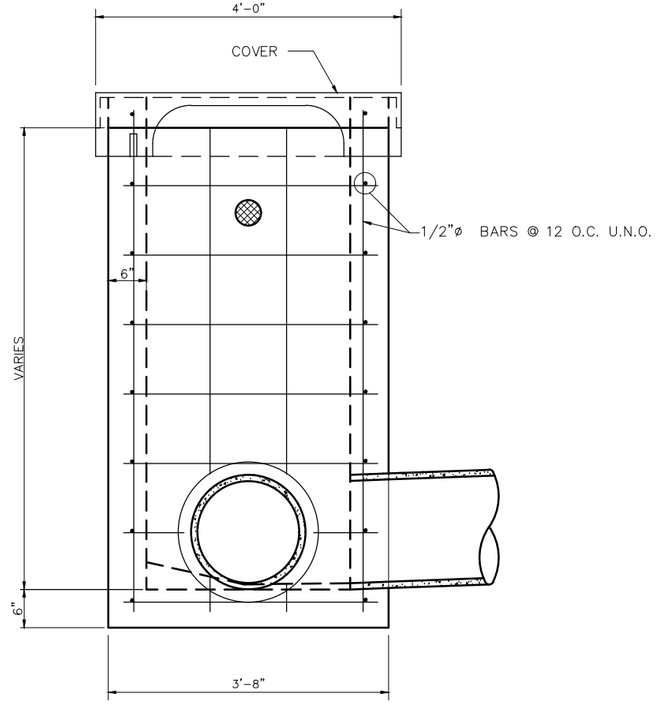
PLAN
1" = 1'-0"



SECTION A–A
1" = 1'-0"



SECTION D–D
1" = 1'-0"



FRONT ELEVATION
1" = 1'-0"

CURB INLET, TYPE "A"

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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Landside Drainage-2

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-02-501	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

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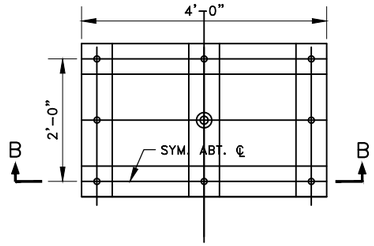
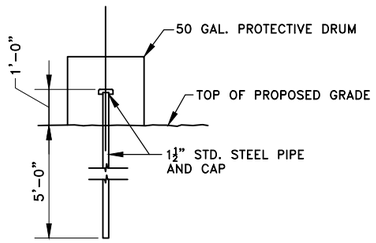
STD-03 GENERAL DETAILS

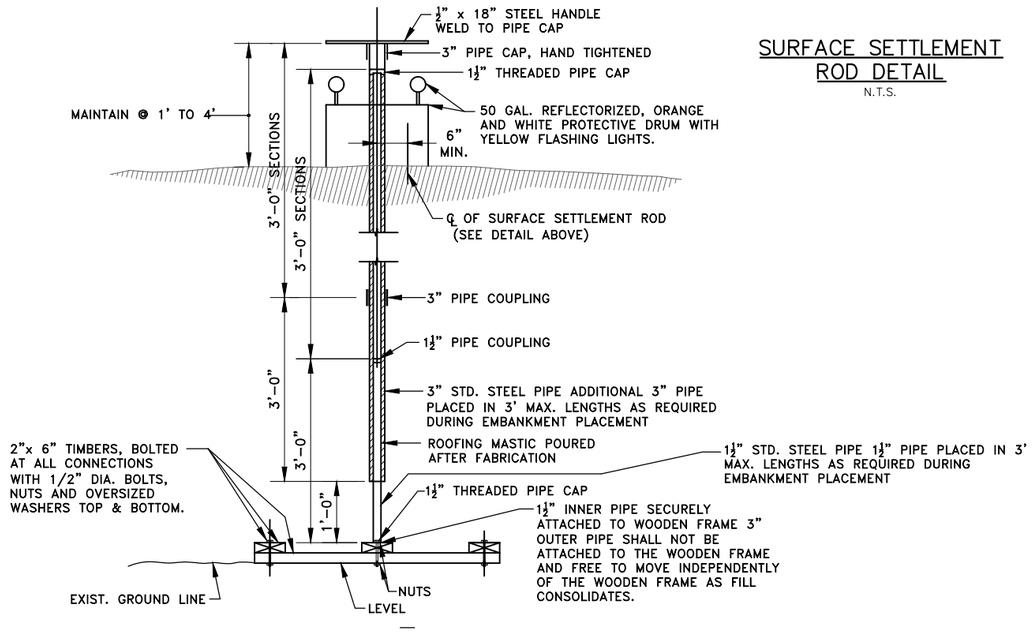
Hartsfield-Jackson

Atlanta International Airport





SURFACE SETTLEMENT
ROD DETAIL
N.T.S.



SECTION B–B
SURFACE SETTLEMENT PLATFORM DETAIL
N.T.S.

SETTLEMENT PLATFORM AND ROD NOTES:

1. THIS CONSTRUCTION CONTROL DEVICE WILL BE USED AT LOCATIONS DIRECTED BY ENGINEER, INSTALLATION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND AS APPROVED BY THE ENGINEER.

2. CONTRACTOR SHALL TAKE APPROPRIATE PRECAUTIONS TO PROTECT SETTLEMENT PLATE INSTALLATION FROM DAMAGE.

3. ADDITIONAL CONTROL DEVICES (PLATFORMS AND SURFACE RODS) MAY BE INSTALLED AT LOCATIONS DETERMINED BY THE ENGINEER.

4. COORDINATE LOCATION OF CONTROL DEVICES WITH EXISTING AND PROPOSED UTILITIES AND DRAINAGE.

5. AT SUCH TIME AS SETTLEMENT PLATFORM PIPES ARE REQUIRED TO BE EXTENDED, THE INNER PIPE SHALL BE ACCURATELY SURVEYED IMMEDIATELY PRIOR TO REMOVING THE CAP AND AGAIN IMMEDIATELY AFTER EXTENDING THE 3" AND 1½" PIPES AND REPLACING THE CAP ON THE 1½" PIPE.

6. SETTLEMENT PLATFORMS AND RODS SHALL BE SURVEYED WEEKLY

7. CONTRACTOR IS TO COMPACT SOIL ADJACENT TO SETTLEMENT PLATFORMS WITH HAND TAMPS AS REQUIRED.

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DOA CIVIL STANDARD DETAILS

Settlement Platforms

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-100	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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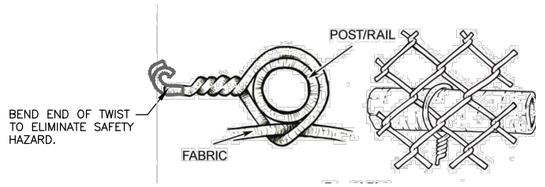
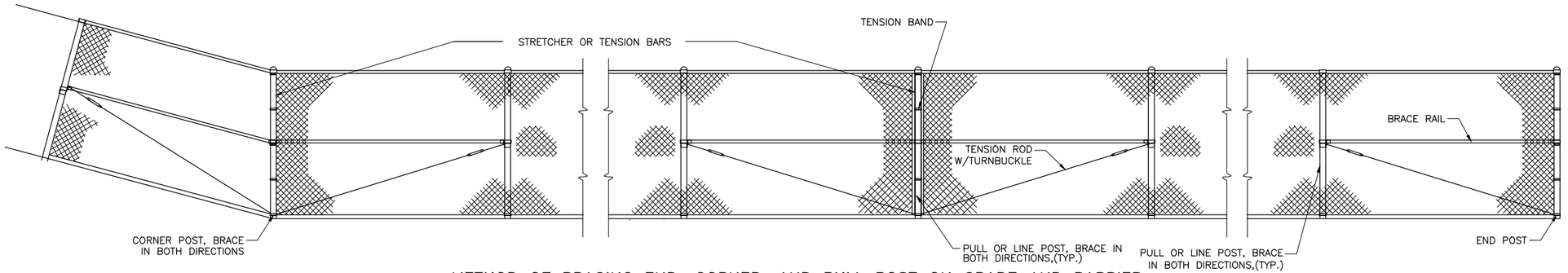


BOTTOM RAIL TIE

9 GAUGE TWIST VINYL COATED TIES THAT MEET OR EXCEED ASTM F626.1.2.1. HIGH-SECURITY ROUND WIRE TIES (POWER-FASTENED ROUND WIRE TIES).

NOTE:

1. AT EVERY BOTTOM FENCE RAIL, INSTALL 9 GAUGE BOTTOM RAIL TIES BLACK VINYL COATED TIES AT 12" INCHES CENTER TO CENTER.

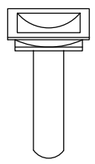


METHOD OF BRACING END, CORNER, AND PULL POST ON GRADE AND BARRIER

N.T.S.

LATCH FORK

LOCK KEEPER GUIDE

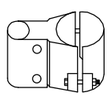


CATCH FOR PLUNGER BAR

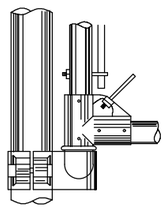
SOLID LATCH FORK

FORK CATCH

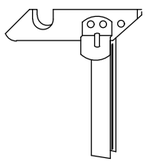
LOCK KEEPER GUIDE



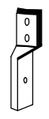
UPPER HINGE



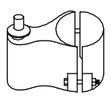
BOTTOM CORNER AND HINGE



STOP



LOCK KEEPER



BOTTOM HINGE

FENCING NOTES:

1. ALL FENCE FABRIC SHALL BE 9 GAUGE BLACK PVC COATED GALVANIZED CHAIN LINK FABRIC WITH 2" MESH (TEMPORARY FENCE NOT COATED. SEE SPECIFICATIONS AND DETAILS FOR FENCE MATERIALS AND FITTINGS).

2. ALL BARBED WIRE SHALL BE 2 STRAND, 12 ½ GAUGE BLACK PVC COATED GALVANIZED STEEL WITH 4 POINT BARBS AT 4" C.C. (TEMPORARY FENCE BARBED WIRE STRANDS NOT COATED).

3. ALL POSTS AND ACCESSORIES/FITTINGS SHALL BE BLACK PVC COATED GALVANIZED STEEL (TEMPORARY FENCE NOT COATED).

4. HORIZONTAL BRACE RAILS, TRUSS BRACING AND STRETCHER OR TENSION BARS ATTACHED TO POST BY MEANS OF BANDS, SHALL BE USED FOR END, CORNER, ANGLE, AND INTERMEDIATE BRACE POSTS AND WHERE REQUIRED BY THE ENGINEER.

5. FITTINGS SHOWN ARE SUGGESTED ONLY. SIMILAR DESIGNS MEETING THE APPROVAL OF THE ENGINEER MAY BE USED. ALL FITTINGS TO BE MALLEABLE IRON, CAST IRON, OR PRESSED STEEL. CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL FOR APPROPRIATE SHOP DRAWINGS.

6. SWING GATE CONSTRUCTION VARIES WITH WIDTH. GATE FRAMES SHALL MEET CHAIN LINK FENCE MANUFACTURER'S INSTITUTE PRODUCT MANUAL INDUSTRIAL STEEL SPECIFICATIONS WITH RESPECT TO HORIZONTAL AND VERTICAL MEMBERS.

7. ALL CHAIN LINK FENCE MATERIALS AND FITTINGS SHALL BE OF HIGH GRADE DOMESTIC QUALITY STEEL AND SHALL BEAR MARKINGS AS BEING SUCH.

8. THE CHAIN LINK FABRIC SHALL BE PLACED ON THE OUTWARD FACE OF THE POSTS, TAUT AND SECURELY FASTENED.

9. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH F.A.A. STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS OF THIS CONTRACT.

10. ALL EXPOSED METALS SUCH AS NUTS AND BOLTS AND WELDED AREAS SHALL BE PAINTED WITH COLOR TO MATCH FENCE SYSTEM.

11. ALL SIZES AND GAUGES FOR PIPE POSTS, ROD AND WIRES ARE OUTSIDE DIAMETERS WHICH INCLUDES THE VINYL COATING THICKNESS.

12. CONTRACTOR SHALL PROVIDE CHAIN AND LOCK TO SECURE GATES.

13. INTERMEDIATE OR LINE POSTS SHALL BE REQUIRED AT 250FT. INTERVALS AND AT GRADE CHANGES EXCEEDING 5% FOR CORNER AND PULL POSTS. BRACE RAIL AND TENSION ROD PANEL TO JOIN POST IN BOTH DIRECTIONS.

14. 24" DIAMETER REINFORCED CONCERTINA BARBED TAPE SHALL HAVE .098' DIAMETER STAINLESS STEEL STRIP MATERIAL AND A .098' DIAMETER GALVANIZED STEEL CORE AND BE INSTALLED AT 14" SPACING ON CENTER.

15. 18" DIAMETER SINGLE LOOP BARBED WIRE SHALL HAVE .098' DIAMETER STAINLESS STEEL STRIP MATERIAL AND A .098' DIAMETER GALVANIZED STEEL CORE AND BE INSTALLED WITH A 6" OVERLAP SPACING.

16. 9 GAUGE TWIST VINYL COATED TIES MEET OR EXCEED ASTM F626.1.2.1. HIGH-SECURITY ROUND WIRE TIES (POWER-FASTENED ROUND WIRE TIES)

17. TOP AND BOTTOM TENSION WIRES WILL BE REQUIRED ON TEMPORARY FENCES.

18. FENCING ON CONCRETE BARRIER SHALL BE SIMILAR. CONTRACTOR SHALL PROVIDE APPROPRIATE TRANSITION SECTIONS.

19. SEE SHEET STD-03-206 FOR SIGNAGE REQUIREMENTS.

CITY OF ATLANTA, GEORGIA

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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Chain Link Fences - 1

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-200	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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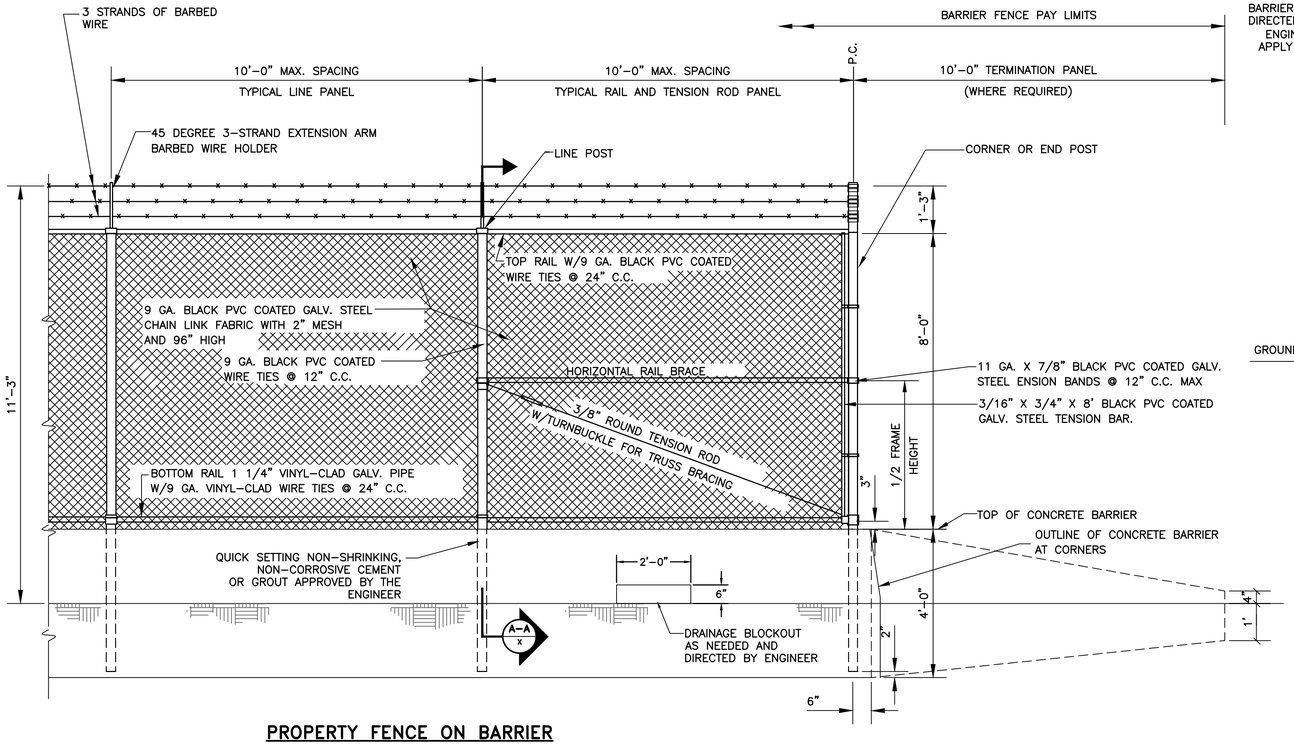
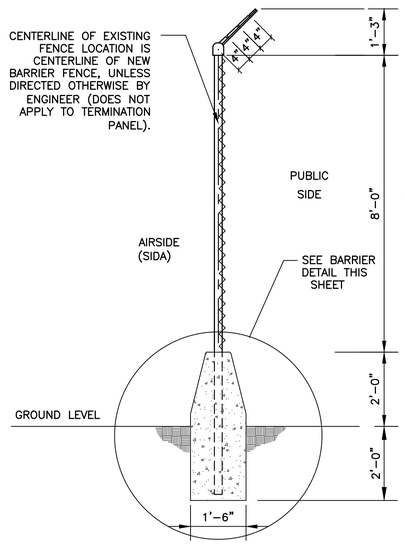


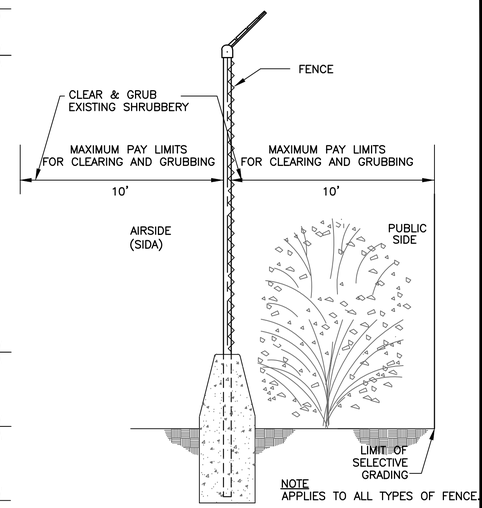
PROPERTY FENCE ON BARRIER

N.T.S.



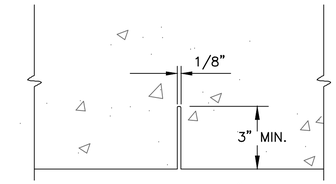
TYPICAL SECTION A-A

N.T.S.



CLEAR LIMITS

N.T.S.



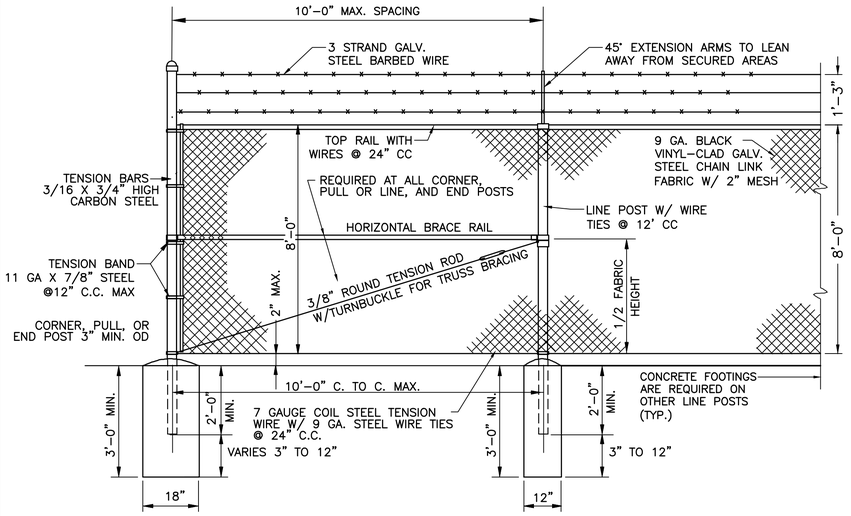
JOINT MAY BE FORMED WITH 1/8" HARDBOARD RETAINED IN JOINT AND CUT BACK TO FACE OF CONCRETE.

BARRIER CONTRACTION JOINT

N.T.S.

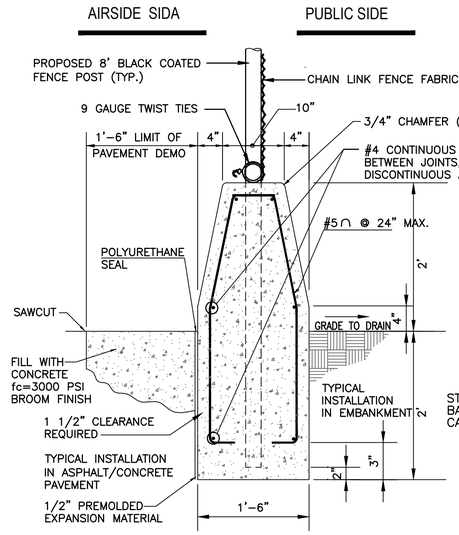
1. CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS. THEY MAY BE FORMED WITH WASTEABLE OR REMOVABLE MATERIAL

2. CONTRACTOR MAY SUBMIT ALTERNATIVE JOINT DETAILS FOR ENGINEER'S APPROVAL.



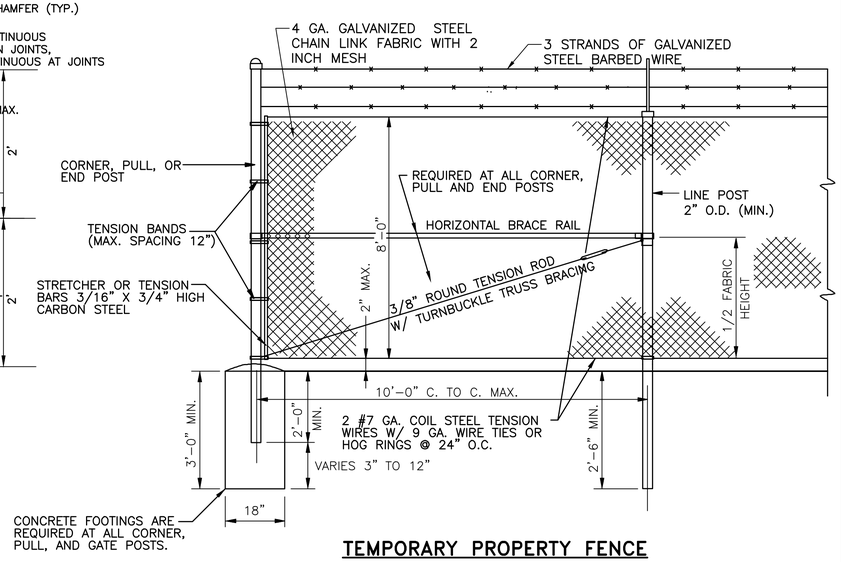
PROPERTY FENCE

N.T.S.



BARRIER WALL DETAIL

N.T.S.



TEMPORARY PROPERTY FENCE

N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

NOTE TO DESIGNER: ALL FENCING DETAILS SHALL INCLUDE OR REFERENCE FENCING NOTES ON STD-03-200.

NO.	DATE	BY	REVISION
2	07/2020	RFM	REVISED
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

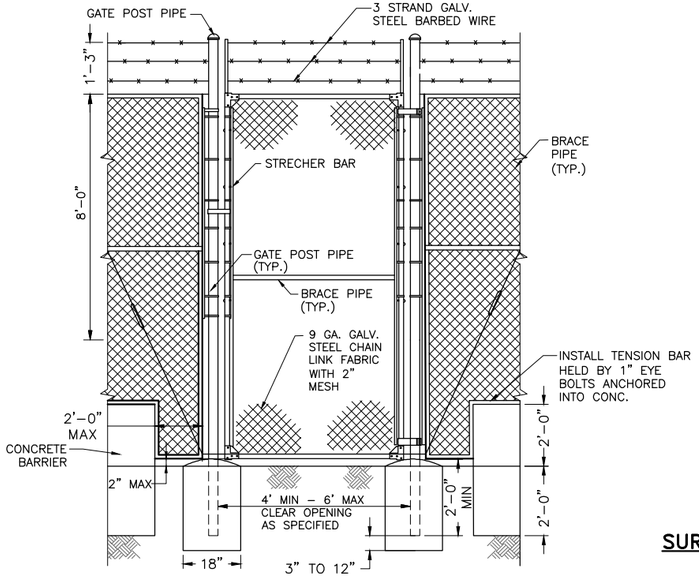
DOA CIVIL STANDARD DETAILS

Chain Link Fences - 2

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-201	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

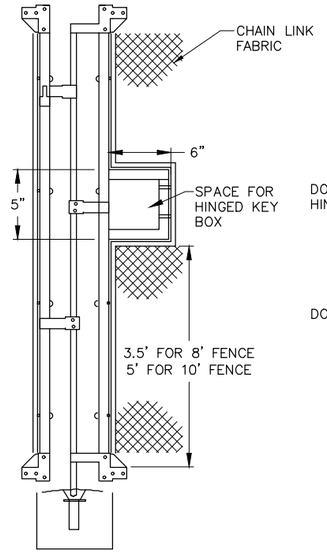
NOT RELEASED FOR CONSTRUCTION

DOA CIVIL STANDARD DETAILS



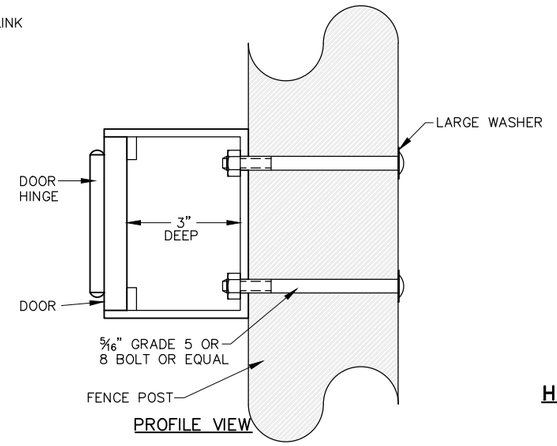
PROPERTY SINGLE SWING GATE WITH BARRIER

N.T.S.



HINGED KEY BOX SURFACE MOUNT FOR GATES

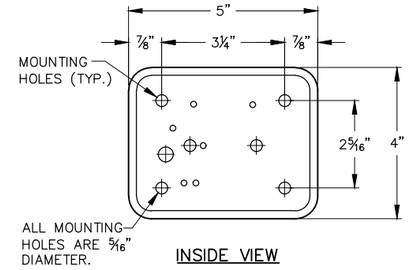
N.T.S.



PROFILE VIEW

HINGED DOOR SURFACE MOUNTED KEY BOX

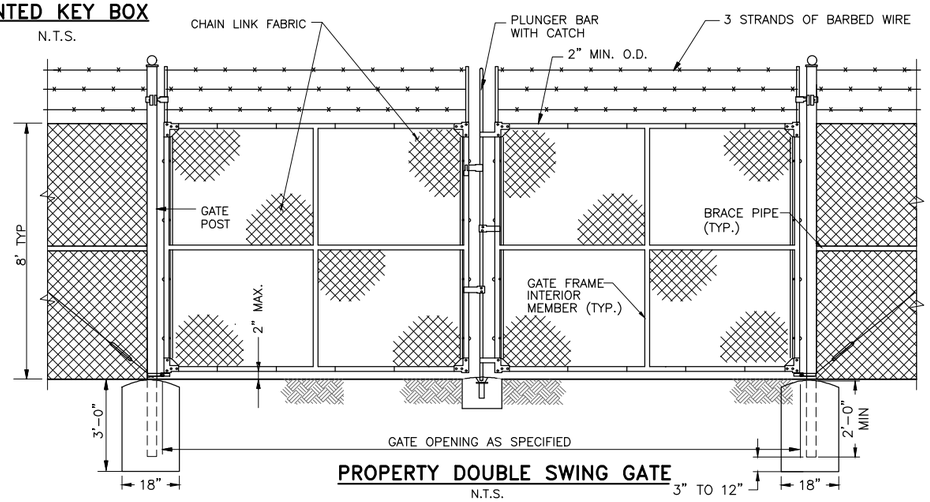
N.T.S.



INSIDE VIEW

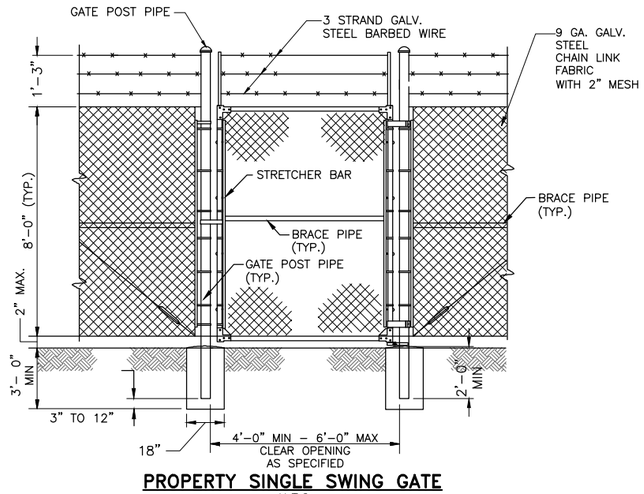
HINGED KEY BOX SURFACE MOUNT INSIDE VIEW

N.T.S.



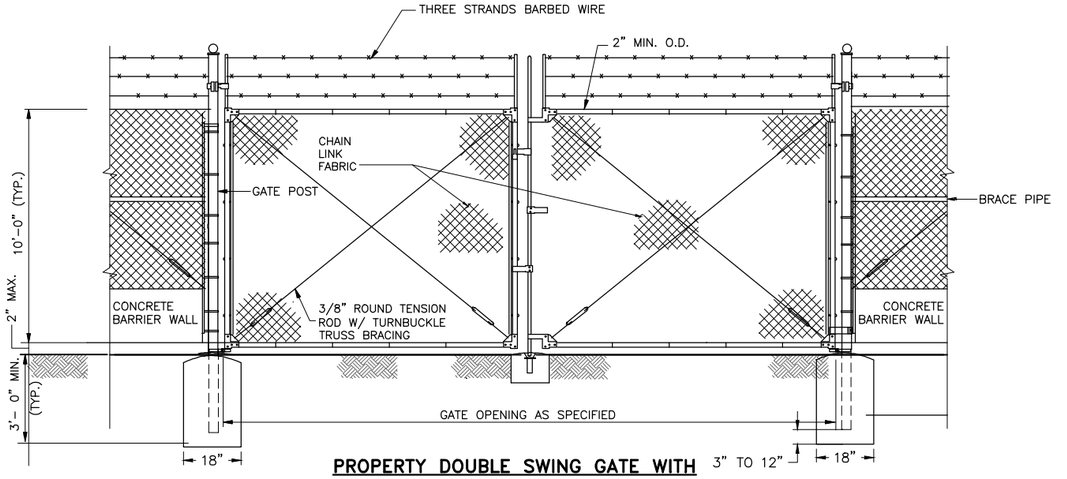
PROPERTY DOUBLE SWING GATE

N.T.S.



PROPERTY SINGLE SWING GATE

N.T.S.



PROPERTY DOUBLE SWING GATE WITH BARRIER WALL

N.T.S.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

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NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Chain Link Fences - 3

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-03-202	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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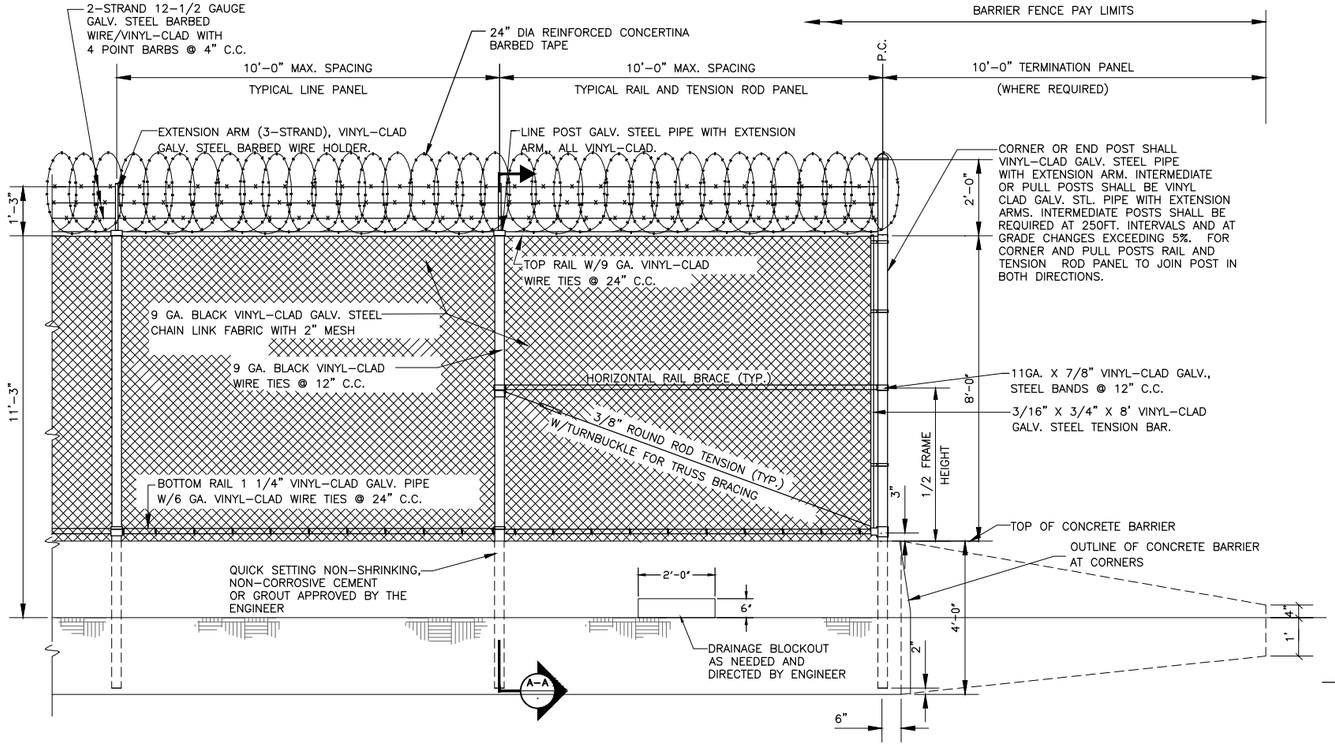
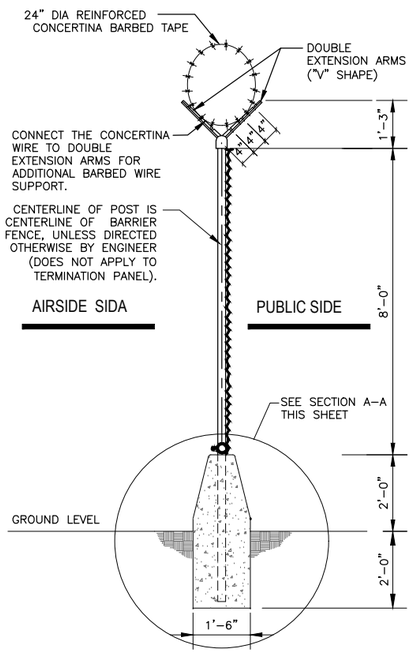


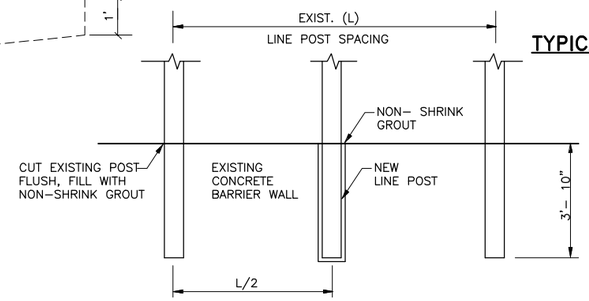
SIDA FENCE

N.T.S.



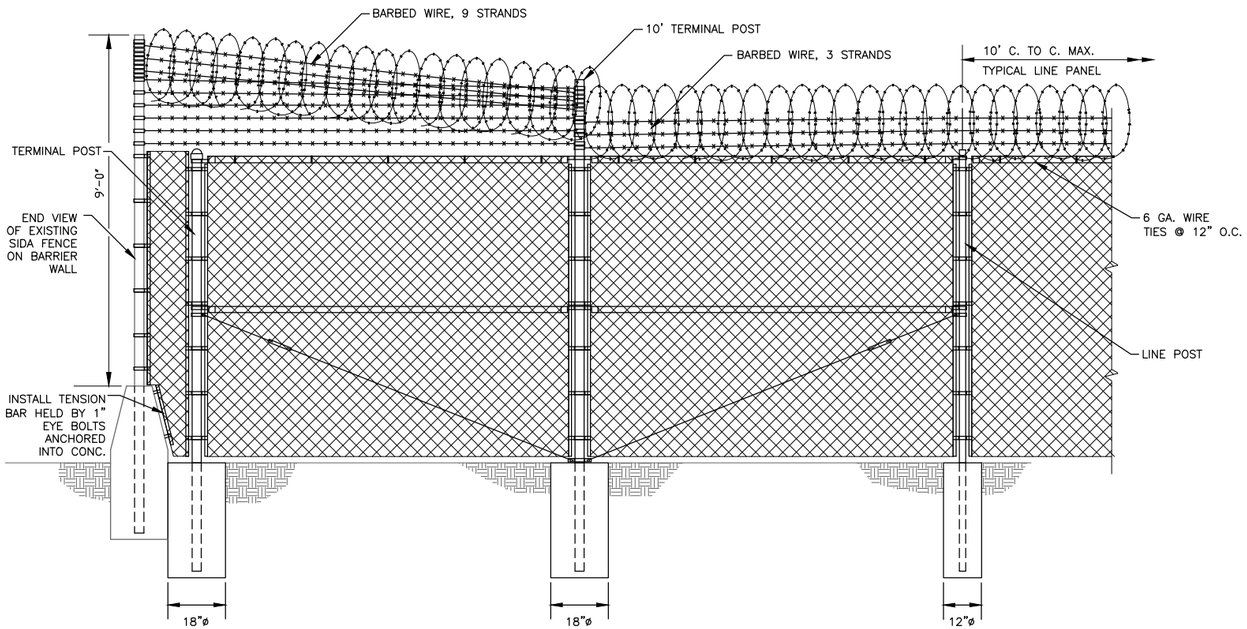
TYPICAL SECTION SIDA FENCE A–A

N.T.S.



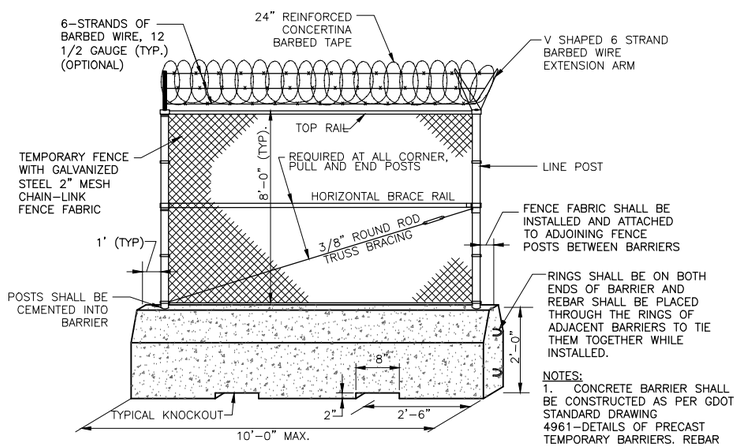
FENCE INSTALLATION ON EXISTING CONCRETE BARRIER

N.T.S.



SIDA FENCE WITHOUT BARRIER/SIDA FENCE WITH BARRIER INTERSECTION

N.T.S.



TEMPORARY SIDA FENCE

N.T.S.

NOTES:
1. CONCRETE BARRIER SHALL BE CONSTRUCTED AS PER GDOT STANDARD DRAWING 4961–DETAILS OF PRECAST TEMPORARY BARRIERS. REBAR FOR RINGS SHALL BE PLACED TO AVOID FENCE POST.
2. GAP BETWEEN TOP OF BARRIER AND BASE OF FENCE SHALL BE NO LARGER THAN 2".

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0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Chain Link Fences - 4

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-203	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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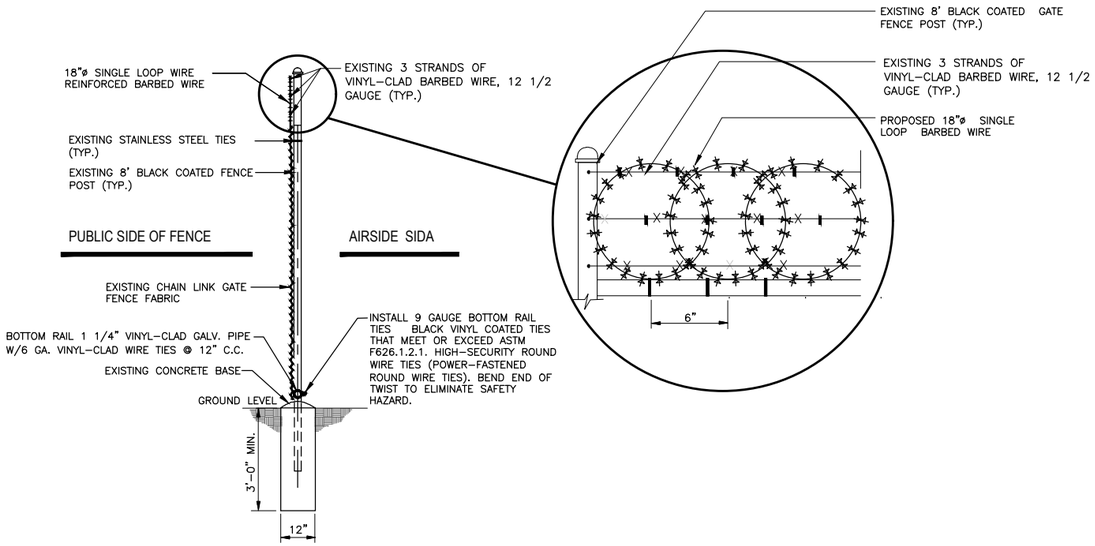
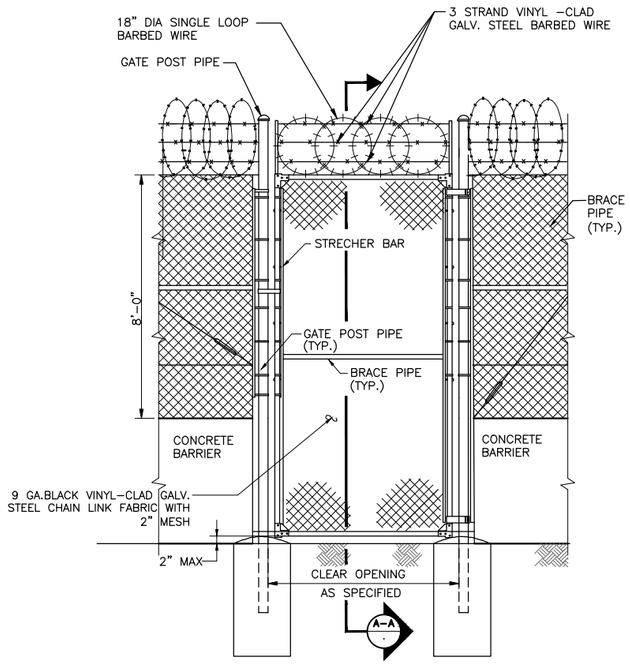
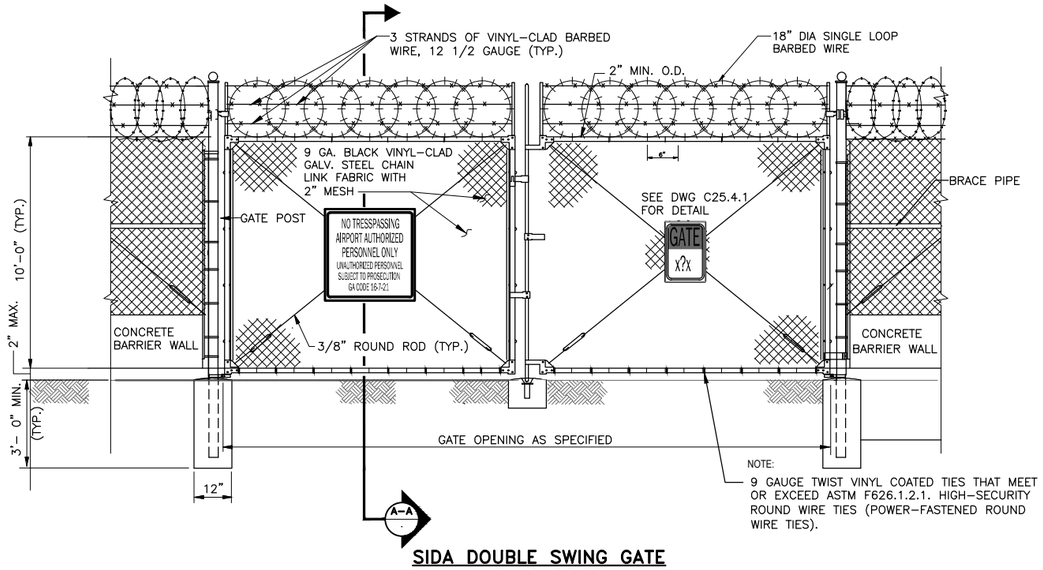


SECTION A–A
TYPICAL SIDA SWING GATES POST



SIDA SINGLE SWING GATE WITH BARRIER

N.T.S.



