



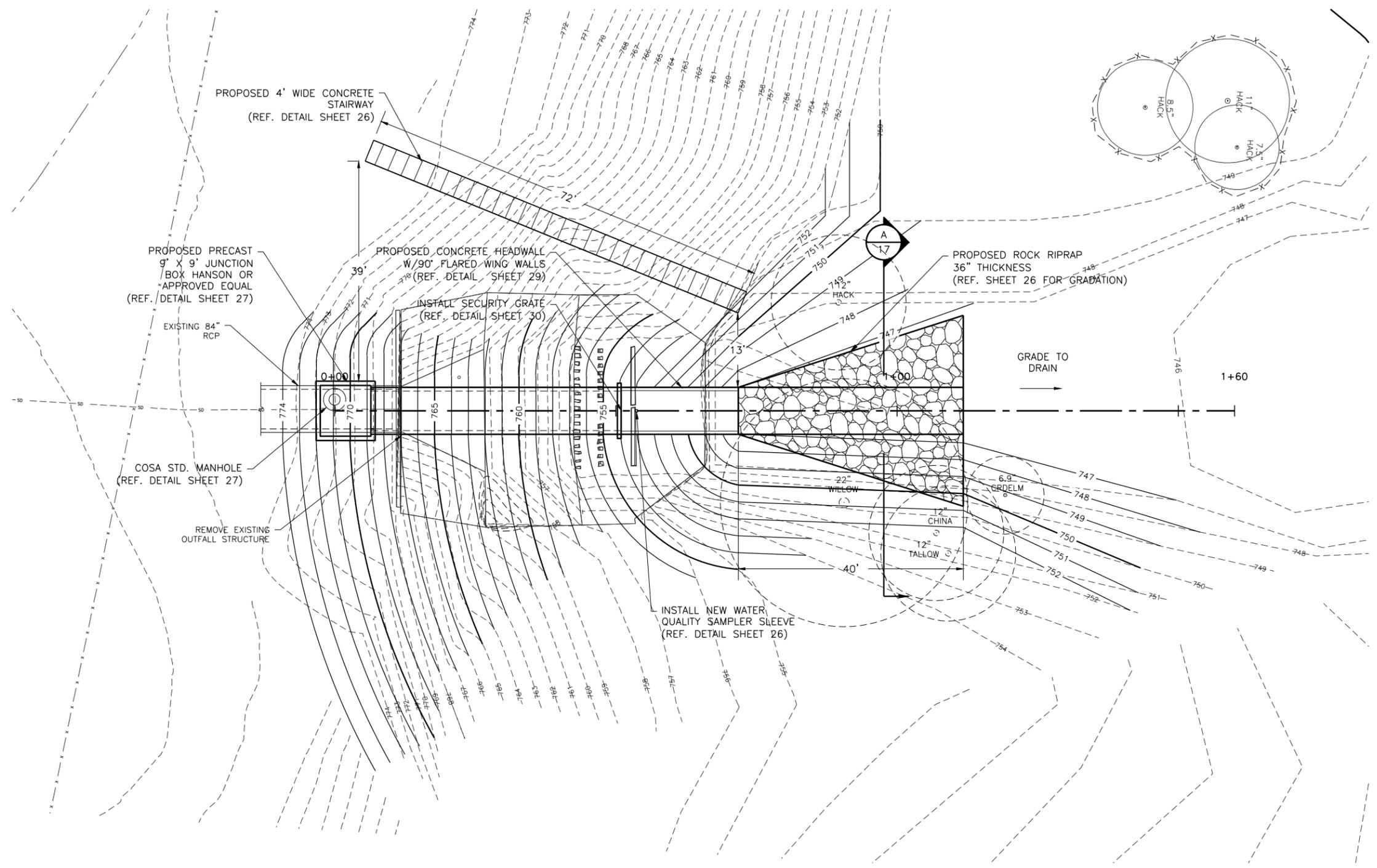
CITY OF SAN ANTONIO DEPARTMENT OF AVIATION
**SAN ANTONIO AIRPORT SYSTEM
OUTFALL DESIGN**
SAIA OUTFALL NO. 7
PLAN

**FREESE
& NICHOLS**
4040 Broadway Street, Suite 600
San Antonio, Texas 78209-6350
Phone - (210) 298-3800
Fax - (210) 298-3801

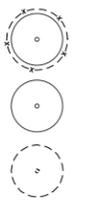
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SHEET NO. 16
16 OF 31



SAIA OUTFALL NO. 7-PLAN
SCALE IN FEET
0 10' 20'



LEGEND:
TREE PROTECTION FENCING
TREE TO REMAIN
TREE TO BE REMOVED

NOTE:
1. INSTALL EROSION CONTROL MATTING AND SEED ALL CONSTRUCTION DISTURBED AREAS.
2. REF. PROFILE VIEW ON SHEET 17.

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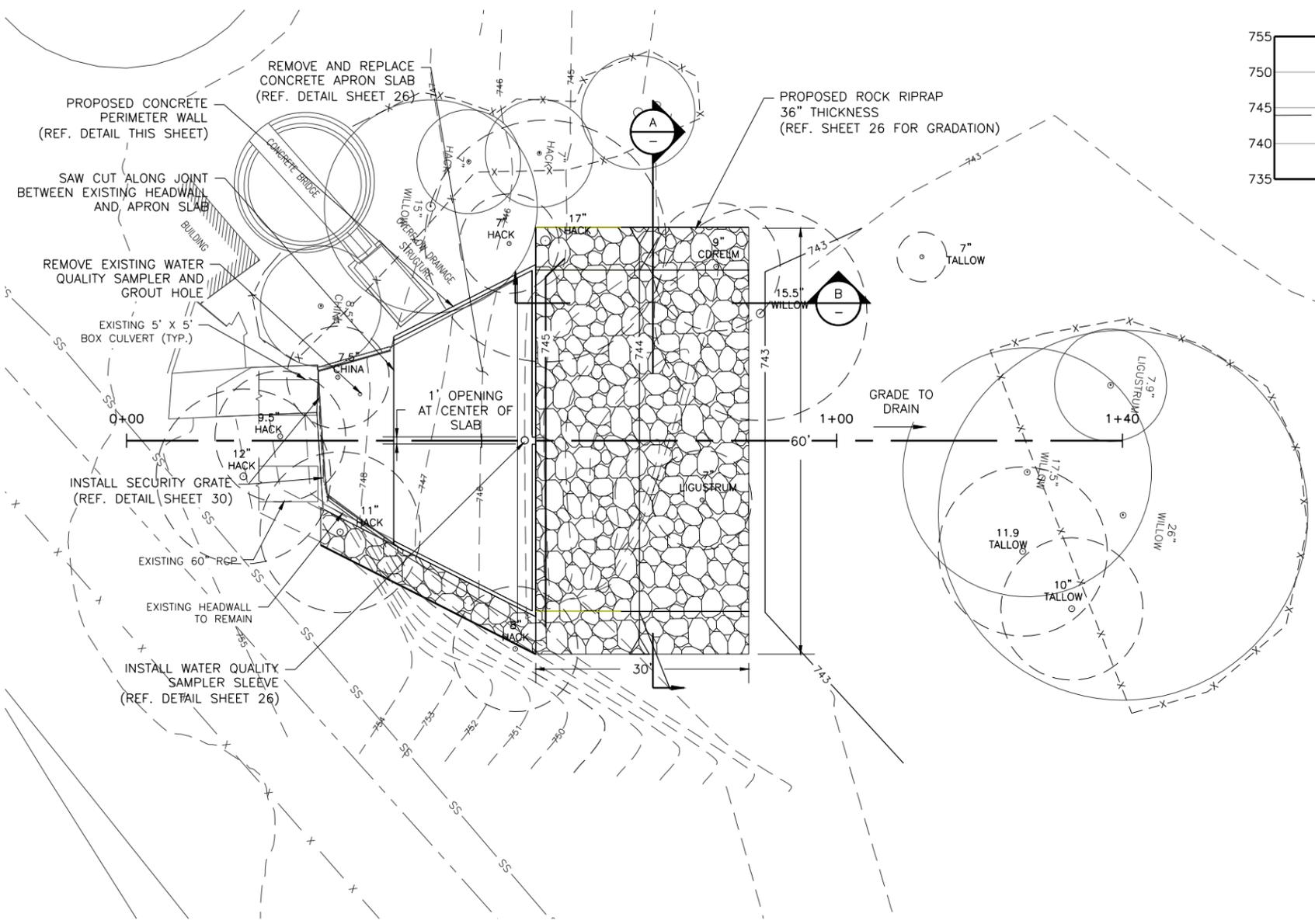
May 7, 2015



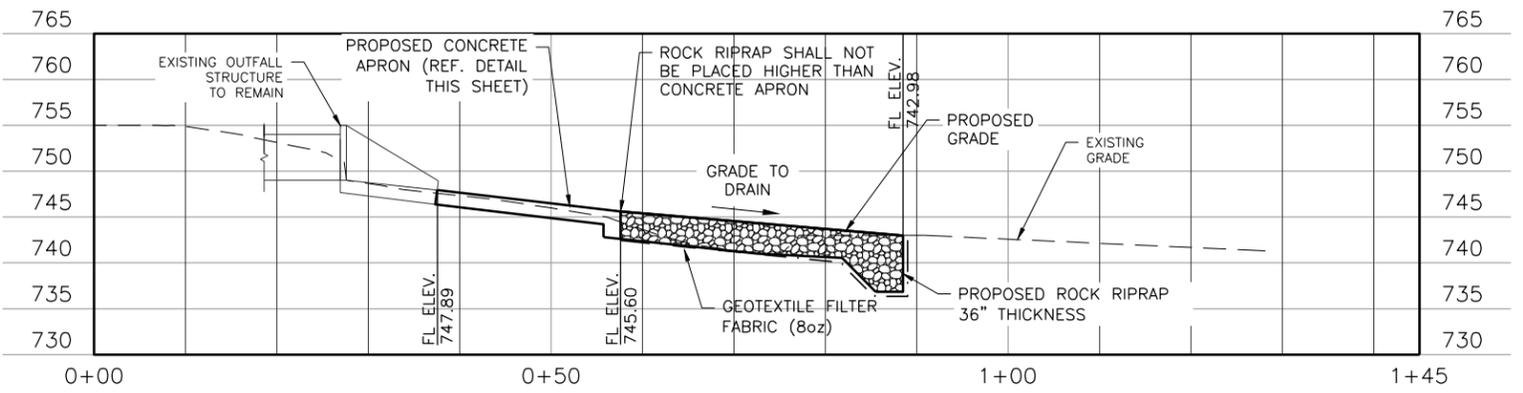
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**SAN ANTONIO AIRPORT SYSTEM
OUTFALL DESIGN**
SAIA OUTFALL NO. 11
PLAN AND PROFILE

