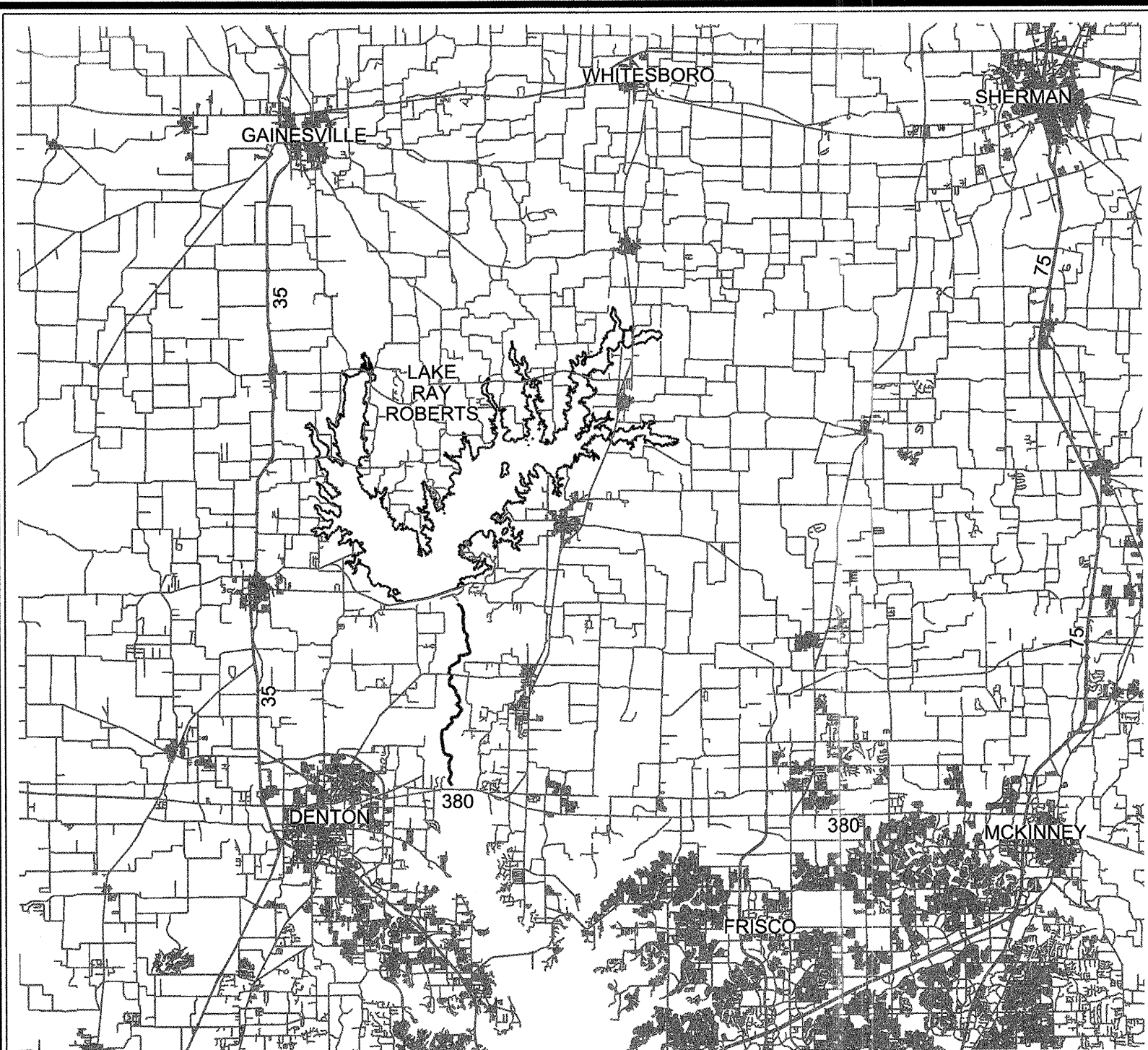


COOKE & DENTON COUNTIES

COUNTY LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE



TPWD STAKEHOLDERS

CONSTRUCTION MANAGER

Tom Synovec
Texas Parks & Wildlife Dept.
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PARK SUPERINTENDENT (IDB)