SIDA DOUBLE SWING GATE WITH BARRIER

N.T.S.

CITY OF ATLANTA, GEORGIA

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DOA CIVIL STANDARD DETAILS

Chain Link Fences - 5

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-204	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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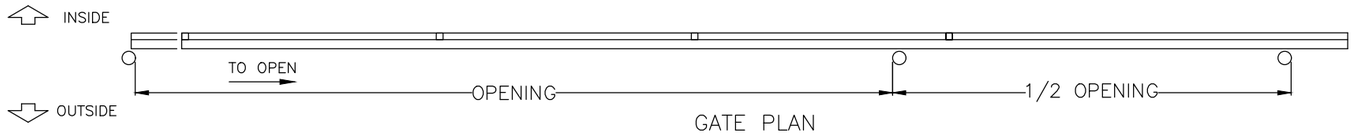
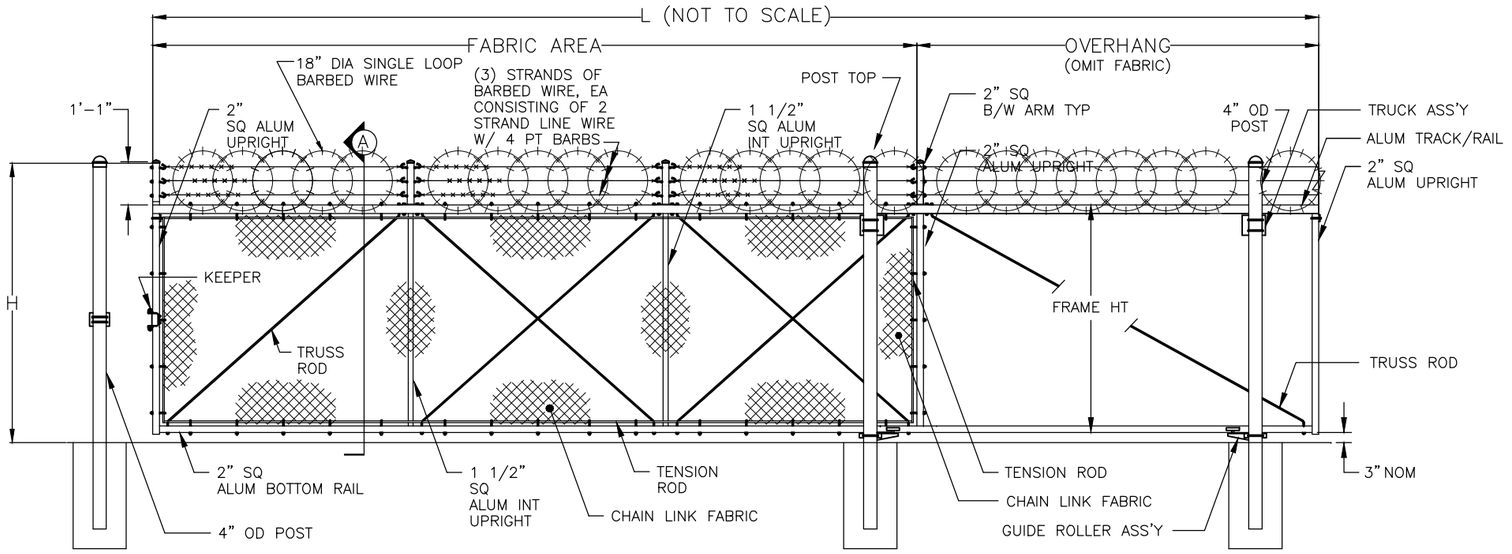
POST TOP
DOMED

NOM HEIGHT (H)
7'–0" (6'+1')
8'–0" (7'+1')
9'–0" (8'+1')

OPENING
6'–0" THROUGH 22'–0"



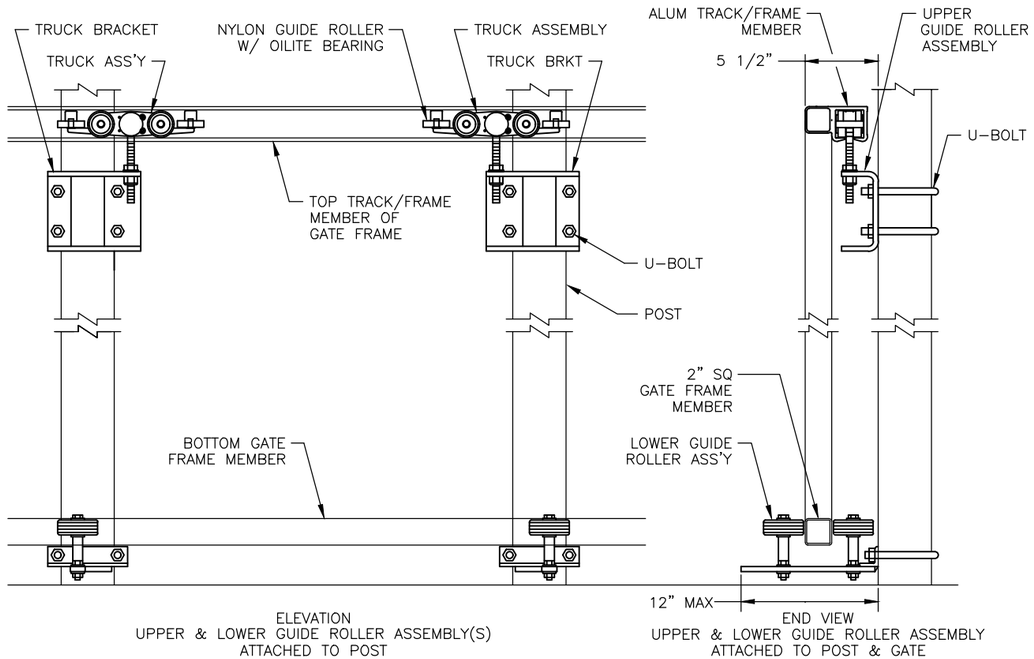
GATE PLAN



SINGLE CANTILEVERED SLIDING GATE

ROUND POSTS, W/ BARBED WIRE

N.T.S



CANTILEVERED SLIDING GATE

DETAILS

NOTES:

1. FOOTING WIDTH TO BE (4)X POST WIDTH. MIN DEPTH TO BE 36".

2. GATES MAY BE MANUALLY OR ELECTRICALLY OPERATED. HARDWARE WILL VARY FOR ELECTRICALLY OPERATED GATES.

3. SOME DIMENSIONS MAY VARY. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SHOP DRAWINGS AND RECEIVE APPROVAL PRIOR TO INSTALLATION.

4. FOR PROPERTY GATE USAGE OMIT SINGLE LOOP BARBED WIRE.

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0	06/20/2014	RFM	FIRST ISSUE

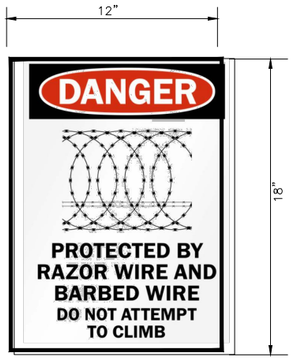
DOA CIVIL STANDARD DETAILS

Chain Link Fences - 6

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-205	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

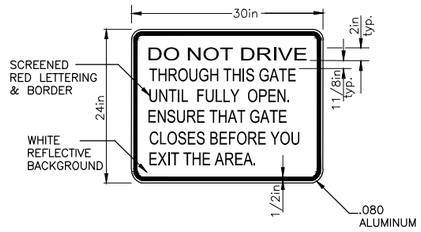
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

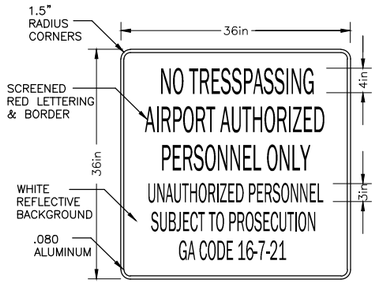


SIDA DANGER SIGN DETAIL

SIGN TO BE PLACED APPROX. 10' FROM SIDA WARNING SIGN WHICH IS PLACED EVERY 200 FEET.

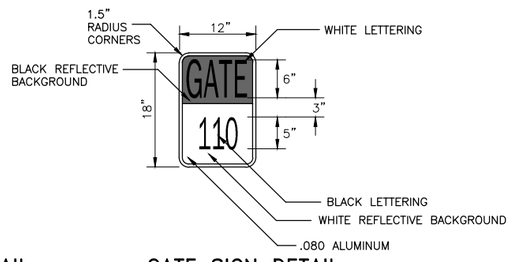


AUTOMATIC SIDA GATE WARNING SIGN DETAIL



SIDA FENCE WARNING SIGN DETAIL

NOTE: TO BE PLACED EVERY 200 FEET ON SIDA ADJACENT FENCING.



GATE SIGN DETAIL

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson
Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Chain Link Fence - Signage

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-03-206	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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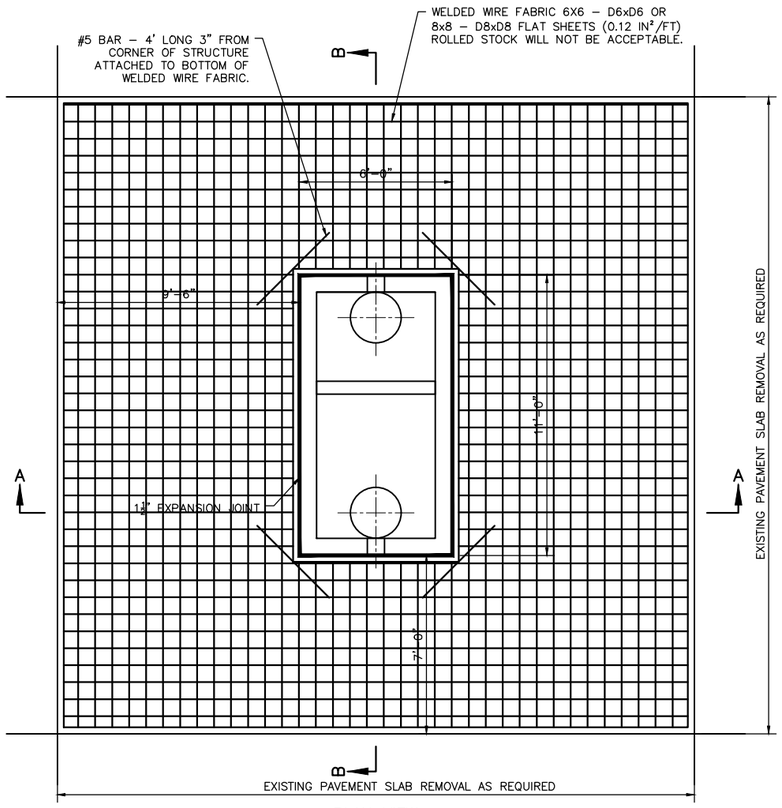
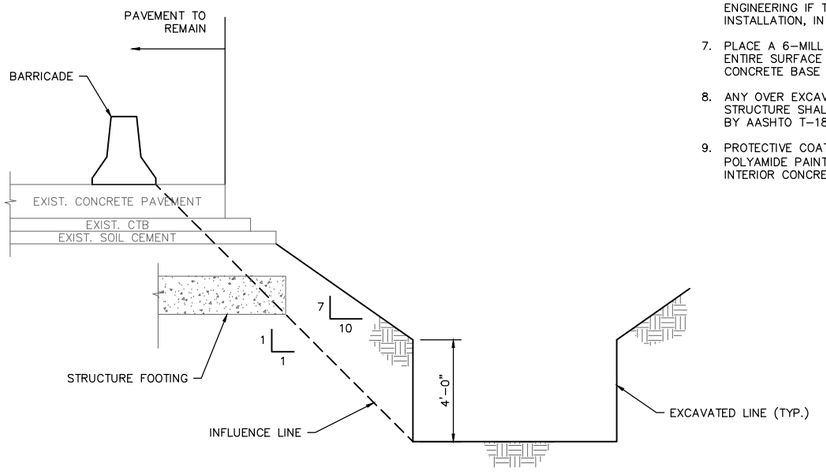
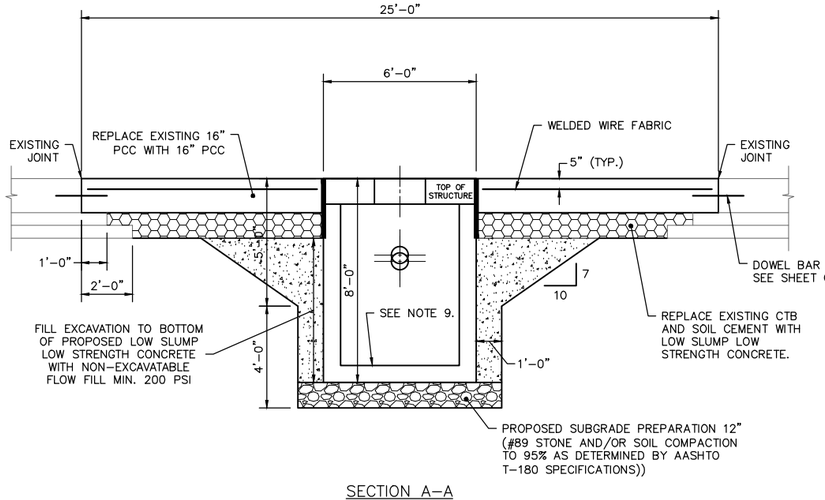


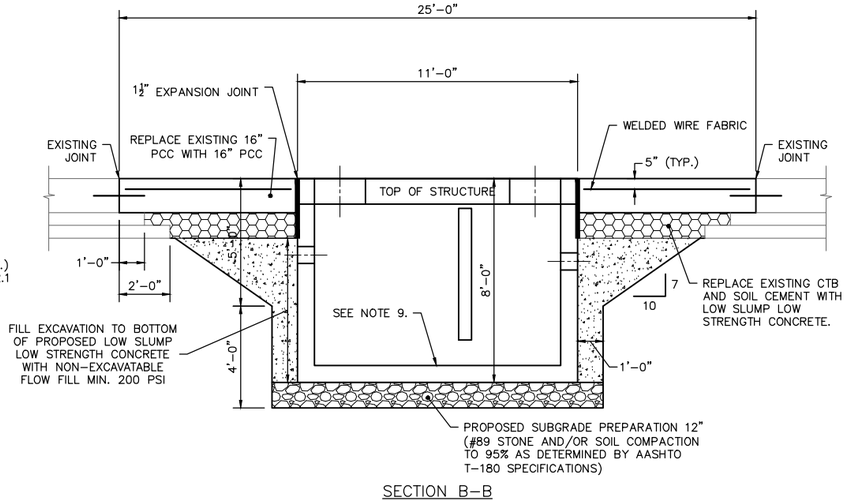
PLAN VIEW



TYPICAL EXCAVATION SECTION



SECTION A–A



SECTION B–B

1,500 GALLON CAPACITY GREASE INTERCEPTOR IN CENTER OF 25'x25' CONCRETE SLAB

N.T.S.

INSTALLATION NOTES:

1. THE CONTRACTOR SHALL INCLUDE WITHIN THE PERIMETER BARRICADE AROUND THE EXCAVATION ALL AREAS WITHIN A ONE TO ONE SLOPE FROM THE BOTTOM OF THE EXCAVATION TO THE TOP OF THE SURROUNDING PAVEMENT. NO HEAVY ITEMS OR EQUIPMENT SHALL BE WITHIN THIS AREA SO AS TO PROTECT THE BEARING CAPACITY OF THE PAVEMENT TO REMAIN. THIS REQUIREMENT SHALL REMAIN IN EFFECT UNTIL THE EXCAVATION IS BACKFILLED TO AN ELEVATION WHERE A ONE TO ONE SLOPE DOES NOT INTERSECT THE TOP OF THE PAVEMENT TO REMAINING.
2. THE AREA ABOVE EXCAVATIONS MORE THAN 4 FEET IN DEPTH SHALL HAVE A TEMPORARY SURFACE SLOPE DURING CONSTRUCTION NOT TO EXCEED A SLOPE OF TEN TO SEVEN.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM OF A ONE TO ONE SLOPE FROM THE BOTTOM OF THE EXCAVATION TO THE BOTTOM OF THE CLOSEST PART OF ANY EXISTING STRUCTURE FOOTING.
4. THE INSTALLATION SHOWN ON THIS SHEET REQUIRES THE TOP OF THE INTERCEPTOR STRUCTURE TO BE SET FLUSH WITH THE SURFACE OF THE SURROUNDING PAVEMENT. THE PAVEMENT REMOVED SURROUNDING THIS INSTALLATION SHALL BE REPLACED TO THE EXACT SAME ELEVATION AS THE EXISTING PAVEMENT.
5. STRUCTURAL LIVE LOAD FOR THE GREASE INTERCEPTORS SHALL BE A 50,000 LB. WHEEL LOAD, TO ALLOW FOR PUSH BACK TRACTORS. WHERE APPLICABLE, A 0.8 TRACTION COEFFICIENT SHALL BE APPLIED TO ACCOUNT FOR THE HORIZONTAL REACTION AT THE TIRE/PAVEMENT INTERFACE.
6. THE PROJECT ENGINEER AND/OR CONTRACTOR SHALL COORDINATE WITH DOA ENGINEERING IF THE INSTALLATION CAN NOT COMPLY WITH THE TYPICAL INSTALLATION, IN THE CENTER OF A 25'X25' SLAB.
7. PLACE A 6–MILL POLYETHYLENE BOND BREAKER FILM OR EQUAL UNDER THE ENTIRE SURFACE PAVEMENT INCLUDING OVER, THE LOW SLUMP LOW STRENGTH CONCRETE BASE AND THE EXISTING REMAINING BASE MATERIAL.
8. ANY OVER EXCAVATED AREAS UNDER THE LOCATION FOR THE INTERCEPTOR STRUCTURE SHALL BE BACKFILLED AND COMPACTED TO 95% AS DETERMINED BY AASHTO T–180.
9. PROTECTIVE COATING: PLANT APPLIED, SSPC PAINT 16, COAL TAR, EPOXY POLYAMIDE PAINT; 10 MIL (0.26 mm) MINIMUM THICKNESS APPLIED TO ALL INTERIOR CONCRETE SURFACES.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

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0	06/20/2014	RFM	FIRST ISSUE

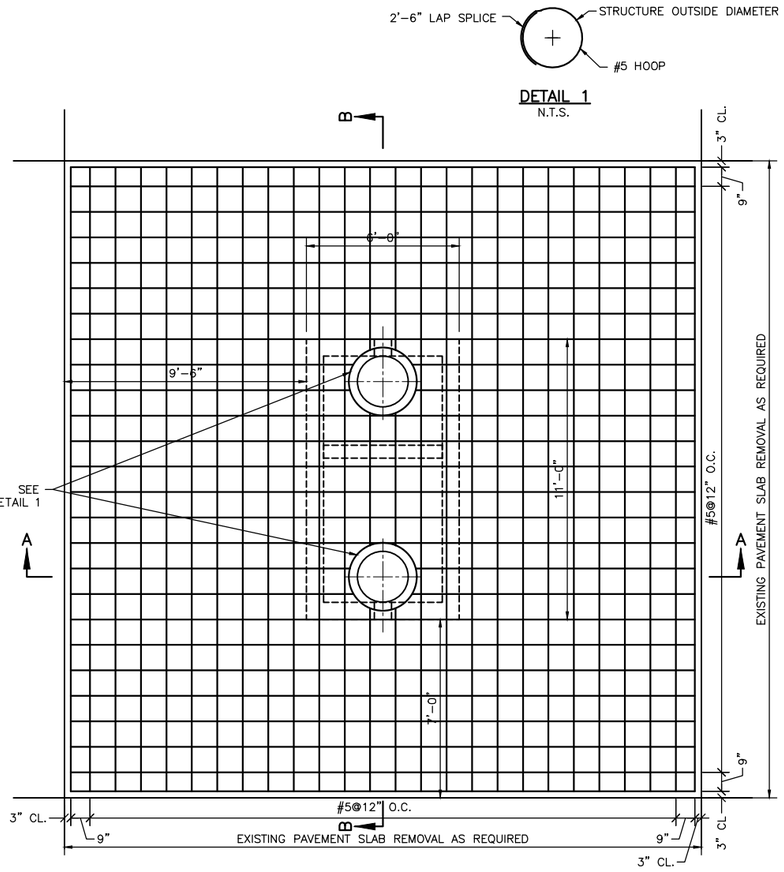
DOA CIVIL STANDARD DETAILS

Typical Grease Interceptor Installation (Top Of Interceptor Flush With Pavement Surface, Designed For Tug Loading) - Case 1

WBS NUMBER: .	DRAWN BY: STAFF
PC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
DRAWING SHEET NUMBER: STD-03-300	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

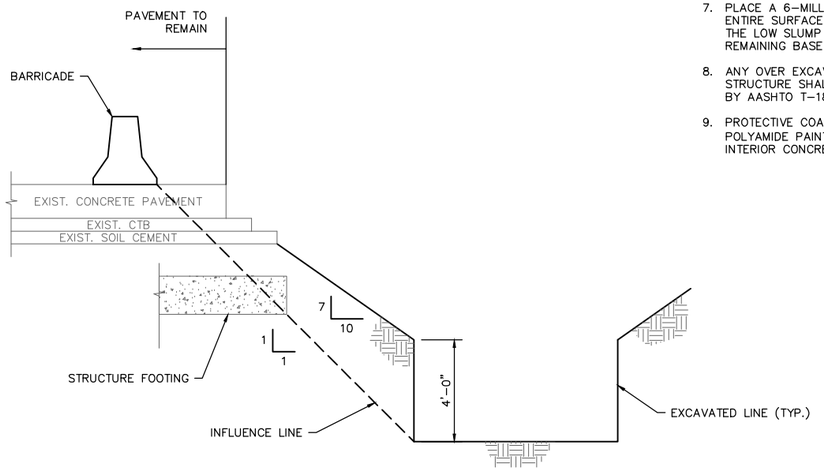
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

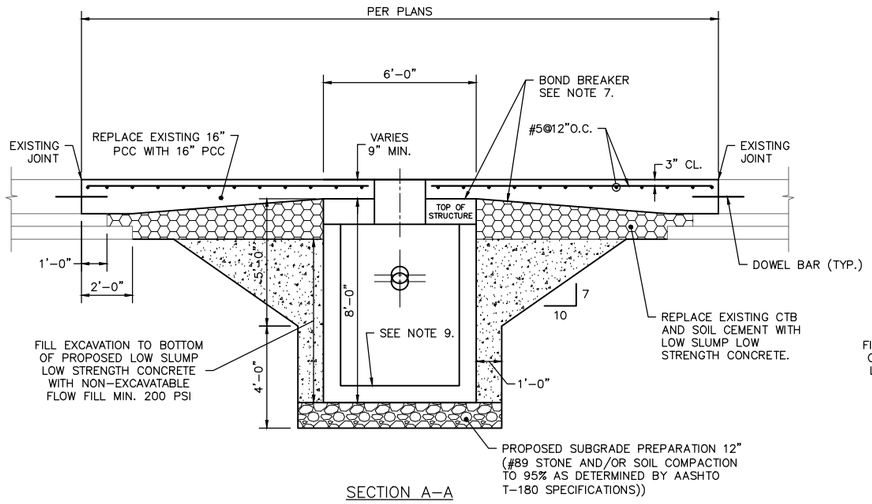


DETAIL 1
N.T.S.

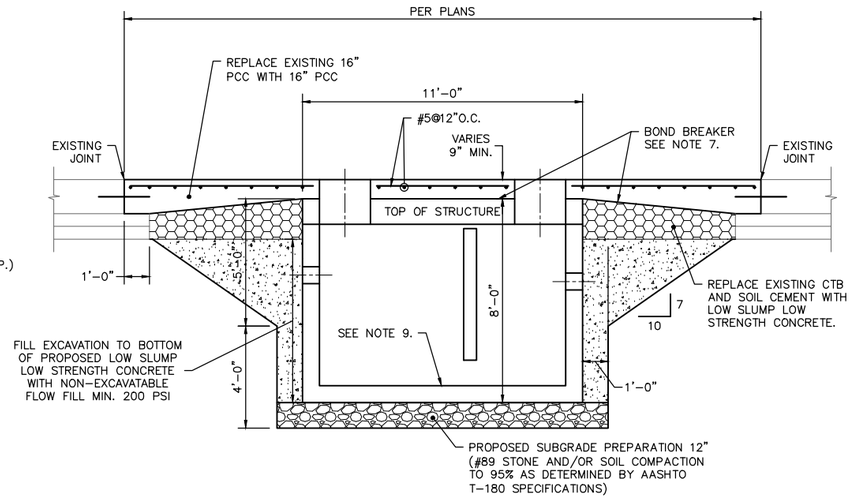
PLAN VIEW



TYPICAL GREASE INTERCEPTOR EXCAVATION SECTION



SECTION A-A



SECTION B-B

1,500 GALLON CAPACITY GREASE INTERCEPTOR IN 25'x25' CONCRETE SLAB
N.T.S.

INSTALLATION NOTES:

1. THE CONTRACTOR SHALL INCLUDE WITHIN THE PERIMETER BARRICADE AROUND THE EXCAVATION ALL AREAS WITHIN A ONE TO ONE SLOPE FROM THE BOTTOM OF THE EXCAVATION TO THE TOP OF THE SURROUNDING PAVEMENT. NO HEAVY ITEMS OR EQUIPMENT SHALL BE WITHIN THIS AREA SO AS TO PROTECT THE BEARING CAPACITY OF THE PAVEMENT TO REMAIN. THIS REQUIREMENT SHALL REMAIN IN EFFECT UNTIL THE EXCAVATION IS BACKFILLED TO AN ELEVATION WHERE A ONE TO ONE SLOPE DOES NOT INTERSECT THE TOP OF THE PAVEMENT TO REMAINING.
2. THE AREA ABOVE EXCAVATIONS MORE THAN 4 FEET IN DEPTH SHALL HAVE A TEMPORARY SURFACE SLOPE DURING CONSTRUCTION NOT TO EXCEED A SLOPE OF TEN TO SEVEN.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM OF A ONE TO ONE SLOPE FROM THE BOTTOM OF THE EXCAVATION TO THE BOTTOM OF THE CLOSEST PART OF ANY EXISTING STRUCTURE FOOTING.
4. THE PAVEMENT REMOVED SURROUNDING THIS INSTALLATION SHALL BE REPLACED TO THE EXACT SAME ELEVATION AS THE EXISTING PAVEMENT.
5. STRUCTURAL LIVE LOAD FOR THE GREASE INTERCEPTORS SHALL BE A 50,000 LB. WHEEL LOAD, TO ALLOW FOR PUSH BACK TRACTORS. WHERE APPLICABLE, A 0.8 TRACTION COEFFICIENT SHALL BE APPLIED TO ACCOUNT FOR THE HORIZONTAL REACTION AT THE TIRE/PAVEMENT INTERFACE.
6. THE PROJECT ENGINEER AND/OR CONTRACTOR SHALL COORDINATE WITH DOA ENGINEERING IF THE INSTALLATION CAN NOT COMPLY WITH THE TYPICAL INSTALLATION, IN THE CENTER OF A 25'X25' SLAB.
7. PLACE A 6-MILL POLYETHYLENE BOND BREAKER FILM OR EQUAL UNDER THE ENTIRE SURFACE PAVEMENT INCLUDING OVER THE INTERCEPTOR STRUCTURE, THE LOW SLUMP LOW STRENGTH CONCRETE BASE AND THE EXISTING REMAINING BASE MATERIAL.
8. ANY OVER EXCAVATED AREAS UNDER THE LOCATION FOR THE INTERCEPTOR STRUCTURE SHALL BE BACKFILLED AND COMPACTED TO 95% AS DETERMINED BY AASHTO T-180.
9. PROTECTIVE COATING: PLANT APPLIED, SSPC PAINT 16, COAL TAR, EPOXY POLYAMIDE PAINT; 10 MIL (0.26 mm) MINIMUM THICKNESS APPLIED TO ALL INTERIOR CONCRETE SURFACES.

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NO.	DATE	BY	REVISION
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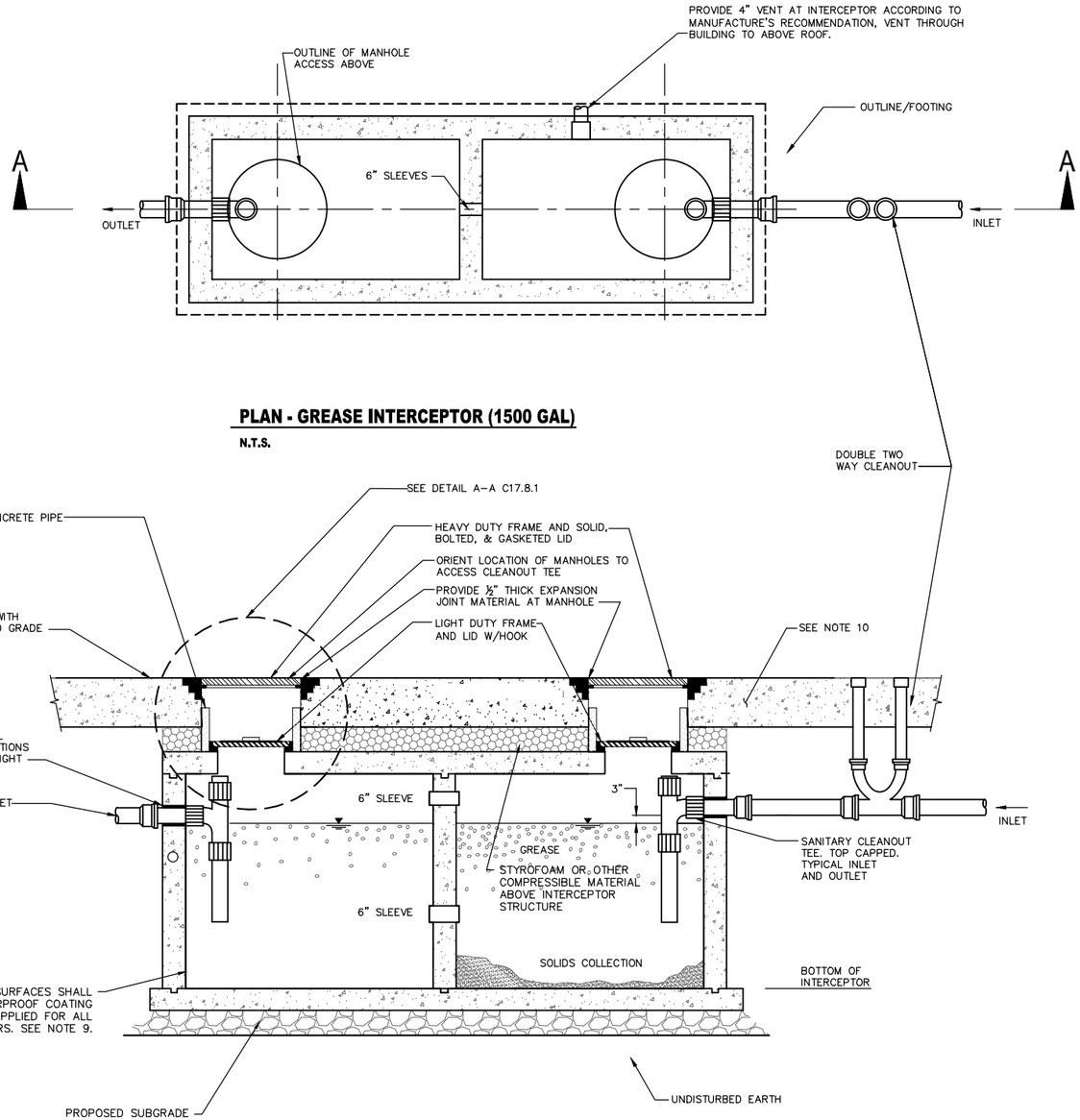
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS
Typical Grease Interceptor Installation (Top Of Interceptor Below Pavement, Designed For Tug Loading) - Case 2

WBS NUMBER: .	DRAWN BY: STAFF
TC NUMBER: .	DESIGNED BY: STAFF
CONSTRUCTION PROJECT NUMBER: .	CHECKED BY: STAFF
DRAWING SHEET NUMBER: STD-03-301	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION



PLAN - GREASE INTERCEPTOR (1500 GAL)

N.T.S.

SECTION A-A - GREASE INTERCEPTOR (1500 GAL)

N.T.S.

INSTALLATION NOTES:

1. SEE SHEET C17.5.1 FOR EXCAVATING AND BACKFILLING FOR FOR INSTALLATION OF GREASE INTERCEPTOR.
2. THE AREA ABOVE EXCAVATIONS MORE THAN 4'IN DEPTH SHALL HAVE A TEMPORARY SURFACE SLOPE DURING CONSTRUCTION NOT TO EXCEED A SLOPE OF TEN TO SEVEN.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM OF A ONE TO ONE SLOPE FROM THE BOTTOM OF THE EXCAVATION TO THE BOTTOM OF THE CLOSEST PART OF ANY EXISTING STRUCTURE FOOTING.
4. THE PAVEMENT REMOVED SURROUNDING THIS INSTALLATION SHALL BE REPLACED TO THE EXACT SAME ELEVATION AS THE EXISTING PAVEMENT.
5. STRUCTURAL LIVE LOAD FOR THE GREASE INTERCEPTORS SHALL BE A MINIMUM H-20 WHEEL LOAD.
6. THE PROJECT ENGINEER AND/OR CONTRACTOR SHALL COORDINATE WITH DOA ENGINEERING IF THE INSTALLATION CAN NOT COMPLY WITH THE TYPICAL INSTALLATION, IN THE CENTER OF A 25'X25'SLAB, AS SHOWN ON SHEET C17.5.1.
7. PLACE A 6-MILL POLYETHYLENE BOND BREAKER FILM OR EQUAL UNDER THE ENTIRE SURFACE PAVEMENT INCLUDING OVER, THE LOW SLUMP LOW STRENGTH CONCRETE BASE AND THE EXISTING REMAINING BASE MATERIAL.
8. ANY OVER EXCAVATED AREAS UNDER THE LOCATION FOR THE INTERCEPTOR STRUCTURE SHALL BE BACKFILLED AND COMPACTED TO 95% AS DETERMINED BY AASHTO T-180.
9. PROTECTIVE COATING: PLANT APPLIED, SSPC PAINT 16, COAL TAR, EPOXY POLYAMIDE PAINT; 10 MIL (0.26 mm) MINIMUM THICKNESS APPLIED TO ALL INTERIOR CONCRETE SURFACES.
10. SEE SHEET C17.8.1 FOR BRIDGING PAVEMENT SLAB TYPICAL LAYOUT.

STRUCTURAL DESIGN CRITERIA:

1. THESE DESIGN CRITERIA APPLY WHERE THE PROPOSED INSTALLATION IS IN AN APRON AREA THAT IS NOT SUBJECT TO AIRCRAFT LOADS. STRUCTURES SUBJECT TO AIRCRAFT LOADS SHALL BE DESIGNED IN ACCORDANCE WITH APPENDIX 3 OF FAA ADVISORY CIRCULAR AC 150/5320-6E.
2. STRUCTURAL DESIGN SHALL BE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION.
3. THE DESIGN LIVE LOAD SHALL BE EQUIVALENT TO AN H-62.5 TRUCK WITHOUT ALLOWANCE FOR IMPACT.

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NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

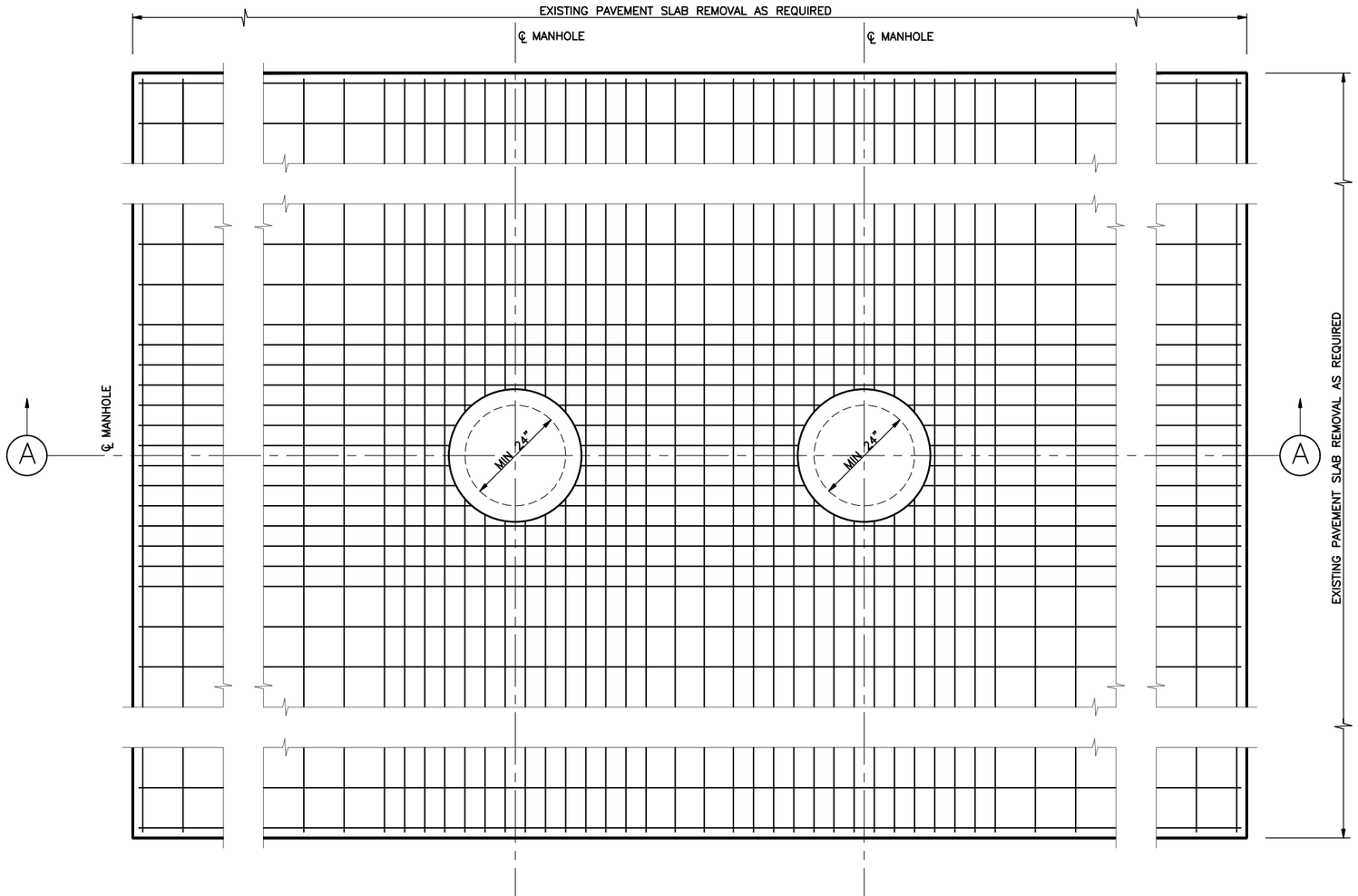
DOA CIVIL STANDARD DETAILS

Below Pavement Grease Interceptor Details (Interceptor Not Designed For Tug Loading) - Case 3

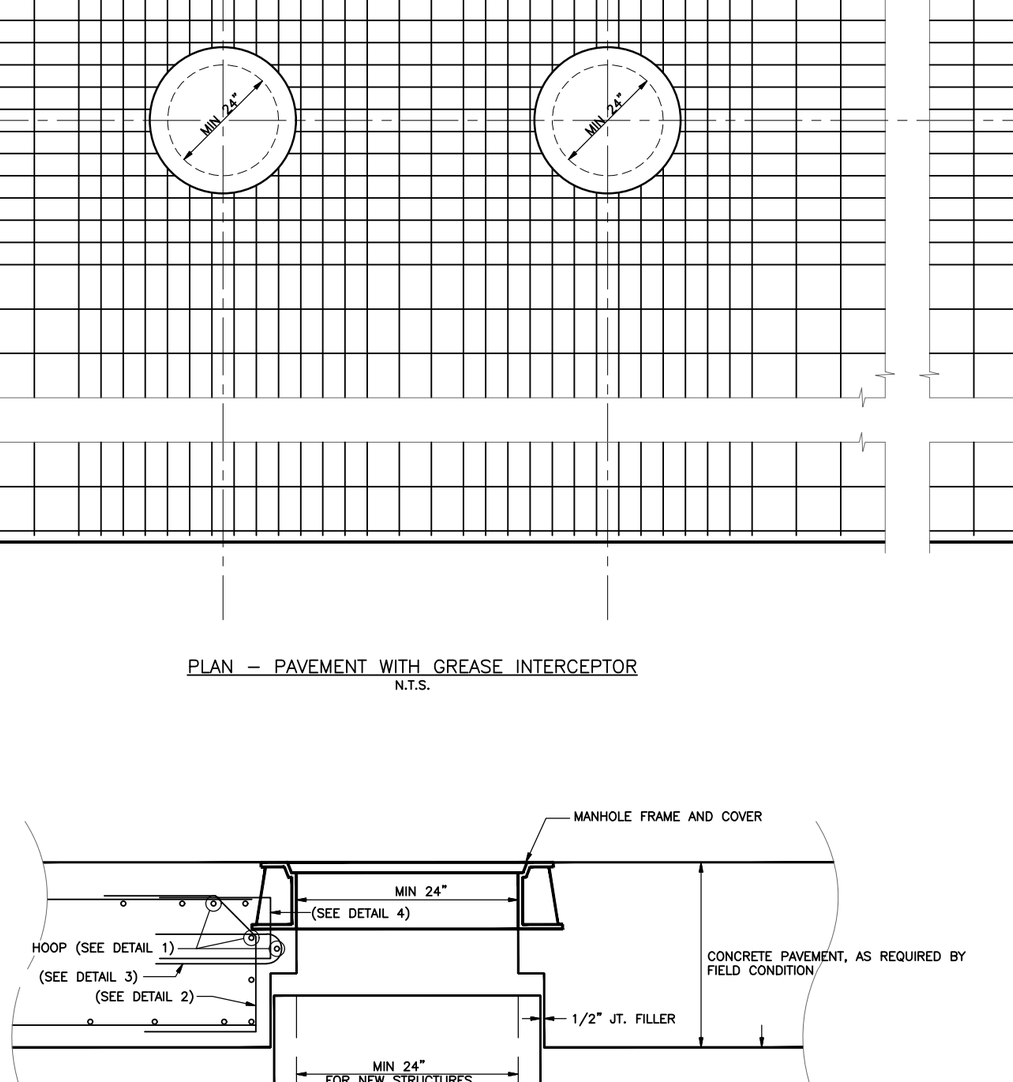
WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-03-302	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

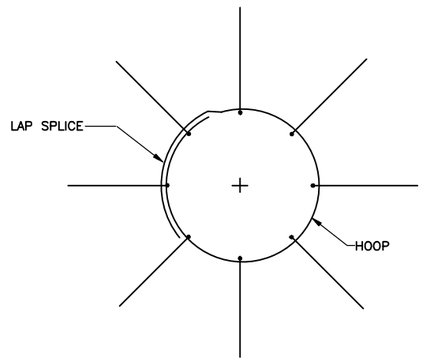
NOT RELEASED FOR CONSTRUCTION



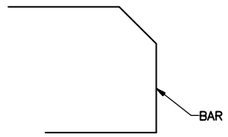
PLAN – PAVEMENT WITH GREASE INTERCEPTOR
N.T.S.