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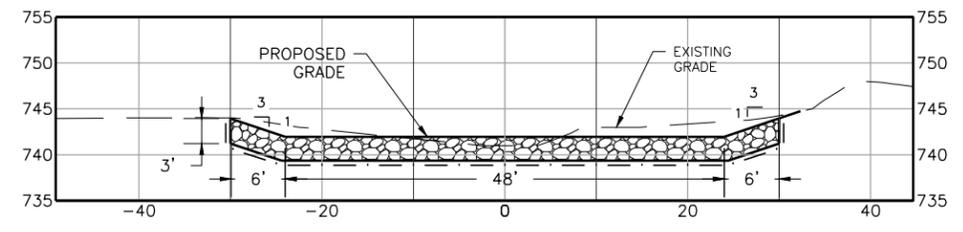
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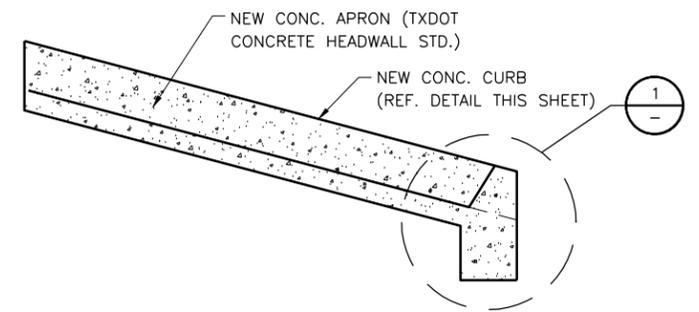
SAIA OUTFALL NO. 11-PLAN
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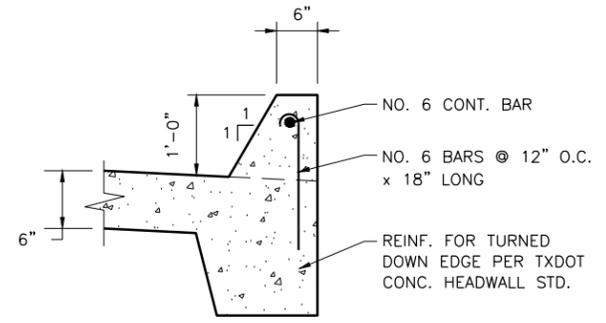
SAIA OUTFALL NO. 11-PROFILE
SCALE IN FEET



A CROSS SECTION
SCALE IN FEET



B SECTION
SCALE: NOT TO SCALE



1 CURB DETAIL
SCALE: NOT TO SCALE

- LEGEND:**
- TREE PROTECTION FENCING
 - TREE TO REMAIN
 - TREE TO BE REMOVED

NOTE:
INSTALL EROSION CONTROL MATTING AND SEED ALL CONSTRUCTION DISTURBED AREAS.

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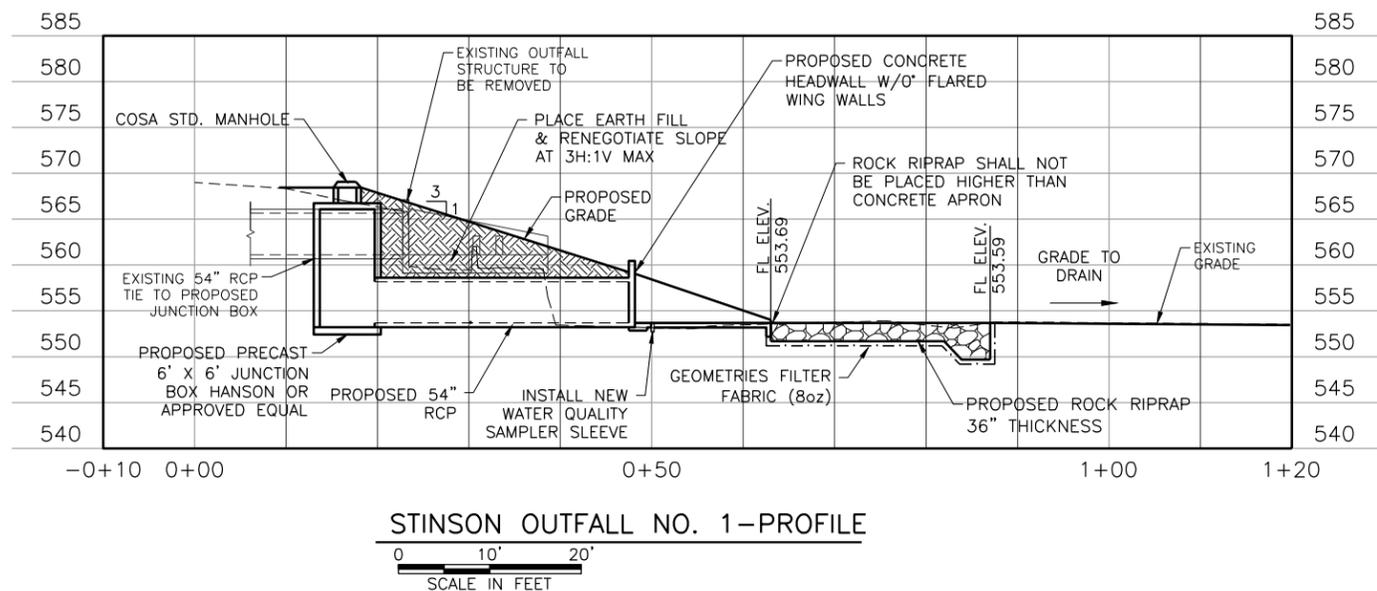
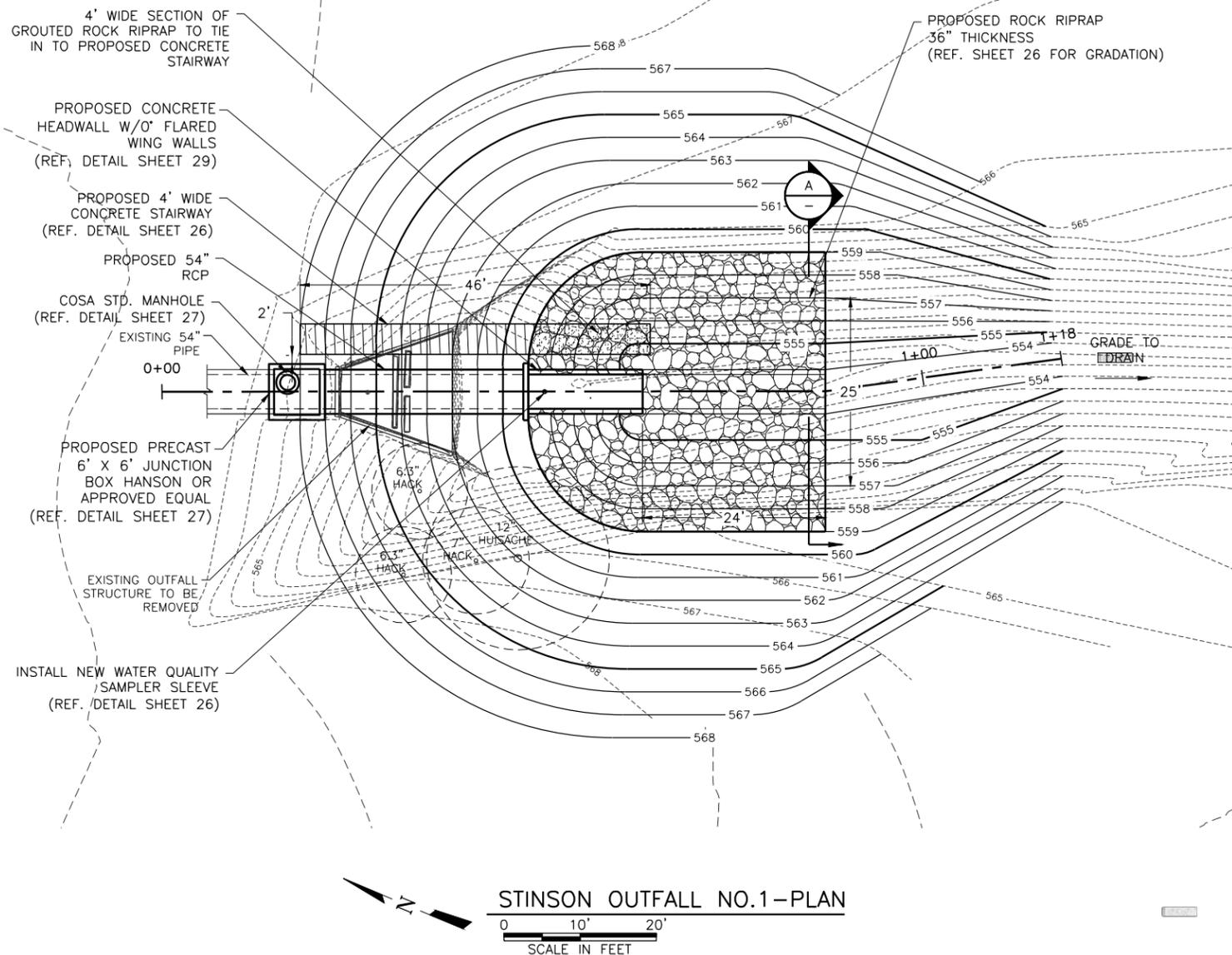
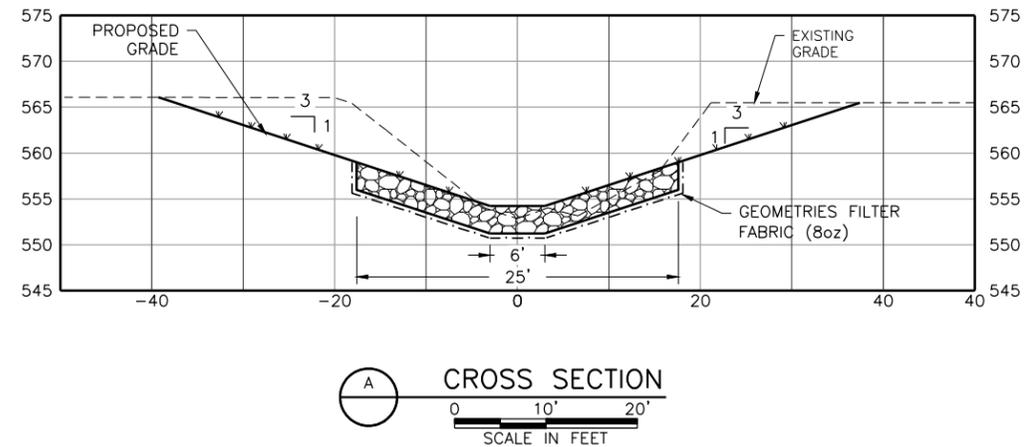
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SAN ANTONIO AIRPORT SYSTEM
OUTFALL DESIGN
STINSON OUTFALL NO. 1
PLAN AND PROFILE