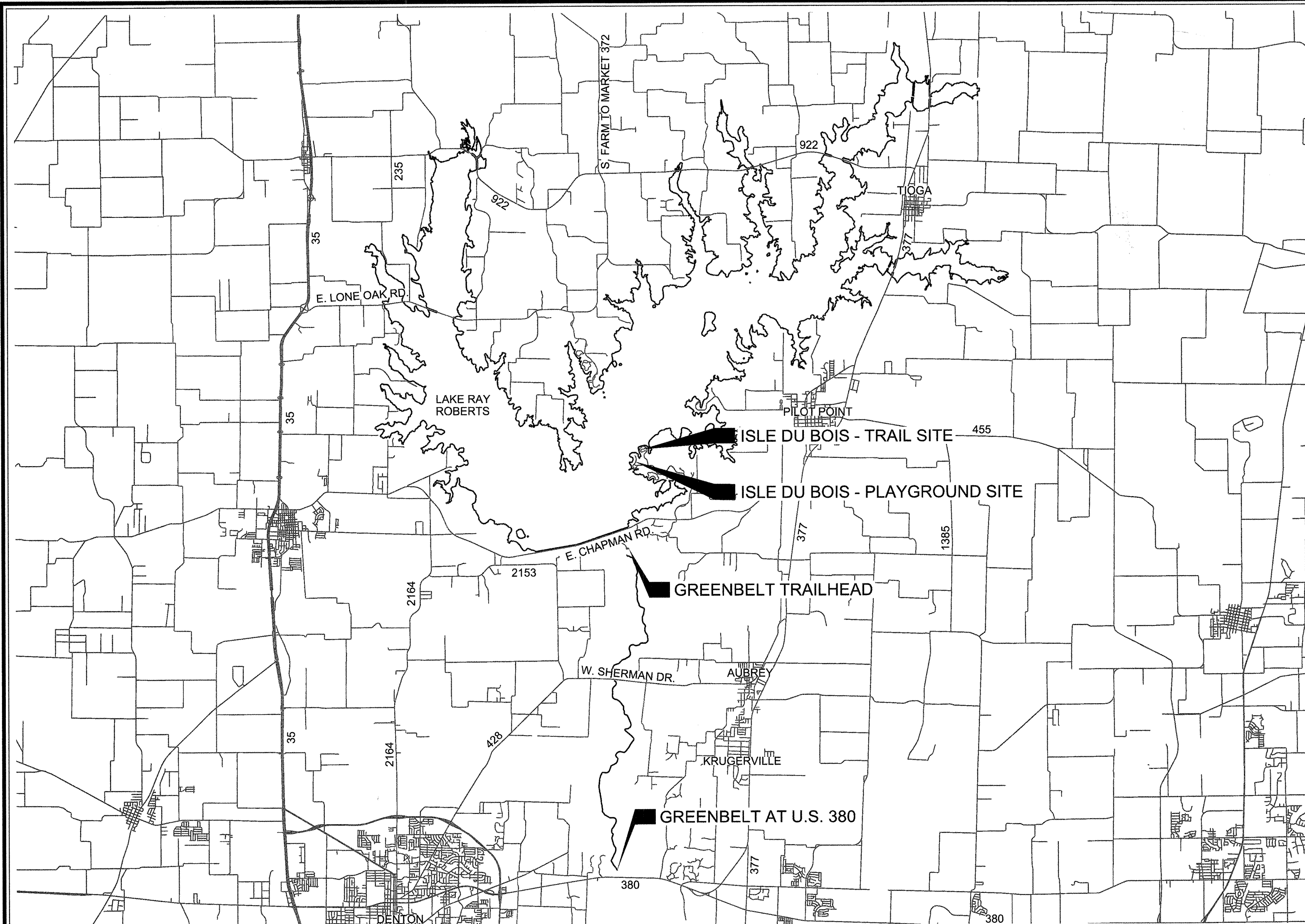
Mark Stewart
Texas Parks & Wildlife Dept.
940-686-2148
Mark.Stewart@tpwd.texas.gov