SECTION A–A
N.T.S.

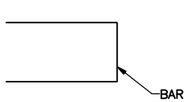


DETAIL 1
N.T.S.



DETAIL 2
N.T.S.

DETAIL 3
N.T.S.



DETAIL 4
N.T.S.

TYPICAL BAR BENDING DETAILS
N.T.S.

NOTES:
1. REINFORCING STEEL SHOWN IN PLAN IS SYMMETRICAL IN BOTH DIRECTIONS ABOUT THE GREASE INTERCEPTOR.
2. SEE PAVING PLANS FOR LOCATION OF STRUCTURES.
3. SEE SHEET C17.7.1 FOR LOADING REQUIREMENTS.

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1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

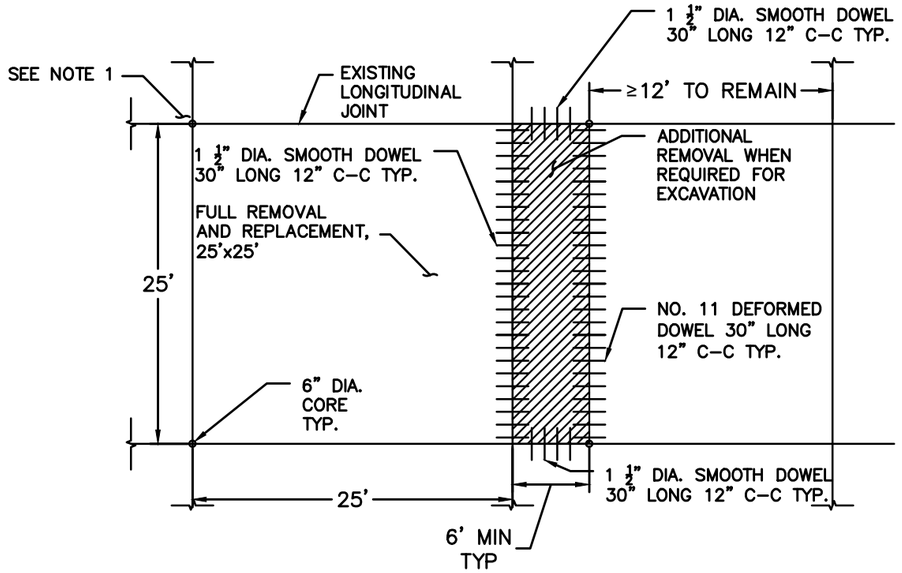
Utility Slab Detail For Interceptor Below Pavement

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-303	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

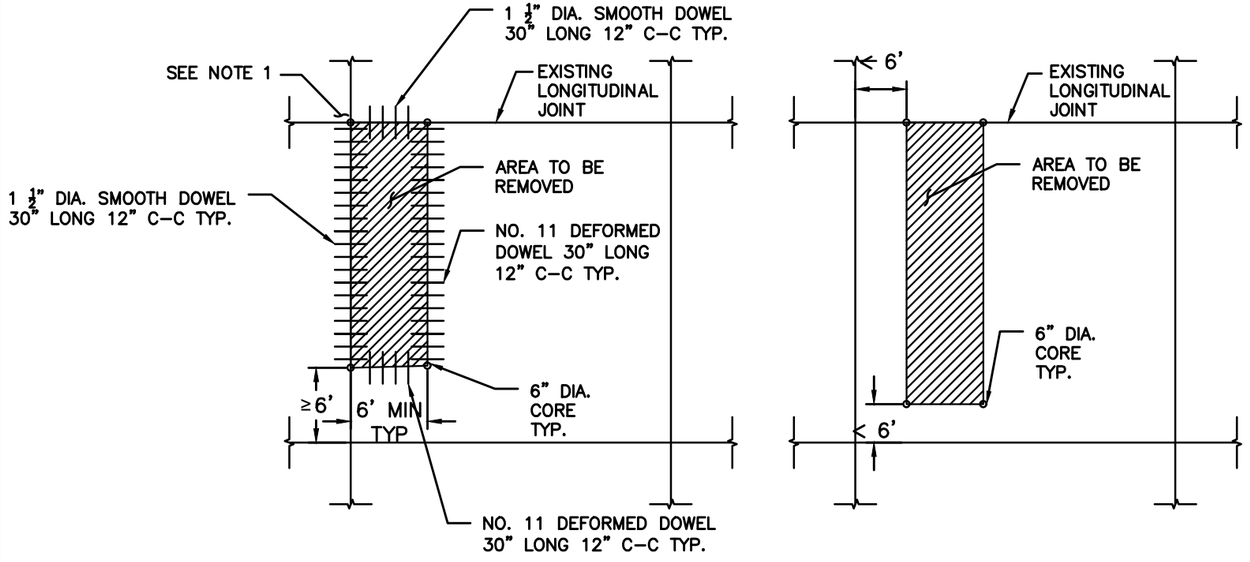
NOT RELEASED FOR CONSTRUCTION

q:\facilities\engineering\cadd library\doa standard details\details\std-03-303 utility slab detail for interceptor below pavement.dwg



DETAIL FOR ADDITIONAL PAVEMENT REMOVAL

NTS



CASE 1
ACCEPTABLE

CASE 2
NOT ACCEPTABLE

PAVEMENT REMOVAL AND REPLACEMENT LIMITS (USE FOR PIPE TRENCHES)

NTS

NOTES:

1. SEE DOWEL SPACING DETAIL AT JOINT CORNERS DETAIL.

2. ONLY SAWCUTS MADE ALONG EXISTING JOINT LINES MAY BE OVERCUT. OTHER SAWCUTS WILL TERMINATE IN A 6" FULL DEPTH CORE TO PREVENT DAMAGE TO THE PAVEMENT TO BE RETAINED. SEE DETAIL.

3. DOWELS ALONG EXISTING JOINTS SHALL BE 1–1/2" X 30" SMOOTH DOWELS AT 12" NOMINAL SPACING. DOWELS THAT ARE ON SAWED FACES ONLY WILL BE #11 X 30" DEFORMED DOWELS AT 12" NOMINAL CENTERS. ALL DOWELS SHALL BE INSTALLED BY DRILLING AND EPOXYING.

4. CONTRACTOR SHALL LAY OUT REMOVAL AREA AS SPECIFIED IN THESE DOCUMENTS. PRIOR TO INITIATING REMOVAL, THE CONTRACTOR SHALL RECEIVE LAYOUT APPROVAL FROM THE ENGINEER.

5. SAWCUT AND REMOVE PAVEMENT CAREFULLY SO AS NOT TO DAMAGE/SPALL REMAINING CONCRETE EDGE. SAWCUTS MAY BE LEFT IN PLACE AHEAD OF REMOVAL OPERATION.

6. EXCAVATE SOIL TO THE REQUIRED DEPTH. REMOVE ALL DISTURBED MATERIAL UNTIL A FIRM FOUNDATION IS ACHIEVED.

7. INSTALL APPROPRIATE BEDDING AND UTILITY THEN BACKFILL TO REQUIRED DEPTH.

8. INSTALL DOWELS AND REBAR.

9. SAND BLAST THE SURFACE OF THE CONCRETE TO EXPOSE ROUGH AGGREGATE. COAT SAWCUT SURFACES WITH BONDING AGENT. EXISTING JOINT FACES DO NOT REQUIRE BONDING AGENT.

10. PLACE CONCRETE LEVEL WITH THE ADJACENT SURFACE. COMPLETELY CONSOLIDATE CONCRETE, FILL ALL VOIDS BY VIBRATING.

CITY OF ATLANTA, GEORGIA

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PLANNING & DEVELOPMENT

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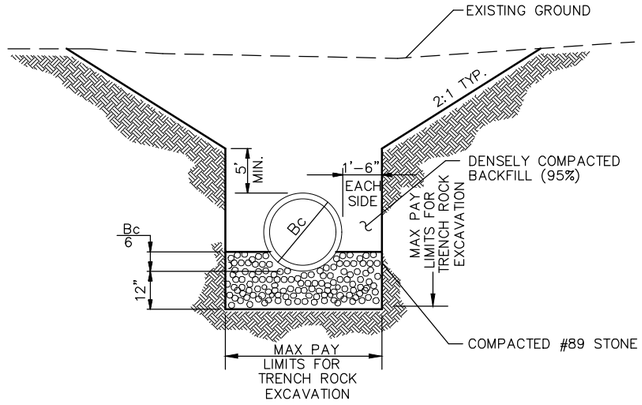
DOA CIVIL STANDARD DETAILS

Additional Pavement Removal

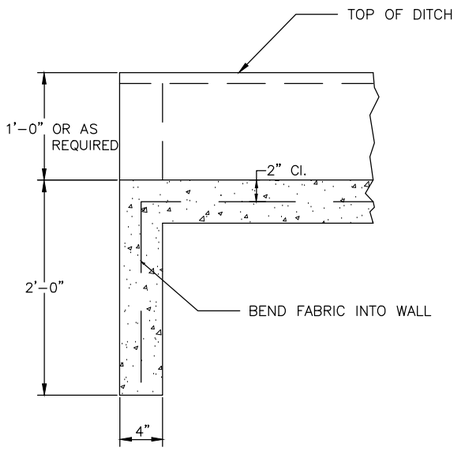
WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-304	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

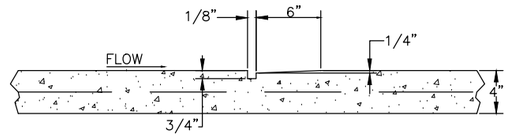
NOT RELEASED FOR CONSTRUCTION



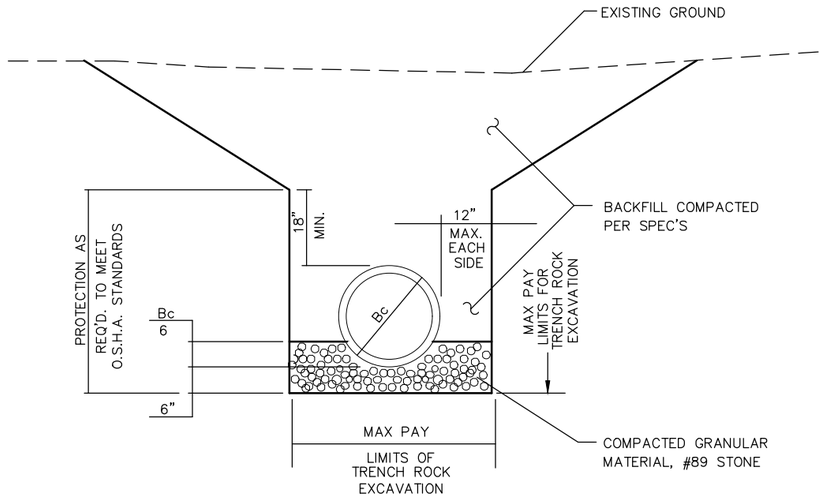
TYPE "B" PIPE BEDDING AND EXCAVATION SECTION
N.T.S.



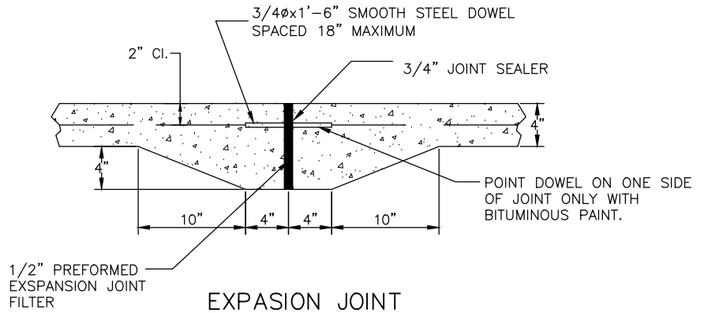
SECTION A-A



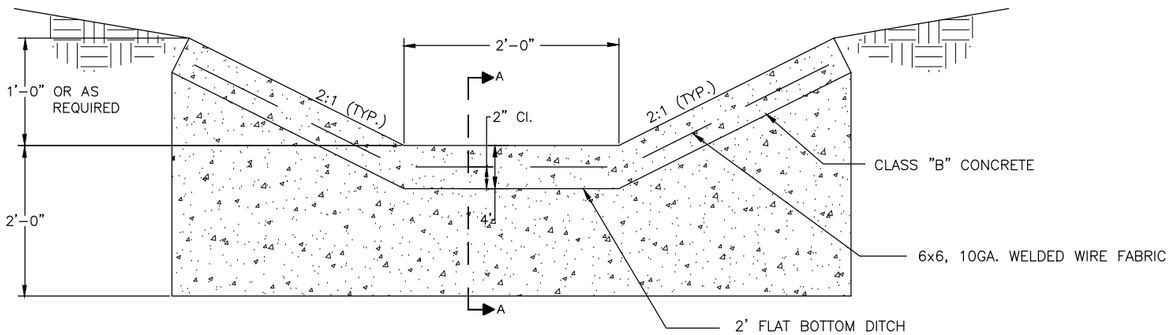
CONTRACTION JOINT



TYPE "C" PIPE BEDDING AND EXCAVATION SECTION
(GRANULAR FOUNDATION)
N.T.S.



EXPASION JOINT



PAVED DITCH DETAIL
N.T.S.

NOTES:
1. SLOPES MAY VARY. SEE CROSS SECTIONS FOR VALUES.

2. JOINTING PATTERN: SCORE JOINT ALONG THE DRAINAGE PATH CENTERLINE AND SCORE TRANSVERSE JOINTS EVERY 4 FEET.

3. THE CONCRETE FOR PAVED DITCHES SHALL BE PLACED WITH CONTRACTION JOINTS AT INTERVALS NOT TO EXCEED 25'. EXPANSION JOINTS SHALL REPLACE CONTRACTION JOINTS AT APPROXIMATELY 100 FOOT SPACING. EXPANSION JOINTS ALSO OCCUR AT INTERFACES WITH HEADWALL OR INLET APRONS.

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NO.	DATE	BY	REVISION
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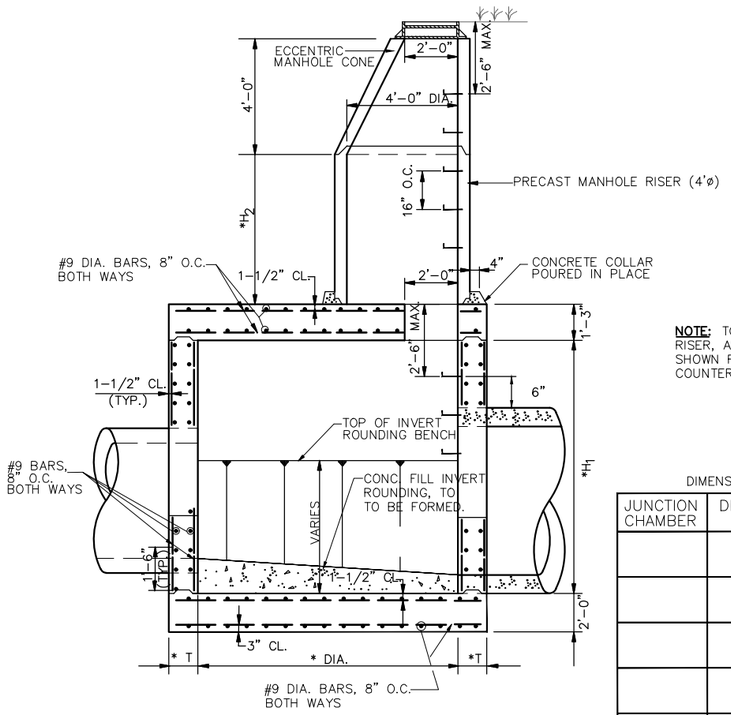
Pipe Bedding Type 'B' and 'C', Paved Ditch Detail

WBS NUMBER:	DRAWN BY: STAFF
FC NUMBER:	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER:	CHECKED BY: STAFF
STANDARD SHEET NUMBER: STD-03-400	APPROVED BY: STAFF
	DATE:
	SCALE:
	SHEET NO:

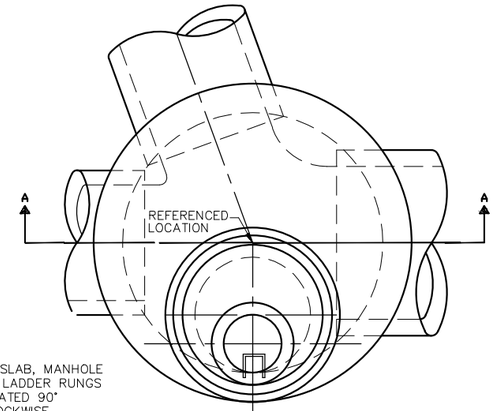


SECTION A–A

PRECAST JUNCTION CHAMBER

N.T.S.

* REFER TO DIMENSIONS FOR CHAMBER CHART ON THIS SHEET



TOP PLAN

NOTE: TOP SLAB, MANHOLE RISER, AND LADDER RUNGS SHOWN ROTATED 90° COUNTERCLOCKWISE.

DIMENSIONS FOR CHAMBER

JUNCTION CHAMBER	DIA.	H_1	H_2	T

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DOA CIVIL STANDARD DETAILS

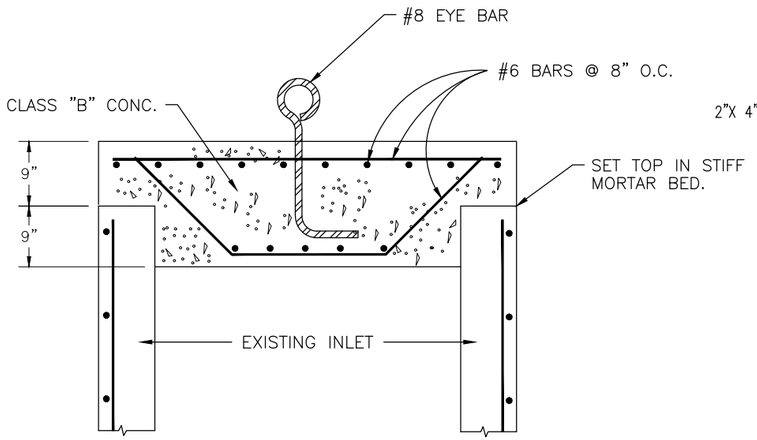
Precast Junction Chamber

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-401	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

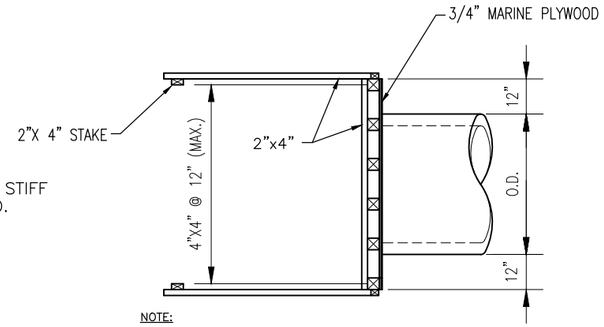
q:\facilities\engineering\cadd library\doa standard details\details\std-03-401 precast junction chamber.dwg



NOTE:
REMOVE FRAME & GRATE AND INLET WALLS DOWN TO 2'–6" FROM CROWN OF OUTLET PIPE.

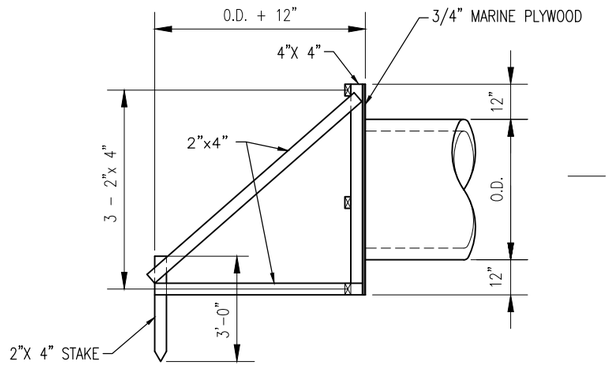
CAP FOR EXISTING INLET

N.T.S.
PAID FOR AS MISC. CONCRETE.



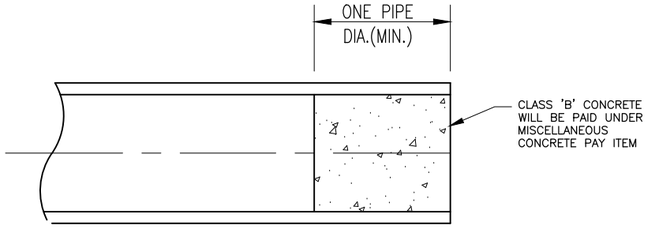
NOTE:

1. ALL TIMBER FRAMING FOR TEMPORARY BULKHEAD SHALL BE PRESSURE TREATED TIMBER.
2. ALL TIMBER CONNECTIONS SHALL BE MADE WITH GALVANIZED STEEL NAILS
3. TEMPORARY BULKHEADS SHALL BE INCIDENTAL TO UNIT PRICE BID FOR PIPE.



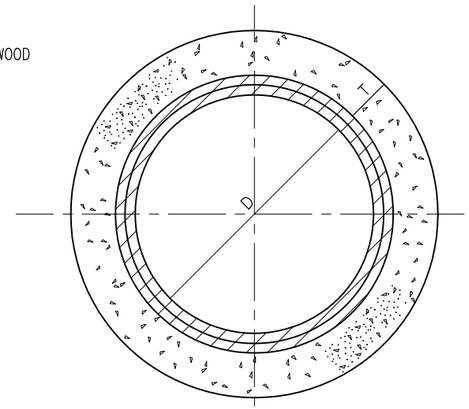
ELEVATION

TEMPORARY TIMBER BULKHEAD



SECTION OF CONCRETE PIPE PLUG

SCALE: NTS



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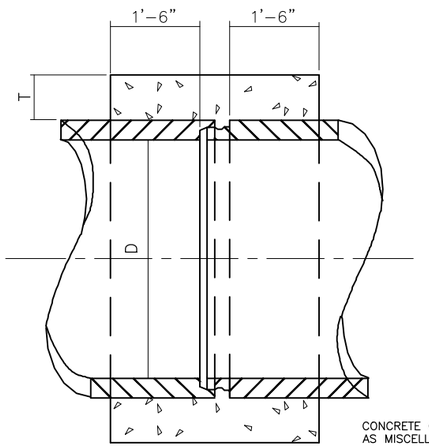


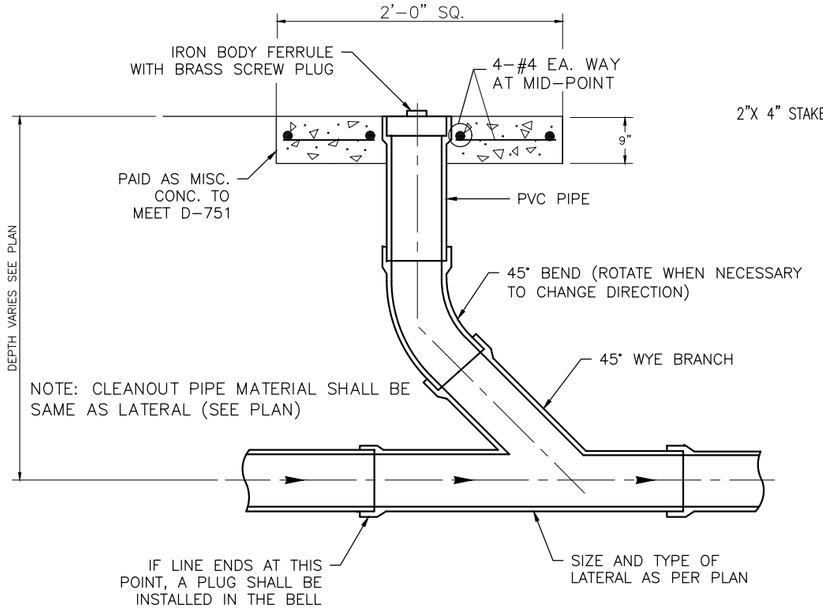
CONCRETE COLLAR TO BE PAID FOR AS MISCELLANEOUS CONCRETE

D IN	T IN	As *
15	6	21"
18	6	24"
24	6	30"
30	6	42"
36	6	48"
42	6	54"
48	9	60"
54	9	66"
60	9	72"
66	9	78"
72	12	84"
78	12	90"
84	12	96"
96	12	108"

* STEEL CAGE REQUIRED FOR COLLAR IS EQUIVALENT TO CAGE USED IN PIPE SIZE AS SHOWN IN COLUMN As AND FOR SAME CLASS OF PIPE USED.

CONCRETE PIPE COLLAR DETAIL

(FOR CONNECTING EXISTING PIPE TO PROPOSED PIPE)
N.T.S.



CLEANOUT DETAIL

N.T.S.

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DEPARTMENT OF AVIATION
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NO.	DATE	BY	REVISION

DOA CIVIL STANDARD DETAILS

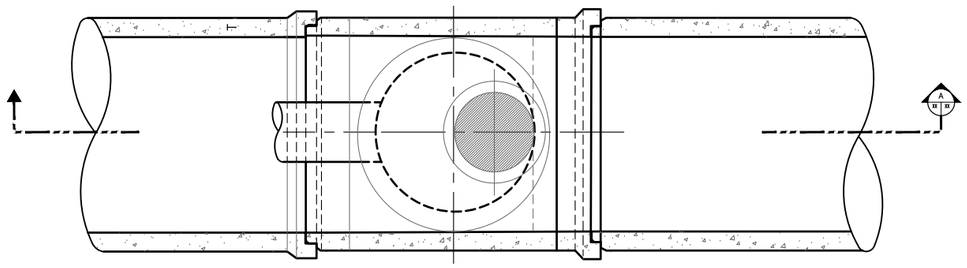
Concrete Pipe Collar, Cleanout, Cap for Exist. Inlet

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-402	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

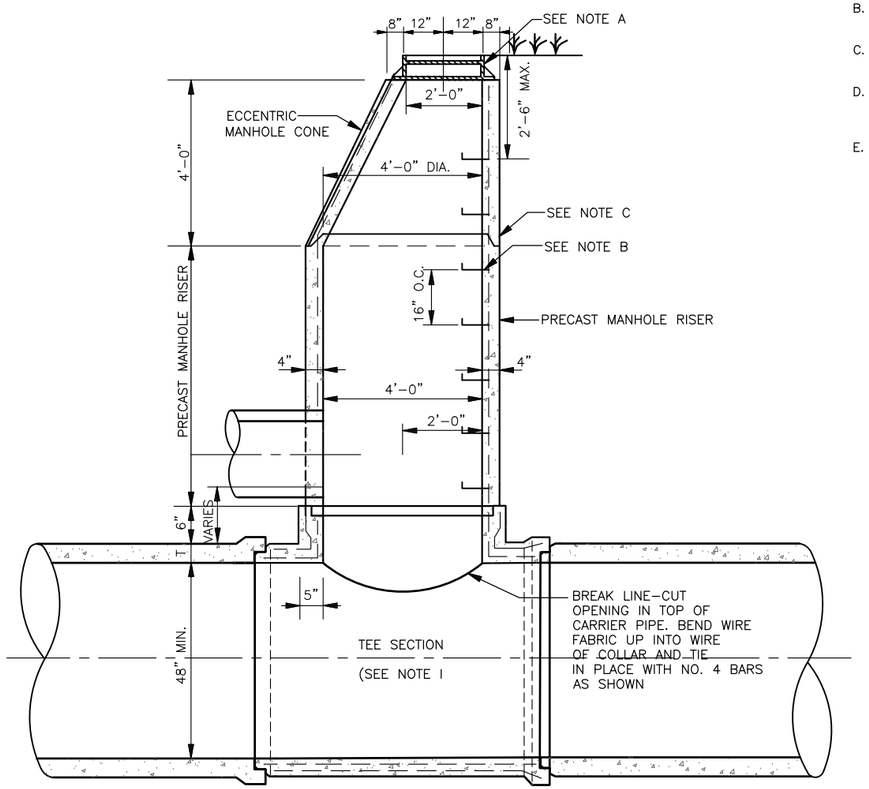
DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

q:\facilities\engineering\cadd library\doa standard details\details\std-03-402 concrete pipe collar, cleanout, cap for exist. inlet.dwg



PLAN SECTION
NOT TO SCALE



RISER TEE MANHOLE FOR EXISTING OR PROPOSED PIPE
NOT TO SCALE

NOTES:

A. 4" PRECAST CONCRETE ADJUSTMENT RINGS AS REQUIRED, WITH A MAXIMUM OF TWO RINGS PER MANHOLE. RINGS TO BE FURNISHED WITH 1" DIAMETER HOLES AT 180° FOR FRAME DOWELS

B. STANDARD STEPS SPACED AT 16" O.C. SHALL BE CAST IRON, NEENAH PATTERN NO. R-1980-C OR EQUAL.

C. JOINTS BETWEEN ALL PRECAST MANHOLE COMPONENTS SHALL BE FUEL RESISTANT O-RING.

D. MANHOLE FRAME AND COVER TO BE BARRY PATTERN B-1600-D OR APPROVED EQUAL WITH NO. 4 STEEL DOWELS BEDDED IN STIFF MORTAR.

E. PRECAST MANHOLE RISERS AND BASE SHALL CONFORM TO THE PROVISIONS OF ASTM C-478.

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DOA CIVIL STANDARD DETAILS

Riser Tee Manhole for Existing or Proposed Pipe

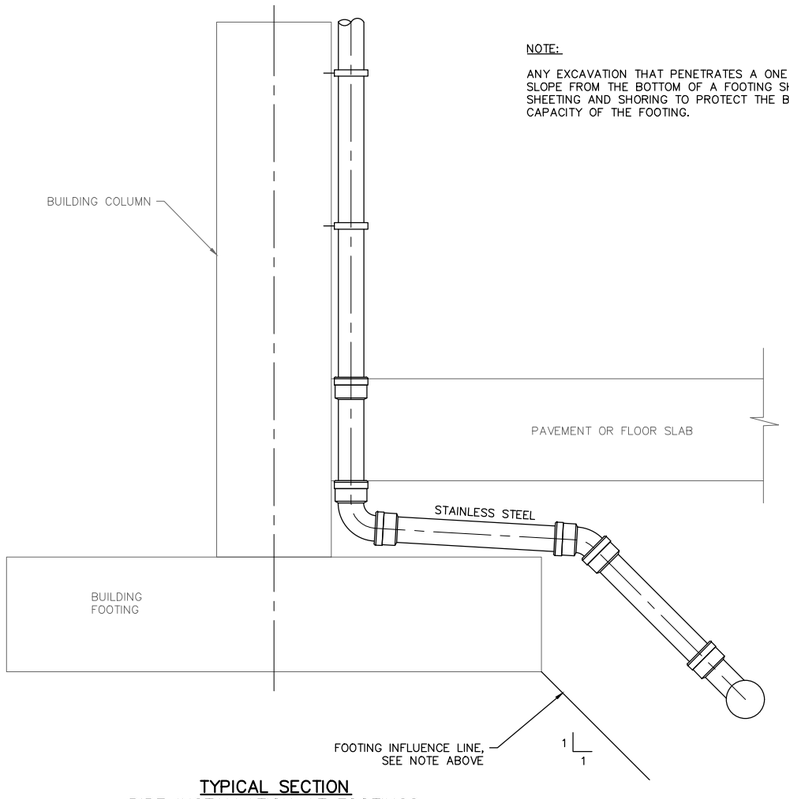
WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-403	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

NOTE:

ANY EXCAVATION THAT PENETRATES A ONE TO ONE SLOPE FROM THE BOTTOM OF A FOOTING SHALL REQUIRE SHEETING AND SHORING TO PROTECT THE BEARING CAPACITY OF THE FOOTING.



TYPICAL SECTION
PIPE INSTALLATION AT FOOTINGS
N.T.S.

CITY OF ATLANTA, GEORGIA

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1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

Misc Pipe Details

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-404	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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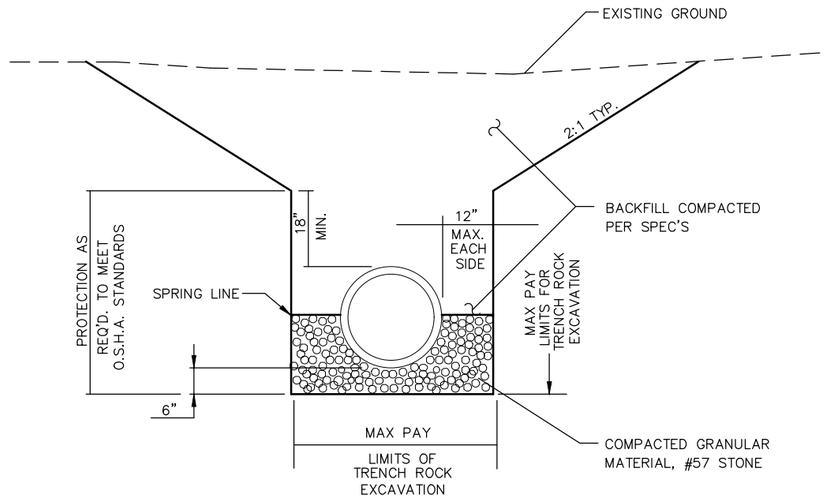

WATERLINE BEDDING AND EXCAVATION SECTION

N.T.S.

NOTES:
1. SLOPES MAY VARY. SEE CROSS SECTIONS FOR VALUES.

2. JOINTING PATTERN: SCORE JOINT ALONG THE DRAINAGE PATH CENTERLINE AND SCORE TRANSVERSE JOINTS EVERY 4 FEET.

3. THE CONCRETE FOR PAVED DITCHES SHALL BE PLACED WITH CONTRACTION JOINTS AT INTERVALS NOT TO EXCEED 25'. EXPANSION JOINTS SHALL REPLACE CONTRACTION JOINTS AT APPROXIMATELY 100 FOOT SPACING. EXPANSION JOINTS ALSO OCCUR AT INTERFACES WITH HEADWALL OR INLET APRONS.

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DOA CIVIL STANDARD DETAILS

Waterline Bedding and Excavation Section

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-405	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

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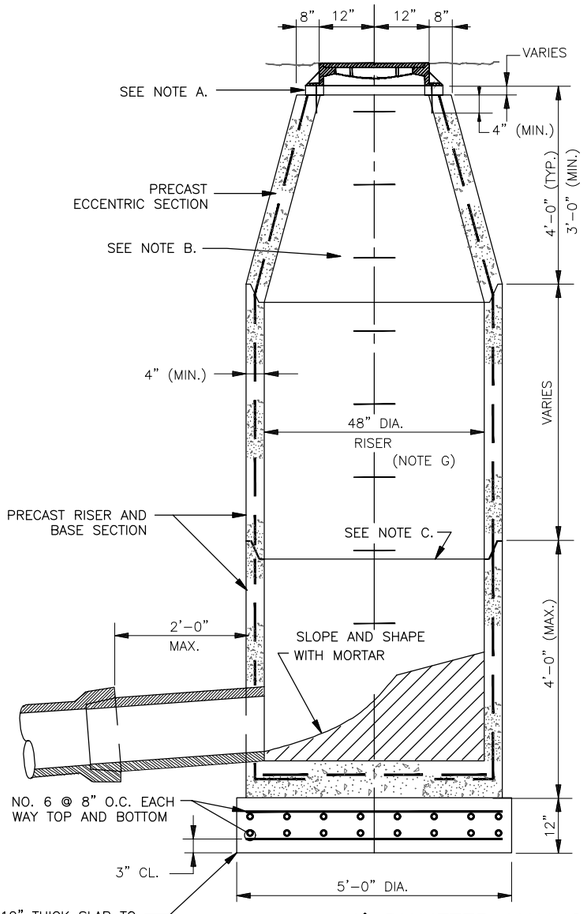


4' DIAMETER MANHOLE FOR STORM AND SANITARY SEWER

NTS

NOTES

A. 4" PRECAST CONCRETE ADJUSTMENT RINGS AS REQUIRED, WITH A MAXIMUM OF TWO RINGS PER MANHOLE. RINGS TO BE FURNISHED WITH 1" DIAMETER HOLES AT 180° FOR FRAME DOWELS.

B. STANDARD STEPS SPACED AT 16" O.C. SHALL BE CAST IRON.

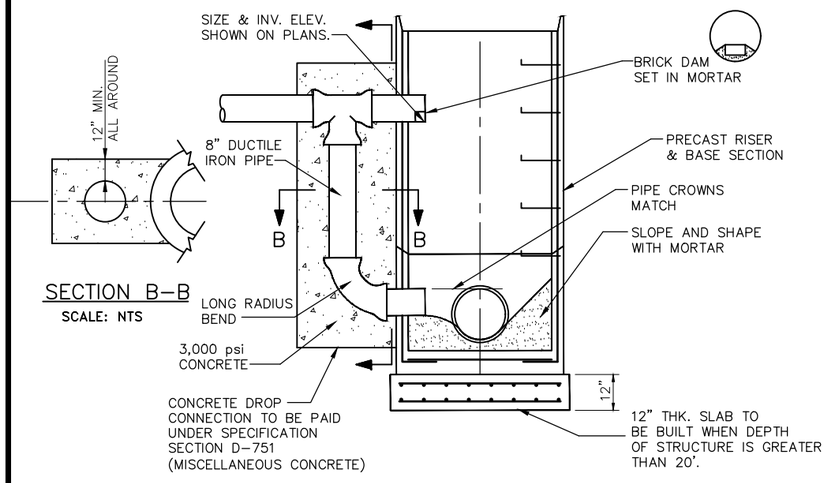
C. JOINTS BETWEEN ALL PRECAST MANHOLE COMPONENTS SHALL BE O-RING, OR PROFILE TYPE.

D. HEAVY DUTY MANHOLE FRAME AND COVER WITH NO. 4 STEEL DOWELS BEDDED IN STIFF MORTAR.

E. ALL PRECAST BASE SECTIONS MUST BE FOUNDED ON A COMPACTED LAYER OF NO. 89 COARSE AGGREGATE AT LEAST 18" THICK.

F. PRECAST MANHOLE RISERS AND BASE SHALL CONFORM TO THE PROVISIONS OF ASTM C-478.

G. MANHOLE INSIDE DIAMETER MAY BE UP TO 5', AS SPECIFIED.

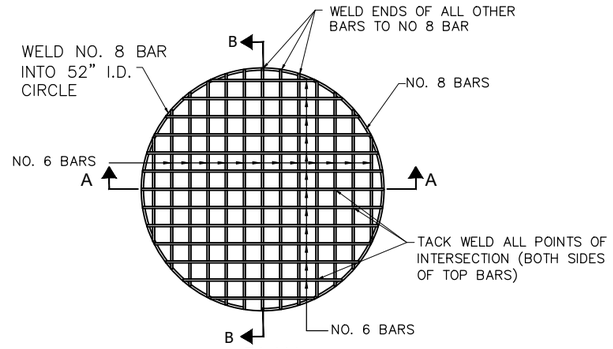


SECTION B-B

SCALE: NTS

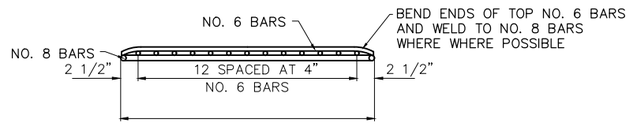
4' DIAMETER DROP CONNECTION MANHOLE FOR SANITARY SEWER

NTS



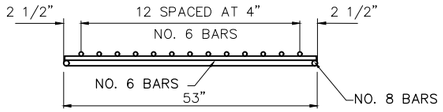
PLAN

N.T.S.



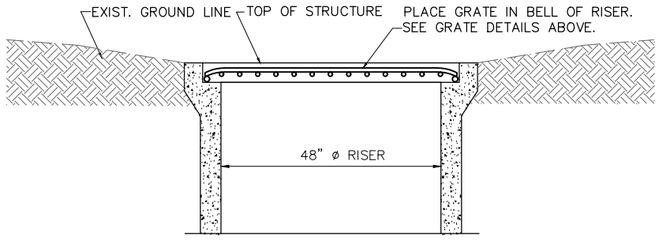
SECTION A-A

N.T.S.



SECTION B-B

N.T.S.