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SHEET NO. 21



LEGEND:



NOTES:

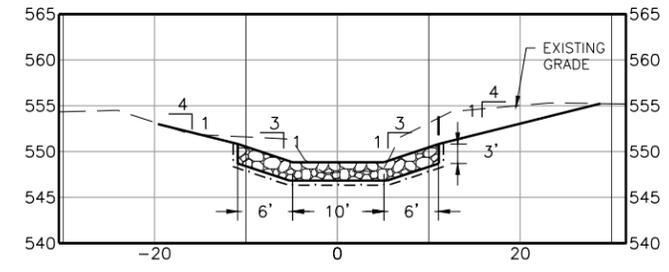
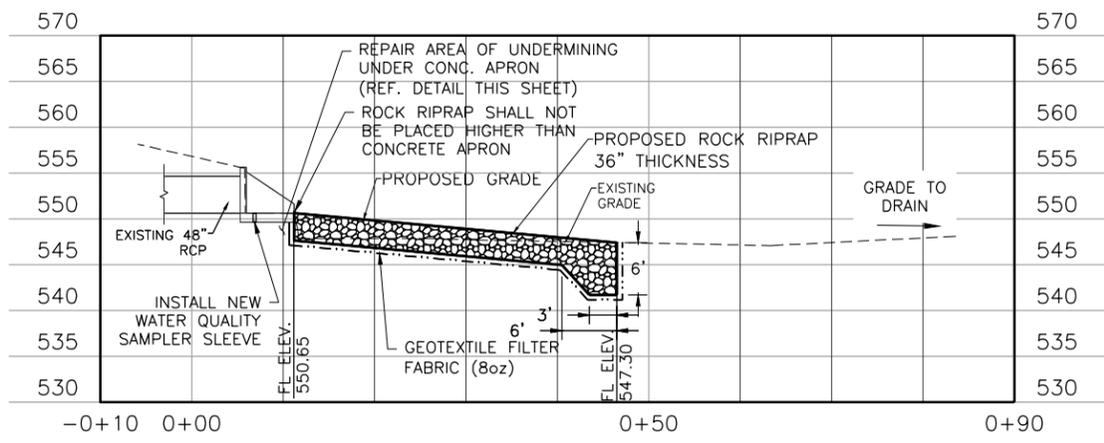
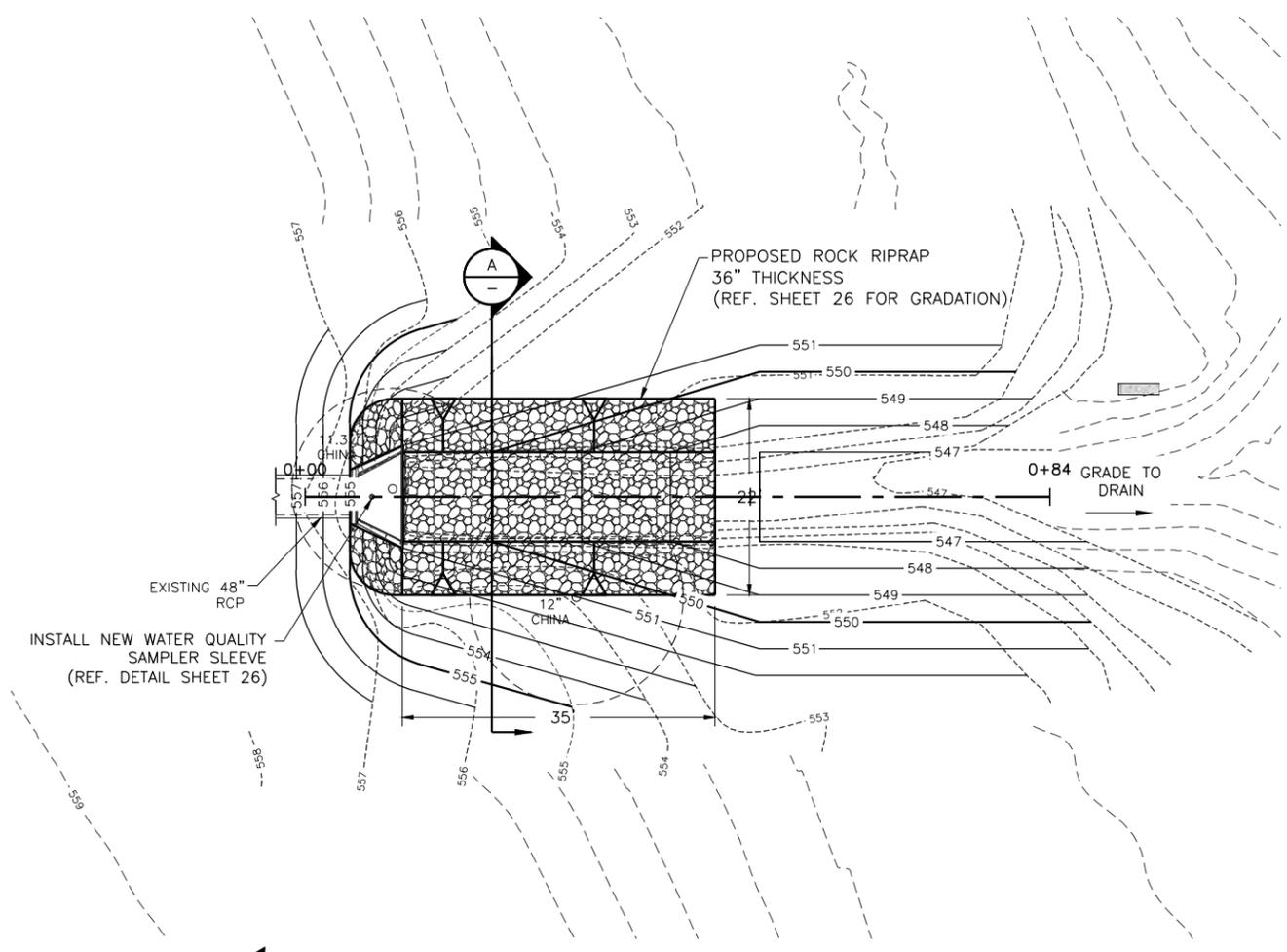
1. CONTRACTOR MUST REMAIN WITHIN THE PRESCRIBED LIMITS OF CONSTRUCTION TO THE EXTENT FEASIBLE.
2. UPON DISCOVERY OF ANY HISTORICAL OR ARCHEOLOGICAL ARTIFACTS (I.E. BONES, BURNT ROCK, FLINT, POTTERY, ETC.) DURING CONSTRUCTION, CEASE WORK IN THE IMMEDIATE AREA AND CONTACT THE ENGINEER IMMEDIATELY. REFERENCE SHEET 2 FOR CONTACT INFORMATION.
3. INSTALL EROSION CONTROL MATTING AND SEED ALL CONSTRUCTION DISTURBED AREAS.



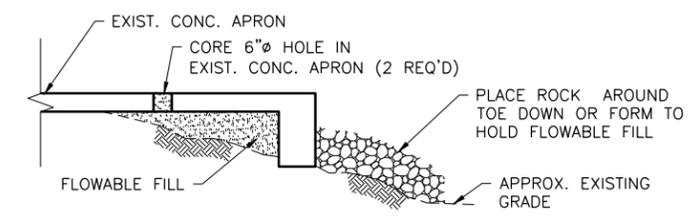
CITY OF SAN ANTONIO DEPARTMENT OF AVIATION
SAN ANTONIO AIRPORT SYSTEM
OUTFALL DESIGN
STINSON OUTFALL NO. 2
PLAN AND PROFILE

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A CROSS SECTION
0 10' 20'
SCALE IN FEET



1 SECTION AT APRON REPAIR
NOT TO SCALE

- NOTES:
- AFTER CORE DRILLING IS COMPLETE FORM AREA OF REPAIR AT TURNED DOWN BEAM TO PREVENT LOSS OF FLOWABLE FILL.
 - POUR FLOWABLE FILL INTO CORE HOLES & VIBRATE UNTIL FILL BACKS UP AT THE TOP OF APRON ELEVATION.
 - CONTRACTOR SHALL SUPPORT HEADWALL AS NECESSARY TO PROTECT FROM DAMAGE DURING REPAIRS.