CONSTRUCTION INSPECTOR

Dennis Minor
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PARK SUPERINTENDENT (JB)

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Texas Parks & Wildlife Dept.
940-637-2294
Gregory.Walker@tpwd.texas.gov



SITE LOCATION MAP

NOT TO SCALE



PROJECT

RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD DAMAGE REPAIRS

PROJECT NO: 128302

MAY 2018

INDEX OF DRAWINGS

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05	ISLE DU BOIS - TRAIL AREA #1
06	ISLE DU BOIS - TRAIL AREA #2
07	ISLE DU BOIS - TRAIL AREA #3
08	GREENBELT TRAIL - SURVEY CONTROL PLAN
09	GREENBELT TRAIL - LOCATION MAP
10	GREENBELT TRAIL - TYPICAL SILT REMOVAL PLAN
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17	LANDSCAPE DETAILS
18	CCA - DEMOLITION ON TREE PROTECTION PLAN
19	CCA - TREE PROTECTION DETAILS
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21	CCA - HARDSCAPE DETAILS
22	CCA - GRADING PLAN
23	CCA - PLANTING PLAN
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25	CCA - LANDSCAPE STRUCTURES PLAYGROUND EQUIPMENT LAYOUT
26	CCA - LANDSCAPE STRUCTURES PLAYGROUND EQUIPMENT ENLARGEMENTS
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28	CCA - U.P.C. PLAYGROUND EQUIPMENT LAYOUT AND ENLARGEMENTS
29	CCA - U.P.C. PLAYGROUND EQUIPMENT PERSPECTIVES

SCOPE OF WORK

REPAIR FLOOD DAMAGE AT LAKE RAY ROBERTS STATE PARK - ISLE DU BOIS AT PLAYGROUND AND TRAIL SITE. REPAIR FLOOD DAMAGE TO GREENBELT TRAIL BETWEEN ACCESS TRAIL HEAD SOUTH OF LAKE RAY ROBERTS DAM AND ACCESS TRAIL HEAD NORTH OF U.S. HIGHWAY 380.

BUILDING CODE SUMMARY

- A. INTERNATIONAL CODE COUNCIL
 - i. BUILDING CODE INTERNATIONAL BUILDING CODE 2012
 - ii. RESIDENTIAL CODE INTERNATIONAL RESIDENTIAL CODE 2012
 - iii. EXISTING BUILDINGS INTERNATIONAL EXISTING BUILDINGS CODE 2012
 - iv. STRUCTURAL CODE INTERNATIONAL BUILDING CODE 2012
 - v. PLUMBING CODE INTERNATIONAL PLUMBING CODE 2012
 - vi. MECHANICAL CODE INTERNATIONAL MECHANICAL CODE 2012
 - vii. ENERGY CODE INTERNATIONAL ENERGY CODE 2012
 - viii. GAS CODE INTERNATIONAL FUEL GAS CODE 2012
- B. NATIONAL FIRE PROTECTION ASSOCIATION
 - i. ELECTRICAL CODE NATIONAL ELECTRICAL CODE 2014
- C. STATE ENERGY CONSERVATION OFFICE/TEXAS COMPTROLLERS OFFICE
 - i. ENERGY CODES FOR STATE BUILDINGS Title 34, Part 1, Ch. 19, Sub C, Rule 19.31
 - 1. CERTIFICATION FOR RESIDENTIAL AND NONRESIDENTIAL BUILDINGS REQUIRED BY ARCHITECT/ENGINEER
- D. ACCESSIBILITY CODE
 - i. U.S. DEPT. OF JUSTICE, 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
 - ii. U.S. DEPT. OF JUSTICE, ARCHITECTURAL BARRIERS ACT, ACCESSIBILITY GUIDELINES FOR OUTDOOR DEVELOPED AREAS ON FEDERAL LANDS, EFFECTIVE 10-25-2013
 - iii. 2012 TEXAS ACCESSIBILITY STANDARDS, ELIMINATION OF ARCHITECTURAL BARRIERS, TEXAS GOVERNMENT CODE, CHAPTER 469
- E. PLAYGROUND SAFETY CODE
 - i. Public Playground Safety Handbook, U.S. Consumer Product Safety Commission.