NOTE:

A. GRATE SHALL BE FABRICATED FROM STEEL REINFORCING BARS HAVING A YIELD STRENGTH OF 40,000 P.S.I.

B. AFTER FABRICATION, APPLY 2 COATS OF SHOP PAINT.

C. FOR CONTINUATION, SEE PRECAST STORM MANHOLE DETAILS.

TYPE E INLET

NTS

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Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION
PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION

DOA CIVIL STANDARD DETAILS

Standard Manhole and Type E Inlet

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-500	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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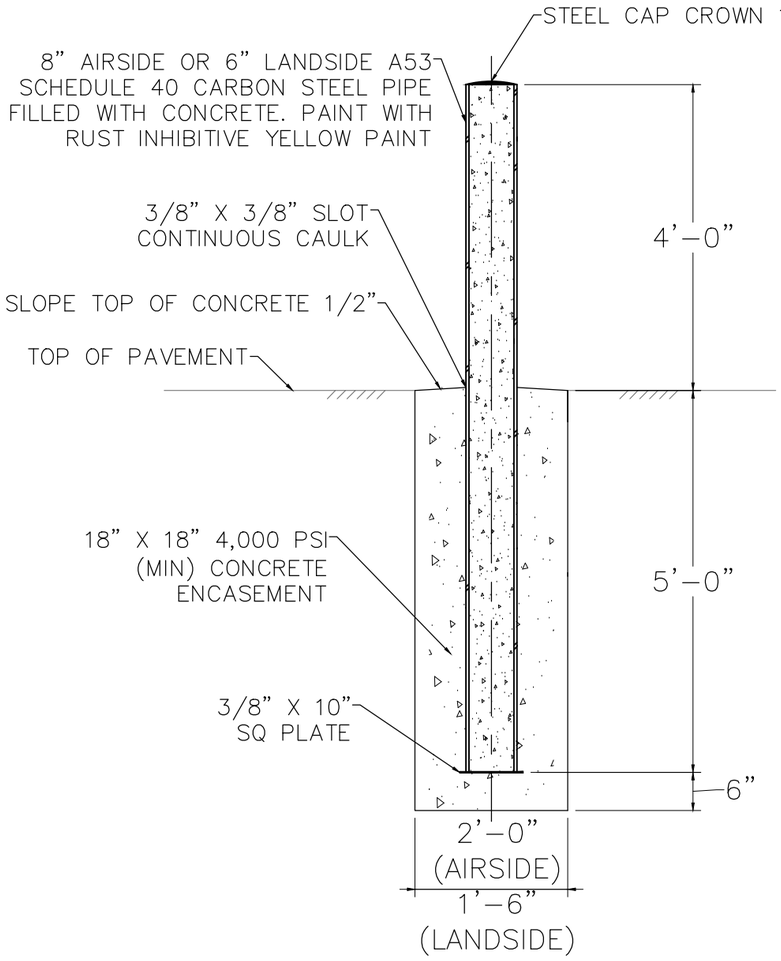
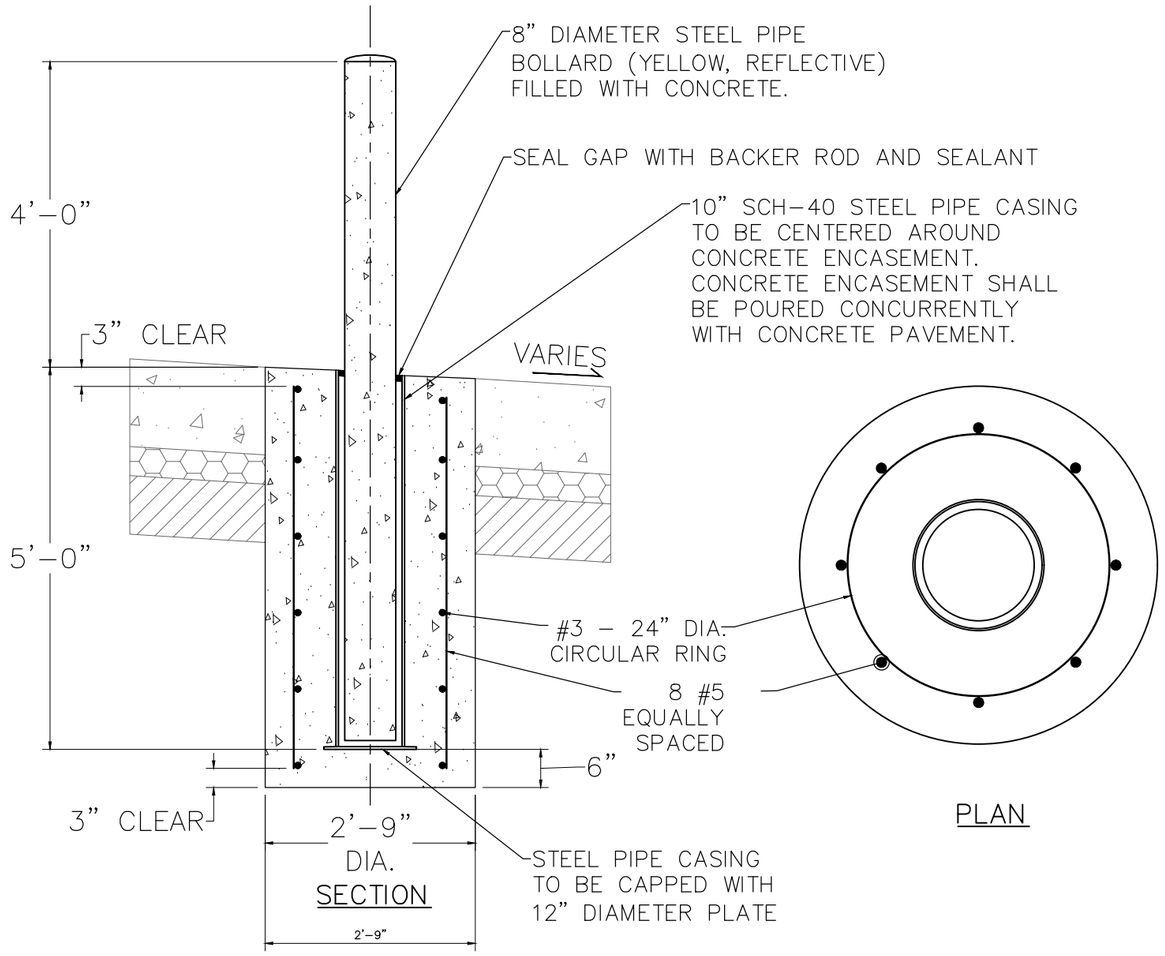


CONCRETE FILLED STEEL BOLLARD
NTS



REMOVABLE CONCRETE FILLED STEEL BOLLARD
NTS

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

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DOA CIVIL STANDARD DETAILS

Bollard Details

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-600	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

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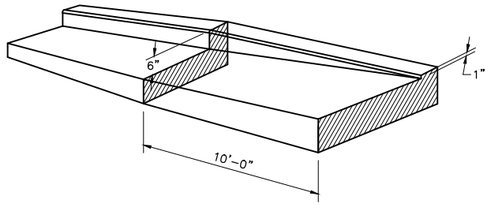
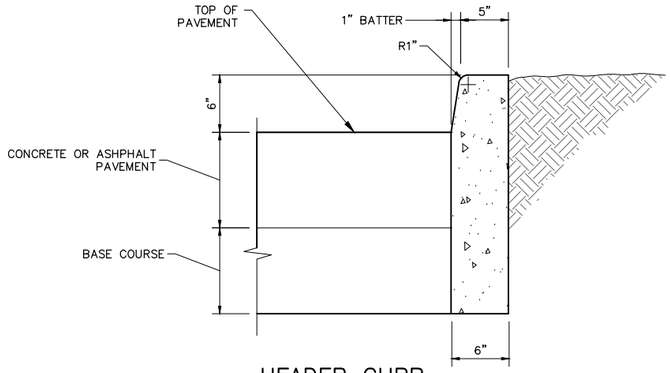
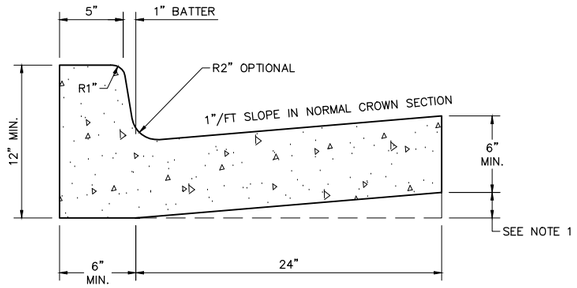


CURB & GUTTER HEIGHT TRANSITION
NTS

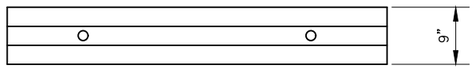


HEADER CURB
NTS

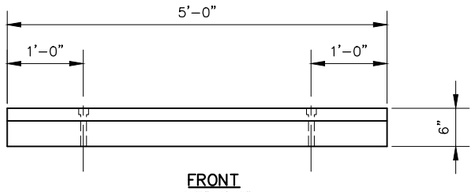


CURB & GUTTER
NTS

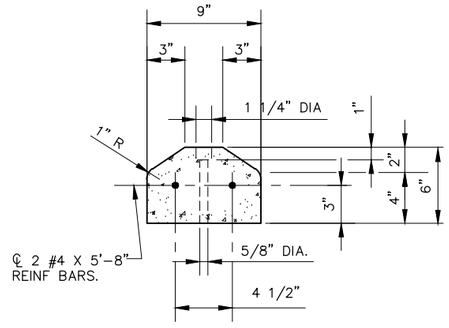
1. GUTTER THICKNESS MAY BE INCREASED AT EDGE OF OF PAVEMENT TO MAKE BOTTOM OF GUTTER PARALLEL WITH PAVING BASE COURSE.
2. CRUSHED AGGREGATE BASE COURSE SHALL EXTEND 6" BEYOND BACK OF CURB.



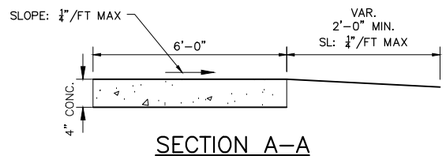
TOP
1/2"=1'-0"



FRONT
1/2"=1'-0"



SECTION A–A
SCALE: N.T.S.

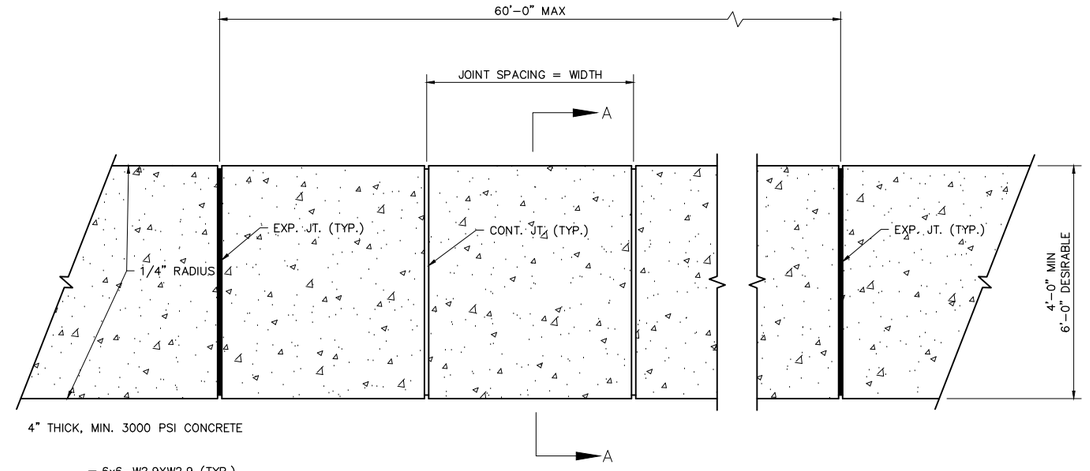


SECTION A–A

CONCRETE BUMPER BLOCK
N.T.S.

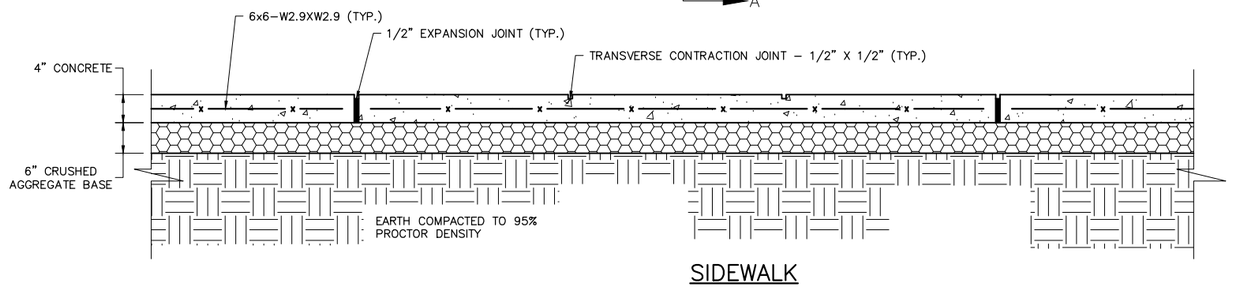
BUMPER BLOCK NOTES:

1. BUMPER BLOCKS SHALL BE PLACED AS SHOWN IN ALL NEW ADA ACCESSIBLE (HANDICAP SPACES) PARKING STALLS AND PAINTED BLUE.
2. BUMPER BLOCKS SHALL BE ATTACHED TO THE PARKING SURFACE. DRIVE 2 #4 REINFORCEMENT BARS 3 FT. LONG THROUGH PERFORMED HOLES IN THE BUMPER BLOCKS. TOP OF REINFORCEMENT BARS SHALL BE FLUSH WITH THE TOP OF THE BUMPER BLOCKS.
3. EXISTING BUMPER BLOCKS TO REMAIN IN PLACE. ANY BUMPER BLOCKS THAT HAVE BECOME DETACHED DUE TO CONTRACTOR'S OPERATION SHALL BE REATTACHED IN THEIR FORMER POSITION AT NO ADDITIONAL COST TO THE CITY.



SIDEWALK NOTES:

1. CONCRETE TO BE PLACED 4" THICK AND FINISHED WITH TAMPS, WOOD FLOATS AND STIFF BRISTLE BROOM.
2. TRANSVERSE CONTRACTION JOINTS SHALL BE PLACED AT 6' INTERVALS. ALL EDGES TO BE ROUNDED TO 1/4" RADIUS.
3. 1/2" EXPANSION JOINTS SHALL BE PLACED, WITH RESILIENT FIBERBOARD JOINT FILLER, COLD APPLIED JOINT SEALER & BACKER ROD, WHERE SIDEWALKS TIE INTO A STRUCTURE OR TERMINATE AT CURB, RAMPS OR DRIVEWAY AND AT 60' INTERVALS.



SIDEWALK
NTS

CITY OF ATLANTA, GEORGIA

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DOA CIVIL STANDARD DETAILS

Miscellaneous Paving and Bumper Block Details

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-601	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

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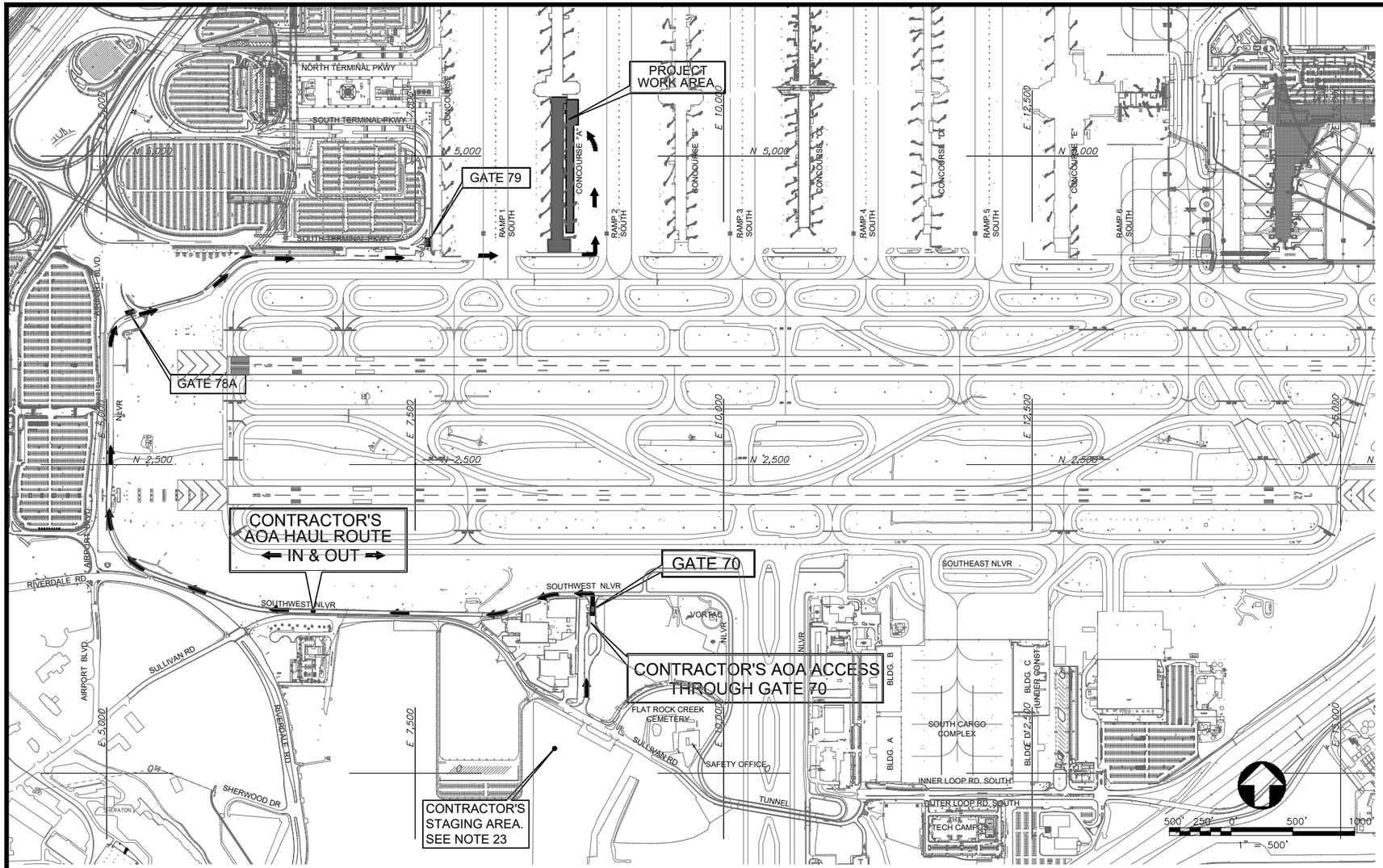


SCOPE OF WORK

1. CONSTRUCT NEW SEWER COLLECTOR LINE AND LATERALS IN THE AIRCRAFT RAMP.

2. RELOCATE PLUMBING WASTE LINES IN CONCOURSE A SOUTH TO CONNECT TO NEW APRON COLLECTOR.

3. ARCHITECTURAL FINISHES AS REQUIRED TO RESTORE FLOORS, WALLS AND ALL OTHERS DISTURBED AREAS IN THE BUILDING.

GENERAL NOTES:

1. ALL CONSTRUCTION WILL OCCUR WITHIN THE SECURITY IDENTIFICATION DISPLAY AREA (SIDA) AND AIRCRAFT OPERATIONS AREA (AOA). THIS IS A SECURE AREA WITH RESTRICTED ACCESS. THE CONTRACTOR WILL BE REQUIRED TO MEET ALL REQUIREMENTS FOR ENTERING AND OPERATING IN THIS AREA AT ALL TIMES. IT SHALL BE THE CONTRACT RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH ALL REQUIREMENTS FOR ENTERING AND OPERATING IN THE SIDA AND AOA. FURTHER, IT WILL REMAIN THE CONTRACTOR'S RESPONSIBILITY FOR KEEPING ADVISED OF ANY CHANGES IN REQUIREMENTS AND TO ADHERE TO THE CURRENT REGULATIONS INCLUDING CURRENT AND FUTURE REGULATIONS FOR SECURITY BADGING AND FINGERPRINTING OF CONTRACTOR PERSONNEL.

2. ALL CONTRACTOR PERSONNEL AND SUBCONTRACTORS WORKING WITHIN THE SIDA/AOA SHALL HAVE AIRPORT SECURITY BADGES OR BE ESCORTED BY APPROVED CONTRACTOR BADGED ESCORT PERSONNEL. SIDA INCLUDES ALL AREAS WITHIN THE AIRPORT SECURITY FENCE. THE AOA INCLUDES AREAS IN OR WITHIN CLOSE PROXIMITY TO AIRCRAFT MOVEMENT AREAS. ESCORT PERSONNEL SHALL BE APPROVED BY THE AIRPORT SECURITY OFFICE FOR WORKING WITHIN SIDA AND BY THE AIRPORT OPERATIONS OFFICE FOR WORKING WITHIN THE AOA. EACH ESCORT VEHICLE IS ALLOWED TO ESCORT A MAXIMUM OF TWO VEHICLES. ALL ESCORT PERSONNEL SHALL HAVE AIRPORT BADGES. DUE TO THE TIME NECESSARY TO COMPLETE THE BADGING AND FINGERPRINTING PROCESS, THE CONTRACTOR MAY START THE PROCESS AFTER CONTRACT AWARD AND BEFORE CONSTRUCTION NOTICE–TO–PROCEED.

3. ALL PERSONNEL DRIVING ON THE AOA ARE REQUIRED TO TAKE THE DOA DRIVER CLASS.

4. ALL CONTRACTOR PERSONNEL INCLUDING SUBCONTRACTORS ON THE PROJECT SHALL HAVE AND DISPLAY PROPERLY AN OWNER CONTROLLED INSURANCE PROGRAM (OCIP) SAFETY BADGE ISSUED BY THE DEPARTMENT OF AVIATION (DOA). THIS BADGE DISPLAYING A PHOTO OF THE EMPLOYEE SHALL BE WORN AT ALL TIMES WHILE ON THE AIRPORT. TO OBTAIN THIS BADGE EACH EMPLOYEE SHALL ATTEND A 2 HOUR SAFETY CLASS GIVEN A 7:00 AM EACH MORNING AT THE AIRPORT. THERE IS NOT A FEE FOR THE BADGE UNLESS A REPLACEMENT IS REQUIRED. FOR MORE INFORMATION ON SAFETY BADGES CONTACT EARL KELLER AT 404–569–0794.

5. THIS PROJECT IS WITHIN AN AREA OF CONTINUOUS LARGE JET AIRCRAFT OPERATIONS. ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED IN A MANNER ACCEPTABLE TO THE CITY OF ATLANTA (CITY) AND THE FEDERAL AVIATION ADMINISTRATION (FAA) TO PROVIDE ACCEPTABLE LEVELS OF SAFETY FOR ALL AIRPORT OPERATIONS. PERIODIC MEETINGS WILL BE HELD TO COORDINATE THE ACTIVITIES OF THIS CONTRACT WITH OTHER AIRPORT OPERATIONS. ALSO THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT HIS EMPLOYEES, EQUIPMENT, AND WORK IN PROGRESS FROM AIRCRAFT NOISE AND JET ENGINE BLAST.

6. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN AND MAINTAIN 2–WAY RADIOS EQUIPPED TO OPERATE ON THE CITY'S OPERATIONAL FREQUENCY. THIS FREQUENCY SHALL BE MONITORED AT ALL TIMES WHILE WORKING IN THE SIDA TO ASSURE PROPER COORDINATION AND SAFETY. THE CONTRACTOR SHALL SUPPLY ONE CITY OPERATIONAL RADIO PER CONSTRUCTION CREW AND ONE PER ESCORT VEHICLE. THESE RADIOS SHALL BECOME THE PROPERTY OF THE CITY UPON COMPLETION OF THE PROJECT.

7. CONTRACTOR SHALL CONFINE WORK AREA TO THE MINIMUM AMOUNT OF SPACE REQUIRED TO ACCOMPLISH THE ACTIVITY.

8. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AND MAINTAIN A MINIMUM OF TWO (2) NEW CELL PHONES OR HAND HELD 2–WAY RADIOS, COMPLETE WITH CARRYING CASE AND CHARGERS TO THE CITY. THIS EQUIPMENT SHALL BE MONITORED AT ALL TIMES TO ASSURE CONSTANT COMMUNICATION BETWEEN THE CITY AND THE CONTRACTOR. THE EQUIPMENT WILL BE RETURNED TO THE CONTRACTOR AT CONTRACT COMPLETION.

9. THE CONTRACTOR'S ACCESS ROUTES TO THE PROJECT SITES SHALL BE VIA GATE 70 AND THE NLVR AS SHOWN. VISITORS OR ANY INDIVIDUALS WHO ARE NOT BADGED SHALL BE ESCORTED AT ALL TIMES WHILE IN THE SIDA IN ACCORDANCE WITH AIRPORT SECURITY REQUIREMENTS.

10. ALL EXCESS MATERIAL PRODUCED BY THE CONTRACTOR'S OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND DISPOSED OF OFF AIRPORT PROPERTY AT NO COST TO THE OWNER.

11. THE CONTRACTOR SHALL CONTROL DUST AND DEBRIS FROM HIS OPERATION TO A LEVEL ACCEPTABLE TO THE CITY AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN ACCESS TO VACUUM SWEEPERS, WATERING TRUCKS AND OTHER EQUIPMENT NECESSARY TO CONTROL DUST AT ALL TIMES AT THE PROJECT SITE. ALL METHODS FOR CONTROLLING DUST SHALL BE SUBJECT TO THE CITY'S APPROVAL. DUST CONTROL SHALL BE STRICTLY MONITORED DUE TO IT'S IMPACT ON AIRCRAFT SAFETY. FAILURE TO PROPERLY CONTROL DUST OR TO RESPOND TO ANY REQUESTED TO DO SO WILL RESULT IN CONSTRUCTION ACTIVITIES BEING STOPPED.

12. CONTRACTOR SHALL COOPERATE WITH EXISTING AND FUTURE CONTRACTORS WORKING IN THE AREA AND AT ALL TIMES WILL COORDINATE THEIR EFFORTS.

13. A DETAILED PLAN OF PROCEDURES OF INSTALLATION AND MAINTENANCE OF SECURITY THE CONTRACTOR PROPOSES TO USE WILL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO THE START OF ANY WORK UNDER THIS CONTRACT. COMPLIANCE WITH THE APPROVED PLAN WILL BE STRICTLY ENFORCED. THE CITY MAY REQUIRE CHANGES TO THE ESTABLISHED PLAN WHENEVER IT IS NECESSARY FOR THE PROTECTION OF AIRPORT SECURITY AND OPERATIONS.

14. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL STATE AND FEDERAL LAWS AND REGULATIONS THAT ARE PERTINENT TO THIS WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY ALL COSTS ASSOCIATED WITH THE PERMITS AND LICENSES REQUIRED TO ACCOMPLISHED THIS WORK.

15. DURING ALL PHASES OF OPERATION THE CONTRACTOR'S FIRST RESPONSIBILITY SHALL BE SAFETY. THUS, HAUL TRUCKS MUST BE COVERED AND ANY SPILLAGE OR DEBRIS BUILDUP PROMPTLY REMOVED FROM ALL HAUL ROUTES ON AIRPORT OR ON PUBLIC ROADS. THE CONTRACTOR SHALL ALSO BE REQUIRED TO KEEP THE ROADWAYS FREE OF ALL EQUIPMENT, EXCEPT FOR THOSE EXCLUSIVELY REQUIRED IN THE CONTRACTOR'S WORK AREA.

16. FAA REGULATION FOR USE OF CRANES AND OTHER ELEVATED EQUIPMENT WILL BE STRICTLY ENFORCED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING ALL NECESSARY FORMS TO THE CITY AND OBTAINING FAA APPROVAL PRIOR TO CONTRACTOR'S USE OF ANY ELEVATED EQUIPMENT.

17. ALL COORDINATES SHOWN ON THE PLANS ARE IN THE H–JAIA GRID COORDINATE SYSTEM.

18. WORK AROUND THE EXISTING UNDERGROUND UTILITIES SHALL BE PERFORMED IN A MANNER THAT WILL AVOID DAMAGE TO THE UTILITIES. PRIOR TO COMMENCING WORK, CONTRACTOR SHALL ACCURATELY LOCATE ABOVE AND BELOW GROUND UTILITIES WHICH MAY BE AFFECTED BY THE WORK AND PROTECT ALL UTILITIES NOT DESIGNATED FOR REMOVAL, RELOCATION, OR REPLACEMENT IN THE COURSE OF CONSTRUCTION. PROVIDE 72 HOURS OF ADVANCE NOTICE TO THE UTILITY OWNERS INCLUDING DOA OPERATIONS (404–530–6620), DOA ENGINEERING (404–530–5500), AND FAA (404–669–1260) PRIOR TO BEGINNING CONSTRUCTION IN THE VICINITY TO THE EXISTING UTILITY LINE. FOR EXISTING PUBLIC UTILITY LOCATION ASSISTANCE CALL THE UNDERGROUND UTILITIES PROTECTION CENTER (UPC) AT 1–800–282–7411 AND FAA AT 404–689–1280.

19. IF NIGHT WORK IS PLANNED, THE CONTRACTOR SHALL COOPERATE WITH THE FAA, DOA, AND RAMP CONTROL WHEN ALIGNING HIS CONSTRUCTION FLOOD LIGHTS SO AS NOT TO INTERFERE WITH AIRCRAFT PILOTS OR AIR TRAFFIC CONTROLLERS VISION.

20. AT NO TIME SHALL EQUIPMENT BE LEFT UNATTENDED ON THE CONSTRUCTION SITE UNLESS APPROVED BY THE ENGINEER. EQUIPMENT SHALL BE KEPT IN DESIGNATED STAGING AREAS.

21. THE CONTRACTOR SHALL START AND COMPLETE ALL WORK INCLUDING CLEANUP OF FOREIGN OBJECT DEBRIS IN EACH AREA PRIOR TO MOVING TO THE NEXT AREA. CLEANUP DURING THE PROGRESS OF THE WORK IN AREAS CRITICAL TO AIRLINE OPERATIONS SHALL BE IMPLEMENTED AS DIRECTED BY THE ENGINEER.

22. UNINTENDED DAMAGE TO ANY EXISTING STRUCTURE SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

23. THE CONTRACTOR WITH THE APPROVAL OF THE CITY SHALL ESTABLISH THE EXACT LIMITS OF THE STAGING AREAS FOR MATERIAL STOCKPILING AND OFFICE TRAILERS IN THE AREA SHOWN. THIS IS A COMMON USE STAGING AREA, AND IS PUBLICLY ACCESSIBLE. ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S STAGING AREA SHALL BE ARRANGED AND PROMPTLY PAID FOR BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE UTILITY AGENCY. UTILITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY. NO SEPARATE PAYMENT SHALL BE MADE FOR ANY ITEM REQUIRED FOR THE CONTRACTOR TO ENCLOSE AND SET UP HIS OPERATIONAL AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION, TO THE SATISFACTION OF THE CITY, UPON COMPLETION OF THE CONTRACT WORK. GRASSING AND/OR REPLACEMENT OF GRAVEL IS PART OF THE SITE RESTORATION.

GENERAL WORK PERIODS

ALL CONSTRUCTION ON THIS PROJECT WILL OCCUR IN AREAS THAT MUST REMAIN IN FULL TIME AIRLINE OPERATION. FOLLOWING IS A LISTING OF CONSTRUCTION PHASING REQUIREMENTS THAT WILL ALLOW THE VARIOUS PARTS OF THE JOB TO PROCEED, WHILE MINIMIZING OPERATIONAL IMPACTS TO THE AIRLINES.

A. WORK ON THE RAMP

1. CONSTRUCTION WILL GENERALLY BE AT NIGHT, BETWEEN THE HOURS OF 11:30 P.M. TO 5:30A.M.

2. AT THE END OF THE WORK SHIFT, THE CONSTRUCTION SITE AT EACH GATE SHALL BE SURROUNDED WITH CONCRETE JERSEY BARRIERS, TO ENSURE SAFETY FOR AIRLINE/AIRPORT PERSONNEL AND EQUIPMENT.

3. WORK AT GATE A–17 WILL REQUIRE COMPLETE CLOSURE OF THIS GATE. THE WORK SHALL PROCEED, 24 HOURS PER DAY, UNTIL PAVEMENT IS RESTORED AND THE AREA TURNED BACK OVER TO THE AIRLINES.

4. TRENCHES FOR LATERAL SEWER CONNECTIONS SHALL BE PLATED OR OTHERWISE PROTECTED AS LONG AS THE TRENCH IS OPEN.

B. WORK INSIDE THE BUILDING FOOTPRINT

1. CONSTRUCTION WILL GENERALLY BE AT NIGHT, BETWEEN THE HOURS OF 11:30 P.M. TO 5:30 A.M.

2. OPEN TRENCHES THROUGH THE FLOOR MUST BE SAFELY PLATED OVER AT THE END OF A NIGHTLY WORK SHIFT.

3. SEE ARCHITECTURAL PLANS AND ADDITIONAL RESTRICTIONS ON WORK INSIDE THE BUILDING FOOTPRINT.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

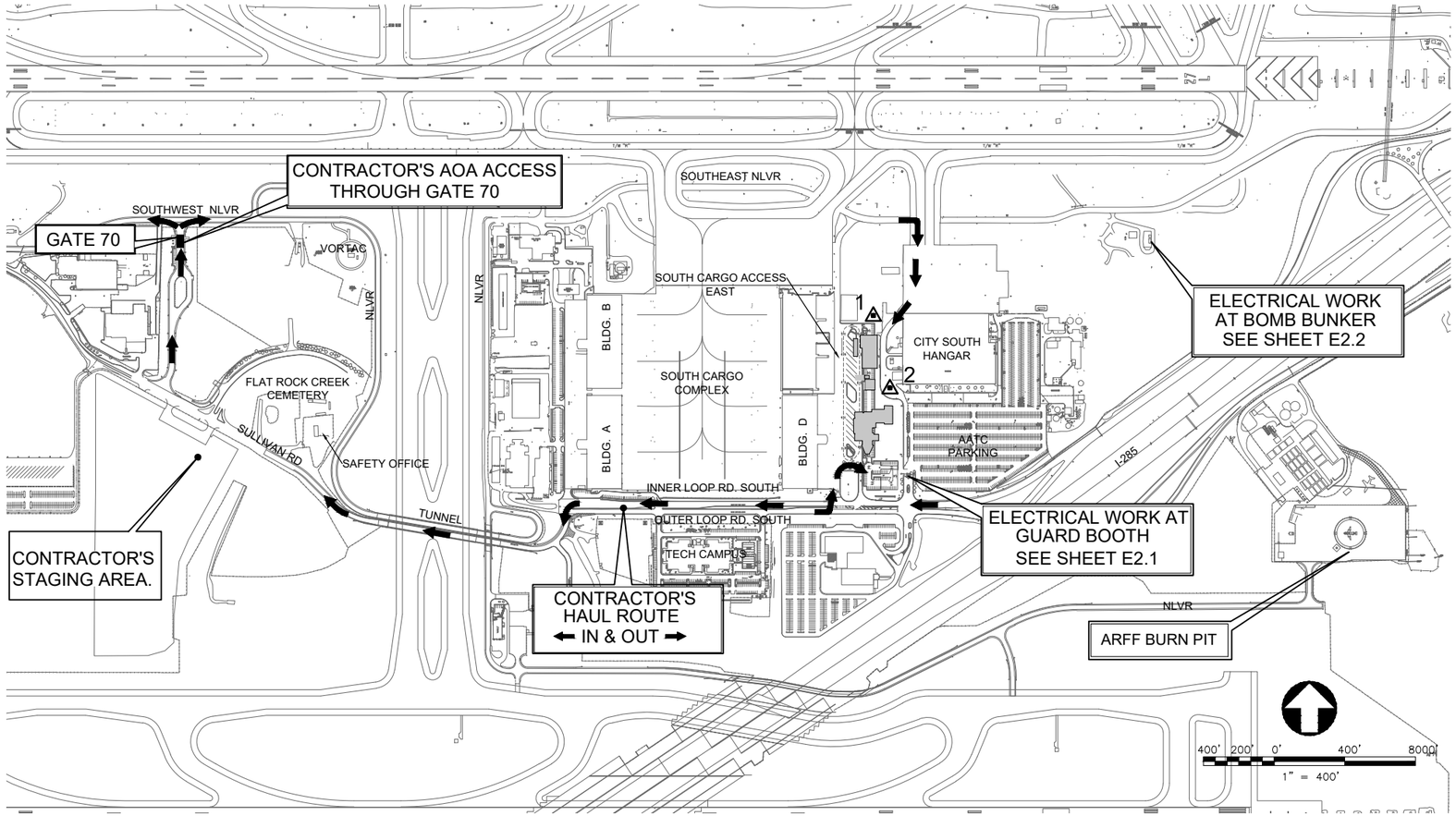
General Notes and Construction Control Plan Airside

(EXAMPLE)

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-700	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION



SCOPE OF WORK
1.

PHASING
1.

2.

SPECIAL CONDITIONS
1.

2.

APPLICABLE CODES
1.

2

GENERAL NOTES

1. ALL CONTRACTOR PERSONNEL INCLUDING SUBCONTRACTORS ON THE PROJECT SHALL HAVE AND DISPLAY PROPERLY AN OWNER CONTROLLED INSURANCE PROGRAM (OCIP) SAFETY BADGE ISSUED BY THE DEPARTMENT OF AVIATION (DOA). THIS BADGE DISPLAYING A PHOTO OF THE EMPLOYEE SHALL BE WORN AT ALL TIMES WHILE ON THE AIRPORT. TO OBTAIN THIS BADGE EACH EMPLOYEE SHALL ATTEND A 2 HOUR SAFETY CLASS GIVEN A 7:00 AM EACH MORNING AT THE AIRPORT. THERE IS NOT FEE FOR THE BADGE UNLESS A REPLACEMENT IS REQUIRED. FOR MORE INFORMATION ON SAFETY BADGES CONTACT EARL KELLER AT 404-569-0794.

2. CONTRACTOR SHALL CONFINE WORK AREA TO THE MINIMUM AMOUNT OF SPACE REQUIRED TO ACCOMPLISH THE ACTIVITY.

3. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AND MAINTAIN A MINIMUM OF TWO (2) NEW CELL PHONES OR HAND HELD 2-WAY RADIOS, COMPLETE WITH CARRYING CASE AND CHARGERS TO THE CITY, EQUIPPED TO OPERATE ON THE CONTRACTOR'S FREQUENCY. THIS FREQUENCY SHALL ALSO BE MONITORED AT ALL TIMES TO ASSURE CONSTANT COMMUNICATION BETWEEN THE CITY AND THE CONTRACTOR. THESE RADIOS WILL BE RETURNED TO THE CONTRACTOR AT CONTRACT COMPLETION.

4. ALL EXCESS MATERIAL PRODUCED BY THE CONTRACTOR'S OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND DISPOSED OF OFF AIRPORT PROPERTY AT NO COST TO THE OWNER.

5. THE CONTRACTOR SHALL CONTROL DUST AND DEBRIS FROM HIS OPERATION TO A LEVEL ACCEPTABLE TO THE CITY AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN ACCESS TO VACUUM SWEEPERS, WATERING TRUCKS AND OTHER EQUIPMENT NECESSARY TO CONTROL DUST AT ALL TIMES AT THE PROJECT SITE. ALL METHODS FOR CONTROLLING DUST SHALL BE SUBJECT TO THE CITY'S APPROVAL. DUST CONTROL SHALL BE STRICTLY MONITORED DUE TO IT'S IMPACT ON AIRCRAFT SAFETY. FAILURE TO PROPERLY CONTROL DUST OR TO RESPOND TO ANY REQUESTED TO DO SO WILL RESULT IN CONSTRUCTION ACTIVITIES BEING STOPPED.

6. ALL COORDINATES SHOWN ON THE PLANS ARE IN THE H-JAIA GRID COORDINATE SYSTEM.

7. CONTRACTOR SHALL COOPERATE WITH EXISTING AND FUTURE CONTRACTORS WORKING IN THE AREA AND AT ALL TIMES WILL COORDINATE THEIR EFFORTS. POTENTIAL PROJECTS FOR COORDINATION ARE: SEE RELATED PROJECT ABOVE.

8. A DETAILED PLAN OF PROCEDURES OF INSTALLATION AND MAINTENANCE OF SECURITY THE CONTRACTOR PROPOSES TO USE WILL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO THE START OF ANY WORK UNDER THIS CONTRACT. COMPLIANCE WITH THE APPROVED PLAN WILL BE STRICTLY ENFORCED. THE CITY MAY REQUIRE CHANGES TO THE ESTABLISHED PLAN WHENEVER IT IS NECESSARY FOR THE PROTECTION OF AIRPORT SECURITY AND OPERATIONS.

9. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL STATE AND FEDERAL LAWS AND REGULATIONS THAT ARE PERTINENT TO THIS WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND PAY ALL COSTS ASSOCIATED WITH THE PERMITS AND LICENSES REQUIRED TO ACCOMPLISHED THIS WORK.

10. DURING ALL PHASES OF OPERATION THE CONTRACTOR'S FIRST RESPONSIBILITY SHALL BE SAFETY. THUS, HAUL TRUCKS MUST BE COVERED AND ANY SPILLAGE OR DEBRIS BUILDUP PROMPTLY REMOVED FROM ALL HAUL ROUTES ON AIRPORT OR ON PUBLIC ROADS. THE CONTRACTOR SHALL ALSO BE REQUIRED TO KEEP THE ROADWAYS FREE OF ALL EQUIPMENT, EXCEPT FOR THOSE EXCLUSIVELY REQUIRED IN THE CONTRACTOR'S WORK AREA.

11. FAA REGULATION FOR USE OF CRANES AND OTHER ELEVATED EQUIPMENT WILL BE STRICTLY ENFORCED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING ALL NECESSARY FORMS TO THE CITY AND OBTAINING FAA APPROVAL PRIOR TO CONTRACTOR'S USE OF ANY ELEVATED EQUIPMENT.

12. WORK AROUND THE EXISTING UNDERGROUND UTILITIES SHALL BE PERFORMED IN A MANNER THAT WILL AVOID DAMAGE TO THE UTILITIES. PRIOR TO COMMENCING WORK, CONTRACTOR SHALL ACCURATELY LOCATE ABOVE AND BELOW GROUND UTILITIES WHICH MAY BE AFFECTED BY THE WORK AND PROTECT ALL UTILITIES NOT DESIGNATED FOR REMOVAL, RELOCATION, OR REPLACEMENT IN THE COURSE OF CONSTRUCTION. PROVIDE 72 HOURS OF ADVANCE NOTICE TO THE UTILITY OWNERS INCLUDING DOA OPERATIONS (404-530-6620), DOA ENGINEERING (404-530-5500), AND FAA (404-669-1260) PRIOR TO BEGINNING CONSTRUCTION IN THE VICINITY TO THE EXISTING UTILITY LINE. FOR EXISTING PUBLIC UTILITY LOCATION ASSISTANCE CALL THE UNDERGROUND UTILITIES PROTECTION CENTER (UPC) AT 1-800-282-7411 AND FAA AT 404-689-1280.

13. IF NIGHT WORK IS PLANNED, THE CONTRACTOR SHALL COOPERATE WITH THE FAA AND THE DOA WHEN ALIGNING HIS CONSTRUCTION FLOOD LIGHTS SO AS NOT TO INTERFERE WITH AIRCRAFT PILOTS OR AIR TRAFFIC CONTROLLERS VISION.

14. AT NO TIME SHALL EQUIPMENT BE LEFT UNATTENDED ON THE CONSTRUCTION SITE UNLESS APPROVED BY THE ENGINEER, EQUIPMENT SHALL BE KEPT IN DESIGNATED STAGING AREAS.

15. TRAFFIC ON PROJECT AREA ROADS SHALL BE MAINTAINED WITHOUT INTERRUPTION THROUGHOUT THE CONSTRUCTION PERIOD. AS REQUIRED, THE CONTRACTOR SHALL PROVIDE SIGNS TO DIRECT TRAFFIC AND ENSURE SAFETY OF ALL USERS. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SUBMIT TRAFFIC CONTROL SHOP DRAWINGS TO ILLUSTRATE THE PROPOSED PLAN.

16. UNINTENDED DAMAGE TO ANY EXISTING STRUCTURE SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

17. CONTRACTOR SHALL PREPARE AND SUBMIT AN EROSION CONTROL PLAN, SUFFICIENT TO STABILIZE THIS SITE UNTIL THE NEXT PHASE OF CONSTRUCTION WHICH WILL BE CARGO BUILDING C AND TRUCK STAGING. SEE SECTION P-156 OF THE SPECIFICATIONS.

18. THE EXACT LIMITS OF THE CONTRACTORS STAGING AREA FOR MATERIAL STOCKPILING AND OFFICE TRAILERS SHALL BE ESTABLISHED BY THE CONTRACTOR WITH APPROVAL OF THE CITY IN THE AREA SHOWN. THE PUBLIC ACCESS AREA SHALL BE ENCLOSED BY TEMPORARY SECURITY FENCING ACCEPTABLE TO THE CITY. ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S STAGING AREA SHALL BE ARRANGED AND PROMPTLY PAID FOR BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE AGENCY. UTILITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. NO SEPARATE PAYMENTS SHALL BE MADE FOR ANY ITEM REQUIRED FOR THE CONTRACTOR TO ENCLOSE AND SETUP HIS OPERATIONAL AREA. ADDITIONALLY, THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT.

CITY OF ATLANTA, GEORGIA

Hartsfield-Jackson Atlanta International Airport

DEPARTMENT OF AVIATION PLANNING & DEVELOPMENT

NO.	DATE	BY	REVISION
1	08/2019	RFM	REVISED
0	06/20/2014	RFM	FIRST ISSUE

DOA CIVIL STANDARD DETAILS

General Notes and Construction Control Plan Landside

(EXAMPLE)

WBS NUMBER: .	DRAWN BY: STAFF
FC NUMBER: .	DESIGNED BY: STAFF
CONSULTANT PROJECT NUMBER: .	CHECKED BY: STAFF
STANDARD SHEET NUMBER STD-03-701	APPROVED BY: STAFF
	DATE: .
	SCALE:
	SHEET NO: .

DOA CIVIL STANDARD DETAILS

NOT RELEASED FOR CONSTRUCTION

Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Design Standards – Structural

Design Standards
Structural

Table of Contents

Design Standards
Structural

1.0 Purpose

The purpose of this document is to outline the minimum structural engineering requirements for new construction and/or modifications related to Tenant submitted projects at the City of Atlanta's Hartsfield-Jackson Atlanta International Airport (ATL).

2.0 General

2.1 Applicable Codes

All design work shall be performed in accordance with generally accepted professional principles and practices for structural engineering and in compliance with all applicable Department of Aviation Design Standards, Federal, State and City of Atlanta Design Codes, Standards and Regulations.

2.2 Modifying Existing Structures

2.2.1 The installation or relocation of heavy equipment shall be evaluated and endorsed by a Structural Engineer.

2.2.2 Proposed improvements that require partial or complete, severing, altering or removal of structural members shall require evaluation and design by a Structural Engineer.

2.2.3 Walls proposed for partial or full demolition shall be evaluated by a Structural Engineer to determine whether they are load-bearing. If they are, drawings shall indicate the sequence of operations required to avoid collapse.

2.2.4 Modifications to existing structures shall not be made without prior approval by the Department of Aviation.

2.3 Floor, Wall and Roof Penetrations

2.3.1 Proposed penetrations and openings for existing floors, walls, and roofs shall be located where there are no impacts to existing concrete reinforcements. Contractor shall be required to locate existing reinforcements prior to commencing coring operations.

2.3.2 If reinforcements must be severed due to the size of the opening or its required location, evaluation and design shall be made by a Structural Engineer.