LEGEND:

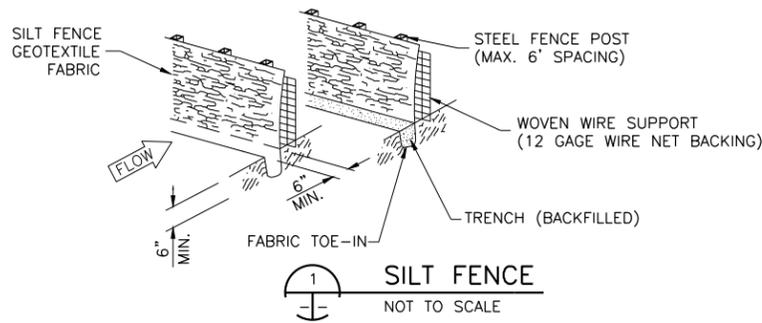


- NOTES:
- STOCKPILE AND REUSE EXISTING ROCK BOULDERS WHEN POSSIBLE.
 - INSTALL EROSION CONTROL MATTING AND SEED ALL CONSTRUCTION DISTURBED AREAS.

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SILT FENCE INSTALLATION:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOE OF THE SILT FENCE SHALL BE PLACED IN A TRENCH A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE. THE TRENCH SHALL BE BACKFILLED WITH COMPACTED MATERIAL. THE MINIMUM HEIGHT OF THE SILT FENCE ABOVE THE EXISTING GROUND SHALL BE 24 INCHES.
3. WHERE FENCE CAN NOT BE TRENCHED (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON THE UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER THE FENCE.
4. SILT FENCE SHALL BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE WEEKLY AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED, BY THE CONTRACTOR.
6. WHEN SILT REACHES A DEPTH OF 6 INCHES, IT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.
7. SILT FENCE SHALL BE REMOVED AFTER THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE THE FLOW OF STORM FLOW OR DRAINAGE.



EROSION/SEDIMENTATION CONTROL NOTES:

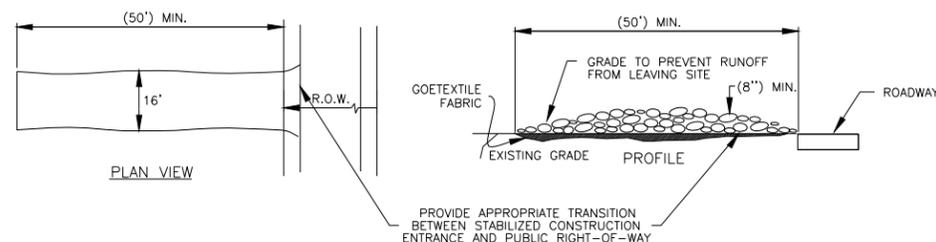
1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING AND GRUBBING, EXCAVATION, DRILLING, OR ROAD CONSTRUCTION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA SPECIFICATIONS AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
3. ANY SIGNIFICANT VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS MUST BE APPROVED BY THE OWNER.
4. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER 1/2" INCH STORM EVENT WITHIN 24 HOURS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
5. PRIOR TO FINAL ACCEPTANCE, TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT AND DEBRIS REMOVED FROM THE WATERWAY, AND THE AREA RESTORED TO THE ORIGINAL CONDITION IN ACCORDANCE WITH THE PROJECT AUTHORIZATION UNDER USACE NATIONWIDE PERMIT NO. 3.
6. FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF THE CONSTRUCTION TO CORRECT CONTROL INADEQUACIES. MAJOR REVISIONS MUST BE APPROVED BY THE OWNER.
7. FINAL PAVEMENT FOR EROSION AND SEDIMENT CONTROL IS CONSISTENT UPON THE ESTABLISHMENT OF VEGETATION AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS.

EROSION CONTROL PLAN NOTES:

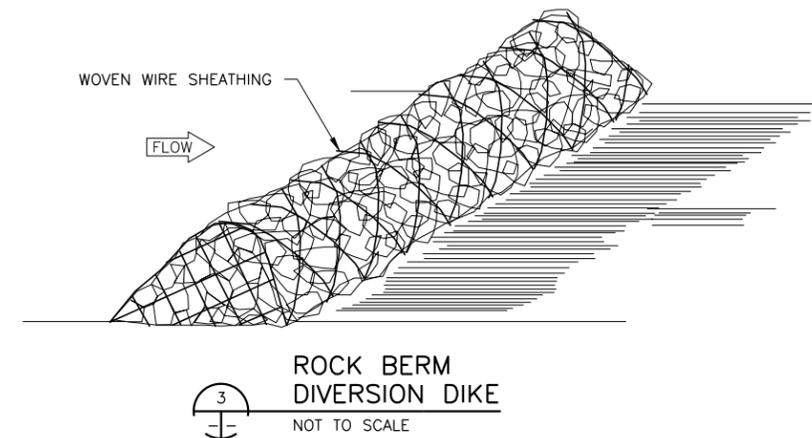
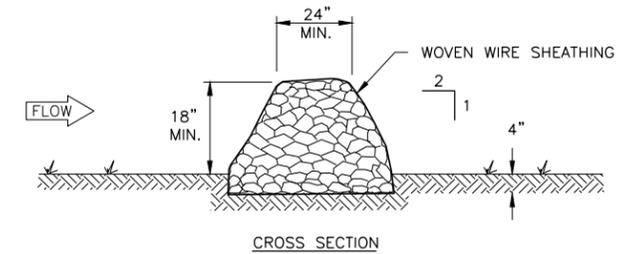
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) REGULATIONS IN ACCORDANCE WITH TEXAS WATER CODE 26.040 AND CLEAN WATER ACT SECTION 402 CONCERNING EROSION AND SEDIMENT CONTROL.
2. THE CONTRACTOR SHALL IMPLEMENT THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES; AND (A) SIGN A COMPLETED SITE NOTICE (ATTACHMENT 1 OF THE TPDES GENERAL PERMIT WITHIN THE SWPPP); (B) POST A SIGNED COPY OF THE SITE NOTICE AT THE CONSTRUCTION SITE IN A LOCATION WHERE IT IS READILY AVAILABLE FOR VIEWING PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, AND (C) MAINTAIN THE NOTICE IN THAT LOCATION UNTIL COMPLETION OF THE CONSTRUCTION ACTIVITY.
3. THE CONTRACTOR SHALL COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN AND STORM WATER MANAGEMENT PLANS, AS PART OF THE ABOVE REGULATIONS. THE INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION MEASURES SHALL BE THE CONTRACTORS RESPONSIBILITY THROUGHOUT ALL PHASES OF THE CONSTRUCTION.
4. THE EROSION CONTROL DETAILS SHOWN ON THIS SHEET SHALL BE USED BY THE CONTRACTOR AS A GUIDE. THESE DETAILS DO NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS GOVERNING EROSION AND SEDIMENT CONTROL. ADDITIONAL EROSION CONTROL MEASURES SHALL BE PROVIDED IF NECESSARY BY THE CONTRACTOR IN ORDER TO COMPLY WITH ALL REGULATIONS, AT NO EXTRA COST TO THE OWNER.
5. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THEY SHALL REMAIN IN PLACE UNTIL AFTER CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED.
6. THE MINIMUM EROSION AND SEDIMENT CONTROL DEVICES TO BE USED ON THIS PROJECT SHALL BE HAY BALES AND/OR SILT FENCE.
7. THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PREVENT THE TRACKING OR FLOWING OF SEDIMENT ONTO ANY ADJACENT STREETS OR INTO THE RIVER OR LAKE DURING ALL PHASES OF CONSTRUCTION.
8. THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) PROPOSES TO ISSUE A GENERAL PERMIT (GENERAL PERMIT NO. TXR150000) FOR CONSTRUCTION STORM WATER RUNOFF.
9. THE CONTRACTOR MAY NOT PULL OR CLOSE OUT TCEQ PERMIT WITHOUT AIRPORT ESD APPROVAL OF A WRITTEN REQUEST BY CONTRACTOR. REFERENCE SHEET 2 FOR CONTACT INFORMATION.

STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE: 3"-5" OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 50'.
3. THICKNESS: NOT LESS THAN 8".
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
8. PROVIDE GEOTEXTILE FABRIC BETWEEN NATURAL GRADE AND 3"-5" ROCK.



2 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



ROCK BERM:

1. USE ONLY OPEN GRADE ROCK 4-8 INCH DIAMETER FOR STREAM FLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM ONE INCH OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE FOOT.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

AIR OPERATIONS AREA (AOA) NOTES:

1. PRIOR TO ENTERING THE AOA, WORKERS MUST UNDERGO ALL NECESSARY BADGING AND LICENSING PROCEDURES FROM SAIA SECURITY AND OPERATIONS DIVISIONS. REFERENCE SHEET 2 FOR CONTACT INFORMATION.
2. CONTRACTOR SHALL USE GATE 228 TO ENTER THE AOA. CONTRACTOR MUST COMPLETE ACCESS CONTROL PORTAL SPECIALIST TRAINING GIVEN BY AIRPORT SECURITY PRIOR TO CONSTRUCTION GATE OPERATION.
3. ALL CONSTRUCTION VEHICLES WITHIN THE AOA MUST BE CLEARLY LABELED WITH A SIGN AND BE EQUIPPED WITH A FLASHING LIGHT. PERSONAL VEHICLES ARE NOT ALLOWED WITHIN THE AOA AT ANY TIME.
4. CONSTRUCTION VEHICLES SHALL MAINTAIN A SPEED NOT TO EXCEED 15 MPH WHILE WITHIN THE AOA.
5. BEFORE ENTERING THE AOA PAVED SERVICE ROAD, ALL VEHICLES MUST BE STOPPED AND A VISUAL INSPECTION OF THE TIRES PERFORMED. ANY DETECTED DEBRIS MUST BE REMOVED FROM THE TIRES USING HAND TOOLS.
6. CONTRACTOR SHALL LEAVE ONE LANE OF THE AOA SERVICE ROAD OPEN AT ALL TIMES.
7. CONTRACTOR MUST HAVE A DEDICATED VACUUM TRUCK THAT IS OPERATIONAL AT ALL TIMES WHILE WORK IS BEING PERFORMED WITHIN THE AOA. ANY DEBRIS DEPOSITED ON THE ROADWAY MUST BE REMOVED IMMEDIATELY.