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Review of the plans and specifications does not constitute a verification of all data, information and calculations supplied by the engineer. The engineer is solely responsible for the completeness, accuracy and adequacy of these documents whether or not the submittal was reviewed for compliance with the Texas Administrative Code. All responsibility for the drawings and specifications remains with the engineer. Review and approval by TPWD does not remove this responsibility.



TEXAS PARKS AND WILDLIFE

INFRASTRUCTURE DIVISION



4200 SMITH SCHOOL ROAD · AUSTIN, TEXAS 78744-3292

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RICHARDSON, TEXAS 75081-2275
TEL (214) 346-6200
FAX (214) 739-0095
TBPE FIRM #F-312



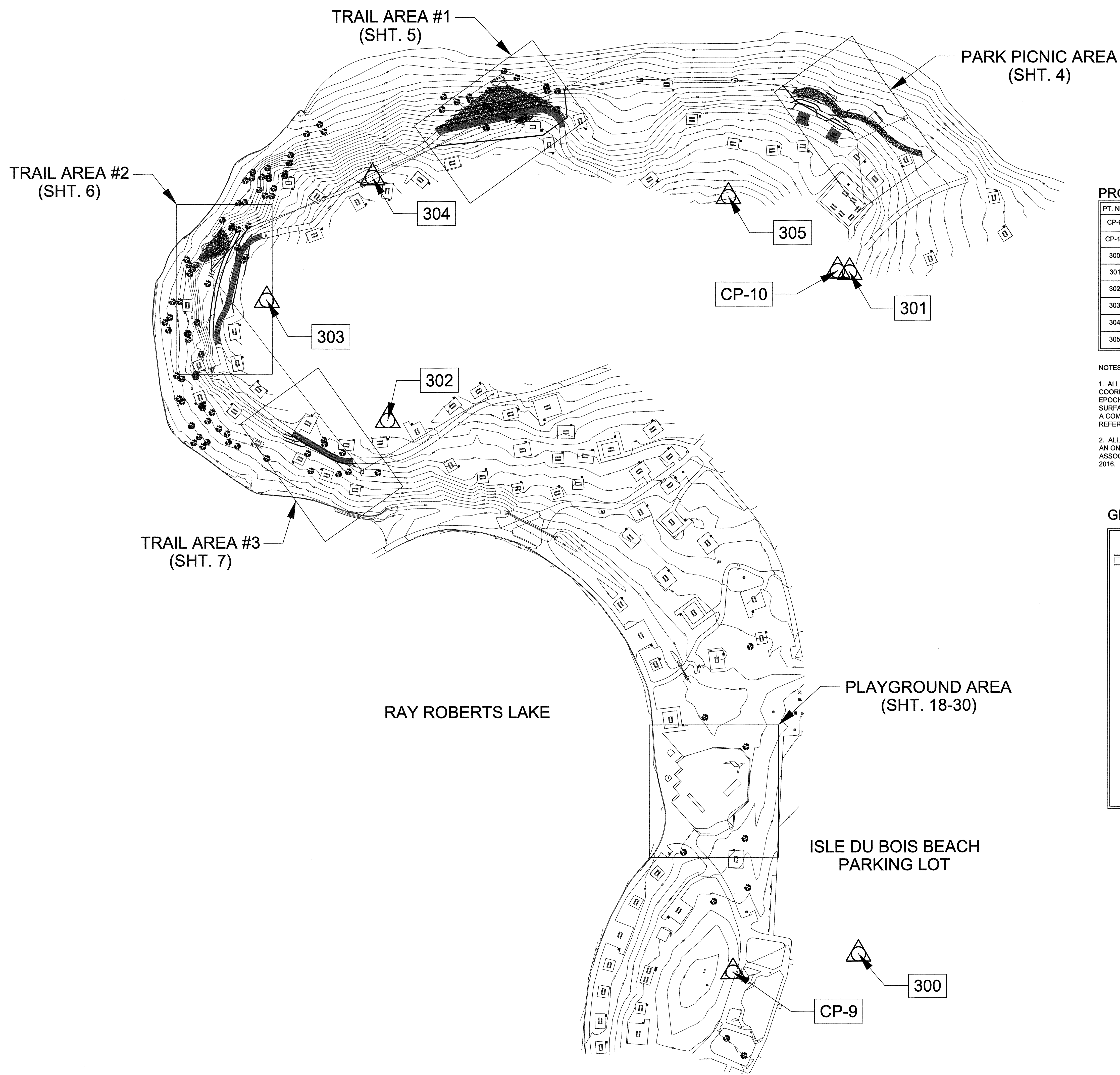
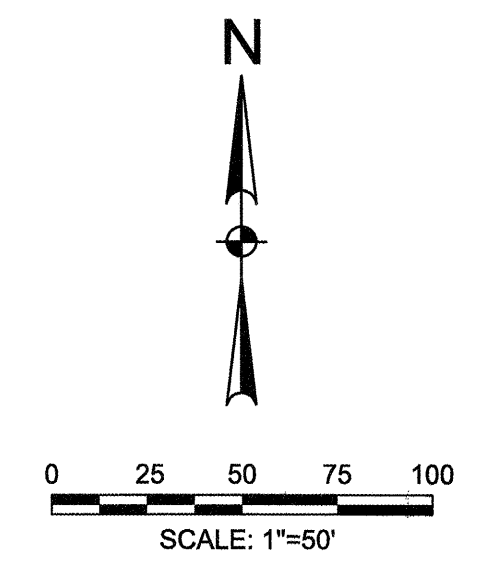
APPROVED