2.3.3 Proposed rectangular openings in existing walls, floor slabs and roof shall be detailed with required core holes of sufficient diameter at each corner to prevent over cut upon installation.

2.3.4 Tenant shall be responsible for reinstating any existing wall, floor and roof penetrations and/or openings in the space, which are to be abandoned (See Architectural Standards for penetration repair details)

2.4 Design Calculations

2.4.1 Basis-of-design calculations shall be prepared for any project that propose modification to an existing joist, beam, column or foundation, and shall demonstrate (the airport's satisfaction) that designed alterations do not degrade overall structural capacity to resist code prescribed loads.

2.4.2 Calculations shall be neatly presented and include sketches proportioned to reflect relative scale, illustrating design intent. Provide linkage in the calculations for all primary structural members proposed. All commercial computer software utilized in the production of the design shall be identified by name and version. All input files and corresponding output files (in native format), shall be recorded to DVD/CD optical media, suitably labeled and included with the submittal.

2.4.3 Any in-house proprietary computer software utilized in the design shall have the solution of verification problems documented in the appendix.

2.4.4 All final calculations shall be sealed, signed, and dated by the Structural Engineer of Record.

2.5 Loads and Loading Combinations

2.5.1 Load combinations used for the design/modification of airport structures shall be in strict compliance with the requirements of the applicable provisions of ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures (current printing) and the structural codes identified in the general requirement section above.[5]

2.6 Foundation Systems

2.6.1 Where applicable, foundation designs shall be based on the recommendations of a Georgia registered geotechnical engineer unless the structural support demand is deemed to be of minor significance and with the concurrence of the Department of Aviation.

2.7 Drawings

2.7.1 All structural drawing packages shall include at a minimum, the following sheets in addition to other sheets that are necessary to depict the work of the project.

2.7.1.1 General Notes – General notes applicable to the overall design and structural materials proposed, abbreviations used within the structural drawings, symbol legend(s) as appropriate. The general notes shall include all the information required by section 1603 of the IBC 2018.[6]

2.7.1.2 Demolition plans shall be prepared for all projects that propose new slab or other structural member penetrations. Proposed and existing slab penetrations shall be identified on the demolition plan indicating sizes and spatial relationships to known points on the floor plan.

2.7.1.3 Penetrations for roof-mounted equipment shall be supported by supplementary members designed by a Georgia structural engineer, unless it is demonstrated by calculation, to the airport's satisfaction, that supplemental members are not required.

2.8 Specifications

2.8.1 Specifications defining the quality of workmanship and materials to be incorporated into the work shall be prepared as a separate document or placed on the structural drawings.

Hartsfield-Jackson Atlanta International Airport

City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Design Standards – Architectural

Design Standards
Architectural

Table of Contents

Design Standards
Architectural

1.0 Purpose

The purpose of this document is to outline the minimum Architectural requirements for New Construction and/or Modifications related to Tenant submitted projects at the City of Atlanta's Hartsfield-Jackson Atlanta International Airport (ATL).

2.0 General

2.1 Applicable Codes and Standards

2.1.1 All design work shall be performed in accordance with generally accepted professional principles and practices for Architectural Design and in compliance with all applicable Federal, State and City of Atlanta Design Codes, Standards and Regulations and the Department of Aviation (DOA), Planning & Development Bureau (P&D) Design and Construction Standards for Concessions New Construction and Modifications.

2.1.2 Where there may be conflicting requirements in the codes, standards and regulations, the most stringent provision, as determined by P&D shall be applied.

2.2 Existing Space Requirements

2.2.1 Modifying Existing Structures

2.2.1.1 Proposed space modifications shall comply with the standards included in this manual, Sections 2 through 8.

2.2.2 New Floor, Wall and Roof Penetrations

2.2.2.1 Proposed penetrations and/or openings for existing floors, walls, and roofs shall comply with the Structural Design Standards, Section 4 of this manual.

2.2.3 Repair of Existing Floor and Roof Penetrations

2.2.3.1 Repair/filling of existing cores and/or openings for Concrete Floors, Concrete Floors on Steel Deck, Steel Deck Roof, and Concrete on Steel Deck Roof and Concrete Deck Roof shall comply with Details No.1 through No. 6 (Attached as part of these standards).

2.2.4 Temporary Construction Walls

2.2.4.1 Temporary construction walls shall be full height (to underside of finished ceiling).
2.2.4.2 Walls shall be constructed of metal studs with gypsum wall board, on the public side, and be attached to the existing floor. The gypsum board shall be painted and shall include finished baseboard (colors to be selected by Owner).
2.2.4.3 Any damage to existing base building finishes shall be repaired by Tenant at no cost to the Owner.

2.2.5 Existing Ceilings[7]

2.2.5.1 Replacement, demolition and/or removal of existing ceiling(s) and associated lighting and mechanical systems above public (lease) spaces, ticketing, hold rooms, baggage claim, seating and circulation areas shall include the removal of all abandoned hangers, supports, electrical feeds, mechanical ducts and/or other appurtenant items above the ceiling.

2.2.5.2 Re-attach /Replace any missing junction box covers.

2.2.6 Floor Mounted Appurtenances[8]

2.2.6.1 Any appurtenances such as luggage carts, luggage cart dispensing equipment, wheel chairs, wheel chair corrals, seating, advertisement, corporate signage, directories, self-service kiosks and any other floor mounted equipment throughout the airport's interior and exterior public facilities, shall not be a safety hazard to public circulation, obstruct passenger flow or impede any emergency path of travel or exit. Locations shall be submitted to the DOA /P&D for review and acceptance.

3.0 Design

3.1 General

3.1.1 Design shall incorporate good design practices that match and/or enhance existing conditions.

3.1.1.1 Existing base building finishes outside a Tenant's lease line (Horizontal and Vertical) shall be maintained

3.1.1.2 Tenant is responsible for correcting any damage to existing base building finishes caused by the construction work

3.1.1.3 Tenant is responsible for ensuring that all building service tie-ins to existing base building infrastructure meet DOA Design and Construction Standards

3.1.1.4 All materials and finishes used shall be of equal or higher quality to existing base building finishes

3.1.1.5 Additions or modifications that impact or interface with existing Terminal roof systems shall be compatible with in-place roof systems and conditions. The ATL standard roofing system is a single-ply membrane fully adhered (Per Manufacture's Specification) 135 mil Fleeceback TPO roofing system (80 mil w/55 mil Fleeceback) over new insulation with heat welded TPO sheet seams

3.1.1.6 Penetrations of existing CPTC Roof
Installer must utilize and maintain all Atlanta Airlines Terminal Corporation (AATC) required approvals and shut down requests criteria including roof warranty approvals during satellite antenna installation.

3.1.1.7 Designers shall incorporate good design practices including, but not limited to:

3.1.1.7.1 Sustainable design **(Please see Section 3, Sustainability Design Standards)**

3.1.1.7.2 Adaptability

3.1.1.7.3 Healthy design (air quality)
3.1.1.7.4 Utilize materials native to the region when possible
3.1.1.7.5 Utilize materials that are permanent, high quality and durable
3.1.1.7.6 Design for energy efficiency

4.0 Appendices

4.1 Appendix No. 1

Detail No.1 Concrete on Steel Deck Floor Repair
Detail No.2 Concrete Floor Repair
Detail No.3 Steel Deck Roof Repair
Detail No.4 Concrete on Steel Deck Roof Repair
Detail No.5 Concrete Deck Roof Repair
Detail No.6 Pipe Thru System over Conc. On Steel Deck
Detail No.7 Pipe Thru Roofing System over Steel Deck
Detail No.8 Pipe Thru Roofing System over Conc. Slab
Detail No.9 Satellite Mast and Pad on Conc. Slab
Detail No.10 Satellite Mast on Concrete
Detail No.11 Satellite Mast on Metal Deck

APPENDIX NO.1

Detail No.1 Concrete on Steel Deck Floor Repair
Detail No.2 Concrete Floor Repair
Detail No.3 Steel Deck Roof Repair
Detail No.4 Concrete on Steel Deck Roof Repair
Detail No.5 Concrete Deck Roof Repair
Detail No.6 Pipe Thru System over Conc. On Steel Deck
Detail No.7 Pipe Thru Roofing System over Steel Deck
Detail No.8 Pipe Thru Roofing System over Conc. Slab
Detail No.9 Satellite Mast and Pad on Conc. Slab
Detail No.10 Satellite Mast on Concrete
Detail No.11 Satellite Mast on Metal Deck
Detail No.12 Expansion Joint Detail

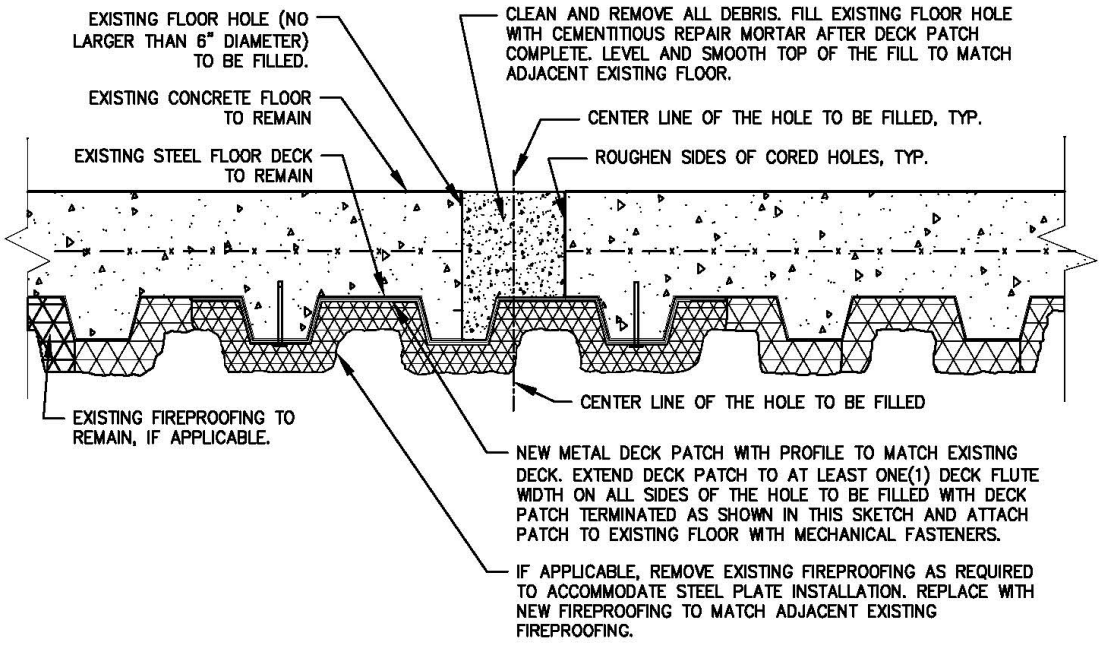
Detail No.1 Concrete on Steel Deck Floor Repair

Requirements for Filling Penetrations in Existing Elevated Concrete Slabs

Proposed filling of cores or openings in existing elevated concrete slabs shall be evaluated by a Georgia registered structural design professional, who shall provide stamped requirements in the construction documents whenever either:

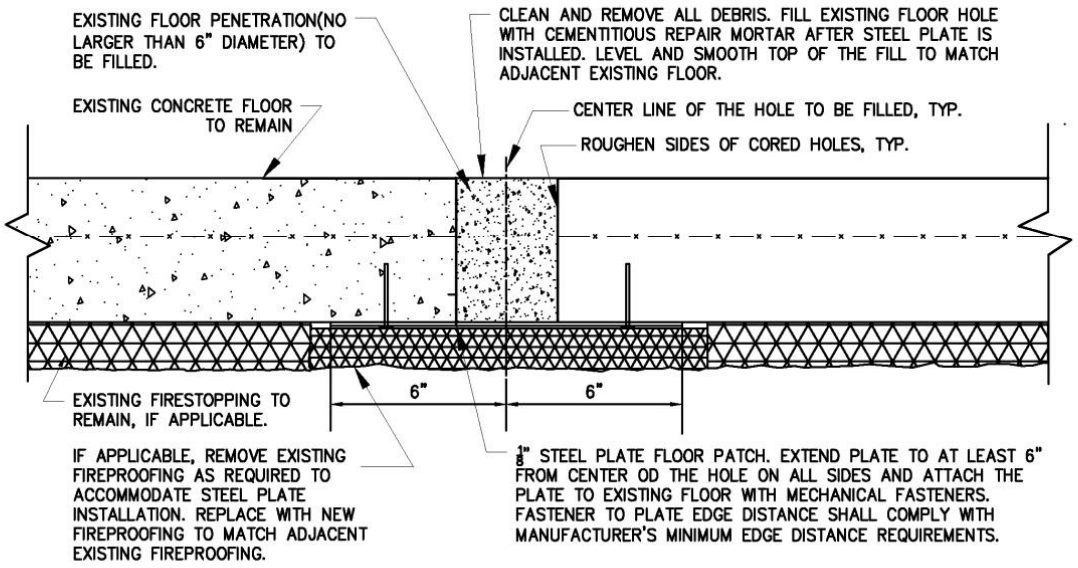
1. The clear spacing of adjacent cores or openings will be less than 3 inches; or
2. The core or opening is proposed for a concrete floor reinforced with prestressed reinforcement; or
3. The greatest dimension for the opening or core proposed exceeds 6 inches.

Cores or openings in concrete slabs, for which none of the above restrictions are applicable, shall be reinstated with a cementitious repair mortar in accordance with the manufacturer's written instructions for preparation, mixing, placement, finishing and curing. Also, see detail below for more information.



PROJECT: ELEVATED FLOOR REPAIR FOR OPENING 6" OR LESS			SKETCH NO.
DRAWING NAME: CONCRETE ON STEEL DECK FLOOR REPAIR		Hartsfield-Jackson Atlanta International Airport	1
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: CM	REFERENCE DWG. NO.
No.		DESIGNED BY: CM	
No.		CHECKED BY: CHECK	
No.		CONTRACT: NONE	NONE
No.		WBS: NONE	
No.		SCALE: NTS	
No.		DATE: 08/20/2013	

Detail No.2 Concrete Floor Repair

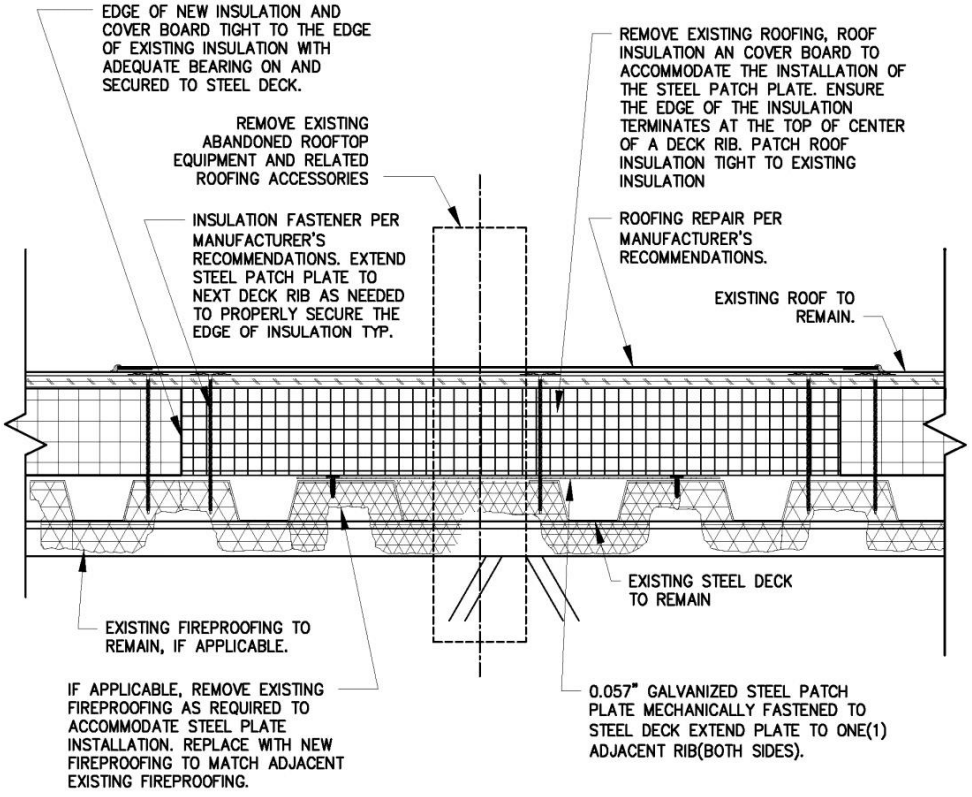


NOTES:

1. Proposed filling of new and existing cores and/or openings that fall under the following conditions shall be evaluated, engineered and stamped by a Structural Design Professional registered in the State of Georgia. :
   1.1 Penetrations larger than 6 inches; or
   1.2 The clear spacing of adjacent penetrations is less than 3 inches; or
   1.3 The concrete floor if reinforced with pre-stressed reinforcement.

PROJECT: ELEVATED FLOOR PENETRATION REPAIR DETAIL			DETAIL NO.
DRAWING NAME: CONCRETE FLOOR REPAIR		Hartsfield-Jackson Atlanta International Airport	2
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: CM	REFERENCE DWG. NO.
No.		DESIGNED BY: CM	
No.		CHECKED BY: CHECK	
No.		CONTRACT: NONE	NONE
No.		WBS: NONE	
No.		SCALE: NTS	
		DATE: 03/26/2014	

Detail No.3 Steel Deck Roof Repair

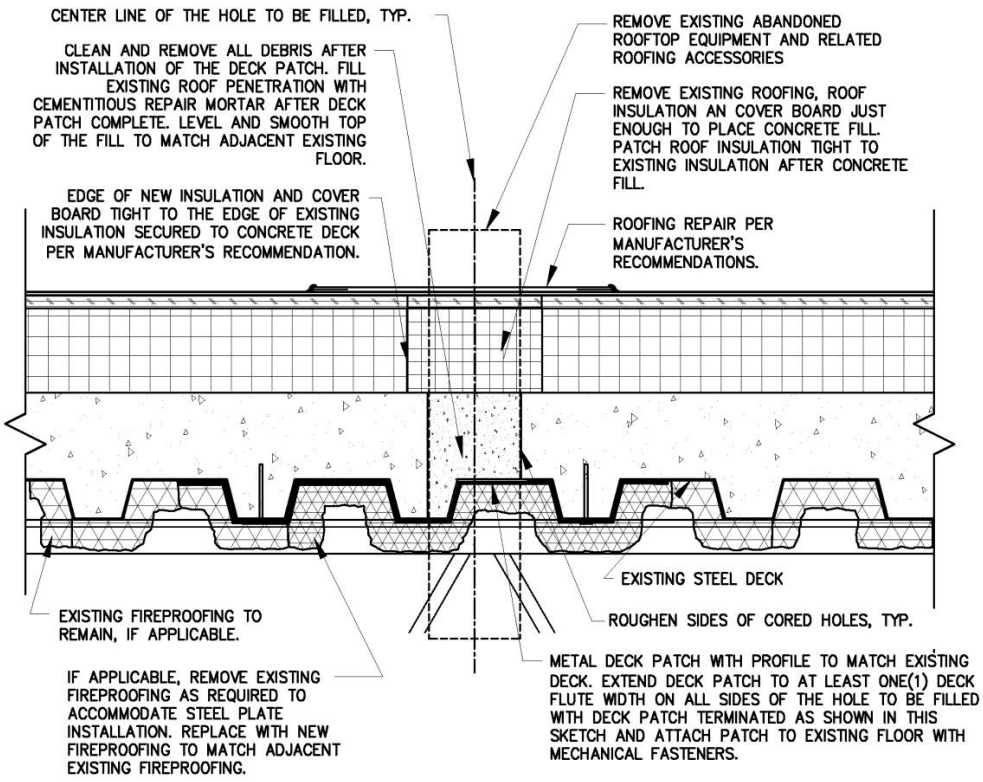


NOTES:

Proposed filling of new and existing penetrations larger than 13 inches shall be evaluated, engineered and stamped by a Structural Design Professional registered in the State of Georgia.

PROJECT: ROOF PENETRATION REPAIR DETAIL		Hartsfield-Jackson Atlanta International Airport	DETAIL NO.
DRAWING NAME: STEEL DECK ROOF REPAIR			3
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: CM	REFERENCE DWG. NO.
No.		DESIGNED BY: CM	
No.		CHECKED BY: CHECK	
No.		CONTRACT: NONE	NONE
No.		WBS: NONE	
No.		SCALE: NTS	
		DATE: 03/26/2014	

Detail No.4 Concrete on Steel Deck Roof Repair

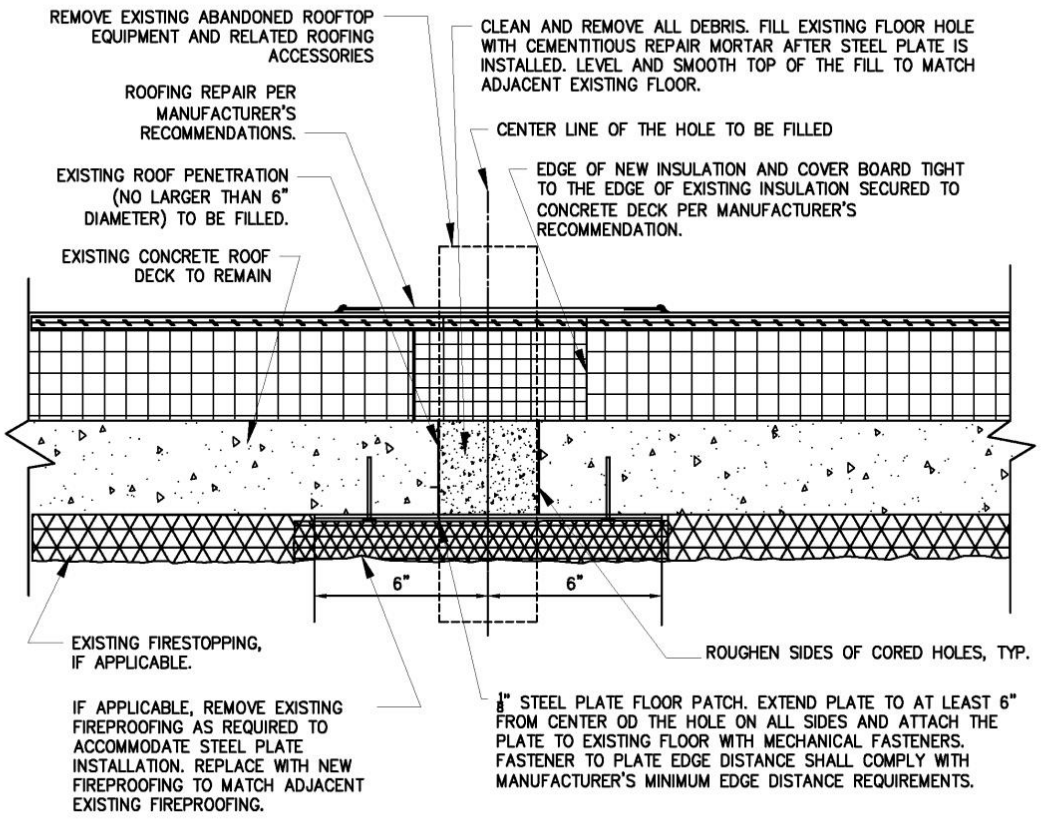


NOTES:

1. Proposed filling of new and existing cores and /or openings that fall under the following conditions shall be evaluated, engineered and stamped by a structural design professional registered in the State of Georgia: who shall provide stamped requirements in the construction documents whenever either:
   1.1 Penetration larger than 6 inches; or
   1.2 The clear spacing of adjacent penetrations is less than 3 inches.

PROJECT: ROOF PENETRATION REPAIR DETAIL		Hartsfield-Jackson Atlanta International Airport	DETAIL NO.
DRAWING NAME: CONCRETE ON STEEL DECK ROOF REPAIR			4
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: CM	REFERENCE DWG. NO.
No.		DESIGNED BY: CM	
No.		CHECKED BY: CHECK	
No.		CONTRACT: NONE	NONE
No.		WBS: NONE	
No.		SCALE: NTS	
		DATE: 03/26/2014	

Detail No.5 Concrete Deck Roof Repair

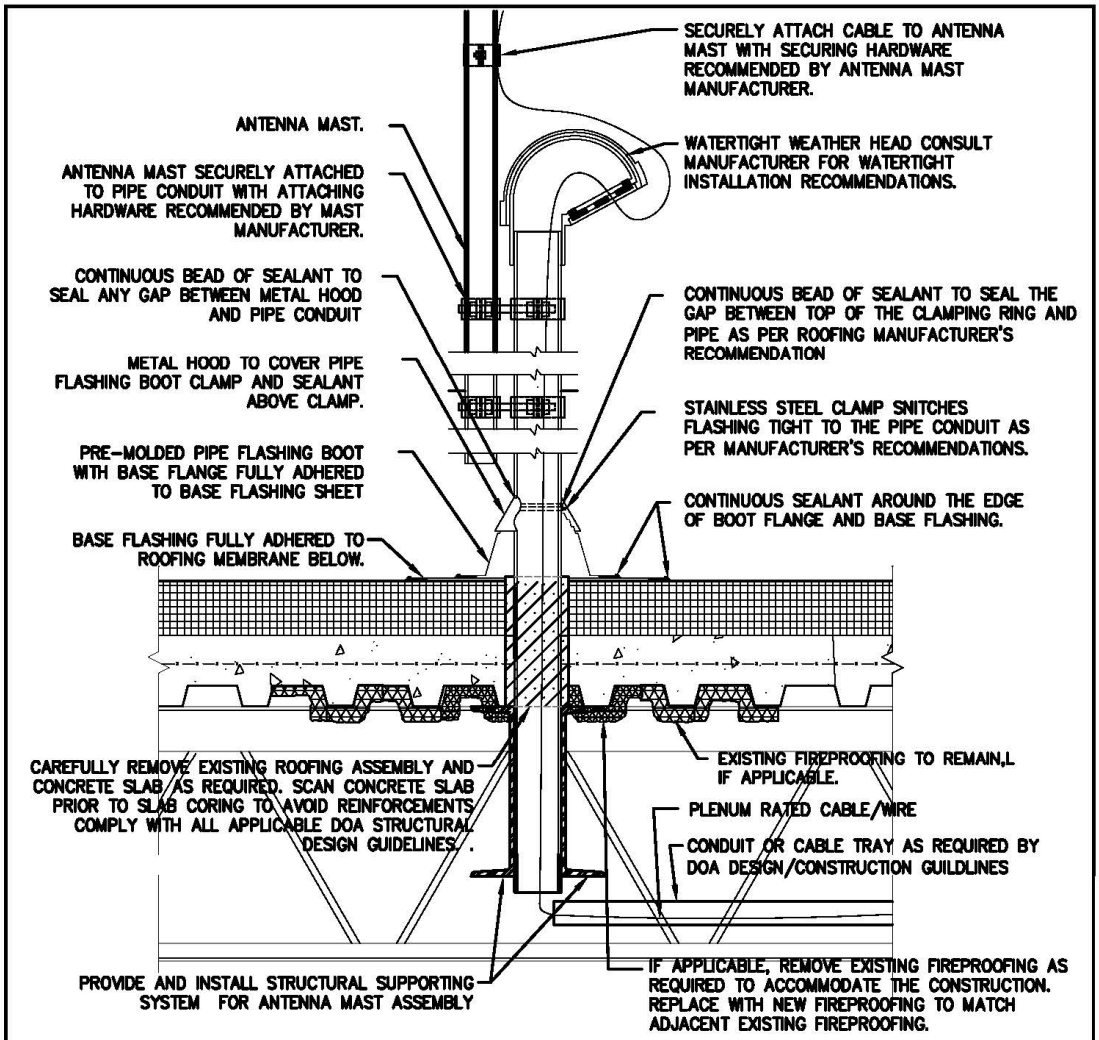


NOTES:

1. Proposed filling of new and existing cores and /or openings that fall under the following conditions shall be evaluated, engineered and stamped by a structural design professional registered in the State of Georgia: who shall provide stamped requirements in the construction documents whenever either:
   1.1 Penetration larger than 6 inches; or
   1.2 The clear spacing of adjacent penetrations is less than 3 inches.

PROJECT: ROOF PENETRATION REPAIR DETAIL			DETAIL NO.
DRAWING NAME: CONCRETE DECK ROOF REPAIR		Hartsfield-Jackson Atlanta International Airport	5
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: CM	REFERENCE DWG. NO.
No.		DESIGNED BY: CM	
No.		CHECKED BY: CHECK	
No.		CONTRACT: NONE	NONE
No.		WBS: NONE	
No.		SCALE: NTS	
		DATE: 03/26/2014	

Detail No.6 Pipe Thru Roofing System Over Conc. On Steel Deck

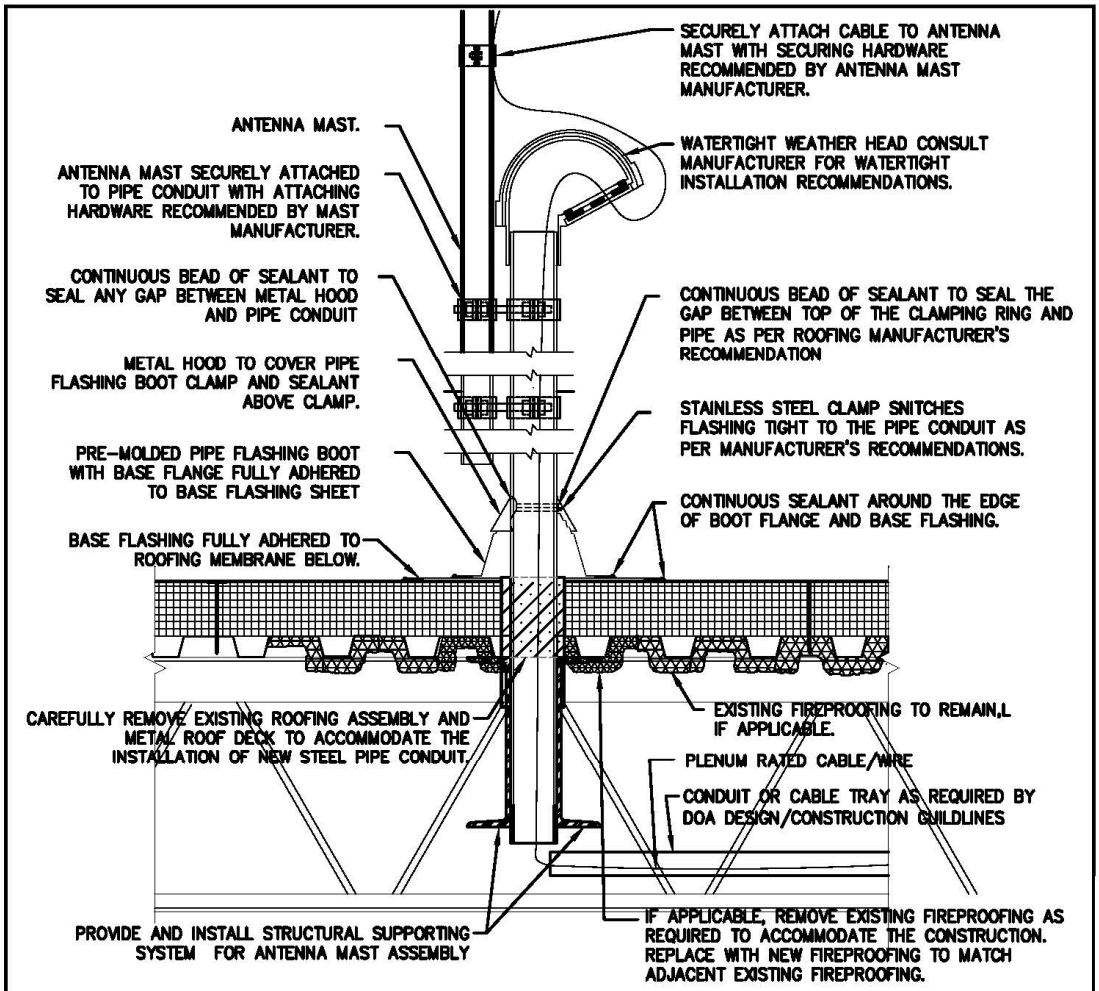


NOTES:

1. ANTENNA MAST, PIPE CONDUIT, PIPE CLAMPS AND STRUCTURAL SUPPORTING SYSTEM SHALL BE DESIGNED BY A GEORGIA STATE REGISTERED STRUCTURAL DESIGN PROFESSIONAL. SUBMIT DESIGN, DESIGN CALCULATIONS AND DETAILS, ON SIGNED AND SEALED DRAWINGS TO DOA PLANNING AND DEVELOPMENT FOR REVIEW.
2. THE SUPPORTING STRUCTURAL SHALL MINIMIZE THE VIBRATION IMPACT DAMAGE TO THE EXISTING ROOF ASSEMBLY.
3. PITCH POCKET IS UNACCEPTABLE AS WEATHER PROTECTION FOR ROOFING PENETRATION.
4. VERIFY EXISTING ROOF ASSEMBLY FIRE-RESISTANCE-RATING REQUIREMENT, PROVIDE AND INSTALL FIRESTOP SYSTEM AS NEEDED. SUBMIT PROPOSED FIRESTOP SYSTEM TO DOA PLANNING AND DEVELOPMENT FOR REVIEW.
5. ENSURE NEW CONSTRUCTION WILL NOT IMPACT EXISTING BUILDING WARRANTY OF ANY KIND.

PROJECT: EXISTING ROOF PENETRATION DETAIL FOR ANTENNA MAST		Hartsfield-Jackson Atlanta International Airport	DETAIL NO. 6
DRAWING NAME: PIPE THRU ROOFING SYSTEM OVER CONC. ON STEEL DECK			
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: XX DESIGNED BY: XX CHECKED BY: CHECK CONTRACT: NONE WBS: NONE SCALE: NTS DATE: 03/26/2019	REFERENCE DWG. NO. NONE
No.			
No.			
No.			
No.			
No.			

Detail No. 7 Pipe Thru Roofing System Over Steel Deck

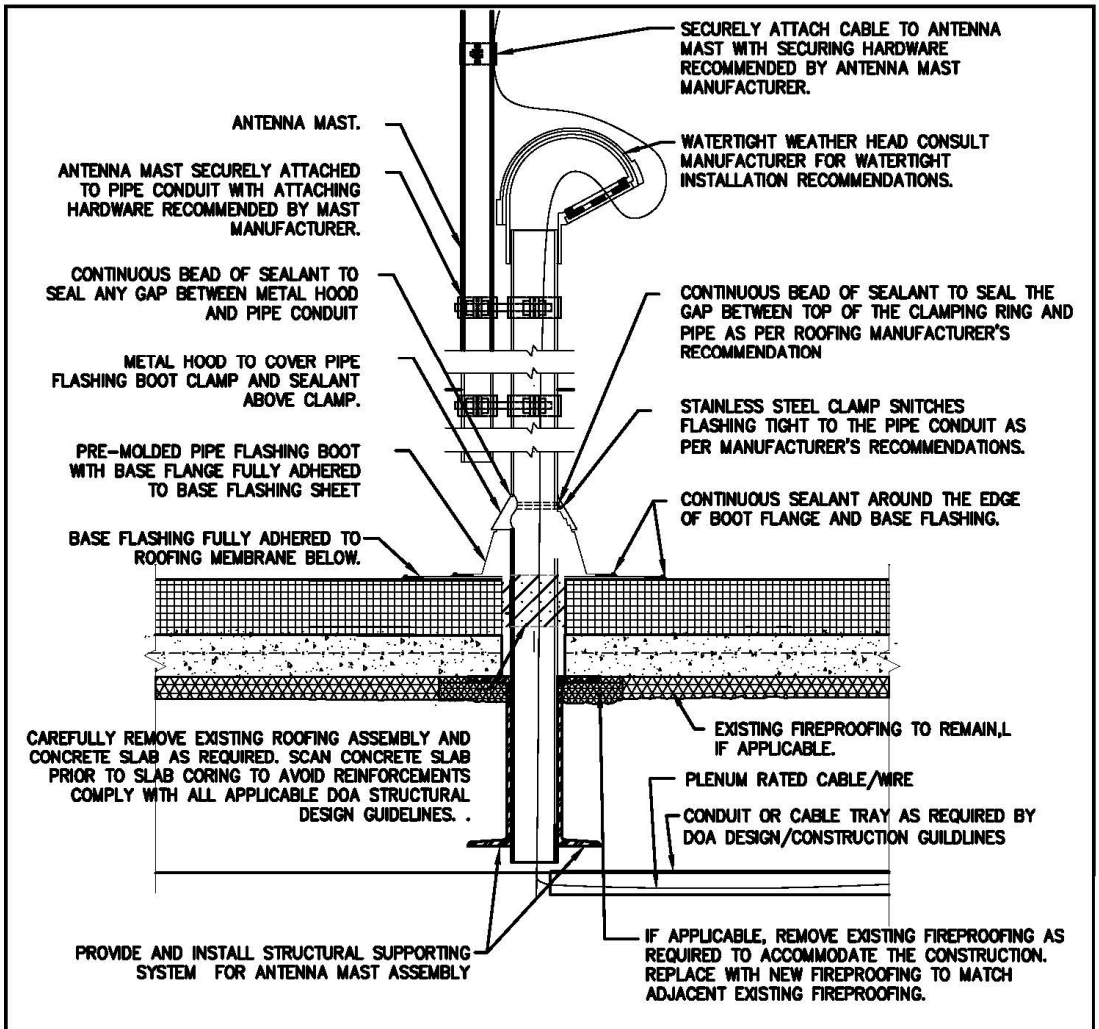


NOTES:

1. ANTENNA MAST, PIPE CONDUIT, PIPE CLAMPS AND STRUCTURAL SUPPORTING SYSTEM SHALL BE DESIGNED BY A GEORGIA STATE REGISTERED STRUCTURAL DESIGN PROFESSIONAL. SUBMIT DESIGN, DESIGN CALCULATIONS AND DETAILS, ON SIGNED AND SEALED DRAWINGS TO DOA PLANNING AND DEVELOPMENT FOR REVIEW.
2. THE SUPPORTING STRUCTURAL SHALL MINIMIZE THE VIBRATION IMPACT DAMAGE TO THE EXISTING ROOF ASSEMBLY.
3. PITCH POCKET IS UNACCEPTABLE AS WEATHER PROTECTION FOR ROOFING PENETRATION.
4. VERIFY EXISTING ROOF ASSEMBLY FIRE-RESISTANCE-RATING REQUIREMENT, PROVIDE AND INSTALL FIRESTOP SYSTEM AS NEEDED. SUBMIT PROPOSED FIRESTOP SYSTEM TO DOA PLANNING AND DEVELOPMENT FOR REVIEW.
5. ENSURE NEW CONSTRUCTION WILL NOT IMPACT EXISTING BUILDING WARRANTY OF ANY KIND.

PROJECT: EXISTING ROOF PENETRATION DETAIL FOR ANTENNA MAST		Hartsfield-Jackson Atlanta International Airport	DETAIL NO. 7
DRAWING NAME: PIPE THRU ROOFING SYSTEM OVER STEEL DECK			
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: XX	REFERENCE DWG. NO.
No.		DESIGNED BY: XX	
No.		CHECKED BY: CHECK	
No.		CONTRACT: NONE	NONE
No.		WBS: NONE	
No.		SCALE: NTS	
		DATE: 05/13/2019	

Detail No. 8 Pipe Thru Roofing System Over Conc. Slab

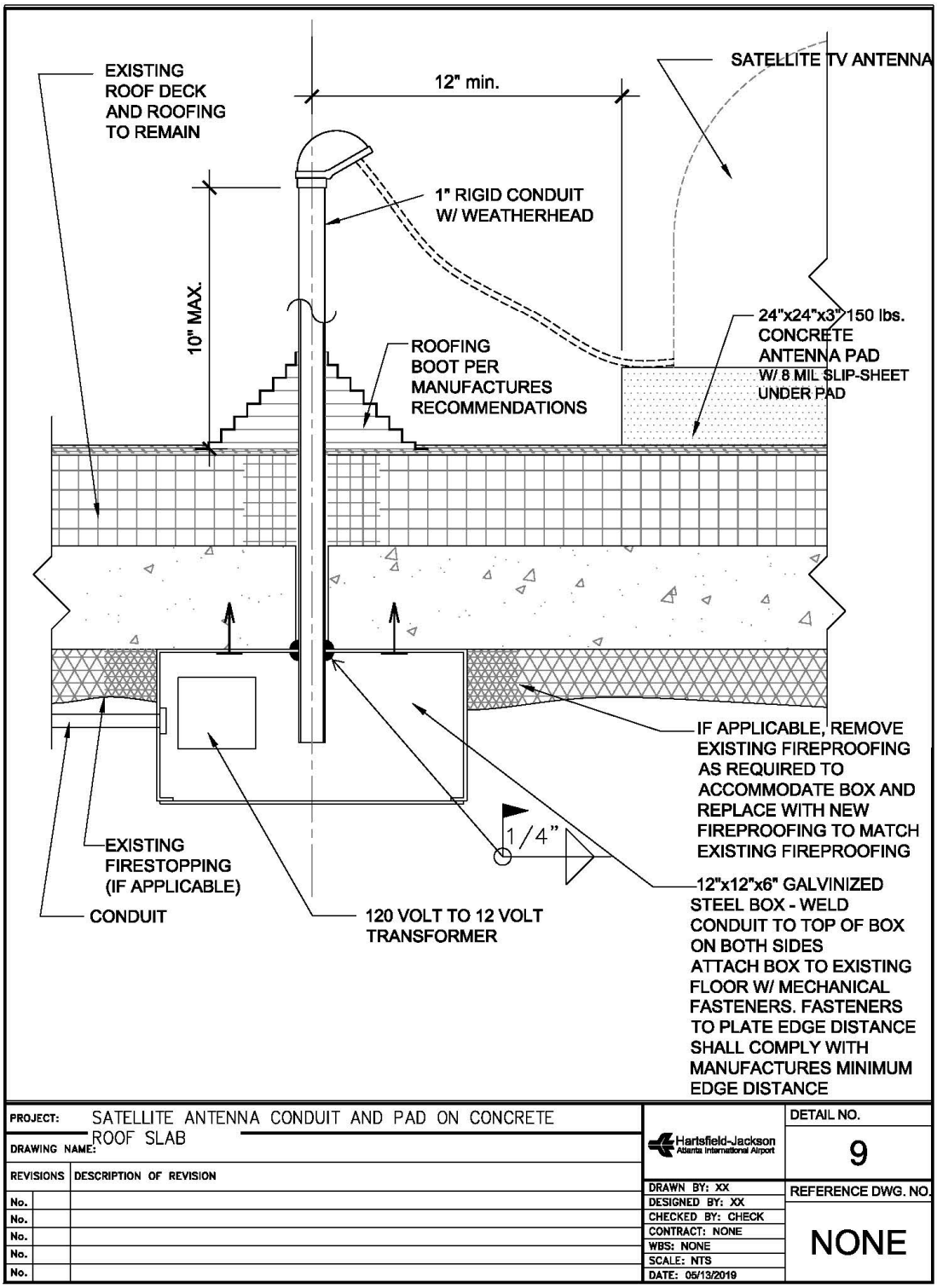


NOTES:

1. ANTENNA MAST, PIPE CONDUIT, PIPE CLAMPS AND STRUCTURAL SUPPORTING SYSTEM SHALL BE DESIGNED BY A GEORGIA STATE REGISTERED STRUCTURAL DESIGN PROFESSIONAL. SUBMIT DESIGN, DESIGN CALCULATIONS AND DETAILS, ON SIGNED AND SEALED DRAWINGS TO DOA PLANNING AND DEVELOPMENT FOR REVIEW.
2. THE SUPPORTING STRUCTURAL SHALL MINIMIZE THE VIBRATION IMPACT DAMAGE TO THE EXISTING ROOF ASSEMBLY.
3. PITCH POCKET IS UNACCEPTABLE AS WEATHER PROTECTION FOR ROOFING PENETRATION.
4. VERIFY EXISTING ROOF ASSEMBLY FIRE-RESISTANCE-RATING REQUIREMENT, PROVIDE AND INSTALL FIRESTOP SYSTEM AS NEEDED. SUBMIT PROPOSED FIRESTOP SYSTEM TO DOA PLANNING AND DEVELOPMENT FOR REVIEW.
5. ENSURE NEW CONSTRUCTION WILL NOT IMPACT EXISTING BUILDING WARRANTY OF ANY KIND.