GENERAL ENVIRONMENTAL NOTES:

1. PREVENT POLLUTION OF WATERS WITH PETROLEUM PRODUCTS OR OTHER HAZARDOUS OR REGULATED SUBSTANCES. TAKE SPECIAL MEASURES TO PREVENT CHEMICALS, FUELS, OILS, GREASES, HERBICIDES, AND INSECTICIDES FROM ENTERING DRAINAGE WAYS.
2. PROMPTLY REPAIR EQUIPMENT LEAKING OIL, HYDRAULIC FLUID, HYDROCARBONS, FUEL, ETC. IMMEDIATELY REMOVE AND REPLACE, AS NECESSARY, ALL SOILS ON WHICH SUCH LEAKAGE OCCURS. PREVENT THE SPREAD OF LEAKED FLUIDS OR FLUID CONTAMINATED MATERIALS FROM THE ORIGINAL LEAK AREA. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROPER HANDLING AND DISPOSAL OF ALL SUCH CONTAMINATED MATERIALS.
3. PROVIDE SECONDARY CONTAINMENT AROUND ANY FUEL AND CHEMICAL STORAGE AREAS TO ENSURE THAT SPILLS FROM ANY SUCH AREAS DO NOT DISCHARGE FROM THE SECONDARY CONTAINMENT AREA. THE SECONDARY CONTAINMENT CAPACITY SHALL BE ADEQUATE TO CONTAIN THE CAPACITY OF THE LARGEST TANK/CONTAINER PLUS SUFFICIENT FREEBOARD TO CONTAIN PRECIPITATION.
4. PRECAUTION SHALL BE TAKEN DURING EQUIPMENT FUELING AND CHEMICAL TRANSFER OPERATIONS IN ORDER TO PREVENT SPILLS FROM OCCURRING AND TO MINIMIZE THE IMPACT OF ANY SPILL THAT DOES OCCUR. ALL FUEL AND CHEMICAL TRANSFERS SHALL BE CONTINUOUSLY MONITORED. ADDITIONALLY, THERE SHALL BE A PROHIBITION AGAINST ON-SITE TOPPING OFF OF TANKS AND EQUIPMENT.
5. MAINTAIN APPROPRIATE EQUIPMENT ON SITE FOR RESPONDING TO ANY OIL, FUEL, OR HAZARDOUS SUBSTANCE SPILL.
6. PROVIDE PROTECTED STORAGE FOR CHEMICALS, SOLVENTS, AND OTHER POTENTIALLY HAZARDOUS MATERIALS.
7. DO NOT ALLOW WATER USED IN ON-SITE MATERIAL PROCESSING AND CLEANUP, AND OTHER WASTEWATERS TO ENTER A DRAINAGE WAY OR STREAM.



Freese and Nichols, Inc. Texas Registered Engineering Firm F-2144



CITY OF SAN ANTONIO DEPARTMENT OF AVIATION
SAN ANTONIO AIRPORT SYSTEM
OUTFALL DESIGN
EROSION AND SEDIMENT CONTROL



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May 7, 2015

CITY OF SAN ANTONIO DEPARTMENT OF AVIATION
SAN ANTONIO AIRPORT SYSTEM
OUTFALL DESIGN

TREE PROTECTION DETAILS



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San Antonio, Texas 78209-6350
Phone - (210) 298-3800
Fax - (210) 298-3801

MARK DATE DESCRIPTION

ISSUE:

PROJECT NO: SA213321

FILE NAME: CV-SAR-DT-TREE.dwg

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SHEET NO. 24

24 OF 31

GENERAL NOTES

- ALL THE TREES WITH A DIAMETER GREATER THAN 3 INCHES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM NO. 802. TREE PRUNING, SOIL AMENDING AND FERTILIZATION, UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 2 PROTECTION AS PER ITEM NO. 802. TREES TO RECEIVE LEVEL 1 PROTECTION AS PER ITEM NO. 802 ARE SHOWN ON TREE PROTECTION TABLE ON THIS SHEET.
- ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.
- NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR.
- THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS 1 FOOT PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A 10-INCH DIAMETER TREE WOULD HAVE A 5-FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. LIVE OAK WOUNDS SHALL BE PAINTED OVER, WITHIN 20 MINUTES TO PREVENT OAK WILT.
- ACCESS TO FENCED AREAS WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER OR CITY INSPECTOR.
- GRADING, IF REQUIRED, SHALL BE LIMITED TO A 3 INCH CUT OR FILL WITHIN THE FENCED ROOT ZONE AREAS.
- TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND AS DIRECTED BY THE PROJECT MANAGER OR CITY INSPECTOR.
- TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE ENGINEER'S SATISFACTION.
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST PRIOR TO ITS REMOVAL.

1.3 GENERAL NOTES

TAG NO.	BOLE DIAMETER	TREE TYPE	REQUIRED ACTION	PROTECTION LEVEL	SHEET NO.
28	6.4"	CEDAR ELM	REMOVE	N/A	14
29	8.6"	HACKBERRY	REMOVE	N/A	14
17	8.5"	HACKBERRY	REMOVE	N/A	15
18	11.8	HACKBERRY	PROTECT	LEVEL II A	15, 16
19	7.5"	HACKBERRY	PROTECT	LEVEL I	15, 16
20	8.5"	CEDAR ELM	PROTECT	LEVEL I	15, 16
21	12.5	HACKBERRY	PROTECT	LEVEL II A	15
22	9.0"	HACKBERRY	PROTECT	LEVEL II A	15
23	11.5	HACKBERRY	REMOVE	N/A	15
24	10.0	CHINABERRY	REMOVE	N/A	15
25	27.6	COTTONWOOD	REMOVE	N/A	15
26	14.5	CEDAR ELM	PROTECT	LEVEL II A	15
27	9.0"	CEDAR ELM	REMOVE	N/A	15
55	10.0	CEDAR ELM	REMOVE	N/A	15
60	8.2"	HACKBERRY	REMOVE	N/A	15
61	6.5"	CEDAR ELM	REMOVE	N/A	15
62	12.3	HACKBERRY	REMOVE	N/A	16
63	22.0	BLACK WILLOW	REMOVE	N/A	16
64	12.1	CHINABERRY	REMOVE	N/A	16
65	12.1	CHINESE TALLOW	REMOVE	N/A	16
66	6.9"	CEDAR ELM	REMOVE	N/A	16
67	7.0"	HACKBERRY	REMOVE	N/A	19
68	15.0	BLACK WILLOW	PROTECT	LEVEL II A	19
70	7.2"	CHINABERRY	REMOVE	N/A	19
71	8.5"	CHINABERRY	PROTECT	LEVEL II A	19
72	9.2"	HACKBERRY	REMOVE	N/A	19
73	12.3	HACKBERRY	REMOVE	N/A	19
74	11.3"	HACKBERRY	REMOVE	N/A	19
75	8.8"	HACKBERRY	REMOVE	N/A	19
76	7.0"	WAX LEAF LIGUSTRUM	REMOVE	N/A	19
77	11.9"	CHINESE TALLOW	REMOVE	N/A	19
78	26.0"	BLACK WILLOW	PROTECT	LEVEL II A	19
79	17.5"	BLACK WILLOW	REMOVE	N/A	19
80	10.0"	CHINESE TALLOW	REMOVE	N/A	19
81	7.5"	WAX LEAF LIGUSTRUM	PROTECT	LEVEL I	19
82	7.0"	CHINESE TALLOW	REMOVE	N/A	19
83	15.5"	BLACK WILLOW	REMOVE	N/A	19
84	9.0"	CEDAR ELM	REMOVE	N/A	19
85	8.1"	CHINABERRY	PROTECT	LEVEL II A	19
86	7.6"	HACKBERRY	PROTECT	LEVEL II A	19
87	7.3"	HACKBERRY	PROTECT	LEVEL II A	19
90	6.3"	HACKBERRY	REMOVE	N/A	21
91	12.0"	ILLINOIS BEECH	REMOVE	N/A	21
92	6.2"	HACKBERRY	REMOVE	N/A	21
93	7.0"	HACKBERRY	REMOVE	N/A	21
88	11.3"	CHINABERRY	REMOVE	N/A	22

1.3 TREE PROTECTION/REMOVAL TABLE

TREE INVENTORY SUMMARY (6" DIAMETER AND LARGER)

TOTAL DIAMETER INCHES, R.O.W	_____
TOTAL DIAMETER INCHES REMOVED	_____
TOTAL DIAMETER INCHES PRESERVED	_____
TOTAL PERCENTAGE INCHES PRESERVED	_____
TOTAL INCHES TO BE MITIGATED	_____