PROJECT MANAGER, INFRASTRUCTURE DIVISION DATE 6/20/18
DESIGN BRANCH HEAD, INFRASTRUCTURE DIVISION DATE 8/2/18
PM BRANCH HEAD, INFRASTRUCTURE DIVISION DATE 8/2/2018
DEPUTY DIRECTOR, INFRASTRUCTURE DIVISION DATE 8/2/18



01

SET NO:



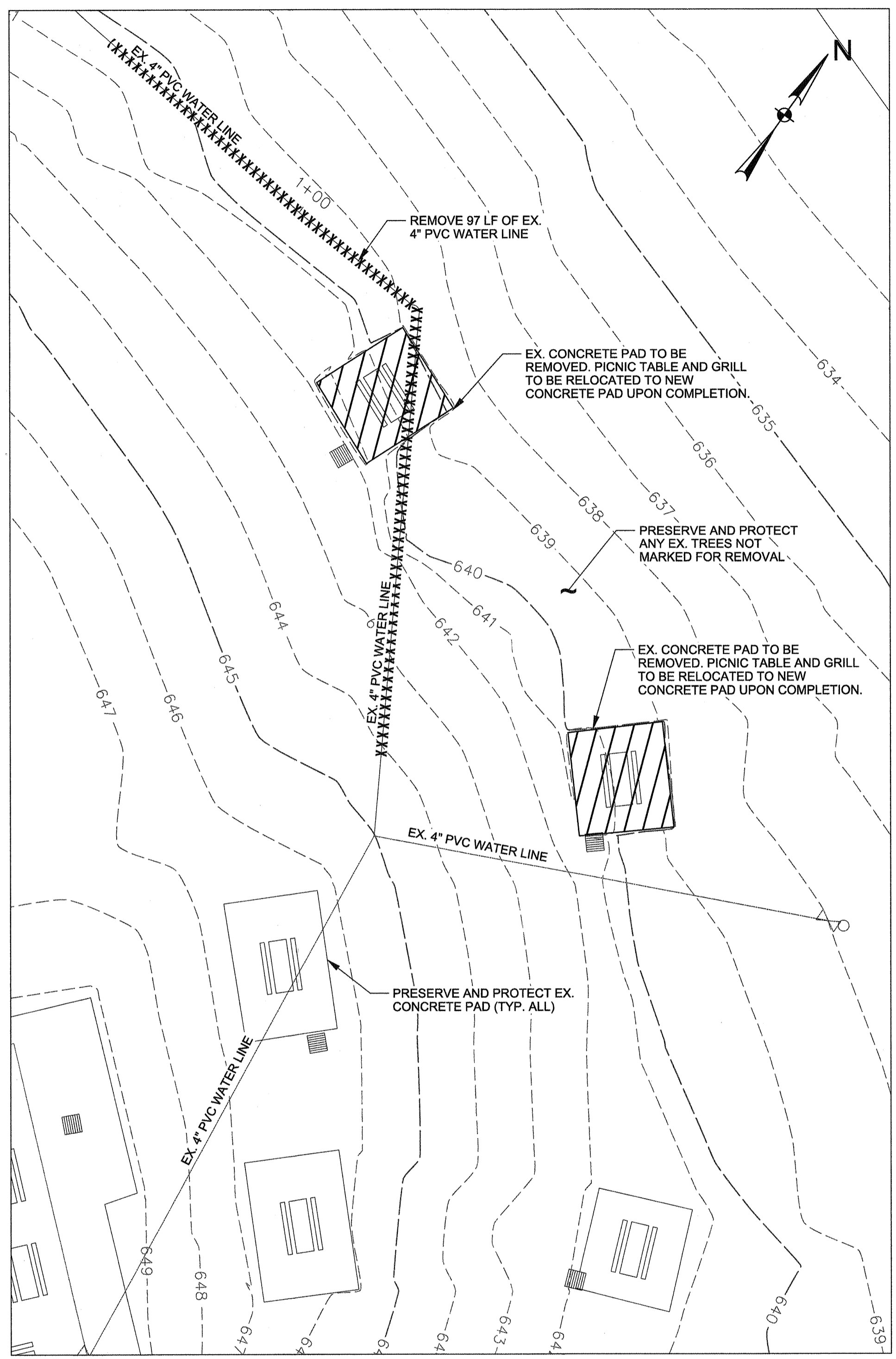
PROJECT CONTROL POINTS

PT. NO.	COORDINATES	ELEV.	DESCRIPTION
CP-9	N=7189724.16 E=2417074.29	642.57	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-10	N=7190457.24 E=2417184.20	648.71	5/8" IRON ROD WITH 2" ALUMINUM CAP
300	N=7189743.35 E=2417205.66	643.33	PK NAIL IN ASPHALT
301	N=7190455.94 E=2417196.80	648.19	5/8" IRON ROD WITH ORANGE CAP
302	N=7190302.24 E=2416713.00	647.00	5/8" IRON ROD WITH ORANGE CAP
303	N=7190426.83 E=2416586.45	651.84	60D NAIL SET
304	N=7190555.51 E=2416697.34	653.39	60D NAIL SET
305	N=7190535.25 E=2417070.04	656.24	60D NAIL SET