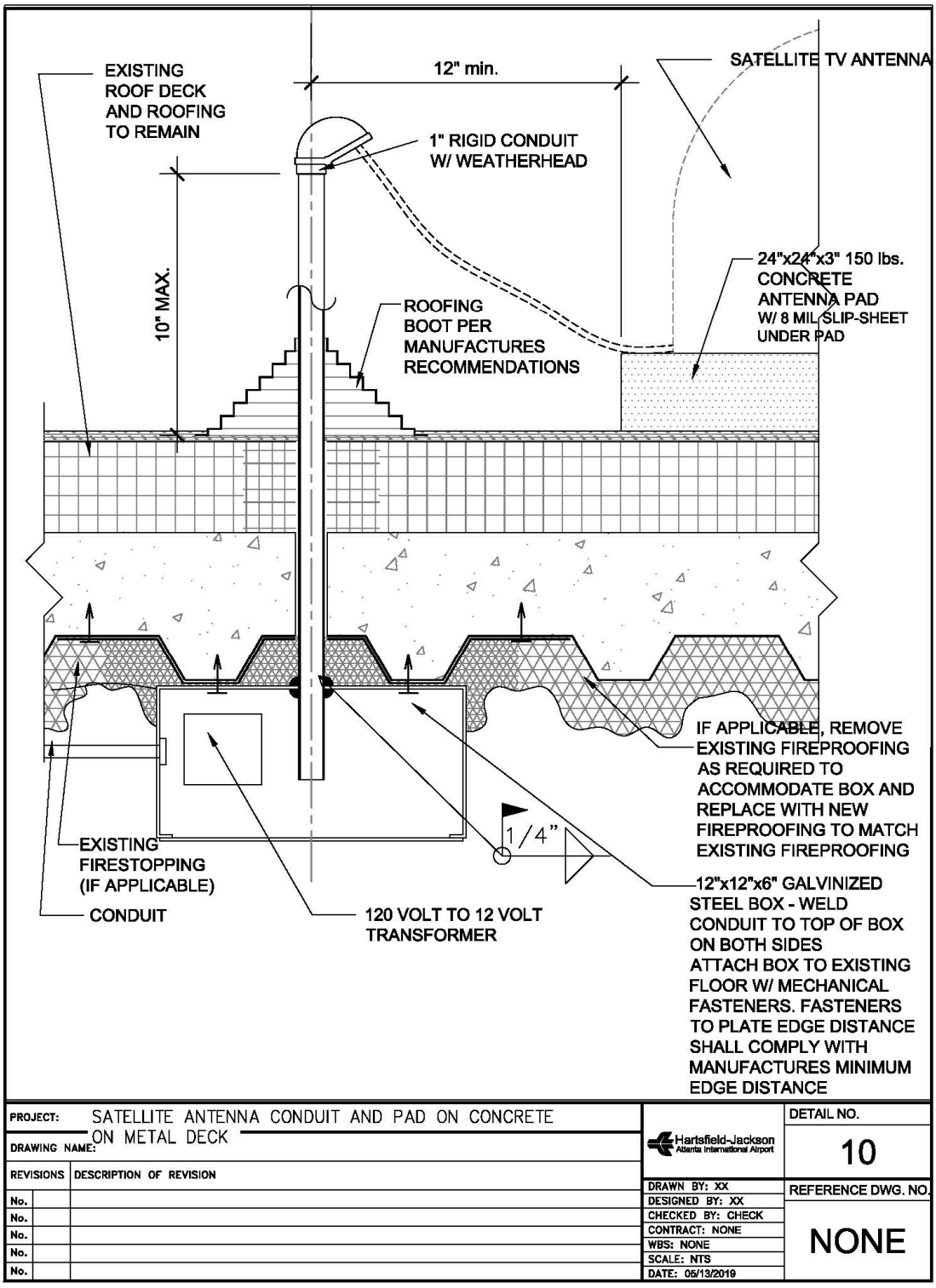
PROJECT: EXISTING ROOF PENETRATION DETAIL FOR ANTENNA MAST			DETAIL NO.
DRAWING NAME: PIPE THRU ROOFING SYSTEM OVER CONC. SLAB		Hartsfield-Jackson Atlanta International Airport	8
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: XX	REFERENCE DWG. NO.
No.		DESIGNED BY: XX	
No.		CHECKED BY: CHECK	
No.		CONTRACT: NONE	NONE
No.		WBS: NONE	
No.		SCALE: NTS	
		DATE: 05/13/2019	

Detail No. 9 Satellite Antenna Conduit and Pad on Concrete Roof Slab

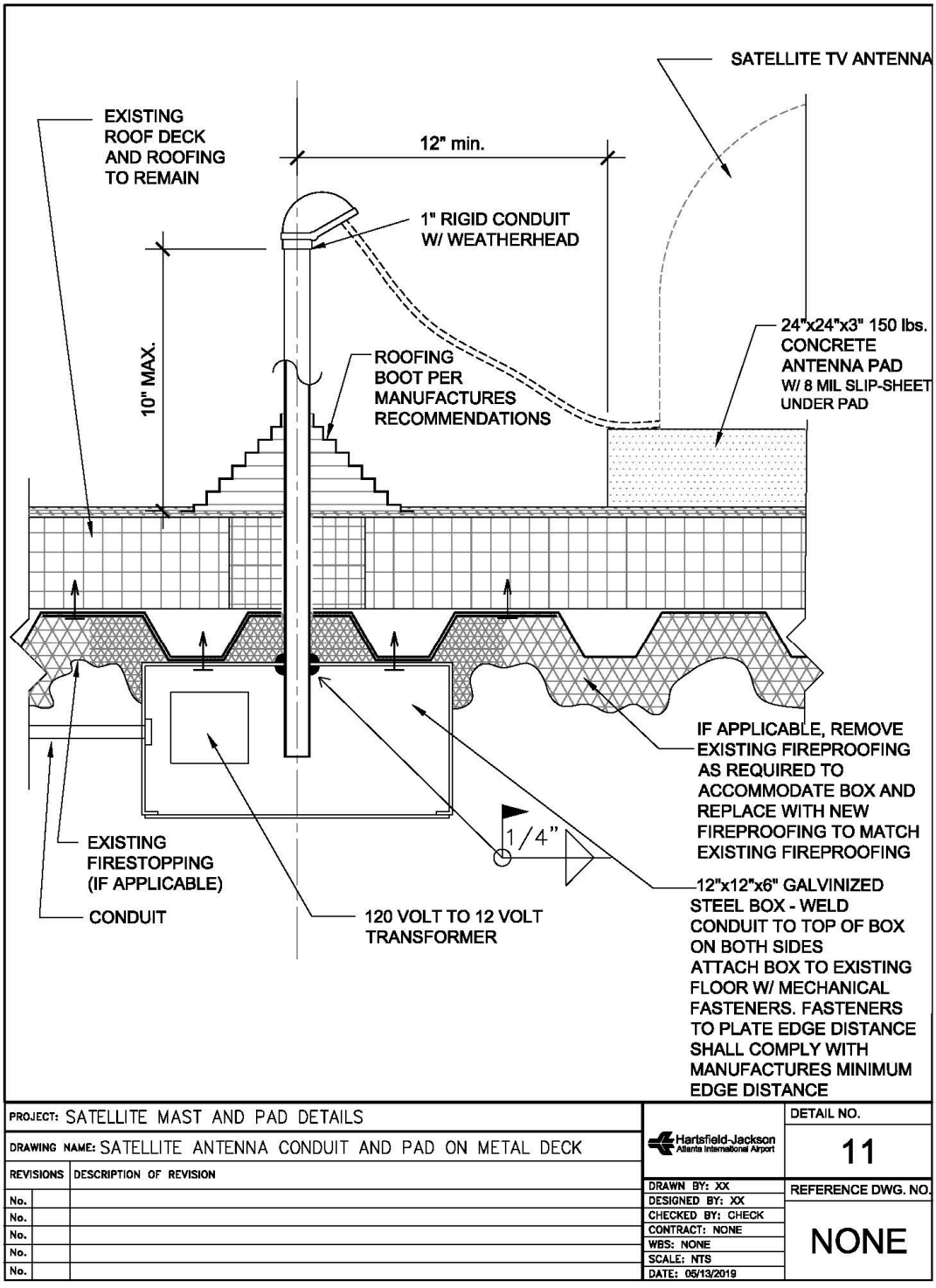


PROJECT: SATELLITE ANTENNA CONDUIT AND PAD ON CONCRETE ROOF SLAB		Hartsfield-Jackson Atlanta International Airport	DETAIL NO. 9
DRAWING NAME:			
REVISIONS	DESCRIPTION OF REVISION	DRAWN BY: XX DESIGNED BY: XX CHECKED BY: CHECK CONTRACT: NONE WBS: NONE SCALE: NTS DATE: 05/13/2019	REFERENCE DWG. NO. NONE
No.			
No.			
No.			
No.			
No.			

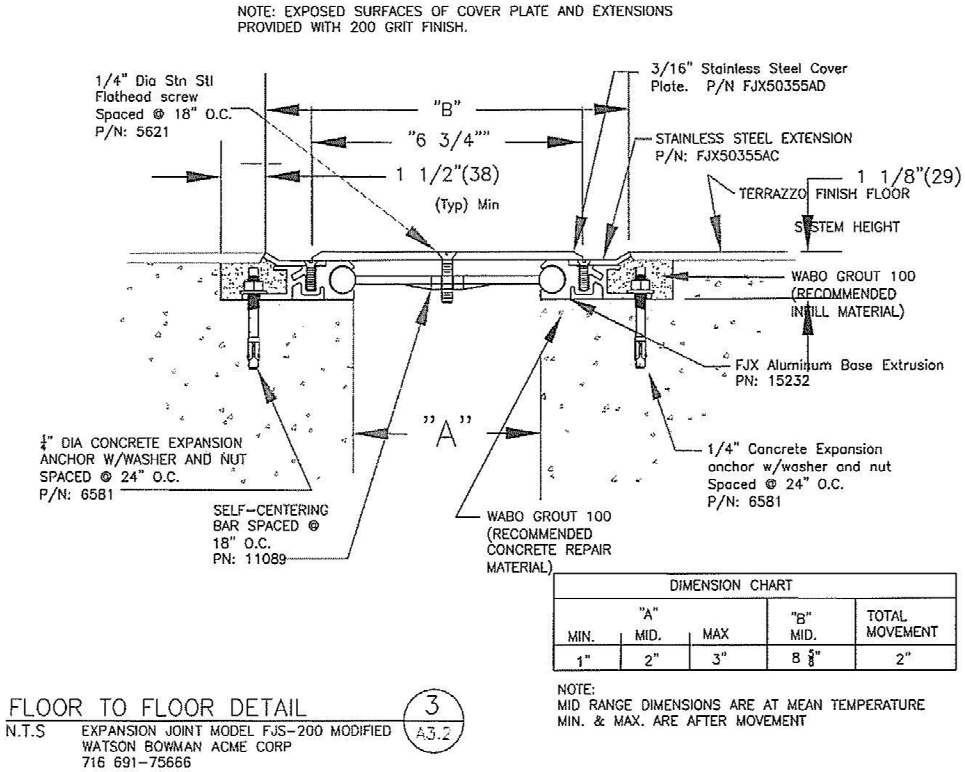
Detail No. 10 Satellite Antenna Conduit and Pad on Conc. on Metal Deck



Detail No. 11 Satellite Antenna Conduit and Pad on Metal Deck



Detail No. 12 Expansion Joint Detail



DIMENSION CHART				
"A" MIN.	"A" MID.	"A" MAX	"B" MID.	TOTAL MOVEMENT
1"	2"	3"	8 3/8"	2"

NOTE:
MID RANGE DIMENSIONS ARE AT MEAN TEMPERATURE
MIN. & MAX. ARE AFTER MOVEMENT

FLOOR TO FLOOR DETAIL 3 A3.2
N.T.S EXPANSION JOINT MODEL FJS-200 MODIFIED
WATSON BOWMAN ACME CORP
716 691-75666

Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Design Standards - Sustainability

Design Standards
Sustainability

Table of Contents

Design Standards
Sustainability Standards

1.0 PURPOSE

The ATL Planning and Development Bureau (P&D) has developed comprehensive Sustainability Design Standards to apply to all DOA projects in an effort to meet City of Atlanta Ordinances, obtain certifications in industry leading Sustainability Rating Systems, and reach airport-wide sustainability goals. P&D requests that the selected Sustainability Standards listed below, extracted from P&D's Sustainability Standards Manual, be implemented in all Tenant projects within the Central Passenger Terminal Complex as much as possible.

The implementation of these Standards is voluntary and in no way a contractual requirement. However, their maximum implementation, should be recognized as best practices, which can also contribute to the airport's overall sustainability goals of reducing energy and water consumption, waste generation and greenhouse gas emissions.

P&D would also like to request from each Tenant and their Designer of Record to please complete the attached Sustainability Standards Checklist and submit as part of the Submittal Review packages in order to assist P&D in tracking the sustainability initiatives being implemented in all projects within Hartsfield-Jackson Atlanta International Airport (ATL).

For the full P&D Sustainability Standards Manual, please contact Jorge Cortes, AIA, NCARB, DOA Assistant Director of Architecture at jorge.cortes@atl.com.

2.0 GENERAL STANDARDS

2.1 Specify new HVAC equipment that uses no chlorofluorocarbon (CFC) refrigerants.

2.2 Specify HVAC equipment that uses refrigerants with low Global Warming Potential (GWP) and Ozone Depletion Potential (ODP).

2.3 Prohibit the specification of insulation materials that use ozone-depleting chemicals.

2.4 Prohibit the specification of halons in fire suppression systems.

3.0 WATER EFFICIENCY (WE)

3.1 WE1 Indoor Potable Water Reduction - Reduce Potable Indoor Water Consumption by 40% (baseline LEEDv4)

3.1.1 Standards

3.1.1.1 Specify plumbing fixtures with following maximum flow rates:

3.1.1.1.1 Toilets = 1.28gpf

3.1.1.1.2 Urinals = 0.8gpf

3.1.1.1.3 Showerhead = 1.5gpm

3.1.1.1.4 Faucets w/ motion sensors = 0.5gpm

3.1.1.1.5 Kitchen/Breakroom faucets = 1.0gpm

3.1.1.2 Specify Energy Star labeled appliances

3.1.2 Sustainability Innovation:

3.1.2.1 Utilize a water harvesting system to replace potable (other non-potable water uses) and reduce demand on indoor potable water needs.

4.0 ENERGY & ATMOSPHERE (EA)

4.1 EA1 Energy Reduction - Reduce Energy Consumption by at least 20% (baseline: ASHRAE 90.1 – 2010) (Achieve through a building Energy Model)

4.1.1 Standards:

4.1.1.1 Design spaces and systems to demonstrate an improvement of 20% compared to baseline for ASHRAE/IESNA 90.1-2010.

4.1.1.2 Design the thermal envelope and systems to maximize energy performance.

4.1.1.3 Utilize energy modeling to assess design energy performance and identify cost effective energy-use optimization strategies. Perform payback analysis during the design phase which demonstrates that energy conservation measures have reasonable payback periods associated with them, and allow for increased project capital costs with the knowledge that both energy and operating costs will be saved long term.

4.1.1.4 Include advanced HVAC equipment and control strategies to reduce energy consumption. Strategies included but are not limited to economizers, energy recovery systems, room temperature setpoint setbacks, Variable Refrigerant Systems, and water and air supply temperature reset schedules.

4.1.1.5 Specify integrated occupancy sensors with heating, ventilation, and air conditioning (HVAC) operation.

4.1.1.6 Provide infrastructure for, or connect to, existing building automation systems (BAS) for all projects to facilitate the monitoring of energy related processes.

4.1.1.7 Incorporate energy efficient lighting systems (LED). Require individual control devices including occupancy sensors or timers to reduce lighting energy consumption.

4.1.1.8 Specify lighting controls that dim or shut off lights in areas where daylighting is prevalent to maximize the use of daylighting. In single story buildings or at the roof level, incorporate skylights and/or light tubes to increase natural light and reduce artificial light.

4.1.1.9 Specify occupancy sensors where practical to turn off lighting during unoccupied periods. Provide lighting control system that links lighting to flight schedules and occupancy. Provide occupancy sensors to control lighting in areas that are intermittently occupied (e.g., rest rooms, storage areas, stairwells).

4.1.1.10 Specify ENERGY STAR-labeled appliances, electric equipment, and ENERGY STAR computers, monitors, and other applicable IT systems.

4.1.1.11 Integrate daylight harvesting strategy with the Building Automation System (BAS) and lighting control system.

4.1.1.12 Design skylights and/or light tubes in conjunction with daylight dimming controls to reduce daytime lighting requirements.

4.1.1.13 Provide photo-integrated light sensors to dim artificial lights.

4.1.2 Sustainability Innovation:

4.1.2.1 Exceed ASHRAE 90.1-2010 efficiency requirements compared against a baseline by 50%. Utilize whole-building energy modeling to calculate.

4.2 EA5: Commissioning - Perform fundamental and enhanced commissioning for all facilities and buildings

4.2.1 Standards:

4.2.1.1 Confirm the commissioning requirements of a third-party rating system such as LEED, which include both fundamental and enhanced commissioning goals are included in specifications.

4.2.2 Sustainability Innovation:

4.2.2.1 Specify building envelope commissioning meeting requirements of Enhanced Commissioning credit, Option #2 under LEED v4.

5.0 MATERIALS & RESOURCES (MR)

5.1 MR2 Sustainable Purchasing Policy - Implement Sustainable Purchasing Policy to promote responsibly produced materials for all projects

5.1.1 Standards:

5.1.1.1 Specify products that follow the ATL Sustainable Purchasing Policy (Attachment 4.9).

5.1.1.2 Specify that contractors follow the ATL Sustainable Purchasing Policy (Attachment 4.9).

5.1.2 Sustainability Innovation:

5.1.2.1 Do not use any materials that contain chemicals found on the International Living Future Institute's Material Red List.

5.2 MR3 Regionally Sourced Materials - Use locally sourced materials when economically feasible

5.2.1 Standards:

5.2.1.1 Specify furniture materials and products that are recycled, rapidly renewable, local/regional, contain wood materials that are certified (e.g., Forest Stewardship Council [FSC]) within 300-mile radius.

5.2.2 Sustainability Innovation:

5.2.2.1 Specify and source at least 40% local/regional materials (within 300-mile radius).

6.0 HUMAN HEALTH / INDOOR AIR QUALITY (HH)

6.1 HH1 Indoor Air Quality - Follow applicable ASHRAE Standards for Ventilation and Thermal Comfort, and minimize and monitor CO2 and Total Volatile Organic Compounds during occupancy.

6.1.1 Standards:

6.1.1.1 Design the HVAC system to meet the minimum ventilation requirements described in the latest version of ASHRAE 62.1-2010: Ventilation for Acceptable Indoor Air Quality.

6.1.1.2 Specify permanent outdoor air monitoring stations in all air handling units that supply ventilation and connect these stations to the building automation system (BAS) if available.

6.1.1.3 Specify at least one (1) C02 and Total Volatile Organic Compound (TVOC) sensor per 25,000 sq. ft. in all buildings, installed 4-6 ft. from floor plane, to be integrated with building automation system (BAS) for continuous monitoring of TVOC and CO2 levels post-construction.

6.1.1.4 All paints, coatings, sealants to be low or zero VOC.

6.1.1.5 Prohibit smoking lounges and areas in all interior spaces.

6.1.1.6 Specify low-VOC adhesives and sealants that comply with the South Coast Air Quality Management District (SCAQMD) Rule #1168.

6.1.1.7 Specify low-VOC field applied paints and coating coatings that comply with Green Seal Standards GS-11 and GC-3 and SCAQMD Rule #1113.

6.1.1.8 Specify low-VOC carpet and flooring systems that comply with the Carpet and Rug Institute Green Label Plus program (carpet), Green Label program (cushion), and Floorscore (hard surface flooring).

6.1.1.9 Specify furniture systems and furnishings that are Green Guard certified.

6.1.1.10 Specify wood and agrifiber products with no added urea-formaldehyde resins.

6.1.1.11 Specify products with no-VOC content wherever feasible.

6.1.1.12 Design to incorporate Demand Control Ventilation strategies, where possible, to vary the amount of ventilation air based on carbon dioxide levels in the spaces being served by the Air Handling Units.

6.1.2 Sustainability Innovation:

6.1.2.1 Specify at least 25% of products by cost (including furnishings, built-in furniture, all interior finishes and finish materials) are Cradle to Cradle™ Material Health Certified with a V2 Gold or Platinum or V3 Bronze, Silver, Gold or Platinum Material Health Score.

6.1.2.2 At least 25% of products by cost (including furnishings, built-in furniture, all interior finishes and finish materials) have no GreenScreen® Benchmark 1, List Translator 1 or List Translator Possible substances over 1,000 ppm, as verified by a qualified Ph.D. toxicologist or Certified Industrial Hygienist.

6.2 HH5 Water Quality - Design Building to accommodate future Water Filtration System to reduce Organic, Inorganic, and Agricultural contaminants, and excessive Water Additives in Drinking Water

6.2.1 Standards:

6.2.1.1 Specify drinking fountains and water bottle filling stations that are equipped with a carbon filter.

6.2.1.2 Specify carbon filters for all kitchen sinks and water supply points used for consumption.

6.2.2 Sustainability Innovation:

6.2.2.1 Design water filtration system to meet requirements of Feature 30 (Fundamental Water Quality) under WELL Building Standard (Version 1.0).

7.0 Appendix No.1

Sustainability Standards Checklist

Project Name:
Tenant:
Project Phase:
Date Submitted:

Please evaluate each design feature and indicate if it has been Implemented, Not Implemented, or Not Applicable. If Not Implemented or Not Applicable, please provide an explanation. **Please submit as part of the Submittal Review packages in order to assist P&D in tracking the sustainability initiatives being implemented in all projects within Hartsfield-Jackson Atlanta International Airport (H-JAIA).**

Item	Goal	Implemented	Not Implemented	Not Applicable	Explanation
General Standards					
GS: General Standards	Specify new HVAC equipment that uses no chlorofluorocarbon (CFC) refrigerants				
	Specify HVAC equipment that uses refrigerants with low Global Warming Potential (GWP) and Ozone Depletion Potential (ODP)				
	Prohibit the specification of insulation materials that use ozone-depleting chemicals				
	Prohibit the specification of halons in fire suppression systems				
Water Efficiency (WE)					
WE1: Indoor Potable Water Reduction	Toilets specified at or below 1.28 gpf				
	Urinals specified at or below 0.8 gpf				
	Showerheads specified at or below 1.5 gpm				
	Faucets specified w/motion sensors and at or below 0.5 gpm				
	Kitchen/Breakroom faucets specified at or below 1.0 gpm				
	Specify ENERGY STAR labeled appliances				
Energy and Atmosphere (EA)					
EA1: Energy Reduction	Reduce energy consumption by at least 20% (baseline: ASHRAE 90.1 – 2010)				
EA5: Commissioning	Perform fundamental and enhanced commissioning for all systems				
Material & Resources (MR)					
MR2: Sustainable Procurement Policy	Specify products that follow the ATL Sustainable Purchasing Policy				
	Specify that contractors follow the ATL Sustainable Purchasing Policy				
MR3: Regionally Sourced Materials	Specify locally sourced materials when economically feasible				
Human Health / Indoor Air Quality (HH)					
HH1: Indoor VOC and CO2 Reduction	Use low or no Volatile Organic Compound (VOCs) materials for paints/coatings, adhesives/sealants, flooring, composite wood, ceilings, walls, thermal and acoustical insulation, and furniture				
HH5: Water Quality	Specify drinking fountains and water bottle filling stations that are equipped with a carbon filter				
	Use carbon filters for all kitchen sinks and water supply points used for consumption				

8.0 APPENDIX NO. 2

P&D Sustainable Purchasing Policy
Design and Construction

1. PURPOSE

Hartsfield-Jackson Atlanta International Airport (ATL), Department of Aviation, Planning & Development Bureau (P&D) is committed to the implementation of sustainable design practices and principles into all its projects. The sourcing, manufacturing, transportation, and disposal of the materials used for structures and infrastructure have a measurable impact on human heath, the environment, and the economic stability of the community in which these projects are located. The specification of products that have reduced adverse effects on human health and the environment when compared with competing products can have significant positive impacts with little to no additional costs to the owner. The P&D Sustainable Purchasing Policy for Design and Construction (SPP) is intended to be a guiding document for project teams to identify products that follow leading industry standards for sustainable materials into all P&D projects. At a minimum, design and construction teams will evaluate the specification of products that meet the referenced standards for all construction materials and include all building materials that pose no additional cost compared to alternatives that do not meet the criteria of the applicable sustainability standards. Additionally, when feasible, project teams will not use materials containing chemicals found on the International Living Future Institute's (ILFI) Materials Red List to the highest extent possible.

2. OBJECTIVES

2.1 P&D's sustainable purchasing objectives include acquisitions that:

2.1.1 Conserve natural resources
2.1.2 Reduce the Embodied Carbon of all assets
2.1.3 Reduce the use of water and energy
2.1.4 Minimize environmental impacts such as pollution and emissions
2.1.5 Eliminate or reduce toxics that create hazards to employees and passengers
2.1.6 Support strong recycling efforts and utilize products where a high likelihood of recycling exists (e.g. steel and concrete)
2.1.7 Reduce materials that are placed in landfills
2.1.8 Reduce transportation-related emissions by using locally sourced products
2.1.9 Increase the use and availability of environmentally preferable products
2.1.10 Encourage vendors to reduce environmental impacts in their production and distribution systems
2.1.11 Evaluate short-term and long-term cost in comparing product alternatives when feasible including total cost expected during the time a product is owned, extended warranties, operation, supplies, and maintenance.

3 GENERAL REQUIREMENTS

3.1 Utilize 3rd-party product databases such as mindful Materials or UL SPOT to identify materials that meet sustainable product certification.

3.2 For all new construction building and parking deck projects: Conduct Whole Building Life Cycle Assessments during design to identify all opportunities to reduce the total amount of embodied carbon. Whole Building Life Cycle Analysis should follow the criterial of Building-Lifecycle Impact Reduction credit, Option 4 in the LEED v4 Reference Manual for Building Design and Construction.

3.3 LEED projects: Pursue all 3 Building Product Optimization and Disclosure credits in the LEED v4 Reference Manual for Building Design and Construction

3.4 Require that all manufacturers supply Environmental Product Declarations for all building materials.

3.5 Inform all manufacturers that purchasing decisions will be made based on sustainable criteria.

4 DEFINITIONS

4.1 Business and Institutional Furniture Manufacturers Association (BIFMA):

BIFMA develops, maintains, and publishes safety and performance standards for furniture products.

4.2 CRADLE TO CRADLE Certified:

The Cradle to Cradle Certified™ Product Standard guides designers and manufacturers through a continual improvement process that looks at a product through five quality categories; material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness. A product receives an achievement level in each category; Basic, Bronze, Silver, Gold, or Platinum with the lowest achievement level representing the product's overall mark.

4.3 ECO LOGO Certified:

ECO LOGO Certified products, services and packaging are certify for reduced environmental impact. ECOLOGO Certifications are voluntary, multi-attribute, lifecycle based environmental certifications that indicate a product has undergone rigorous scientific testing, exhaustive auditing, or both, to prove its compliance with stringent, third-party, environmental performance standards.

4.4 EMBODIED CARBON:

Embodied Carbon refers to carbon dioxide emitted during the manufacture, transport and construction of building materials, together with end of life emissions.

4.5 ENERGY STAR:

Energy Star is a program that provides certification to buildings and consumer products that meet certain standards of energy efficiency.

4.6 ENVIRONMENTAL PRODUCT DECLARATION:

Environmental Product Declaration (EPD) is an independently verified and registered document that communicates transparent and comparable information about the life-cycle environmental impact of products. As a voluntary declaration of the life-cycle environmental impact, having an EPD for a product does not imply that the declared product is environmentally superior to alternatives.

4.7 FOREST STERWARDSHIP COUNCIL (FSC):

The term "independently certified forest products" refers to those products originating in a forest that an independent third party has certified as well managed and sustainable. Forest certification validates on-the-ground operations employing the best management practices at a specific forest to ensure the long-term health of the total forest ecosystem. A forestry operation that meets FSC standards protects forest ecosystems, water quality, wildlife habitats and local communities. To ensure the integrity of the certification, the wood and fiber from certified forests are tracked through the commercial chain from logging sites to retailers and to the end user.

4.8 GREEN LABEL PLUS:

Green Label Plus is an independent testing program that identifies carpet, adhesives, and cushion with very low emissions of VOCs to help improve indoor air quality. It is an outgrowth of, and enhancement to the CRI Green Label Testing program.

4.9 GREEN SQUARED:

Green Squared is an initiative by the North American tile industry to recognize and certify sustainable products. Different from other programs, Green Squared takes a multi-attribute sustainability standard for tile and tile installation materials

4.10 GREENGUARD:

GREENGUARD Certification is part of UL Environment, a business unit of UL (Underwriters Laboratories). GREENGUARD Certification helps manufacturers create--and helps buyers identify--interior products and materials that have low chemical emissions, improving the quality of the air in which the products are used.

4.11 GREEN SEAL:

4.12 MATERIALS RED LIST:

The materials red list (commonly shortened to simply “red list”) is a compilation of harmful-to-humans chemicals and materials compiled by the International Living Future Institute (ILFI) as part of its Living Building Challenge. It is subject to change based on emerging scientific knowledge, but currently includes:

4.12.1 Asbestos
4.12.2 Cadmium
4.12.3 Chlorinated polyethylene and chlorosulfonated polyethlene
4.12.4 Chlorofluorocarbons (CFCs)
4.12.5 Chloroprene (neoprene)
4.12.6 Formaldehyde (added)
4.12.7 Halogenated flame retardants
4.12.8 Hydrochlorofluorocarbons (HCFCs)
4.12.9 Lead (added)
4.12.10 Mercury
4.12.11 Petrochemical fertilizers and pesticides
4.12.12 Phthalates
4.12.13 Polyvinyl chloride (PVC)
4.12.14 Wood treatments containing creosote, arsenic or pentachlorophenol

For a comprehensive list that break down each material in more detail, visit: https://living-future.org/declare/declare-about/red-list/

4.13 Mindful MATERIALS:

The Mindful MATERIALS Library, powered by Origin, is a searchable database where users can find architectural building products that have various transparency and sustainability attributes. Users can access specific product data from all participating manufacturers in the Mindful MATERIALS Library.

4.14 RAPIDLY RENEWABLE MATERIALS:

Rapidly renewable materials include linseed, straw, cotton, wheat, sunflowers, natural rubber, bamboo, and cork. These feedstocks are often used in green building products, like linoleum, straw bales, cotton batt insulation, wheatboard panels, bamboo cabinetry, cork flooring, soy-based foam release agents, and fabrics

4.15 RECYCLED CONTENT:

Recycled content refers to the portion of materials used in a product that have been diverted from the solid waste stream:

4.15.1 Post-Consumer Recycled Content

Once a material or finished product has served its intended use and has been diverted or recovered from waste destined for disposal, it is then considered "post-consumer." Having completed its life as a consumer item, it can then be recycled as such.

4.15.2 Pre-Consumer Recycled Content

Pre-consumer material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

4.16 REGIONAL MATERIAL:

Regional Materials are materials that are harvested, manufactured, and purchased locally. The distance defined as local varies based on Sustainability Rating System and Version. For LEED Building Design and Construction v2009, the distance is 500 miles. For LEED Building Design and Construction v4, the distance is 100 miles. For Parksmart, the distance is 300 miles.

4.17 UL SPOT:

UL SPOT is a web-based product sustainability information tool that facilitates the selection of credible green products and enables the design community to apply that information into the Building Information Modeling (BIM) workflow.

4.18 VOLATILE ORGANIC COMPOUNDS (VOCs):

Volatile Organic Compounds are organic chemicals compounds with a high vapor pressure at normal room temperatures, many of which have short- and long-term adverse health effects.

Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Design Standards – Mechanical Engineering

Design Standards
Mechanical Engineering

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Design Standards
Mechanical Engineering

1.0 Purpose

1.1 The purpose of this document is to outline the minimum design standards and installation requirements for mechanical systems (mechanical, plumbing and fire protection), which are installed to serve various tenant spaces throughout the Central Passenger Terminal Complex (CPTC) at Hartsfield-Jackson Atlanta International Airport (ATL or "Airport").

1.2 Tenant Description: Each lease space is designated as available for a particular type of tenant. Tenants fall into one of two major categories: Concessions and Non-concessions. Non-concessions tenants are typically airline support service spaces or DOA/CPTC support spaces. Concession spaces are typically categorized in three groups: Food & Beverage, Retail & Specialty Retail. The scope of this guideline is to set the minimum mechanical design standards for non-concession type tenant (tenant for this standard).[9]

2.0 Codes and Standards

2.1 A&E shall design to the most current codes adopted by the city and state. Code conflicts shall be resolved by using the more stringent applicable code, unless granted a waiver by DOA.

2.2 All Tenants designs shall be by professional engineers registered in the discipline specific to the trade work indicated on the contract drawings.

2.3 All governing codes and standards indicated in the trade sections of this guideline will be adhered to by the designers of the tenant construction documents.
Applicable Codes (Building Codes and regulations as adopted by the State of Georgia with amendments).[10]

2.3.1 International Plumbing Code with Georgia Amendments
2.3.2 International Building Code
2.3.3 International Fuel Gas Code
2.3.4 International Mechanical Code
2.3.5 International Energy Conservation Code
2.3.6 National Fire Protection Association (NFPA) Codes
2.3.7 NFPA 70 National Electrical Code
2.3.8 NFPA 90A Standard For the Installation of Air Conditioning and Ventilation Systems
2.3.9 NFPA 90B Standard for the Installation of Warm Air Heating and Air Conditioning Systems
2.3.10 NFPA 96 Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
2.3.11 NFPA 101 Life Safety Code
2.3.12 NFPA 13 Standard for the installation of Sprinkler Systems
2.3.13 Standard Building Code

2.4 Standards

2.4.1 ANSI American National Standards Institute
2.4.2 ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality
2.4.3 ASHRAE 90.1 Energy Standard for Buildings
2.4.4 ASME American Society of Mechanical Engineers
2.4.5 National Green Building Standards

3.0 General Drawing Requirements

3.1 Drawings shall be neat, orderly and complete, showing all information required to convey the scope of work to general contractors or reviewing entities. Drawings will be prepared under the supervision of a state licensed professional engineer and shall bear his/her seal.

3.2 Mechanical plans shall be consistent with the Architectural plans (e.g., same scale, match lines, common graphic standards) as the base set of documents. Part plans for mechanical equipment rooms, restrooms, kitchens and all rooms shall be provided where the density of support equipment prohibits clear documentation of the systems serving the space at the architectural base scale.

4.0 Trade Specific Drawing Requirements:

4.1 HVAC

4.1.1 Show all primary and secondary ductwork using double line graphic standards. HVAC plan drawings shall be 1/8" or larger.
4.1.2 Provide sections as required to show inter-trade coordination in space restricted areas (i.e. ceiling plenums, mechanical chases, baggage handling areas, etc.)
4.1.3 Provide HVAC installation details as required.
4.1.4 Provide schedules for all HVAC equipment
4.1.5 Provide air flow balance summations for space (or building) as required to indicate/validate positive pressure relationship between critical building components. (critical for Food & Beverage tenants)
4.1.6 Provide Control schematic diagrams for all equipment tied to DDC system or under standalone control. Provide I/O summary and written sequence of operation on drawings.
4.1.7 Provide HVAC calculations (load, pump, fan, air flow balance, etc.) for review.[11]
4.1.8 See Table 1 for Operating Parameters.

4.2 Plumbing

4.2.1 Use ¼" scale plans (as a minimum) for all restrooms and food service areas.[12]
4.2.2 Provide riser diagrams for all sanitary, natural gas and domestic water systems.
4.2.3 Provide plumbing fixture schedules with connection sizes for all sanitary and domestic water systems.
4.2.4 Indicate clearly locations and line sizes of all connections to existing systems.

4.2.5 Provide schedules for all major plumbing devices including but not limited to, water heaters, pumps, air compressors, etc. Example:

4.2.5.1 Water Heater Schedules should include,, location, storage size, number of elements, KW, etc.

4.2.5.2 Pump Schedule should include, location, service, capacity GPM, RPM, etc.

4.3 Fire Protection[13]

4.3.1 Provide design criteria drawings, 1/8" scale or larger with existing and new sprinkler head locations. Provide Hazard classification, including density and remote square footage, and location of same for all spaces within a design.[14]

4.3.2 Provide piping layout plans for major renovation projects and new construction.[15]

4.3.3 Provide specifications including but not limited to, piping, sprinkler heads, equipment, ETC.[16]

4.3.4 Provide hydraulic calculations with shop drawings done by a certified fire protection system designer for major renovation and new construction projects. Sprinkler shop drawings and as-built drawings to be submitted to DOA in AUTO-CADD and PDF format.

5.0 General System Infrastructure Descriptions HVAC[17]

5.1 Large CPTC Public Spaces HVAC[18]

5.1.1 Spaces which fall under this heading are free of interior partitions, relatively large volumes which can either be interior zones or combination interior/exterior zones with the provision that both thermal and air diffusion through the space is relatively uniform and unencumbered. Spaces which generally fall under this category include (but are not limited to) Terminal ticketing and baggage claim areas, Large Terminal Atria, Public seating & Circulation areas, TSA and Concession Cue areas.

5.1.2 Large CPTC Public spaces are to be served by medium and low pressure VAV Rooftop AHUs wherever possible. VAV indoor AHUs can be used as an alternate, when practical, provided a clean source for OA can be routed to the interior mechanical room. Sufficient space for economizer and relief air must also be provided. Separated ductwork and motorized damper for minimum and economized outside air shall be provided. Outside air and return air in mechanical rooms shall be ducted to AHUs.

5.1.3 Provide Single Zone VAV AHUs for these large-open volume public spaces which have relatively uniform heating and cooling load distributions. These AHUs will utilize chilled and hot water from the central plant water loops.[19]

5.2 Zoned CPTC Public Spaces HVAC[20]

5.2.1 Spaces which fall under this heading are located adjacent to each other, but have varying load profiles due to external heat gains, or differences in internal space utilization. Spaces which generally fall under this category include (but are not limited to) Concourse main circulation corridors, Hold Rooms, smaller Concourse

Atria, Food Courts, and Concession, Tenant Cue areas, General Office and Back of House spaces.

5.2.2 Zoned CPTC Public spaces are to be served by medium and low pressure VAV Rooftop AHUs wherever possible. VAV indoor AHUs can be used as an alternate, when practical, provided a clean source for OA can be routed to the interior mechanical room. Sufficient space for economizer and relief air must also be provided. AHUs in locations subject to intake of jet exhaust shall be provided with carbon filtration as described later in the document. If OA route pressure drop is more than 0.75" W.C. consider providing OA injection fan to induce minimum required OA when supply fan VFD is in low speed.

5.2.3 Provide VAV AHUs for these spaces. These AHUs will utilize chilled and hot water from the central water loops. Provide VAV terminal units with hydronic heating.

5.2.4 Note: Use of Fan powered terminal units/powered induction units (PIUs) are discouraged in the CPTC base systems. Coordinate with DOA/AATC to receive prior approval before using PIUs in any special applications.

5.2.5 Plumbing infrastructure consist of Domestic water supplied from the city water system at a pressure of 60 to 70 pounds. There is a sanitary sewer system at each concourse. There is natural gas supplied on the roof of concourse T, A, B , C, D and inside E and F.

5.2.6 Fire protection is supplied by a fire pump and jockey pump on each concourse.[21]

6.0 General System Descriptions (Plumbing)[22]

6.1 Infrastructure, Plumbing, consist of domestic water supplied from the city water system at a pressure of 60 to 70 pounds. There is a sanitary sewer system at each concourse and terminals. There is natural gas supplied on the roof of concourse T, A, C, D, and inside E and F. Gas is routed to concourse B but not installed on the roof. The natural gas is for limited use mainly for cooking by concessions with a separate meter.

7.0 General System Descriptions (Fire Protection)[23]

7.1 Infrastructure Fire protection is supplied by a fire pump or pumps and jockey pump or pumps on each concourse and terminals. Dry pipe systems or heat trace and insulation are provided where fire protection is subject to freezing.

8.0 Tenants Space Design Standards[24]

8.1 Engineer/A&E Site Visit Requirements

8.1.1 The following requirements shall be adhered to by designers of tenant spaces:

8.1.1.1 Designers shall provide due diligence to investigate existing conditions including requesting as-built drawings from AATC and/or DOA as required. The designers shall visit the site and check as-built conditions against previous design drawings.

8.1.1.2 When existing conditions are concealed behind inaccessible spaces, Designers shall modify drawings during the demolition phase of work as previously concealed utilities are exposed. The engineer should require

the owners representative and GC keep the latest revisions of design documents on site.

8.1.1.3 Designers shall visit the site to inspect the existing conditions after demolition has occurred, periodically during the new construction to ensure that the design intent is being maintained, prior to the drywall, block walls, and ceiling installation to confirm that on site as-built drawings are correct (prior to concealing) and at the end of construction to provide final punch of the installation, confirming that all systems operate in accordance with the design intent.[25]

8.2 Existing System Coordination/Remediation Requirements

8.2.1 The Tenant and Designer are responsible for bringing all systems which exist in their space(s) as well as those which are directly dedicated to serving their space(s) up to both current code and DOA standards as herein indicated.[26]

8.2.2 The Designer is responsible for analyzing the impact the tenant modifications will have on the existing systems. The designer is responsible for ensuring that the existing common systems (AHUs, concourse pumps, primary ductwork, CHW/HW piping mains, natural gas, sanitary mains, domestic water mains, fire protection mains & zones) are not over taxed by the addition of systems required to serve Tenant spaces.[27]

8.2.3 Determine if AHUs and Pump systems can handle the additional loads.

8.2.4 TAB, (pre and post construction) the entire AHU system which has been modified to ensure that other tenants have not been adversely affected by the Tenant modifications. TAB to specified summer and winter design conditions if design drawings are available, or current existing maximum air/water flows as determined by pre testing.[28]

8.2.5 Determine that maximum velocities required by codes and standards have not been exceeded in pipe and duct systems.

8.2.6 Determine that AHUs have the spare capacity for any additional loads added.

8.2.7 The Tenant is responsible for making all reasonable modifications to existing systems to meet code minimum requirements, good design practice and DOA standards. A sample of typical modifications includes but is not limited to:

8.2.7.1 Upgrade controls
8.2.7.2 Replace fiber board duct with sheet metal
8.2.7.3 Replace flexduct systems over 10 years old.
8.2.7.4 Replace/repair duct and piping insulation systems
8.2.7.5 Replace M/P/FP piping and ductwork mains as required to meet new loads.
8.2.7.6 Replace AHUs and pumping systems when the additional loads exceed the capacities of existing equipment. (or provide new system – coordinate with DOA engineering)
8.2.7.7 Replace PVC drainage piping with C. I. or stainless steel.
8.2.7.8 Repair exterior cladding and new insulation to maintain the building envelope integrity.

8.2.8 The Tenant is also responsible for the demolition of all systems not required to serve the space in its final configuration with the exception of active systems serving other spaces passing thru the lease area.

8.2.9 Removal shall include, but not be limited to: all existing piping, conduit, controls,

hangers and equipment, etc. used to serve the space regardless of location within or outside the boundary of the lease space. Remove all abandoned rooftop equipment and appurtenances (capping roof openings) and all utilities (CHW/HW Primary/secondary Air, Duct, DW/ sanitary/FP/Storm/Water, etc.) located in the ceiling plenum or chases of adjacent floors. Piping abandoned will be removed back to active main and capped. Cap seal and insulate as required any active utilities. Demo electrical service back to the power panel. Coordinate the removal requirements for any buried piping and conduit with DOA engineering.