1.3 TREE INVENTORY SUMMARY

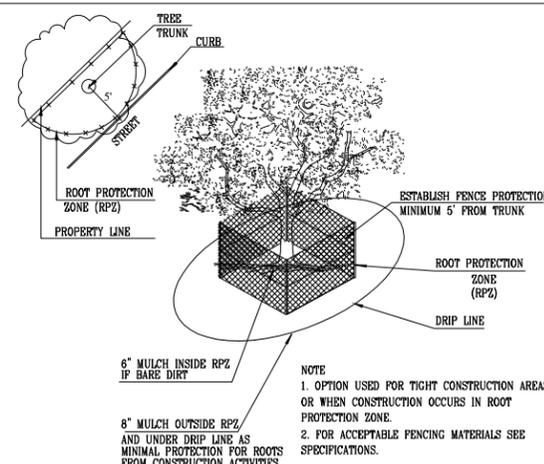
PREPARED BY: FERNANDEZ FRAZER WHITE & ASSOC. INC. & C. P. ZAVALA GROUP

CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS

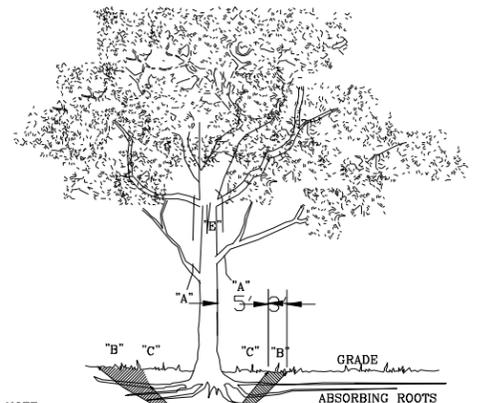
DEPARTMENT OF PUBLIC WORKS

CITY OF SAN ANTONIO
TREE PROTECTION DETAILS
TREE PRESERVATION

DESIGNED:	FED. RD. NO.	STATE	SHT. NO.
CHECKED:	TEXAS		1 OF 4
DRAWN:	STATE DIST. NO.	COUNTY CONTROL NO.	JOB NO.
CHECKED:	BEJAR		HIGHWAY NO.

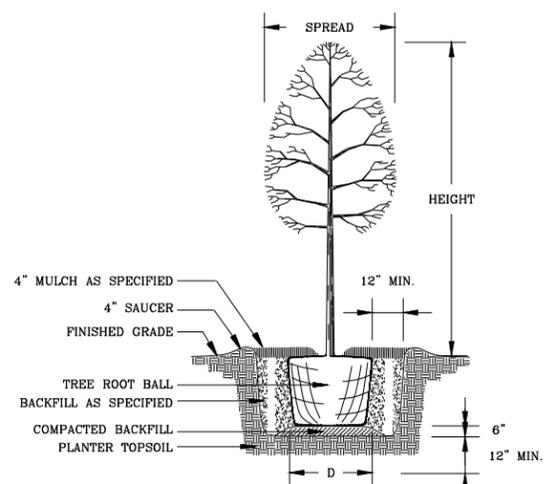


1.1.3 LEVEL II A FENCE PROTECTION
N. T. S.

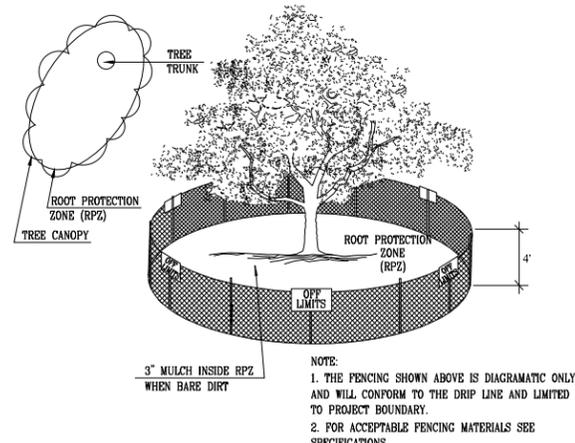


NOTE:
A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.
B" BEGIN EXCAVATION APPROX. 6" FROM THE TRUNK - CUT THRU ANCHOR ROOTS AT AN ANGLE - 3' TO 4' DEEP
C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)
D" BACKFILL HOLE AND CLEAN UP.

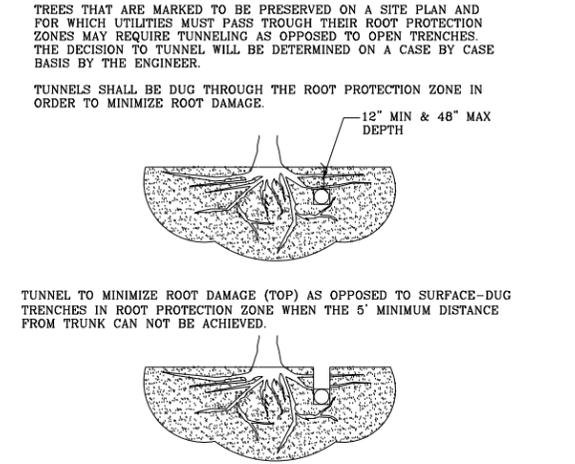
1.3 TREE REMOVAL DIAGRAM
N. T. S.



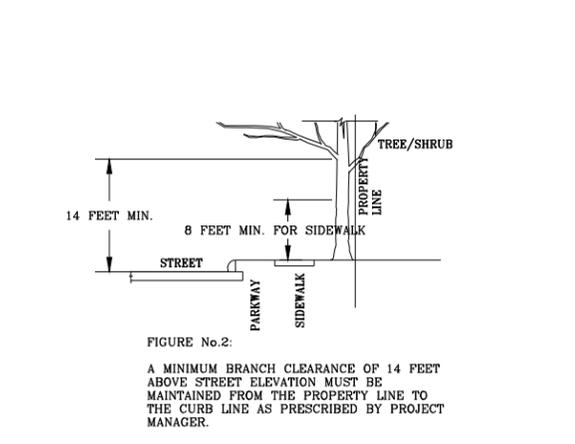
1.6 NEW TREE PLANTING DETAIL
N. T. S.



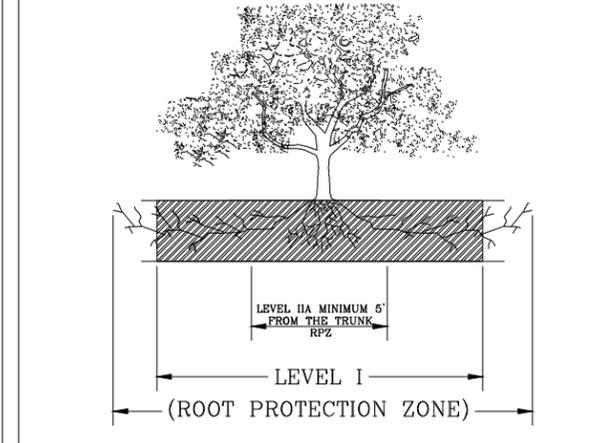
1.1.2 LEVEL I & FENCE PROTECTION
N. T. S.



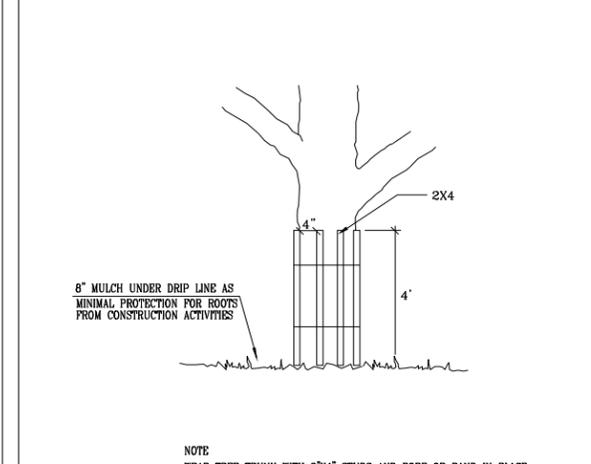
1.2 BORING THRU TREE ROOT ZONE
N. T. S.



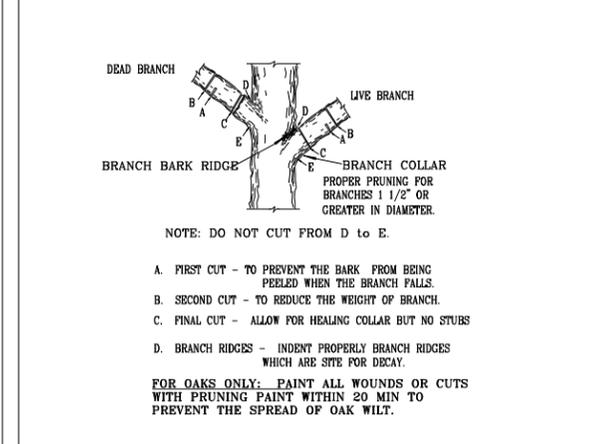
1.5 BRANCH CLEARANCE DETAIL
N. T. S.