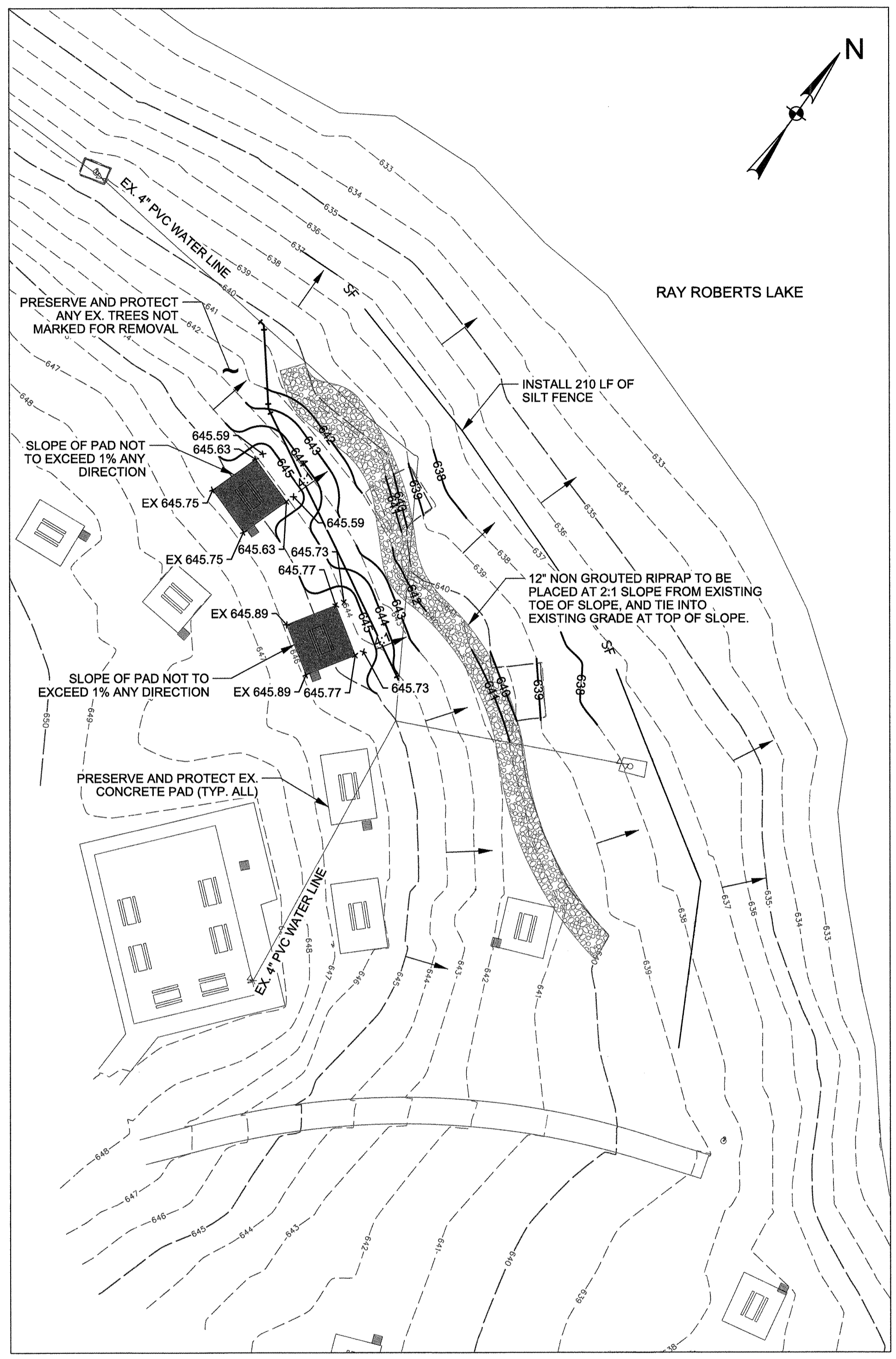
- NOTES:
1. ALL BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NORTH CENTRAL ZONE 4202, NAD 83 (2011), EPOCH 2010.00. ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE VALUES AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED SCALE FACTOR OF 1.00015063. ELEVATIONS ARE REFERENCED TO NAVD88 AND COMPUTED USING GEOID12A.
 2. ALL TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BY COBB, FENDLEY & ASSOCIATES, INC. BETWEEN DECEMBER 6, 2016 AND DECEMBER 15, 2016.