8.2.10 DOA is the final arbiter of what constitutes reasonable modifications to base building systems.

8.3 Technical System Description

8.3.1 HVAC

8.3.1.1 VAV AHUs with VAV terminal units using hydronic heating coils serve the majority of all concession spaces within the CPTC. Existing concession spaces have terminal units providing conditioned air to the space. New spaces typically have primary air trunk ducts with tap points indicated for future use. Existing HWS/HWR piping runs adjacent to most spaces. Existing terminal units have individual piping run outs to their respective coils.

8.3.1.2 Where it is determined that base building systems cannot accommodate the new loads, dedicated equipment will be the alternate source of HVAC. CHW/HW AHUs, RTUs connected to the base building hydronic systems are the preferred systems to install, for larger areas as an alternate. DX cooling and electric heating RTUs may be used. Coordinate with DOA once the determination that supplemental systems will be required to determine which system alternative will be used.

8.3.1.3 Confirm the kitchen and dining spaces can be cooled down to design temperature when base building RTU supply air temperature goes up to as high as 60F during air economizer mode. If space temperature cannot be maintained at design temperature during economizer mode (airport chiller plant is shut down during transition season and chilled water is not available), provide a supplemental air conditioning system with DX cooling coil for the kitchen and dining areas.

8.3.1.4 All new HVAC equipment utilizing base building heating or cooling resources (conditioned air, chilled water, heating hot water) shall be integrated with the base building BMS control system.[29]

8.3.1.5 Multizone AHU programming shall comply with Multizone Standard Sequence (see appendix A.)
Single zone AHU programming shall comply with Single Zone Standard Sequence (see appendix B.)
Terminal Units shall comply with Terminal Unit Standard Sequence (see appendix C.)[30]

8.3.1.6 The BACnet points required for the BMS shall be configured, exposed, and viewable from the base building BMS front end and comply with the BMS Points Standard List for naming conventions and descriptions (see appendix D.)[31]

8.3.2 BMS Controls

8.3.2.1 DDC interface: The base building control infrastructure is based on a Metasys control system. All new controls shall be DDC and shall be

BACnet compatible. All new controls shall be compatible with the standard protocols (device naming, addressing, graphic standards) for ATL. All new controls shall be fully integrated with the base building BMS control system. The Tenant is responsible for retrofitting the controls to existing equipment serving their spaces to the new standard. (Upgrading the systems will be required any time a renovation project is enacted, regardless of the extent of HVAC work being done.)[32]

8.3.2.2 The Tenant DDC system shall be able to operate in stand alone mode if the building DDC system is disabled. The tenant DDC system shall be compatible with the latest communication protocols.[33]

8.3.2.3 The Tenant is responsible for the update of all BMS Graphics associated with the build out of their space as well as providing all final documentation and systems commissioning required to ensuring proper HVAC systems operation and to meet DOA/AATC close out and turn over requirements.

8.3.3 Rooftop Equipment

8.3.3.1 When supplemental cooling is required, package rooftop equipment may be used for smaller load increase. Coordinate with DOA if this option will be allowed. If tenant requires significantly more load a custom RMU will be required. For custom RMU design see section 9.1 Airport Facilities Landside Airside New Construction and Modifications Design Standards. [34]

8.3.3.2 All package equipment will be installed on curbs or rails. Provide details to insure that roofing system integrity is maintained. All roofing work will be performed by certified contractors as to not void any roofing warrantees.[35]

8.3.3.3 Package equipment will have laminated nameplates which will identify the system type (exhaust fan- EF-1, Make-up air unit MAU-1 etc.) as well as the concession space it is serving (Joe's Coffee house, Burger Barn, etc). Major equipment capacity information will also be indicated on the equipment.[36]

8.3.3.4 Rooftop equipment will be feed from electrical panels dedicated to the tenant space the equipment serves.[37]

8.3.3.5 Rooftop equipment will have lighting protection grounding.

8.3.3.6 Rooftop AHU outside air intake shall be 10 feet or more away from an exhaust fan or rooftop AHU relief air outlet.

8.3.3.7 Cooling coil condensate will be routed to sanitary system (floor sinks, hub drains or mop sinks). Condensate line shall be copper.

8.3.4 Food and Beverage special requirements:[38]

8.3.4.1 Some tenants may have special F&B requirements, such as Delta Sky Club, or cafeteria, see ATL Design Standards Concessions New Construction/Modifications Design Standards – Mechanical Engineering section 8.3.4[39]

9.0 HVAC Materials and Equipment[40]

9.1 Variable Air Volume Boxes (VAV)

9.1.1 VAV Boxes shall be single-duct terminal unit complete with modulating damper, airflow measuring sensor, and internally insulated casing. Reheat boxes shall be provided with hot water reheat coils. DDC controls and damper actuator will be provided by Controls contractor.

9.1.2 Power wiring for damper actuators shall be provided for in design.

9.2 Ductwork

9.2.1 Ductwork shall be galvanized steel sheet metal designed and constructed per SMACNA duct construction standards. Fiberboard duct is not permitted. Main duct trunks shall be located over common areas or corridors whenever possible. Balancing dampers shall be provided at proper locations to allow balancing of systems.

9.2.2 Flex duct run-outs to diffusers shall not be longer than 6 feet. Flex duct shall not be used in exhaust systems.

9.3 Duct Insulation

9.3.1 Duct insulation for supply outside and return ducts above ceilings shall be fiberglass blanket wrap, 2” thick, 1.5 lb./cu.ft. density with a factory-applied FSK vapor barrier. Insulation thermal conductivity at 750F shall be 0.27 BTU-in./hr./sq.ft./ 0F. On rectangular ducts 24 inches wide and larger, apply stick pins and washers on 18 inch centers on bottom side of duct.

9.3.2 Duct insulation for supply outside and return ducts in exposed unconditioned spaces shall be rigid fiberglass board insulation, 2” thick, 3 lb./cu.ft. density with factory-applied FSK vapor barrier.

9.4 Air Distribution Devices

9.4.1 Air distribution devices selected shall match the style of devices in existing areas. Devices shall be provided with dampers and shall be selected based on throw and noise criteria. Linear slot diffusers shall be used at large glass areas on exterior walls.

9.5 Controls Commissioning

9.5.1 All new systems and controls shall be commissioned by a certified commissioning agent. Commissioning shall include all requirements to meet AATC project turn over criteria.

9.6 Test and Balance (Pre and Post Construction)[41]

9.6.1 All HVAC systems shall be tested and balanced before starting construction and upon completion of installation. The TAB services shall be performed by an AABC-certified contractor.[42]

9.7 Utility Piping

9.7.1 Chilled Water and Heating Hot Water pipe shall be ASTM A-53 Grade B pipe carbon steel. Piping 2 ½" and smaller shall be threaded and coupled with 150 lb. threaded fittings. Type L hard-drawn copper with solder joint fitting may be used on for piping 2 ½" and smaller with DOA approval. Piping 3" and larger shall be plain end pipe with 150 lb. butt-welded fittings.

9.7.2 Piping headers shall be routed over corridors or common areas for access.

9.7.3 Cooling coil condensate will be routed to sanitary system (floor sinks, hub drains or mop sinks).

9.7.4 Pipe insulation shall be rigid fiberglass pipe insulation with all-service jacket vapor barrier. Piping located outside shall be covered with aluminum jacketing.

9.7.5 New piping shall be thoroughly cleaned and flushed before placing into service.

9.7.6 Avoid routing CH/HW piping in electrical rooms.

10.0 Plumbing Materials and Equipment[43]

10.1 Sanitary Waste and Vent and Kitchen Piping

10.1.1 Sanitary waste and vent and storm piping shall be service weight cast iron pipe and fittings with factory asphalted coating.

10.1.1.1 Underground piping shall be hub and spigot with push-on compression joints with neoprene gaskets.

10.1.1.2 Above ground piping shall be no-hub joints with stainless steel bands and neoprene sealing sleeve.

10.2 Kitchen (greasy) waste, If tenant needs to install grease waste see section 6.3.4.2.4 and section 8.1.2 of ATL Design Standards, Concessions New Construction/Modifications – Design Standards – Mechanical Engineering.[44]

10.3 Domestic Water Piping

10.3.1 Potable water piping shall be type "L" copper.

10.3.1.1 Fittings 4" and smaller shall be solder using 95/5 lead free solder or press fit with neoprene "O" ring.[45]

10.3.1.2 Fittings larger than 4" shall be rolled groove.[46]

10.3.2 To prevent accidental water damage inside concessions and adjoining spaces, an electronic shut off valve controlled by local light switch is recommended to be required for water supply lines to all kitchen sinks.[47]

10.4 Natural Gas Piping

10.4.1 Above ground gas piping shall be schedule 40 black steel.

10.4.1.1 Gas piping in return air plenum and larger than 2" shall be welded.

10.4.1.2 Gas piping 2" and smaller shall be threaded.

10.4.2 Above ground piping exposed outdoors shall be coated and wrapped or painted with a minimum two coats of yellow epoxy paint.

10.5 Insulation

10.5.1 Domestic cold water, ½" thick fiberglass pipe insulation

10.5.2 Domestic hot and hot water return, 1" thick fiberglass pipe insulation.

10.5.3 Domestic water piping exposed outdoors or in heavy traffic areas will be a minimum of 1-1/2" with aluminum jacket.[48]

10.5.4 Domestic water piping exposed in kitchen or wash down areas shall be ½" for cold and 1" for hot and hot water return closed cell insulation with PVC jacket.

10.5.5 Sanitary drainage, p-trap and horizontal piping, serving HVAC condensate and ice machines shall be insulated the same as roof drains and horizontal piping.

10.5.6 P-traps, sanitary piping, kitchen piping and domestic water exposed to freezing shall be heat traces and insulated with aluminum jacket.

10.6 Water Heaters

10.6.1 Water heaters shall be electric where possible or approved by DOA.

11.0 Fire Protection Materials and Equipment[49]

11.1 Fire Protection Piping

11.1.1 All components of the fire protection systems and installation shall meet NFPA 13 requirements.

11.1.2 Above ground sprinkler piping shall be schedule 40 carbon steel with welded or threaded joints and schedule 10 rolled grooved. Fittings shall be UL-listed and FM-approved for fire protection service. Mechanical grooved fittings and couplings which are UL-listed and FM-approved are permitted.

11.2 Fire Protection Equipment

11.2.1 Wet sprinkler systems shall be designed through an alarm check valve in lue of a straight way check valve with flow switch.

11.3 Sprinkler heads

11.3.1 Concealed type sprinkler heads shall be located in sheet rock ceilings and 2X4 lay-in ceiling (at ¼ points).

11.3.2 Semi-recessed heads shall be used in 2X4 lay-in ceiling (at ¼ points)

11.3.3 Upright heads shall be used for areas without ceiling or for dry systems.

11.3.4 Concession can use any UL, FM approved head in their space, except sprinkler heads designated for residential applications.[50]

Table 1 – Passenger Facilities – HVAC Operating Parameters

Passenger Facilities
HVAC Operating Parameters

Space/Function	Indoor Design Condition				HVAC Load Data			
	Summer- ^{0}F	% RH	Winter- ^{0}F	% RH	People FT^2/PPL	Outside Air CFM/PPL	Lights Watts/FT^2	Equipment Watts/FT^2
Hold Rooms	74	50	70	-	200 PPL/Gate	10	1.5	2.0
Interior Corridors	74	50	70	-	100 FT^2/PPL	10	1.5	1.5
Concessions (Restaurant)	74	50	70	-	30 FT^2/PPL or Count	10	3.0	10.0
Concessions (Retail Store)	74	50	70	-	45 FT^2/PPL or Count	10	6.0	3.0
Crown Room	74	50	70	-	45 FT^2/PPL or Count	20	3.0	3.0
Break Room/ Group Room	74	50	70	-	100 FT^2/PPL or Count	10	1.5	1.5
Office/ Administration	74	50	70	-	100 FT^2/PPL or Count	20	1.5	1.5
Third Level Tenant Space	74	50	70	-	100 FT^2/PPL	20	2.5	2.5
Smoking Room	74	50	70	-	15 FT^2/PPL	60	1.5	1.5
Apron Level (Air Conditioned Spaces)	74	50	70	-	100 FT^2/PPL or Count	20	2.5	1.5
Classroom/Training/Conference	74	50	70	-	30 FT^2/PPL or Count	20	2.5	1.5
Toilet Room/Locker Room	74	50	70	-	0	0	1.5	0.0
Storage Area	74	50	70	-	0	0	1.5	1.0

OUTDOOR DESIGN CONDITIONS

Summer 94 ^{0}F DB/ 74 ^{0}F WB

Winter 17 ^{0}F DB

Cooling Supply Air Design

Supply air Delta T (Space Temp- Leaving Coil Temp): 23 ^{0} F

Chilled & Hot Water Design: Supply- Return Delta T

Secondary CHW: 16 ^{0}F

Air Handling Unit CHW: 18 ^{0}F

Secondary HW: 40 ^{0}F

Hartsfield-Jackson Atlanta International Airport
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Tenant New Construction/Modifications Design Standards – Electrical

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Design Standards
Electrical

1.0 Purpose

The primary objective of these standards is to achieve consistency throughout electrical designs for all facilities.

2.0 Construction Drawings

Table 1 presents suggested plans and/or drawings required for a typical electrical job.

Table 1 - Electrical Construction Drawings

Drawing	Scale	Remarks
Electrical Site Plan	1 inch = 20 feet	
Lightning Protection and Counterpoise Composite Plan	1 inch = 20.0 feet	
Grounding Plan	1 inch = 20.0 feet	
Power: One-Line Diagram	--	
Grounding: One-Line Diagram	--	
Power Plans	¼ inch = 1.0 feet	1/8 inch may be used for large spaces
Lighting Plans	¼ inch = 1.0 feet	1/8 inch may be used for large spaces
Special Systems Plans as Required	¼ inch = 1.0 feet	1/8 inch may be used for large spaces
Grounding Details	--	
Low Voltage Switchgear Elevation and Details	--	
Motor Control Center Elevation and Details	--	
Miscellaneous Elementary and Wiring Diagrams	--	
Miscellaneous Details: Lightning Protection	--	
Equipment List	--	
Power Duct Bank Plan and Profile (Civil Work Drawing)	1 inch = 50 feet horizontal	
High Voltage Switchgear, Transformer, Metering Pad Details	--	
Primary Electrical System One-Line Diagram	3/4 inch = 1 foot	
Electric Manhole Plan, Details and Section	--	

Panel schedules
Electrical riser for multi-story buildings
Legend and lighting fixture schedule

Locate all electrical symbols and equipment locations to scale on plan drawings.

3.0 General Design Requirements

3.1 General

Resolve code conflicts by using the more stringent applicable portion of conflicting codes unless DOA grants a written waiver.

3.1.1 Keep abbreviations to a minimum.

3.1.2 Use only standard technical abbreviations from the ANSI and the IEEE on all drawings.

3.1.3 Single line drawings are required for any project. Riser diagram is not a substitution for single line drawing however; riser diagram AND single line diagram are required for multiple story projects. All electrical data such as sizing, of cables, conduits, breaker sizes, AIC ratings, metering, interconnection to utilities and downstream devices and other information shall be listed on the single line diagram.

3.2 Wiring

3.2.1 All wiring shall be in electrical metallic tubing, wire ways, approved raceways or cable trays. EMT may be used for concealed installations but GRS should be used for exposed conduit. Only cast metal boxes should be used for exposed installation. EMT with compression fittings can be used in lieu of GRS with prior DOA approval and where the circuit is not subject to any mechanical damage. EMT with set screws is not allowed.

3.2.2 Surface nonmetallic raceways shall not be permitted.

3.2.3 Branch circuit conductors shall be minimum 12 AWG and shall be copper, type THHN/THWN unless otherwise noted. Minimum conduit size shall be ¾".

3.2.4 Control wiring shall be minimum 14 AWG.

3.2.5 No reduced sized neutrals will be allowed. Each single pole over current device shall have its own separate neutral conductor.

3.2.6 Neutral conductor sizes shall not be less than the respective feeder or phase conductor sizes. Coordinate with the 6th bullet in section 1.3.3.

3.2.7 Power conductors shall be routed separately from all other conductor types. Also normal and emergency power conductors shall be routed separately.

3.2.8 Include equipment grounding conductors sized per NEC with all power and control circuits over 50 volts.

3.2.9 Install computer-related circuits and receptacles separate from motor load circuits. If required by the manufacturer to minimize noise, provide a separate grounding conductor back to the branch circuit breaker for each circuit, consistent with NEC grounding criteria.

3.2.10 All buried cables shall be protected by a conduit or concrete encased duct bank.

3.2.11 Do not exceed 5 percent combined voltage drop on feeders and branch circuits if the transformer providing service is located within the facility. If the

3.2.12 Transformer is located exterior to the facility, limit the combined voltage drop for service conductors, feeders, and branch circuits to 5 percent. Individual voltage drop on branch circuits should not exceed 3 percent. The NEC is generally concerned with amperage more than voltage drop and only addresses the above limits in NEC Articles 210.19(A)(1) (Fine Print Note [FPN] No. 4) and 215.2(A)(4) (FPN No. 2) (2002 Edition) . Branch circuits supplying sensitive circuits should be limited a voltage drop, not exceeding 1 percent to 2 percent. IEEE 1100, Powering and Grounding Sensitive Electronic Equipment, recommends a maximum voltage

drop of 1 percent for electronic installations.

3.2.13 Ensure feeders have amperage adequate for the loads to be served. Demand Factors are allowed in accordance with NEC.

3.2.14 Wiring for airfield lighting shall be in polyvinyl chloride conduit.

3.2.15 Circuit conductors for lighting shall be L-824 Type C Underground Electrical Cable for Airport Lighting Circuits.

3.2.16 Lighting circuits for taxiway lighting shall be 8 AWG and 6 AWG for runway lighting. Cable size is not dependent on whether it is a runway or taxiway circuit but is based on the size Constant Current Regulator that is energizing the circuit. #6 AWG FAA spec L-824C cables are used for 50KW CCRs.

3.3 Circuiting

3.3.1 Home runs for receptacle, power, and lighting shall be indicated with an arrowhead, panel/terminal cabinet number, and circuit/terminal block number.

3.3.2 Identify the conduit size and then number and type of conductors it contains.

3.3.3 For typical circuits, this information may be listed by general note. For example, “All conductors are 12 AWG THHN/THWN in ¾ -inch conduit unless otherwise noted”.

3.3.4 Switching schemes for local lighting control may be indicated with lower case letters at the switches with matching lower case letters at the corresponding controlled lighting fixture.

3.3.5 Show exterior conduits running to or from a building on electrical and civil works (exterior utilities) site plans.

3.3.6 Avoid shared neutral circuiting. Coordinate with the 6th bullet in section 1.3.2.

3.3.7 Group circuit homeruns where feasible and derate as required per NEC Table 310.15(B)(2)(a).

3.3.8 Branch circuit design for general use power outlets shall be limited to no more than six receptacles per circuit. This is intended to accomplish the following:

3.3.8.1 Minimize the number and variety of sensitive equipment sharing a common circuit.

3.3.8.2 Minimize voltage drop.

3.3.8.3 Minimize the likelihood of interaction between circuits.

3.3.8.4 Allow flexibility for future load growth or equipment changes.

3.3.9 General use power outlets shall be NEMA 5-20R.

3.3.10 Except for life safety requirements, circuits shall not be connected to the emergency power system without DOA approval.

3.3.11 Dedicated circuits shall be marked accordingly in the panel directory distinguishing them from the other circuits.

3.3.12 Maintain a minimum of four spare circuit breakers and/or spaces in existing panel boards. Provide new panel boards to accommodate the circuit excess. I

3.3.13 If any circuits from an existing panel are demolished first use these spare circuits for any new work before using existing spaces or spare circuit breakers.

3.3.14 Include notes on the drawings to instruct the contractor to efficiently use wall space or electrical room space when installing new electrical equipment in order to maintain space for future work.

3.3.15 For very small loads explore the possibility of using existing circuits instead of proposing a new circuit. Verify the loads on existing circuits if possible and practical.

3.3.16 Provide list of demolished circuits and update circuit directories.

3.3.17 Airfield lighting circuits shall be spliced only in manholes, hand holes, pull cans or light bases for light fixtures and signs with an FAA approved L-823 cable connector kit.

3.3.18 All airfield lighting circuits shall be designed to be installed in duct bank or single duct. All ducts shall be concrete encased unless otherwise permitted by DOA.

3.3.19 The design for airfield lighting circuits shall be high voltage series circuits and the routing of the conductors shall be designed in a manner to keep the two conductors for the circuit together in the same conduit at all times.

3.3.20 Provide circuit designations with the size and number of conductors contained within the conduit for airfield lighting circuits on the circuit routing drawing.

3.3.21 Show the lighting fixture circuit and sequential number adjacent to the lighting fixture on the lighting layout plan.

3.4 Exclusions

No welding or cutting of structural steel for electrical systems is allowed unless specifically approved by DOA.

3.5 Other Requirements

3.5.1 Size of all junction and pull boxes shall be shown on drawings.

3.5.2 Prepare elevations and details to show the mounting method for all other equipment such as large transformers, large junction boxes and large control cabinets. Mounting details are not necessary for small wall mounted devices. Indicate mounting height above finished floor or above finished grade.

3.5.3 Specify 3” concrete housekeeping pads for all floor mounted electrical equipment with the exception of electrical equipment installed in the Airfield Lighting Vaults.

3.5.4 Indicate all fire barrier penetrations on electrical plan drawings.

3.5.5 Specify fire stopping rated sealant for penetrations in fire-resistance rated walls, partitions, floors and ceilings in order to maintain the fire-resistance rating. Coordinate with the project architect or consult with an architect for method of sealing and sealant type.

3.5.6 Locations, such as offices, data centers, and communications complexes,

3.5.7 that use electrically sensitive equipment such as computers, data processing equipment and other similar equipment should be provided with dedicated circuits fed from local dedicated panels as necessary. Dedicated panel boards should be fed from separate feeders to the service entrance if possible.

3.5.8 In general, equipment specified must meet the energy efficiency requirements.

4.0 Lighting Systems Design

4.1 Interior Lighting Systems Design

4.1.1 System Drawings:

4.1.1.1 Locate lighting fixtures on reflected ceiling plans in coordination with the project architect.

4.1.2 Design Philosophy:

4.1.2.1 Provide adequate, comfortable, and reliable indoor illumination levels appropriate for the tasks to be performed. Lighting levels shall conform to DOA standards (see Required Performance and Features). Levels not covered in this document shall be referenced to the latest Illuminating Engineering Society of North America (IESNA) Lighting Handbook published standards.

5.0 Receptacle System Design

5.1 System Drawings:

5.1.1 Locate on power plans.

5.2 Design the receptacle system per the following minimum requirements:

5.2.1 Outlets are to be wired vertically in and on walls; do not run circuits horizontally within walls; avoid running circuits horizontally on the outside of walls.
5.2.2 Flush mount outlets in areas such as lobbies, conference rooms, user hallways and office spaces.
5.2.3 Surface mounted outlets in areas including warehouses, equipment chases and electrical/mechanical rooms.
5.2.4 Provide dedicated outlets for janitorial equipment in hallways and aisles maximum 50 feet apart; mount at 36 inches above the finished floor, and segregate from other receptacles.
5.2.5 Provide general-purpose outlets in electrical and mechanical rooms; outlets shall be Ground Fault Circuit Interrupter (GFCI) protected.
5.2.6 Do not wire GFCI's and non GFCI's in the same circuit.
5.2.7 Avoid back to back installation.
5.2.8 Provide general-purpose outlets adjacent to each exterior door; outlets shall be weatherproof and GFCI protected.
5.2.9 Provide rooftop maintenance outlets per NEC; outlets shall be weatherproof and GFCI protected.

6.0 Low Voltage Power Systems Design (<600 volts)

6.1 General

This section covers the general power requirements for low voltage systems consisting of systems less than 600 volts.

6.1.1 System Drawings:

6.1.1.1 Show Current Transformer (CT), Potential Transformer (PT), and meter connections, also indicate CT and PT ratios on one-line diagrams.
6.1.1.2 For indoor installation locate meter, communication circuit connections points and termination points on power plans.
6.1.1.3 For outdoor installations, locate meter, communication circuit connections and termination points on Civil Works (exterior utilities) plans.

6.2 Electric Metering

6.2.1 Electric metering will be provided at all building service entrances, and at disconnecting means downstream of the service entrances, as necessary to separately meter building and process loads.

6.2.2 When metering at switchboards/switchgear and panel boards, the meter(s) shall, where feasible, be supplied with the original equipment manufacturer and installed in the equipment.

6.3 Panel boards

6.3.1 System Drawings:

6.3.1.1 Locate on power plan drawings.
6.3.1.2 Provide completed panel schedules on drawings. Each circuit on the panel schedule shall be described to reflect function and location of each load (for example, lighting room xx apron level). Each circuit shall show a connected, demand or estimated load in KVA whether the circuit is new or existing.

6.3.2 Panel boards shall be as follows:

6.3.2.1 Locate indoors where possible. Avoid outdoor or rooftop locations.
6.3.2.2 Locate in hallways and dedicated electrical rooms or closets where possible; avoid user or passengers spaces.
6.3.2.3 Flush-mount only in areas such as user hallways and office spaces. When flush-mounted, provide spare conduits, skirting or other provisions to facilitate future modifications.
6.3.2.4 Surface-mount in all other areas including user storages, warehouses, equipment chases and electrical or mechanical rooms.
6.3.2.5 Panel boards located in areas accessible to users shall be designed to be less than 10,000A available fault duty current.
6.3.2.6 Panel boards with greater than 10,000A available fault duty current shall be located in electrical rooms/closets or mechanical/electrical spaces accessible only to qualified personnel.
6.3.2.7 Multiple section panels are not permitted. Where it is necessary to have more than 42 circuits in a lighting or appliance panel board in the same location, use additional separate panel boards.
6.3.2.8 Avoid sub feed or dual-feed lugs.
6.3.2.9 Avoid individually-mounted sub feed circuit breakers.
6.3.2.10 Main circuit breakers are to be sized according to the appropriate NEC section for any location. If a larger breaker is installed, then the appropriate trip plug must be installed as well. It is not permitted for the trip settings to be dialed-down to meet the intent of this Section.
6.3.2.11 Where a panel board is supplied through a transformer, provide the over current protection on the secondary side of the transformer in addition to primary over current protection.
6.3.2.12 Provide Transient Voltage Surge Suppression (TVSS) for all panel boards serving electronic loads.
6.3.2.13 Oversize neutrals when required per harmonic analysis and for all electronic loads.
6.3.2.14 Provide Main Lug only when the panel board is located in the same room with their feeder breaker otherwise, provide Main Circuit Breaker.

6.4 Low Voltage Switchgear/Switchboards

6.4.1 System Drawings:

6.4.1.1 Locate on power plan drawings.
6.4.1.2 Detail feeder and branch circuit wiring sizes on one-line diagram.
6.4.1.3 Provide load information, voltage, phase, circuit numbering, AIC ratings, mains ratings, load summary, demand load summary, circuit breaker sizes, spare sizes and space information in panel schedules..
6.4.1.4 Provide elevation showing all circuit breaker locations and circuit numbering.
6.4.1.5 Provide additional details on drawings as necessary for construction.

6.4.2 Low Voltage Switchgears/Switchboards shall be as follows:

6.4.2.1 Locate indoors where possible. Avoid outdoor locations.
6.4.2.2 Locate in dedicated electrical rooms accessible only to qualified personnel.
6.4.2.3 Front accessible where possible, except service entrance equipment.
6.4.2.4 For service entrance equipment, provide rear access when possible.
6.4.2.5 Copper main bus; 100 percent capacity full length.
6.4.2.6 Copper neutral bus, if required; 100 percent capacity full length.
6.4.2.7 Copper ground bus; full length.
6.4.2.8 Main and feeder circuit breakers arranged for compression connectors.
6.4.2.9 Provide branch circuit monitoring/embedded metering for all new concession switchboards. Branch circuit monitoring/embedded metering shall be factory pre-wired.
6.4.2.10 Coordinate with DOA Electrical Engineering for the requirements of current transformers (CT's) when adding branch circuit breakers to an existing concession switchboard.
6.4.2.11 All circuit breakers shall be constructed according to NEMA standards.
6.4.2.12 All circuit breakers shall have provisions for lockout/tag out (LOTO).
6.4.2.13 All circuit breakers shall include electronic interchangeable trip with adjustable LTPU, LTD, STPU, STD and INST functions. When required, provide integral GFPU and GFD functions.
6.4.2.14 When ground fault is required, provide two level protections (main and feeders).
6.4.2.15 Provide service entrance label when required.
6.4.2.16 Provide minimum 20 percent spare capacity.
6.4.2.17 Provide minimum 1-spare circuit breaker of each frame size (excluding main) used.
6.4.2.18 Circuit breakers less than 100 amps shall not be permitted on switchgears or switchboards, unless approved in writing from the DOA Engineering.
6.4.2.19 Provide future bus extension and dedicated space for at least one future section.
6.4.2.20 Provide integral TVSS to meet requirements of NFPA 780, when required.
6.4.2.21 Where draw out circuit breakers are specified, provide manufacturer's overhead lifting device suitable for all circuit breaker sizes and locations.
6.4.2.22 Provide manufacturer's test kit for all circuit breaker types and functions used.
6.4.2.23 All circuit breakers larger than 200 amps shall be tested.
6.4.2.24 Main circuit breakers are to be sized according to the appropriate NEC section for any location. If a larger breaker is installed, then the appropriate trip plug must be installed. It is not permitted for the trip

settings to be dialed-down to meet the intent of this article.

6.4.2.25 Provide Main Lug only when the switchboard is located in the same room with their feeder breaker otherwise, provide Main Circuit Breaker.

6.5 One-Line Power Diagram

6.5.1 System Drawings: Develop or add to one-line diagram drawing as noted below.

6.5.1.1 Starting at the top of the drawing with the building transformers(s), show all pertinent electrical equipment down to the panel board level. This includes switchboard/switchgear, panel boards, MCCs, generators, transfer switches, uninterruptible power supplies, Inverter systems, motors, starters, disconnect switches, etc.

6.5.1.2 For transformers, note the kVA size, primary and secondary voltages, phasing (building service entrance only), and impedance. Show the distribution switchboard/switchgear in “expanded” form. The drawing should detail main breaker, tie breaker, feeder breakers, spare breakers, CT’s, PT’s, and meter. Note switchboard rated amperage, voltage, and short circuit capability. Include frame and trip size of all breakers in the gear.

6.5.1.3 Note the service entrance, feeder wire and conduit sizes.

6.5.1.4 For larger buildings, additional one-line diagram drawings may be required. If the building utilizes Motor Control Centers (MCCs), separate one-lines may be required. When MCCs are necessary, provide them in “expanded” form. Drawings should be called MCC One-Line Diagram and be numbered sequentially with the Main One-Line. Indicate starter/breaker sizes, bus tap sizes, wire, and conduit size ending with each motor or other load. If the building has a large Standby Power System or Blue System, provide in “expanded” One-Line of this system also.

6.5.1.5 In general, use the following guidelines:

6.5.1.5.1 If a Building transformer is not associated directly with the building, start the One-Line with the largest distribution panel board.

6.5.1.5.2 If all details can be shown on one sheet, it is allowable to use “expanded” details on all necessary equipment.

6.5.1.5.3 Place highest voltage lines at the top of the drawing with successively lower voltages placed downward.

6.5.1.5.4 Use standard symbols listed in ANSI standards.

6.5.1.5.5 All “expanded” gear shall be shown with a dashed outline. All singular items shall be shown with solid outlines

6.5.1.5.6 Draw circuits in the most direct and logical sequence. Draw lines between symbols either vertically or horizontally with a minimum of line crossing.

6.5.1.5.7 Note panel boards and major equipment locations (Column D4, NE Equipment Room, etc.) Try to group equipment on drawings by physical locations.

6.5.1.5.8 To avoid clutter, do not put specialty symbols and construction notes on the One-Line. Grounding, controls, metering and miscellaneous details should be on separate drawings.

6.6 Low Voltage Dry Type Transformers

6.6.1 System Drawings:

6.6.1.1 Locate on power plan drawings.
6.6.1.2 Provide additional elevation or mounting details as required for construction.

6.6.2 Low Voltage Dry Type Transformers shall be as follows:

6.6.2.1 Locate indoors where possible; avoid outdoor locations.
6.6.2.2 Energy efficient type; meet NEMA TP-1.
6.6.2.3 Specify transformer to include +2/-4 at 2.5 percent taps.
6.6.2.4 Transformers located in areas accessible to users shall be designed to produce less than 10,000A available short circuit current.
6.6.2.5 Transformers allowing more than 10,000A available short circuit current shall be located in electrical rooms/closets or mechanical/electrical spaces accessible only to qualified personnel.
6.6.2.6 Transformers shall be provided with separate primary and separate secondary windings for each phase.
6.6.2.7 Transformers shall be provided with copper windings, aluminum is not acceptable.
6.6.2.8 Insulation provided in transformers having ratings not exceeding 25 KVA shall have 185 degree centigrade rise rating. Insulation provided in transformers exceeding 25 KVA shall have 220 degree centigrade rise rating.
6.6.2.9 The sizing of step down or step up dry type transformers shall take into consideration the current or expected normal and harmonic loading. The decision to use “K” transformers will be based on harmonic analyses of the connected and forecast load.

6.7 Motors

6.7.1 System Drawings:

6.7.1.1 Locate on power plan drawings.

6.7.1.2 Motors that are controlled by across the line motor starters and are 25 HP or larger shall include power factor correction capacitors at the motor starter in order to achieve 95 percent power factor. VFC controlled motors are excluded from the power factor correction requirement.
6.7.1.3
6.7.1.4 To ensure a minimum standard of quality, identify devices, fittings, fixtures, and equipment on equipment list drawings with their electrical sizes, ratings, manufacturer, and catalog number. This is not necessary for items such as panel boards where complete specifications are written.

6.7.1.4.1 Identify motor starters on the motor control schedule. Identify all equipment by using standard symbols and equipment schedules. In addition to the items already mentioned, the schedule should include information to help the contractor obtain the equipment and materials intended by the design.
6.7.1.4.2 Specify nameplates on all control items used on the job. Specify each nameplate either on the motor schedule or on

the equipment list. Each nameplate identifies the system and the function of that device to the system.

6.8 Busway Systems

6.8.1 Busway shall be copper with 100% neutral bus minimum.
6.8.2 Busway shall be totally enclosed in non-ventilated aluminum housing.
6.8.3 Use IP54 or greater for indoor installations and NEMA 3R for outdoor installations.
6.8.4 Busway shall be protected against overcurrent in accordance with the allowable current rating of the busway.
6.8.5 Where busway is used as a feeder, the voltage drop should not exceed 3 percent.
6.8.6 All busway shall be grounded.
6.8.7 Provide expansion fittings for all busways at building expansion joints.
6.8.8 Show the entire busway run on power plan drawings.
6.8.9 Where busway penetrates walls and floors, seal all penetrations with the appropriate fire stopping material to maintain fire rating of walls and floors.

7.0 Lightning Protection Systems Design

7.1 System Drawings:

7.1.1 Show components on Lightning Protection and Counterpoise Composite Plan.
7.1.2 Details as required.
7.1.3 Show lightning protection system connection to the building counterpoise system.
7.1.4 Show lightning protection and ground systems and details on electrical drawings.

7.2 Lightning protection systems shall conform to UL Standard UL 96A requirements and NFPA 780, Installation of Lightning Protection Systems. All structures with lightning protection systems will require a UL Letter of Findings. Note on the drawings which certification is required (UL Letter of Findings, or No Certification required).

7.3 Consultant shall provide direction to contractors to provide UL Master Label for any structure, even in case of building addition or renovation.

8.0 Building Grounding System Design

8.1 System Drawings:

8.1.1 Grounding plans
8.1.2 Grounding one-line
8.1.3 Grounding details
8.1.4 Grounding plans and grounding details to be placed on electrical drawings
8.1.5 Reference Article 250 as a requirement for all grounding work.

8.2 The drawings shall show interconnection of the following:

8.2.1 All metal systems of the building such as:
8.2.1.1 Interior and exterior water system
8.2.1.2 Metal ductwork
8.2.1.3 Building steel and HVAC roof top units (if applicable).
8.2.1.4 Lightning protection system
8.2.1.5 Made electrodes, etc.
8.2.1.6 Building foundation rebar
8.2.1.7 Metal roof drains.

8.2.1.8 Antennas and Apron light poles.

8.2.2 Where in the electrical system bonding will be required (that is, neutral or ground bushing on transformer).

8.2.3 Where the electrode system connects into the rest of the grounding system.

8.2.4 Any other special requirements for the building grounding system (that is, static or signal grounds).

8.2.5 The size of all required grounding conductors (grounding electrode conductor, equipment grounding conductors, main bounding jumpers, etc.).

8.3 The design shall take into account that the NEC as a minimum requirement and other factors need to be considered when designing the system, signal grounds, and lengths of grounding conductors to ground.

9.0 Design Calculations

9.1 General

9.1.1 All electrical calculations shall be stamped by a Georgia Professional Electrical Engineer. The original stamped signed copy of the calculations shall be provided to DOA as part of the design submittal.

9.1.2 Present all electrical calculations using the guidelines provided in this section. Provide two 8-1/2- by 11-inch, 3-hole-bound reports that contain all electrical calculations, time coordination curves, and protective device settings. Provide one-line diagrams and electronic files with all calculations. At the end of the project, update both reports and electronic files in the same manner as other as-built drawings.

9.2 Voltage-Drop Calculations

9.2.1 Prepare a complete set of voltage-drop calculations. When both normal and standby primary feeders serve a facility, provide calculations for both feeders. The calculation shall be performed utilizing the latest EDSA Systems Analysis or SKM software.

9.2.2 The maximum allowable steady state voltage drop shall not exceed 5 percent total for building wiring.

9.2.3 Design the standard voltage profile for regulated power distribution systems to comply with ANSI/IEEE Standard 141-1993 (Red Book) or the latest edition.

9.2.4 Calculate voltage drop for the longest branch circuit to include the drop in feeders, sub-feeders, and transformers back to the first bus with automatic regulation (usually the primary master unit substation). Do not use a building transformer to correct the secondary voltage drop. Set transformer voltage taps to nominal voltage values under no-load conditions.

9.2.5 Unless loading can actually be predicted, assume the full load for all branch circuits as that limited by the maximum load on the conductors by these standards and/or applicable codes. The power factor for future loading is considered to be the same as when designed. Voltage drop calculations are not required for circuits powering airfield lighting visual aids. The design for all other feeders and branch circuits associated with the airfield lighting visual aids facilities shall comply with this section.

9.3 Short Circuit, Circuit Breaker Coordination Study and Arc Flash calculations.

9.3.1 Prepare a complete set of short-circuit calculations. When both normal and standby primary feeders serve a facility, provide calculations for both. The calculation shall be performed utilizing the latest EDSA Systems Analysis or SKM software.

9.3.2 Calculations shall consider both three-phase and single-phase to ground fault current on secondary systems. State the base MVA/kVA on the calculations. Prepare protective device coordination graphs that demonstrating coordination of devices for interrupting faults. Prepare these graphs for all new or modified primary and secondary systems. Coordination curves shall be prepared along with the single line diagram indicating the devices in question. Provide a flag on all coordination curves indicating the available short circuit current at each device. Curve plots from the software EDSA shall be used.

9.3.3 Arc Flash calculations shall be in accordance with NFPA 70E.and IEE STD-1584

9.3.4 Provide complete electronic calculation in its original format (i.e. EDSA or SKM files). Coordination study shall be from the utility transformer to the largest breaker

9.3.5 in the smallest panel. Similar panels can be omitted from the study however; the final report shall indicate the panel names and indicate the word typical to panel's xxxxxx Electrical System shall be fully coordinated.

9.3.6 Indicate in the coordination sheet, short circuits (with flags), breaker type, settings and scales.

9.3.7 For arc flash, provide calculations for each piece of electrical equipment and provide 3 samples of the arc flash label to DOA for approval.

9.3.8 Final report shall be provided in a 3" binder and CD's for electronic files.

9.3.9 Present the manufacturer's catalog data for each protective device to show they have adequate fault current interrupting capacity for the available short circuit current.

10.0 Branch Circuit Panel board Directories

10.1 Provide schedule under plastic jacket or protective cover for protection from damage or dirt. Hand written schedules are not allowed. As a minimum provide the following:

10.1.1 Number each single pole space. Odd-numbered circuits on left side starting at the top, even on right side starting from the top.

10.1.2 Securely mount directories on inside face of panel board door.

10.1.3 Where there is no cover or door, provide individual nameplates for each over current and other device.

10.1.4 Define briefly, but accurately, nature of connected load (i.e. lighting office number, receptacles, electrical room, etc..)

10.1.5 Provide CPTC official room number locations for all loads and indicate panel name on schedule.

10.1.6 Multi-pole circuits shall utilize all pole space numbers as its circuit identifier, i.e, a three pole circuit will have three space numbers.

10.1.7 Spare circuit number shall be annotated in pencil

10.1.8 Panel board schedules and as-built circuit numbers shall be reconciled and match

Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Design Standards – Signage

Design Standards
Signage

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Design Standards
Signage

1.0 Purpose

The purpose of this document is to provide the minimum signage requirements for New Construction and/or Modifications related to Tenant submitted projects at Hartsfield-Jackson Atlanta International Airport (ATL).

2.0 General

2.1 All design work shall be perform in accordance with generally accepted professional principles and practices for Signage & Graphics and in compliance with DOA/P&D Design Standards and all applicable Federal, State and City of Atlanta Design Codes, Standards and Regulations.

2.2 All Tenant signage including Electrical and Structural design, as required, shall be submitted to DOA/P&D for review and acceptance.

2.3 The following sign types shall not be permitted:

2.3.1 Animated component signs and signs employing moving or flashing lights.
2.3.2 Surface mounted box or cabinet type signs.
2.3.3 Formed plastic or injection molded signs or vacuum formed letter signs.
2.3.4 Signs fabricated from simulated materials such as wall coverings, artificial stone or wood grain plastic laminates.

3.0 Signage

3.1 Tenant Interior Spaces

3.1.1 Signage in any leased interior Tenant space (not to public view), can be design/implemented per the Tenant's signage standards and branding requirements.

3.2 Interior/Exterior Public Spaces

3.2.1 All design elements that project beyond the Tenant's lease line shall conform to DOA/P&D Signage Design Standards. DOA/P&D's Signage group shall provide specific sign type design standards upon the Tenant's request.

3.2.2 Tenant signs shall not interfere with the airport's wayfinding signs, security cameras and life safety systems.

3.2.3 Tenant signs shall not be affixed to any columns in the Terminals and Concourses.

3.2.4 Tenant signs shall not have exposed raceways, ballasts, transformers, or readily visible sign company names or labels.

3.2.5 Tenant shall not erect or affix any sign to the exterior of the leased area including windows and doors, without DOA/P&D's review and acceptance.

3.3 Temporary Signs

3.3.1 Temporary signs within the Tenant's lease line shall follow the same graphic design standards as permanent signage.

3.3.2 Signs may be constructed of PVC foam board or other rigid materials suitable to the surrounding environment.

3.3.3 Mounting of signs shall be by mechanical fasteners.

Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Planning & Development Bureau

Tenant New Construction/Modifications Construction Standards

Construction Standards

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Construction Standards

1.0 PURPOSE

The purpose of these Standards is to provide airport Tenants with specific Department of Aviation (DOA) requirements for performing any construction work at Hartsfield-Jackson Atlanta International Airport (ATL). Tenants shall furnish their contractors with these Standards during their pricing phase. It is the responsibility of the Tenant to ensure that their contractor and sub-contractors comply with these standards.

2.0 SCOPE

These Standards apply to all Airport Tenants (Leaseholders, Vendors, Contractors, and Sub-Contractors).

3.0 GENERAL CONDITIONS

3.1 Tenant Projects: All Tenant projects shall be constructed in accordance with the DOA/P&D stamped accepted documents.

3.2 Construction Oversight: The Tenant shall be responsible for construction oversight of all Tenant work. DOA/P&D's Facilities Construction Team may also conduct construction oversight.

3.3 Construction Coordination: All planned and active construction activities shall be reported by the Tenant's Contractor on a weekly, bi-weekly or monthly basis coordination meeting to be established by the Tenant.