1.1.1 ELEVATION
N. T. S.



1.1.4 LEVEL II B FENCE PROTECTION
N. T. S.



1.4 BRANCH PRUNING DETAIL
N. T. S.

N:\SW\Drawings\CV-SAR-DT-TREE.dwg Nov 06, 2014 - 2:06pm no



Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144



May 7, 2015

CITY OF SAN ANTONIO DEPARTMENT OF AVIATION
SAN ANTONIO AIRPORT SYSTEM
OUTFALL DESIGN

CONCRETE DRIVEWAY DETAILS



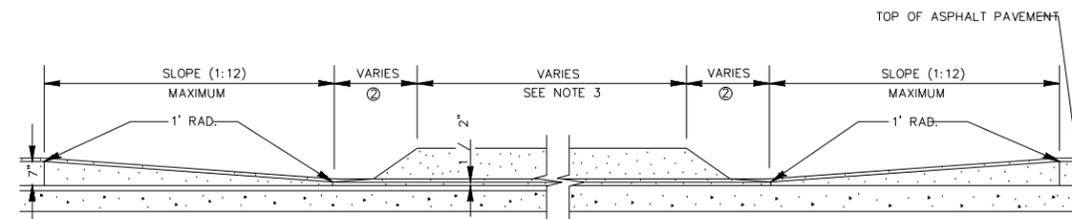
4040 Broadway Street, Suite 600
San Antonio, Texas 78209-6350
Phone - (210) 298-3800
Fax - (210) 298-3801

MARK DATE DESCRIPTION

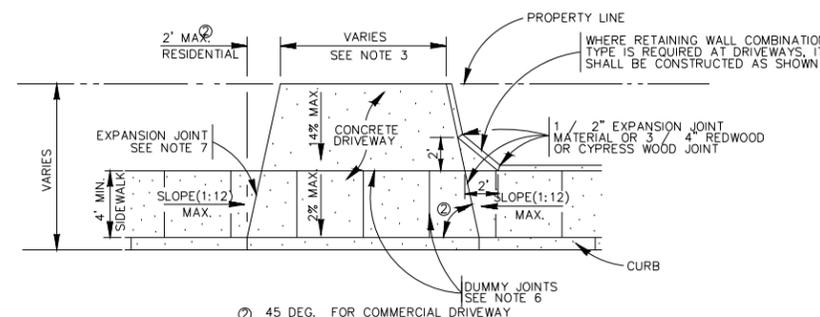
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CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

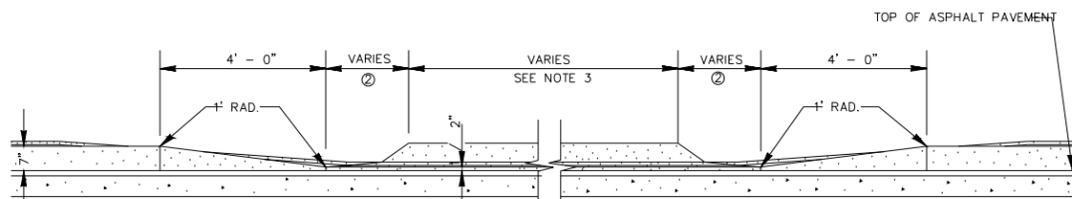
CONCRETE DRIVEWAY STANDARDS



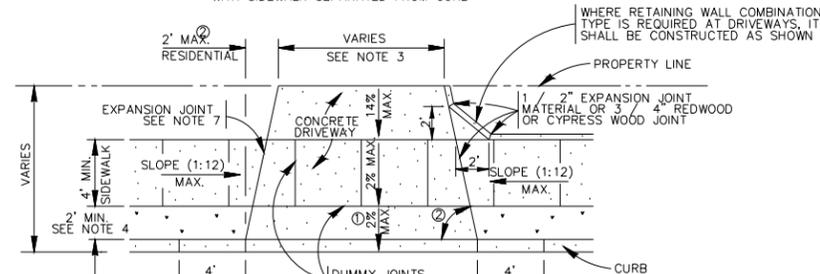
CURB PROFILE AT DRIVEWAY
WITH SIDEWALK ABUTTING CURB



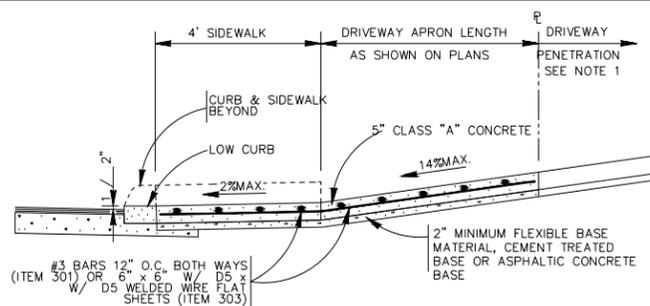
TYPICAL DRIVEWAY PLAN VIEW
WITH SIDEWALK ABUTTING CURB



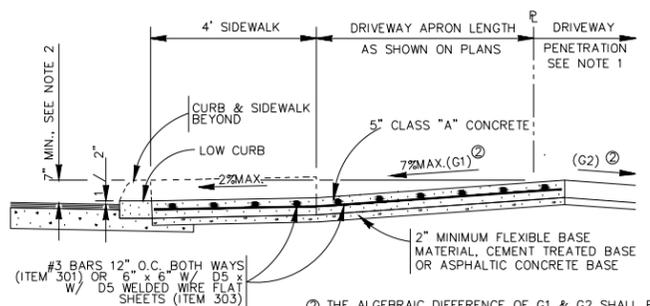
CURB PROFILE AT DRIVEWAY
WITH SIDEWALK SEPARATED FROM CURB



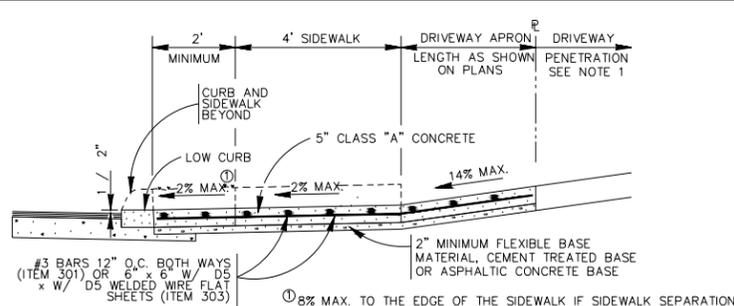
TYPICAL DRIVEWAY PLAN VIEW
WITH SIDEWALK SEPARATED FROM CURB



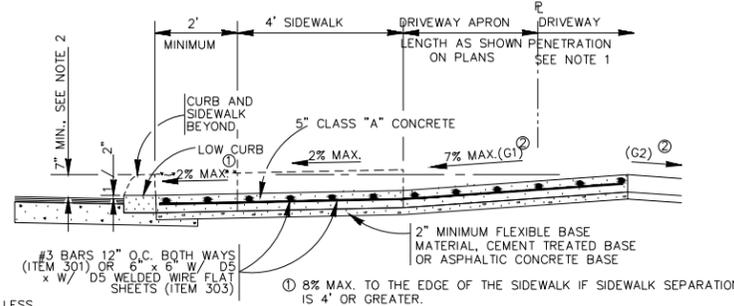
TYPICAL RESIDENTIAL DRIVEWAY SECTION
WITH SIDEWALK ABUTTING CURB
ITEM 503.1



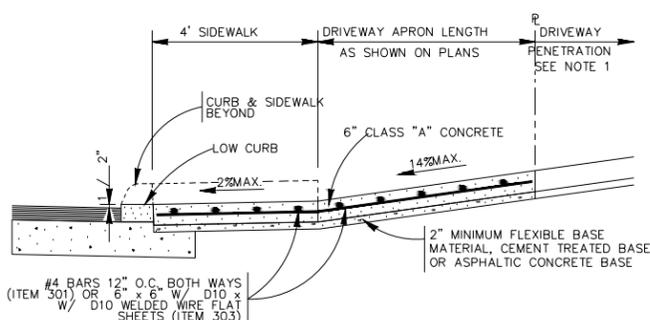
TYPICAL RESIDENTIAL DRIVEWAY SECTION
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
ITEM 503.1



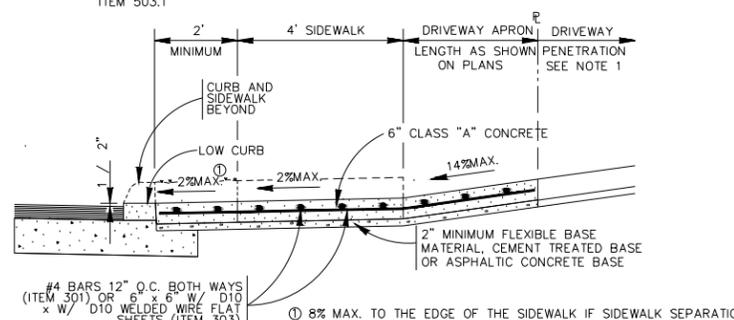
TYPICAL RESIDENTIAL DRIVEWAY SECTION
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.1



TYPICAL RESIDENTIAL DRIVEWAY SECTION
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
ITEM 503.1



TYPICAL COMMERCIAL DRIVEWAY SECTION
WITH SIDEWALK ABUTTING CURB
ITEM 503.2



TYPICAL COMMERCIAL DRIVEWAY SECTION
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.2

CONCRETE DRIVEWAY NOTES

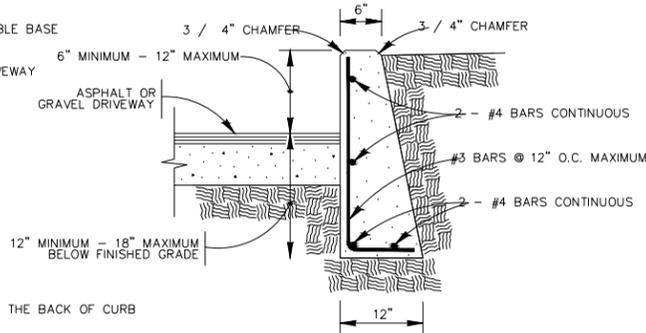
- DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2.
B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE
C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE

- 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.

- THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY 12'	12'	20'
COMMERCIAL - TWO WAY 24'	24'	30'

- FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
- FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
- DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
- A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
- SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.