3.4 Tenant Construction Standards: All Tenant construction projects shall comply with all the requirements of these Standards. Failure to comply may result in suspension of work by DOA, Office of Buildings, Atlanta Fire Department, Airport Security or Airport Police.

3.5 Security Requirements: Tenant's contractors and sub-contractors shall conform to all DOA Airport Operation Requirements, including Security, Badging, OCIP Badge and Custom Seals (If required). Contact DOA Security Office at (404) 530-6667 for all Security information and requirements.

3.6 Logistics Plan: Tenant's contractor shall develop and submit to DOA (upon request) a Logistics Plan to include: dumpster locations (dumpster cover required), staging area, ramp vehicle and equipment parking locations, limits of construction, location of temporary barriers and delivery access routes prior to commencement of any construction work.

3.7 Safety Plan: Tenant's contractor shall submit a project specific Safety Plan to DOA (upon request). The plan shall be approved before any demolition/construction work begins. As part of the Safety Plan, the contractor shall include an emergency Contact List. The Emergency Contact List shall be updated with current information throughout the duration of the project.

3.8 Notifications: Tenant's contractors shall notify AATC at least seventy-two (72) hours prior to the start of any construction work and moving of personnel or material onto ATL property. Tenant shall also notify the following entities:

- 3.8.1 DOA @ (404)-382-5500 and Via Email: DOA.facilities@atl.com for all concessions projects.
- 3.8.2 TBI @ (404) 530-2021 for projects in Concourses D South, E and F.

3.8.3 DOA Landside Operations @ (404) 530- 2021 for projects in the Domestic Terminal and Concourses T, A, B, C, and D North.
3.8.4 Airside Operations @ (404) 530-6620 for all airside ramp projects.
3.8.5 AATC @ 404-530-2112 or www.aatc.org

3.9 Work Hours: Standard DOA approved hours for all Tenant construction work shall be performed between 11:00 PM and 5:00 AM Sunday thru Thursday. Ramp construction work shall be performed between 11:00 PM and 5:00 AM daily. In case(s) of Irregular Operations (IROPS), the hours available to a contractor or sub-contractor shall be subject to change without prior notice. DOA can only authorize daytime work if work is contained inside the approved wall in the construction area/space and if it does not cause excessive noise, dust, use of volatile organic compounds or welding.

3.10 Permits and Code Compliance: Tenant's contractor shall obtain all necessary federal, state, county and city permits and shall comply with all applicable laws, codes and regulations.

3.11 Insurance: Tenant's contractor working on the Airport controlled facilities or property shall be duly licensed and shall provide proof of adequate insurances when requested.

3.12 Existing Conditions: Tenant's contractor shall be responsible for site verification of all existing conditions and requesting as-built data from DOA/P&D. If any utility shall be disturbed or damaged during the construction work, the contractor shall notify DOA, Atlanta Airlines Terminal Corporation (AATC) immediately. Tenant shall be responsible for all costs associated with the repair or replacement of any damaged utility and affected property.

3.13 Digging: Before any digging, cutting, drilling or coring is performed, the Tenant's contractor shall be responsible for the following:

3.13.1 Contacting the Georgia Utilities Protection Center @ 1-800-282-7411 for notification to Owners of all buried utilities before digging.
3.13.2 Tenant's contractor and sub-contractors shall adhere to the rules, regulations and laws dictated by the Georgia Utilities Protection Center.
3.13.3 Tenant's contractor and sub-contractors shall protect all utilities not designated for removal, relocation or replacement in the course of the construction work.
3.13.4 In case (s) of accidental disturbance of utilities, the Tenant's contractor/sub-contractor shall immediately notify the utility Owner, DOA, and AATC.
3.13.5 Responsible for coordinating the repair of the interrupted utility per the time-line and requirements indicated by DOA and any other matters where the proposed construction may present operational problems to ATL or its Tenants.

3.14 Deliveries: Standard DOA approved delivery and debris removal shall only be between 11:30 PM and 5:00 AM

4.0 SPECIAL CONDITIONS

4.1 Construction Notice: Tenant's contractor shall furnish and install a Document Display device outside the construction barrier wall or door providing the following information:

4.1.1 Tenant's Name & Contract Information
4.1.2 Contractor's name & Contact Information
4.1.3 DOA Approved Project Start Date
4.1.4 DOA Approved Project Completion Date
4.1.5 DOA Approved Hours of Operation

4.2 Support Equipment: Tenant's contractor shall request permission and register all support vehicles (cars and trucks) and construction equipment (lifts, forklifts, work boxes, trash

dumpsters, etc.) operating on the ATL premises during the construction of a project. The approved vehicles shall display the operating certificates inside front window at all times. Identification tags shall be attached to the construction equipment at all times. The operating certificates and identification tags shall be obtained from DOA Landside Operations at (404) 209-4142. Unapproved vehicles and equipment shall be subject to removal by the DOA at the expense of the Tenant/Contractor. Any vehicle or piece of equipment parked in a no parking zone, outside the limits of construction, outside previously approved parking locations, or considered a hazard shall be subject to removal by the DOA at the expense of the Tenant/Contractor and/or could result in the suspension of all construction work.

4.3 Height Restrictions: FAA Regulations regarding the use of cranes and other equipment operating airside or extending above the roof of the building shall be strictly enforced. Tenant's contractor shall be responsible for submitting FAA Form 7460 to the DOA for review and approval (contact: ATL.7460@atl.com).

4.4 Temporary Barriers: Temporary interior and exterior construction wall and/or barrier shall be constructed per DOA/ATL requirements as follows:

4.4.1 No plastic "fillable" barriers shall be permitted on the Aircraft Operations Area (AOA).
4.4.2 All interior construction requires a temporary barrier.
4.4.3 Temporary barriers shall create a dust barrier and meet one of three conditions: 1) Extend to ceiling/structure above, 2) Extend to a height that shall not allow visibility of work site, 3) Provide a top enclosure to isolate the work site.
4.4.4 All barriers shall be constructed of a standard stud wall with finished drywall, painted, painted and/or graphics, cove base and trim.
4.4.5 All barriers shall be maintained in good condition throughout the entire project.
4.4.6 Barriers shall not expose non-construction personnel to pinch points, slips, trips, falls, or cut hazards.
4.4.7 Barriers shall be installed on a plywood/hardboard base per DOA/ATL requirements to prevent floor damage.
4.4.8 Access doors to the construction areas shall be self-closing, metal type and secured using a Best or equivalent seven-pin type cored locking device operator using green, orange, sand or other construction core as required by the DOA.
4.4.9 Following the project completion, all finishes (project related or adjacent to the project) shall be restored to a DOA acceptable condition.

4.5 Construction Area Access: Doors or openings through security barriers or partitions shall be maintain secured 24 hours a day. If the doors or openings are unlocked, properly badge or authorized contractor provided personnel shall maintain doors under continuous control observation.

4.6 Tools: Tenant's contractor shall maintain a tool inventory list and be responsible for ensuring that all tools and construction materials are fully secured at all times to prevent passengers or unauthorized persons from gaining access to them beyond Security Check Points and Security Screening Areas or in the Terminal Buildings.

4.7 Debris: All debris resulting from the construction work or incidental thereto shall be contained and promptly removed by the Tenant's contractor per ATL standards. Immediately upon completion of the construction work, Tenant's contractor shall dispose of all debris off ATL property.

4.8 Waste Collection and Removal: Tenant's contractor and sub-contractors shall be responsible for the collection and removal of construction waste attributable to all Tenant construction projects per ATL Construction Waste Collection & Removal Standards. Dumpsters shall be labeled in large lettering with a 24-hour contact name and phone number to call in the event there is an issue with debris.

4.9 Clean Site: Tenant's contractor shall be responsible for maintaining the work site safe, clean and orderly at all times. Failure to comply, DOA may accomplish the same at Tenant's contractor expense and/or suspend all construction until the situation is corrected.

4.10 Restoration: Tenant's contractor shall be responsible for restoring contiguous areas affected by the construction work to its original condition.

4.11 Temporary Construction Facility Privileges: Any temporary construction facility or trailer shall be approve by DOA before installation. The contractor shall be responsible for maintaining the grounds associated with this privilege. Noncompliance in maintaining the grounds shall result in loss of this privilege. Approved facilities shall be remove at the completion of the construction project and the premises shall be restore to its original condition.

4.12 Protection of Airport Operation Systems: If any portion of Airport operations systems is damage by the Tenant's contractor or sub-contractors, or anyone operating under their control or direction. The Tenant's contractor or sub-contractors shall immediately notify DOA and propose both temporary and permanent repairs to restore system functions and return the system to its original condition at no additional cost to the DOA.

4.13 Aircraft Ramp Work: Airport Operations shall govern all ramp activities. Construction activities shall not supersede Airport Operations for any reason. When Tenant project construction requires work on the aircraft ramps, Tenant's contractor & sub-contractors shall comply with all DOA Specifications, Standards and Criteria.

4.14 Operating within Critical Areas: When construction work requires the Tenant's contractor and sub-contractors to conduct its operations within areas adjacent to active aircraft gates, taxi lanes, and/or the apron. The work shall be coordinated with DOA. Tenant's contractor shall request authorization from DOA forty-eight (48) hours prior to any gate closure or interference with the Aircraft Operations.

4.15 Technical Requirements: Tenant's contractor and sub-contractors shall be responsible for complying with the following ATL requirements:

4.15.1 Electrical Power: Any unauthorized connection to an airport power source shall be disconnected/de-energized by the Tenant's contractor or sub-contractor per DOA direction. Failure to comply, DOA shall disconnect or de-energize at Tenant's contractor/sub-contractor expense.

4.15.2 Conduit: All conduits shall be concealed from public view.

4.15.3 Floor Slab Penetrations: Tenant's contractor/sub-contractor shall be responsible for scanning (GPR or X-Ray) and providing DOA with the scan results which shall include a detailed drawing of the area to be core drilled. All floor slabs that require drilling, core drilling, embedding or demolition of any conduit and other utility lines, shall be constructed per the Architectural and Structural Design Standards, Sections 3 & 5 of this manual.

4.16 Abandon Penetrations: Tenant's contractor/sub-contractor shall be responsible for covering any new, existing or abandon floor slab penetrations (Floor/Ceiling) at all times during construction. All abandon penetrations shall be filled per the Architectural and Structural Design Standards, Sections 3 & 5 of this manual.

4.17 Access Control and Alarm Monitoring System (SACS/ACAMS)
When these systems are impacted or tie-ins are required by the Tenant's construction project, the Tenant's contractor/sub-contractor shall be responsible for restoring, maintaining the integrity and be compatible with the existing ATL SACS/ACAMS system. Tenant's contractor

shall coordinate with and use the existing DOA Operations & Maintenance provider to accomplish this work. All work associated with these systems shall be coordinated through DOA and shall be review and approved by DOA Security prior to start of any work. Notice shall be provided to DOA at least 48 hours prior to disturbing the existing SACS/ACAMS system.

4.18 Building Management System (BMS)/Fire Suppression and Life Safety Systems

When these systems are impacted or tie-ins are required by the Tenant's construction project, the Tenant's contractor/sub-contractor shall be responsible for restoring, maintaining the integrity and be compatible with the existing ATL BMS/Fire Suppression and Life Safety Systems. Tenant's contractor shall coordinate with and use the existing AATC Operations & Maintenance provider to accomplish this work. All work associated with these systems shall be coordinated through DOA and AATC prior to start of any work.

4.19 Environmental Requirements

When construction mitigation work is required, Tenant's contractor shall be responsible for complying with ATL Tenant Environmental Compliance Guide (contact DOA Environmental at 404-530-5500 for information). All required project specific mitigation, spill/emergency response and hazardous management plans shall be coordinated through DOA and shall be review and approve by DOA Environmental prior to start of any mitigation work.

4.20 Sustainability Standards

The ATL Planning and Development Bureau (P&D) has developed comprehensive Sustainable Construction Standards to apply to all DOA projects in an effort to meet City of Atlanta Ordinances, obtain certifications in industry leading Sustainability Rating Systems, and reach airport-wide sustainability goals. P&D requests that construction teams include these Standards in all construction projects where applicable, and to the highest extent possible. The implementation of these Standards is voluntary and in no way a contractual requirement. However, their maximum implementation, should be recognized as best practices, which can also contribute to the airport's overall sustainability goals of reducing energy and water consumption, waste generation, and greenhouse gas emissions.

The following are the P&D Sustainable Construction Standards for Reference only:

Construction Standards
Sustainability

1.0 Purpose

The P&D Sustainable Construction Standards are General Requirements to be applied to all projects at ATL. These General Conditions are additional guidance to Division 1: Sustainable Requirements, which should be tailored project by project based on the Credits and Prerequisites the project is pursuing for the specified Sustainability Certification.

1.1 PART 1 – GENERAL

1.1.1 SUMMARY

1.1.1.1 Includes general requirements and procedures for compliance with Sustainable Construction Standards.

1.1.1.2 The Contractor shall adhere to all Sustainable Construction Standards in addition to project specific sustainability requirements included in Section 018111 to meet the intended Sustainability Certification Standard (LEED®, Parksmart®, SITES®, Envision®, etc.).

1.1.1.2.1 Sustainable Construction Progress Reports: Concurrent with each Application for Payment, contractor should, where applicable, submit reports comparing actual construction and purchasing activities with sustainable reports.

1.1.1.2.2 Contractor shall submit all Project Close-out documentation upon completion of this project to the ATL P&D Sustainability Team Project Manager.

1.1.1.3 Sustainable Construction Standards Submittal Checklist and Supplemental Documents will be available digitally through the ATL P&D Sustainability Team Project Manager.

1.1.2 SUBMITTALS

1.1.2.1 General: Sustainable Construction Standards submittals are in addition to the other required project submittals.

1.1.2.1.1 All Sustainable Construction Standards submittals shall be submitted by the Contractor Sustainability Coordinator to the ATL P&D Sustainability Team Project Manager for approval in coordination with all documentation specified in SECTION 018111

1.2 DEFINITIONS

1.2.1 ATL P&D Sustainability Project Manager: Department of Aviation Planning and Development Department Sustainability Program Team member responsible for managing, implementing and enforcing the P&D Sustainability Program through all project phases and coordinating documentation collection for all Submittals found in the ATL Sustainable Construction Standards.

1.2.2 Contractor Sustainability Coordinator: An approved member of the Construction Team responsible for all Submittals found in the ATL Sustainable Construction Standards and all sustainability Submittals included in SECTION 018111.

1.2.3 Sustainable Construction Standards Submittal Checklist: A checklist of all Submittals found in the ATL Sustainable Construction Standards.

2.0 CONSTRUCTION TEAM

2.1 SUSTAINABLE CONSTRUCTION TRADES TRAINING

2.1.1 Schedule sustainability training with ATL P&D Sustainability Team Project Manager for all key construction team members prior to commencement of the construction phase that includes the following concepts:

2.1.1.1 Project-specific Sustainability Certification Standards (LEED®, Parksmart®, SITES®, or Envision®) compliance requirements in SECTION 018111.

2.1.1.2 Sustainable Construction Standards: provide digital access to all attendees.

2.1.1.3 Proactive sustainability: Examples of actions workers can take to be more sustainable while on site, included, but not limited to:

2.1.1.3.1 Energy and Water efficient practices.

2.1.1.3.2 Recycling and proper use of single stream dumpsters (if in use).

2.1.2 SUBMITTALS

2.1.2.1 Agenda for Sustainable Construction Trades Training

2.1.2.2 Attendee List

2.2 CONTRACTOR SUSTAINABILITY COORDINATOR

2.1.3 The Contractor shall designate a Sustainability Project Coordinator to manage all Sustainable Construction Standards requirements for this project. The Sustainability Coordinator may be either an employee of contractor or consultant hired for this project.

2.1.3.1 The Contractor Sustainability Coordinator shall have a LEED Accredited Professional credential or equivalent green professional credential.

2.1.3.2 The designated Contractor Sustainability Coordinator shall be approved by the P&D Sustainability Team Project Manager.

2.1.3.3 The Contractor Sustainability Coordinator will be responsible for compiling and submitting all sustainability Submittals and required documentation.

2.1.3.4 The Contractor Sustainability Coordinator will submit all submittals and required documentation to the ATL P&D Sustainability Team Project Manager for approval. Sustainability Coordinator to use the provided templates and specified formatting.

2.1.3.5 The Contractor Sustainability Coordinator will submit required Submittals and documentation concurrent with each Application of Payment.

2.1.3.6 Reduction of pay application will be equivalent to the value of work not produced and/or completed based on submittal and documentation verification by the ATL P&D Sustainability Team Project Manager.

2.1.4 SUBMITTALS

2.1.4.1 Provide proof of LEED Accredited Professional credential or equivalent credential.

2.1.4.2 Provide proof of Sustainability Contractor experience on LEED or equivalent Sustainability Project experience.

3.0 SITE ENVIRONMENTAL MANAGEMENT

3.1 NON-TOXIC LANDSCAPE MAINTENANCE DURING CONSTRUCTION

3.1.1 If pesticides are used during construction, only use pesticides with a hazard tier ranking of 3 (least hazardous) as per The City of San Francisco Department of the Environment's (SFE) Hazard Tier Review Process. Guidance can be found here: https://sfenvironment.org/sites/default/files/fliers/files/sfe_th_guide_to_reduced_risk_pesticide_listposted.pdf

3.2 SUBMITTALS

3.2.1 Manufacturer Documentation and MSDS Sheets on all pesticides and fertilizers used on-site.

4.0 RESOURCE SELECTION AND PRESERVATION

4.1 CONSTRUCTION TEMPORARY LIGHTING ENERGY EFFICIENCY

4.1.1 Reduce temporary lighting energy consumption through the use of energy efficient lighting and operation protocol.

4.1.1.1 Use LED lighting for all temporary construction lighting.

4.1.1.2 Comply with minimum lighting requirements as defined in OSHA Standard 1926.56.

4.1.1.3 Establish a schedule for when lighting is required and develop a policy to reduce lighting when not needed.

4.1.1.4 Coordinate site walk during each phase of construction for P&D Sustainability Team Project Manager.

4.1.2 SUBMITTALS

4.1.2.1 Provide bulb wattage for all temporary lighting used throughout construction

4.2 POTABLE WATER USE DURING CONSTRUCTION

4.2.1 Develop a Construction Water Use and Monitoring Plan to minimize potable water use during construction.

4.2.1.1 Identify and list all on-site water uses during construction.

4.2.1.2 Identify which uses can be performed utilizing non-potable or reused water.

4.2.1.3 Identify possible sources of non-potable water within the ATL Campus.

4.2.1.4 Monitor and report all potable and non-potable water use on site throughout the duration of the project.

4.2.2 SUBMITTALS

4.2.2.1 Construction Water Use and Re-Use Log Template to be provided electronically.

4.3 CONSTRUCTION AND DEMOLITION WASTE DIVERSION

4.3.1 Divert a minimum of 90% of construction and demolition waste from landfills.

4.3.1.1 Establish waste diversion goals for the project by identifying at least five materials (both structural and nonstructural) targeted for diversion. Approximate a percentage of the overall project waste that these materials represent.

4.3.1.2 Specify that at least 5 material waste streams will be collected and diverted separately

4.3.1.3 Reuse material on site whenever possible.

4.3.1.4 Work with project manager to enter waste diversion information in to a waste tracking platform such as RE-TRAC CONNECT®.

4.3.1.5 Follow LEED Reference Manual for Building Design and Construction version 4: Construction and Demolition Waste Management credit language, regardless of project type.

4.3.2 SUBMITTALS

4.3.2.1 Waste Tickets from haulers and waste management companies

4.3.2.2 Calculations on reuse in accordance with LEED Reference Manual for Building Design and Construction version 4: Construction and Demolition Waste Management Credit.

4.3.2.3 LEED Reference Manual for Building Design and Construction version 4: Construction and Demolition Waste Management Credit Required Documentation.

5.0 CONSTRUCTION VEHICLES AND EQUIPMENT

5.1 CONSTRUCTION VEHICLES AND EQUIPMENT GENERAL REQUIREMENTS

5.1.1 Construction shall not proceed until the contractor submits a list of all diesel on-road vehicles, non-road construction equipment, and generators to be used on-site to be confirmed by the P&D Sustainability Program Implementation Team. The list shall include the following:

5.1.1.1 Contractor and subcontractor name and address, including a contact person responsible for vehicles and/or equipment.

5.1.1.2 Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Environmental Protection Agency (EPA) Tier Emission rating), horsepower, engine family number, engine serial number, and expected fuel usage and hours of operation.

5.1.1.3 For any emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/ California Air Resources Board (CARB) verification number, Tier level, installation date and hour-meter reading on installation date.

5.1.2 If the contractor subsequently needs to bring equipment on-site not on the list approved by the P&D Sustainability Team, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information requested in 5.1 A

5.1.3 All diesel equipment shall comply with the pertinent local, state, and federal regulations relative to exhaust emission controls safety, or the requirements of this document, whichever is more stringent at the time of construction.

5.1.4 The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload materials on-site, when possible. Such zones shall be located where exhausted air pollutants have least impact on adjacent properties, the public, and surrounding structures' air intake systems.

5.2 CONSTRUCTION VEHICLE AND EQUIPMENT MAINTENANCE

5.2.1 Contractor shall designate an area for vehicle maintenance. Do not perform construction vehicle and equipment maintenance and repairs outside of designated areas.

5.2.1.1 When possible, conduct maintenance activities under cover.

5.2.1.2 Maintain a log of all vehicle repairs and maintenance.

5.2.1.3 Ensure that hazardous wastes are recycled and/or disposed safely per local, state and federal regulations.

5.2.1.4 Create a Spill Response Plan for cleanup of chemical, fuel or oil spills.

5.2.1.5 When available, use environmentally friendly chemicals and processes.

5.2.2 SUBMITTALS

5.2.2.1 Prior to construction, submit The Spill Response Plan.

5.2.2.2 At the end of the project or upon request, submit a log of maintenance and repairs conducted on construction vehicles used during construction.

5.3 ROADWAY PRESERVATION DURING CONSTRUCTION

5.3.1 Ensure all surrounding roadways used by the project site are not damaged by construction activity.

5.3.1.1 Any existing road weight limit restrictions limit must be followed by construction-related vehicles operating on airport and public roadways.

5.3.1.2 Equipment with tractor treads are prohibited on public roadways.

5.3.1.3 Immediately report all Incidents and Accidents to ensure roadway is preserved, and if damaged, is repaired within a reasonable timeframe.

5.3.2 SUBMITTALS

5.3.2.1 Prior to construction, submit a list of construction vehicles operating on public roadways and the maximum load it could possibly transport.

5.3.2.2 Prior to construction, submit a written policy that will be used to communicate that equipment with tractor treads shall not be driven on airport or public roadways.

5.3.2.3 Immediately submit Accident and Incident reports (if applicable).

5.4 CONSTRUCTION VEHICLE IDLING PLAN

5.4.1 Implement a Vehicle Idling Inspection Program and document findings or results.

5.4.1.1 During periods of inactivity, idling of diesel on-road vehicles and non-road equipment shall be minimized and shall not exceed fifteen consecutive minutes.

5.4.1.2 Post signage for no vehicle idling in sensitive areas, such as areas within 100 feet of building air-intake systems.

5.4.2 SUBMITTALS

5.4.2.1 Prior to construction, submit an inventory of vehicles using alternative idle reduction technologies.

5.4.2.2 At the end of the project and upon request, vehicle Anti Idling Program inspection logs.

5.4.2.3 Prior to construction, submit a site plan that identifies areas where signage will be installed communicating idling expectations.

5.4.2.4 Prior to construction, provide a sample of Anti-Idling signage detail to be used in sensitive areas.

5.4.3 EXEMPTIONS

5.4.3.1 See: Part 5 EXEMPTIONS E4-E9

5.5 LOW EMISSION ON-ROAD CONSTRUCTION VEHICLES

5.5.1 All on-road construction vehicles on site for more than 10 total days must have either (1) engines that meet EPA 2010 on-road emission standards (TIER 4) or (2) emission control technology verified by the EPA or the CARB to meet the EPA 2010 on-road emission standards (TIER 4), such as Selective Catalytic Reduction (SCR) systems, to reduce Nitrogen Oxide (NOx) emissions.

5.5.1.1 Develop an inventory of construction vehicles, which includes vehicle type, horsepower rating, fuel type, and overall fuel usage during each phase of construction. In addition, on- road vehicle records should show official registrations, manufacturer, model and model-year.

5.5.1.2 The contractor is encouraged to use alternative fuels to further reduce NOx emissions including zero NOx technology (i.e., Electric) or near zero NOx technology (i.e., natural gas or propane) when reasonably available.

5.5.2 Upon confirming that the diesel on-road construction vehicle meets one of the criteria in 5.5: A., ATL will issue a compliance sticker.

5.5.2.1 All equipment on site shall display the compliance sticker in a visible, external location as designated by ATL.

5.5.3 SUBMITTALS

5.5.3.1 Prior to construction, submit an inventory of vehicles that will be used for each phase of construction. Submit updates as needed.

5.5.3.2 All information included in 5.5 A.: Data for on-road construction vehicles

5.5.3.2.1 Written confirmation from the contractor that only on-road construction vehicles meeting EPA TIER 4 NOx emission levels will be used for the construction project unless otherwise exempt.

5.5.4 EXEMPTIONS

5.5.4.1 See: PART 5 EXEMPTIONS E1-E3

5.6 LOW EMISSION NON-ROAD CONSTRUCTION EQUIPMENT

5.6.1 All non-road construction equipment on-site for more than 10 total days must have either (1) engines meeting EPA Tier 3 non-road emission standards or (2) repowered engines meeting EPA Tier 3 non-road emission standards or (3) emission control technology verified by EPA of CARB for use with non-road engines to reduce NOx emissions.

5.6.1.1 Develop an inventory of non-road construction equipment include type, horsepower rating, fuel type, fuel usage and hours of operation during each phase of construction. The contractor shall maintain records of manufacturer, model and model-year of equipment.

5.6.1.2 The contractor is encouraged to use alternative fuels to further reduce NOx emissions including zero NOx technology (i.e., Electric) or near zero NOx technology (i.e., natural gas or propane) when reasonably available.

5.6.2 Upon confirming that the diesel non-road construction equipment has met one of the criteria in 5.6: A, ATL will issue a compliance sticker.

5.6.2.1 All equipment on site shall display the compliance sticker in a visible, external location as designated by ATL.

5.6.3 SUBMITTALS

5.6.3.1 Prior to construction, submit an inventory of non-road construction equipment that will be used for each phases of construction. Submit updates as needed.

5.6.3.1.1 All information included in 5.6 A.: Data for non-road construction equipment.

5.6.3.1.2 Written confirmation from the contractor that only non-road construction equipment meeting at least EPA TIER 3 NOx emission levels will be used for the construction project unless otherwise exempt.

5.6.3.2 At the end of the project and upon request, submit a log of maintenance and repairs conducted on all construction equipment used during construction.

5.6.4 EXEMPTIONS

5.6.4.1 See: PART 5 EXEMPTIONS E1-E3

5.7 LOW EMISSION PORTABLE DIESEL GENERATORS

5.7.1 All portable diesel generators on site for more than 10 total days must have either (1) engines meeting at least the EPA Tier 2 non-road emission standards or (2) repowered engines meeting EPA Tier 2 non-road emission standards or (3) emission control technology verified by EPA of CARB for use with non-road engines to reduce NOx emissions.

5.7.1.1 Develop an inventory of portable diesel generators, which includes type, horsepower rating, fuel type, fuel usage and hours of operation during each phase of construction. The contractor shall maintain records of manufacturer, model and model-year of equipment.

5.7.1.2 The contractor is encouraged to use electricity from the power grid as an alternative to portable diesel generators when reasonably available to further reduce localized NOx emissions.

5.7.2 SUBMITTALS

5.7.2.1 Prior to construction, submit an inventory of all portable diesel generators that will be used during construction and a plan that identifies portions of the project that may be reasonably completed using the electric grid power as an alternative to diesel generators. Submit updates as needed.

5.7.2.1.1 All information included in 5.7 A.: Data for portable diesel generators

5.7.2.1.2 Written confirmation from the contractor that only diesel generators meeting at least EPA TIER 2 NOx emission levels will be used for the construction project unless otherwise exempt.

5.7.3 EXEMPTIONS

5.7.3.1 See PART 5 EXEMPTIONS E1-E3

6.0 EXEMPTIONS

E1. APPLIES TO: 5.5, 5.6, and 5.7

If the contractor can prove to ATL's satisfaction that for a particular class of on-road diesel vehicle, diesel non-road construction equipment, or diesel generator, that (1) no alternative equipment with the specified TIER level is available, (2) it is not technically feasible to meet the control level specified above with a verified device, or (3) installing the control device would create a safety hazard or impair visibility for the operator, then the contractor may, with ATL's written approval, drop down to a lower level of Tier rating. For any approved lower level-Tier equipment, the contractor shall provide a plan describing steps to minimize NOx emissions whenever a forecast projects the Air Quality Index will exceeding 100 for Atlanta. https://airgeorgia.org

E2. APPLIES TO: 5.5, 5.6, and 5.7

ATL may create an exemption when there is a compelling emergency need to use diesel vehicles or engines that do not meet the contract conditions for emissions controls. An example would be the need to rescue vehicles or other equipment to prevent or remedy harm to human beings

or nearby property. Meeting contract deadlines, failure to rent equipment in a timely manner, planned unavailability, or lack of advance planning are not considered compelling emergencies.

E3. APPLIES TO: 5.5, 5.6, and 5.7

ATL may provide an exemption lasting no more than 30 days to a contractor, if the contractor can prove with valid documentation and to ATL's satisfaction that the appropriate emission control equipment has been ordered in a timely manner after the bid was awarded, but has yet to be installed due to delays attributable to the equipment manufacturer and beyond control of the contractor. The contractor must install the retrofit as soon as practicable once it has been delivered, and shall submit proof thereof when installation is complete. Provided, however, that such exemption shall not be available to a contractor who already owns an equivalent piece of equipment that meets the engine requirements for the project, as the contractor may use that piece of equipment.

E4. APPLIES TO: 5.4

When an on-road diesel vehicle or non-road construction equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control.

E5. APPLIES TO: 5.4

To bring the on-road diesel vehicle, non-road construction equipment, or generator to the manufacturer's recommended operating temperature.

E6. APPLIES TO: 5.4

When there are regulations requiring temperature control for driver or passenger comfort and there are no auxiliary power sources available to provide temperature control.

E7. APPLIES TO: 5.4

When it is necessary to operate auxiliary equipment located in or on the diesel vehicle or construction equipment, to accomplish the intended use of the vehicle or equipment (for example, cranes and cement mixers).

E8. APPLIES TO: 5.4

When the on-road diesel vehicle, non-road construction equipment, or generator is being repaired, if idling is necessary for such a repair.

E9. APPLIES TO: 5.4

When the on-road diesel vehicle, non-road construction equipment, or generator is queued for inspection, if idling is necessary for such inspection.

Hartsfield-Jackson Atlanta International Airport
City of Atlanta
Department of Aviation
Bureau of Planning & Development

Tenant New Construction/Modifications Design Standards– Revision Addendum Log

Design Standards – Revision Addendum Log
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Section **Page**

Design Standards
Revision Addendum Log

1.0 Purpose

The purpose of this section is to reference the revisions to Section 1 through Section 9 of the Tenant New Construction and Modifications Design Standards. Revisions are incorporated on a quarterly basis and design teams must adhere to the version of this document specified in Project Task Order unless otherwise directed by the City of Atlanta Department of Aviation Planning and Development Bureau . Previous versions of this document are available for reference upon request.

2.0 Revision Addendum Log

EDIT #	SECTION	LINE	EDIT TYPE	EDIT	REVISION DATE
1	1. Submittal and Review	3.1.2	Change	Change "March 2019" to "November 2020"	Revision 1: 11/2020
2	1. Submittal and Review	4.2.1	Change	Change "ten (10) business days" to "fifteen (15) business days"	Revision 1: 11/2020
3	1. Submittal and Review	4.3.1	Change	Change "March 2019" to "November 2020"	Revision 1: 11/2020
4	2. Civil Details and Specifications		Change	Revision 3 Details	Revision 1: 11/2020
5	3. Structural	2.5.1	Change	Change "ASCE/SEI 7-10" to "ASCE/SEI 7-16"	Revision 1: 11/2020
6	3. Structural	2.7.1.1	Change	Change "IBC" to "IBC 2018"	Revision 1: 11/2020
7	4. Architectural	2.2.5	Addition	New Section "2.2.5 Existing Ceilings 2.2.5.1 Replacement, demolition and/or removal of existing ceiling(s) and associated lighting and mechanical systems above public (lease) spaces, ticketing, hold rooms, baggage claim, seating and circulation areas shall include the removal of all abandoned hangers, supports, electrical feeds, mechanical ducts and/or other appurtenant items above the ceiling. 2.2.5.2 Re-attach /Replace any missing junction box covers."	Revision 1: 11/2020
8	4. Architectural	2.2.6	Addition	New Section "2.2.6 Floor Mounted Appurtenances 2.2.6.1 Any appurtenances such as luggage carts, luggage cart dispensing equipment, wheel chairs, wheel chair corrals, seating, advertisement, corporate signage, directories, self-service kiosks and any other floor mounted equipment throughout the airport's interior and exterior public facilities, shall not be a safety hazard to public circulation, obstruct passenger flow or impede any emergency path of travel or exit. Locations shall be submitted to the DOA /P&D for review and acceptance."	Revision 1: 11/2020
9	6. Mechanical	1.2	Change	Add "Tenant Description" Change "requirements" to "standards" change "concession type" to "non-concession type" Add "(tenant for this standard)"	Revision 1: 11/2020
10	6. Mechanical	2.3	Change	Change "State of Georgia" to "State of Georgia, with amendments"	Revision 1: 11/2020
11	6. Mechanical	4.1.7	Addition	Add "air flow balance"	Revision 1: 11/2020
12	6. Mechanical	4.2.1	Addition	Add "(as a minimum)"	Revision 1: 11/2020
13	6. Mechanical	4.3	Removal	Remove"4.3.1 Provide fire protection plan drawings, 1/8" scale or larger. 4.3.2 Provide Hazard classification, including density and remote square footage and location of same for all spaces within a design. 4.3.3 Provide specifications including but not limited to, piping and sprinkler heads (type and temperature). 4.3.4 Provide piping layout plans for major renovation projects and new construction."	Revision 1: 11/2020
14	6. Mechanical	4.3.1	Addition	New Section "4.3.1 Provide design criteria drawings, 1/8" scale or larger with existing and new sprinkler head locations, Hazard classification, including density and remote square footage and location of same for all spaces within a design. "	Revision 1: 11/2020
15	6. Mechanical	4.3.2	Addition	New Section "4.3.2 Provide piping layout plans for major renovation projects and new construction."	Revision 1: 11/2020

16	6. Mechanical	4.3.3	Addition	New Section "4.3.3 Provide specifications including but not limited to, piping, sprinkler heads, equipment, ETC."	Revision 1: 11/2020
17	6. Mechanical	5.0	Addition	Add "HVAC"	Revision 1: 11/2020
18	6. Mechanical	5.1	Addition	Add "HVAC"	Revision 1: 11/2020
19	6. Mechanical	5.1.3	Change	Change "central water loops." to "central plant water loops."	Revision 1: 11/2020
20	6. Mechanical	5.2	Addition	Add "HVAC"	Revision 1: 11/2020
21	6. Mechanical	5.2.4	Removal	Remove "5.2.5 Plumbing infrastructure consist of Domestic water supplied from the city water system at a pressure of 60 to 70 pounds. There is a sanitary sewer system at each concourse. There is natural gas supplied on the roof of concourse T, A, B , C, D and inside E and F." and "5.2.6 Fire protection is supplied by a fire pump and jockey pump on each concourse."	Revision 1: 11/2020
22	6. Mechanical	6.0	Addition	New Section "General System Descriptions (Plumbing)"	Revision 1: 11/2020
23	6. Mechanical	7.0	Addition	New Section "General System Descriptions (Fire Protection)"	Revision 1: 11/2020
24	6. Mechanical	8.0	Change	Previously "6.0 Tenant Space Design Guidelines"	Revision 1: 11/2020
25	6. Mechanical	8.1.1.3	Addition	Add "block walls"	Revision 1: 11/2020
26	6. Mechanical	8.2.1	Change	Change "Concession" to "Tenant"	Revision 1: 11/2020
27	6. Mechanical	8.2.2	Change	Change "Concession" to "Tenant"	Revision 1: 11/2020
28	6. Mechanical	8.2.4	Addition	Add "(pre and post construction)"	Revision 1: 11/2020
29	6. Mechanical	8.3.1.4	Addition	New Section "8.3.1.4 All new HVAC equipment utilizing base building heating or cooling resources (conditioned air, chilled water, heating hot water) shall be integrated with the base building BMS control system"	Revision 1: 11/2020
30	6. Mechanical	8.3.1.5	Addition	New Section "8.3.1.5 Multizone AHU programming shall comply with Multizone Standard Sequence (see appendix A.) Single zone AHU programming shall comply with Single Zone Standard Sequence (see appendix B.) Terminal Units shall comply with Terminal Unit Standard Sequence (see appendix C.) "	Revision 1: 11/2020
31	6. Mechanical	8.3.1.6	Addition	New Section "8.3.1.6 The BACnet points required for the BMS shall be configured, exposed, and viewable from the base building BMS front end and comply with the BMS Points Standard List for naming conventions and descriptions (see appendix D.) "	Revision 1: 11/2020
32	6. Mechanical	8.3.2.1	Addition	Add "All new controls shall be fully integrated with the base building BMS control system. "	Revision 1: 11/2020
33	6. Mechanical	8.3.2.2	Change	Change "Concession" to "Tenant"	Revision 1: 11/2020
34	6. Mechanical	6.3.3.1	Addition	"New Section "6.3.3.1 When supplemental cooling is required, package rooftop equipment may be used for smaller load increase. Coordinate with DOA if this option will be allowed. If tenant requires significantly more load a custom RMU will be required. For custom RMU design see section 9.1 Airport Facilities Landside Airside New Construction and Modifications Design Standards."	Revision 1: 11/2020
35	6. Mechanical	8.3.3.2	Change	Change "Rooftop" to "package"	Revision 1: 11/2020

36	6. Mechanical	8.3.3.3	Change	Change "Rooftop" to "Package"	Revision 1: 11/2020
37	6. Mechanical	8.3.3.4	Change	Change "Concession" to "Tenant"	Revision 1: 11/2020
38	6. Mechanical	8.3.4	Removal	Remove "8.3.4.1.1 The designer is required to provide the following additional services on F&B designs: 8.3.4.1.2 Provide an air flow balance summary schedule which shows that the kitchen is negative relative to the dinning area which is negative to the public corridor. 8.3.4.1.3 Provide tempered (heated and cooled) make-up air. For kitchen exhaust hoods, make-up air units in the 1,000 – 1,200 CFM range may be exempt from the tempered air requirements based on the overall air balance of the concourse/terminal in which it is located. Coordinate with DOA mechanical to see if the exception will be allowed on a case by case basis. Coordinate with DOA Engineering to determine if makeup air is to use gas or electric heating. Provide an interlock to ensure that whenever the Exhaust fan to the kitchen hood(s) is energized, that the make-up air system is energized. 8.3.4.1.4 Wrap all grease duct systems in the appropriate fire rated insulation. Show installation detail on the details sheet. 8.3.4.1.5 Grease exhaust fans will be up-blast type designed for the particular application. Provide a drip assembly with pan and curb to protect the roof membrane from grease run off and splatter. 8.3.4.2 Plumbing 8.3.4.2.1 General: Spaces have the utility services listed below. 8.3.4.2.2 Domestic Water: Domestic water service typically runs down the public access corridors in the concourses. It is stubbed into existing concession spaces. Newly designated spaces must provide new taps into the existing domestic water system. The designer is responsible for making all field surveys of the existing systems to determine the appropriate place. 8.3.4.2.3 Sanitary Connections: Sanitary waste and vent systems typically run in the ceiling plenum of the apron level (sanitary) or down the public access corridors in the concourses. They are stubbed into existing concession spaces. Newly designated spaces must provide new taps into the existing sanitary waste and vent systems. The designer is responsible for making all field surveys of the existing systems to determine where the appropriate place. Sanitary waste must be kept separate from grease waste until after the grease trap or grease interceptor. 8.3.4.2.4 Grease Waste: All F&B spaces which use cream based foods or liquids and or grease/oils in any of their entrees or for cooking must have a grease interceptor. Major F&B providers, ones with large kitchens, or seating areas or produce menu items which generate significant grease waste by-product (as determined by The Department of Watershed Management- DWM) must connect to a minimum 1500 gallon grease interceptor as required by the DWM per Ordinance, part 154, division IV, section 154-297. All dishwashers, floor drains, three compartment sinks mop sinks and food grinder waste water shall discharge into grease interceptor. Indicate on drawing with stamp that DWM approval has been granted. 8.3.4.2.5 F&B service providers are required to provide and install their own GI either in ground or above ground. The design AE shall coordinate the final location and GI type with DOA engineering and Facilities. Provide detail and calculations as required by DWM. 8.3.4.2.6 If the DWM allows and a contractual arrangement can be made between all parties, the sharing of 1500 gallon GI is acceptable by DOA Engineering. Coordination of any agreements must be made through DOA Tenants. Any agreement must clearly outline the shared cost/responsibility of removing the grease waste on a regular basis as well an upkeep of any common pipe. Any tenant sharing a GI with a calculated design flow rate exceeding 750 GPM will be required to discharge into (2) 1500 gal. GI. 8.3.4.2.7 Natural Gas Connection: Natural gas is supplied to concourses T, A, C and D on the roof. Concourse B gas is capped on south end on apron-level. Tenant is to provide their own meter and regulator to serve their space. Terminal, Concourse E and F have natural gas supplied at food courts in back of house. 8.3.4.2.8 Fire Protection: The existing spaces will have an existing sprinkler system that will be modified to meet the new space layout."	Revision 1: 11/2020

39	6. Mechanical	8.3.4.1	Addition	New Section "8.3.4.1 HVAC Some tenants may have special F&B requirements, such as Delta Sky Club, or cafeteria, see ATL Design Standards Concessions New Construction/Modifications Design Standards – Mechanical Engineering section 8.3.4 "	Revision 1: 11/2020
40	6. Mechanical	9.0	Change	Previously "7.0 HVAC Materials and Equipment"	Revision 1: 11/2020
41	6. Mechanical	9.6	Addition	Add "(pre and post construction)"	Revision 1: 11/2020
42	6. Mechanical	9.6.1	Addition	Add "before starting construction and"	Revision 1: 11/2020
43	6. Mechanical	10.0	Change	Previously "8.0 Plumbing Materials and Equipment"	Revision 1: 11/2020
44	6. Mechanical	10.2	Change	Change "10.1.2 Kitchen (greasy) waste, from dishwasher, floor drains, floor sinks, three compartment sink, mop sink and food grinder waste water to grease interceptor shall be stainless steel piping with hub and spigot push on joints." to "10.2 Kitchen (greasy) waste, If tenant needs to install grease waste see section 6.3.4.2.4 and section 8.1.2 of ATL Design Standards, Concessions New Construction/Modifications – Design Standards – Mechanical Engineering."	Revision 1: 11/2020
45	6. Mechanical	10.3.1.1	Change	Change "2-1/2"" to "4"" and Add "or press fit with neoprene "O" ring."	Revision 1: 11/2020
46	6. Mechanical	10.3.1.2	Change	Change "2-1/2"" to "4"	Revision 1: 11/2020
47	6. Mechanical	10.3.2	Change	Remove "10.3.1.3 Fittings 2-1/2" and less shall be press fit with neoprene "O" ring." Add "10.3.2 To prevent accidental water damage inside concessions and adjoining spaces, an electronic shut off valve controlled by local light switch is recommended to be required for water supply lines to all kitchen sinks."	Revision 1: 11/2020
48	6. Mechanical	10.5.3	Change	Change "the same as in kitchen except with aluminum jacket" to "a minimum of 1-1/2" with aluminum jacket."	Revision 1: 11/2020
49	6. Mechanical	11.0	Change	Previously "9.0 Protection Materials and Equipment"	Revision 1: 11/2020
50	6. Mechanical	11.3.4	Addition	Add "except sprinkler heads designated for residential application."	Revision 1: 11/2020

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