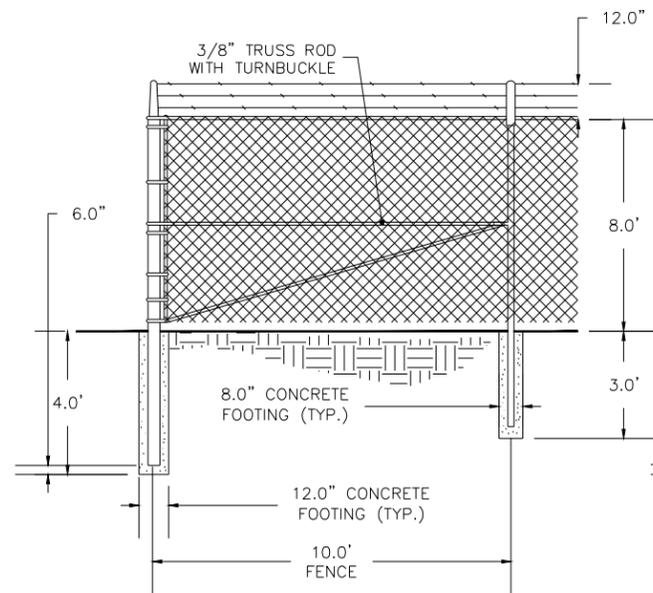


DRIVEWAY - CONCRETE RETAINING WALL
ON COMPACTED SUBGRADE
ITEM 307.1

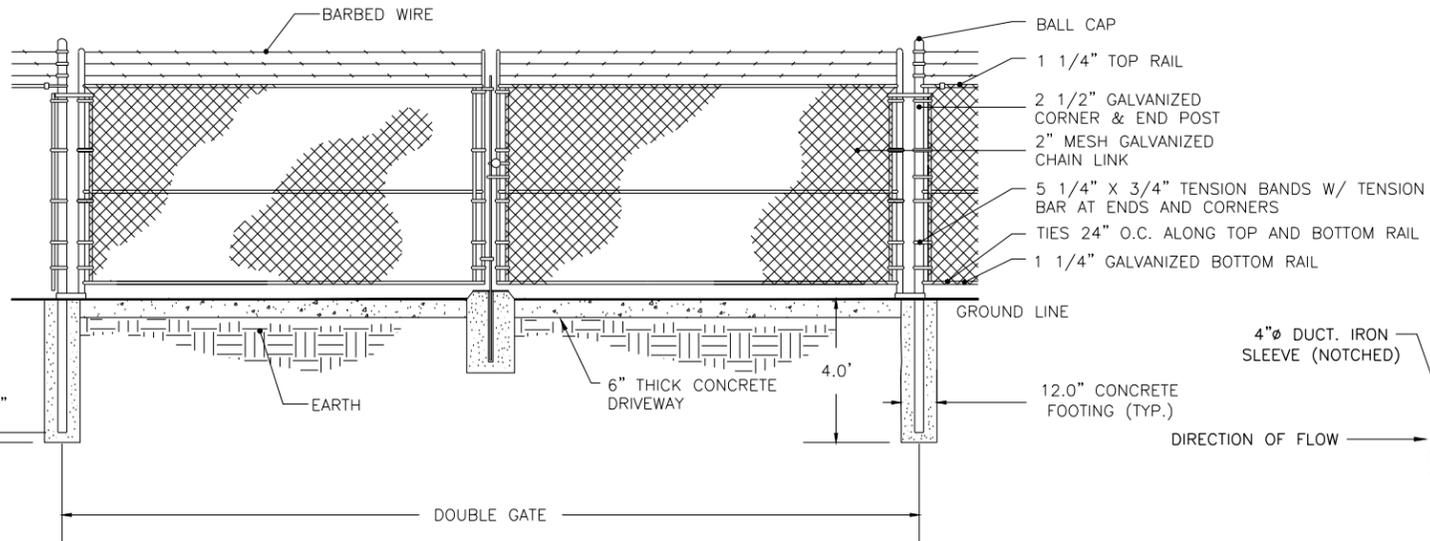
- NOTE:
- COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
 - CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.



MARK	DATE	DESCRIPTION
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FILE NAME:	CV-SAR-DT-MISC.dwg	
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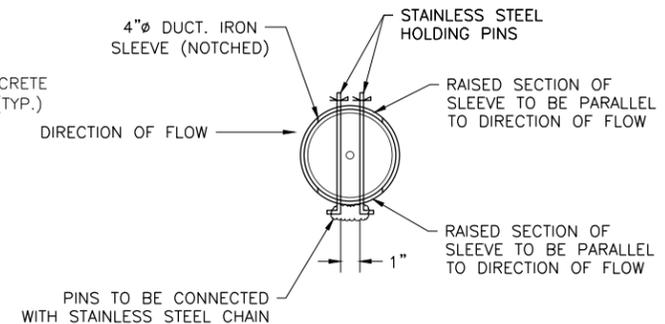


CHAIN LINK FENCE
SCALE: NOT TO SCALE



CHAIN LINK DOUBLE SWING GATE
SCALE: NOT TO SCALE

NOTE:
MAXIMUM GAP BETWEEN THE BOTTOM OF THE GATE AND DRIVEWAY SHALL BE 1 TO 3 INCHES.

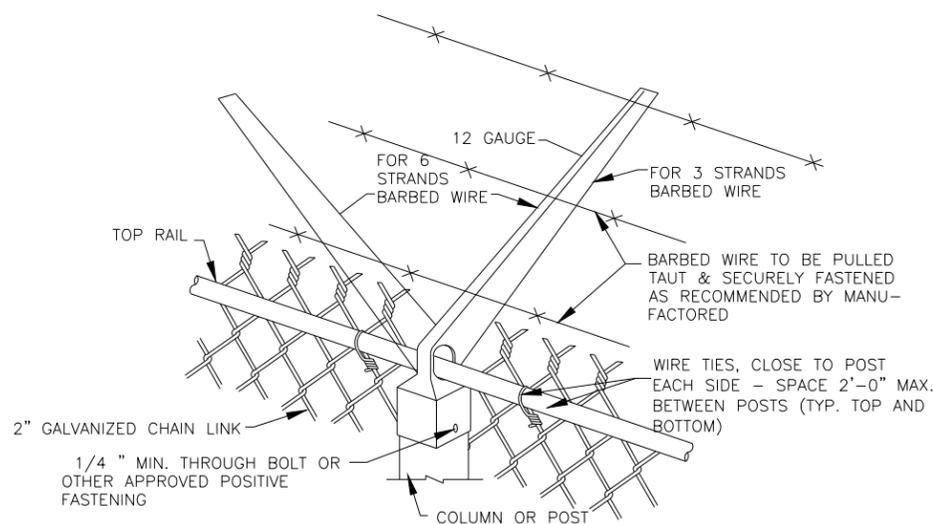


1 WATER QUALITY SAMPLER SLEEVE-PLAN
SCALE: NOT TO SCALE

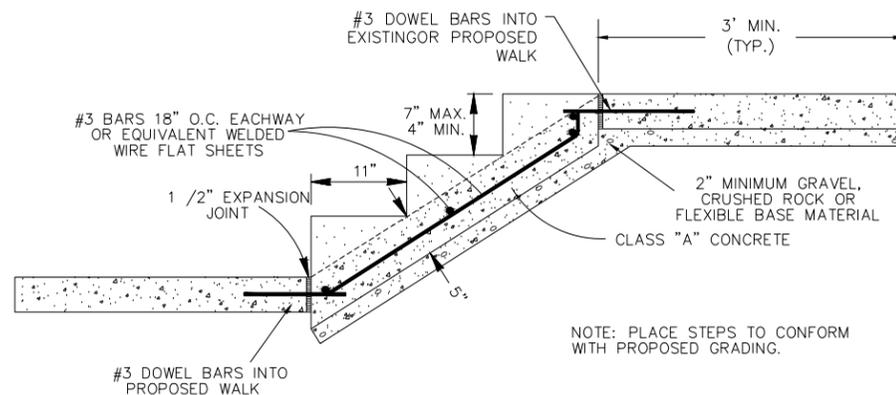
NOTE:
RAISED SECTIONS OF WATER QUALITY SAMPLER SLEEVE MUST BE ORIENTED PARALLEL TO THE DIRECTION OF FLOW SO THAT THEY DO NOT OBSTRUCT FLOW THROUGH THE SAMPLER SLEEVE

SEIVE SIZE	PERCENT PASSING		PERCENT RETAINED	
	MAX	MAX	MAX	MIN.
1/4" N.C.H	100		0	
3/8" N.C.H	65	100	35	0
3/16" N.C.H	30	80	50	20
1/8" N.C.H	25	45	75	33
1/2" N.C.H	10	25	90	75
3/4" N.C.H	5	10	100	90

RIPRAP GRADATION 36" THICKNESS

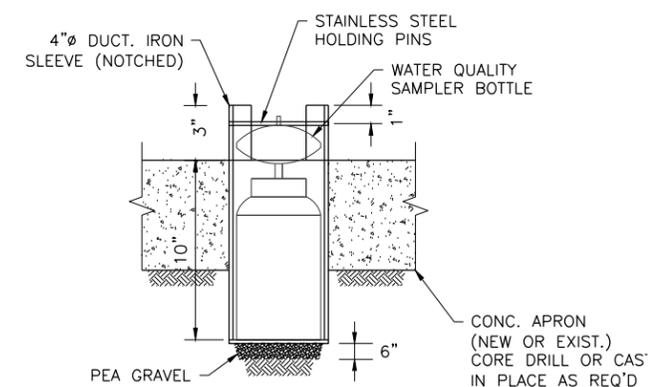


EXTENSION ARM FOR BARBED WIRE
SCALE: NOT TO SCALE

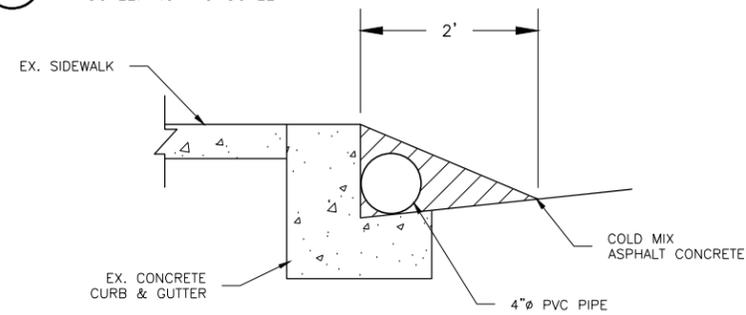


3 CONCRETE STAIRWAY DETAIL
SCALE: NOT TO SCALE

NOTE: PLACE STEPS TO CONFORM WITH PROPOSED GRADING.



2 WATER QUALITY SAMPLER SLEEVE-SECTION
SCALE: NOT TO SCALE



4 TEMPORARY CURB RAMP
SCALE: NOT TO SCALE