GENERAL LEGEND

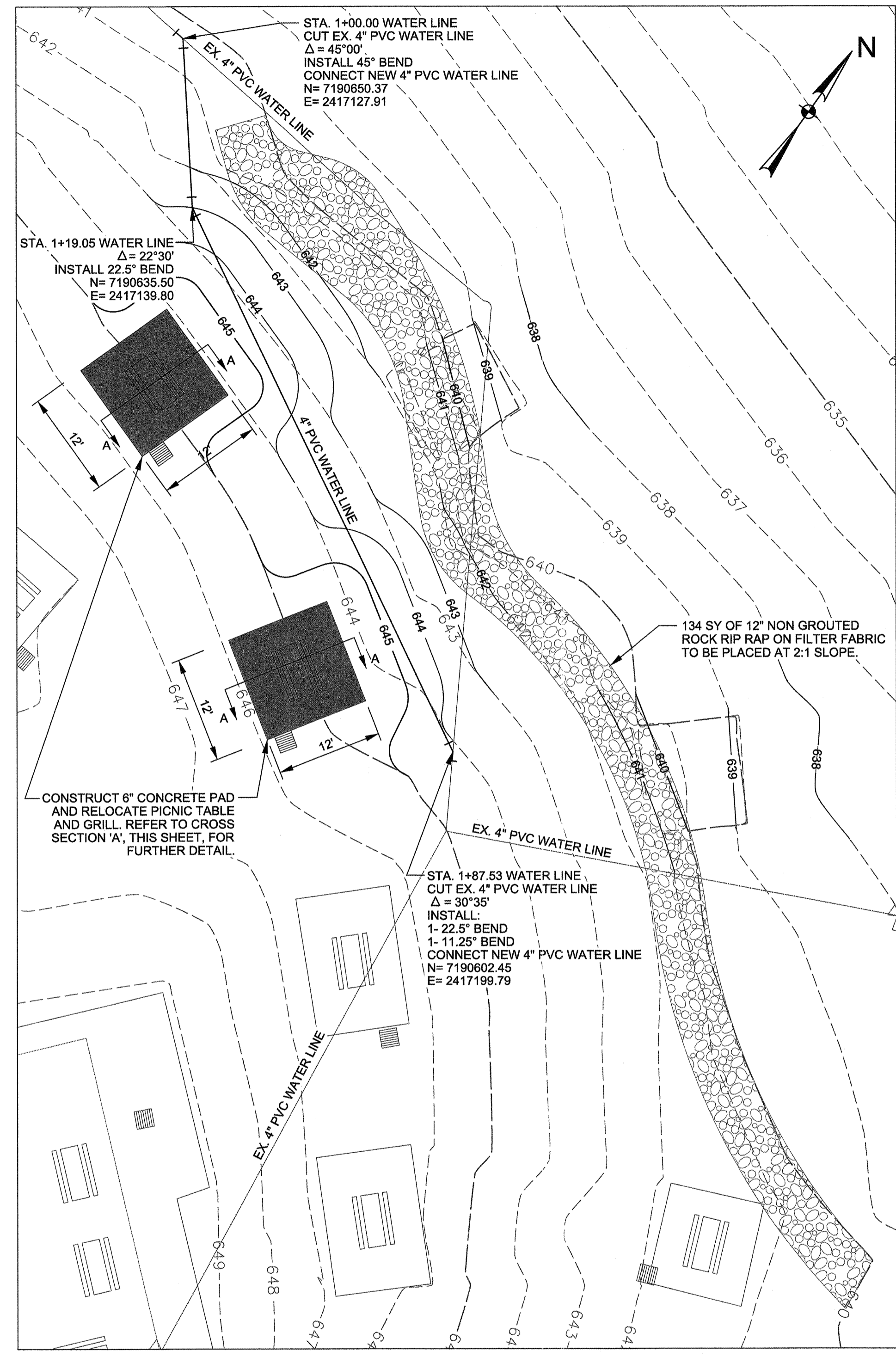
	EXISTING TREE
	EXISTING PICNIC TABLE
	EXISTING CAMPGROUND GRILL
	EXISTING CAMPGROUND GRILL (WITH FIRE PIT)
	PROJECT CONTROL POINT
	EXISTING WATER FAUCET
	EXISTING LIGHT POLE
	EXISTING WATER VALVE
	EXISTING WATER VAULT
	EXISTING SANITARY SEWER MANHOLE
	EXISTING WATER METER
	EXISTING STORM SEWER MANHOLE
	EXISTING TELEPHONE PULL BOX
	EXISTING ELECTRIC PEDESTAL
	EXISTING SANITARY SEWER CLEAN OUT
	EXISTING FENCE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	SILT FENCE
	TO BE REMOVED BY CONTRACTOR



01 DEMOLITION PLAN
SCALE: 1"=10'-0"
SCALE: 1"=10'

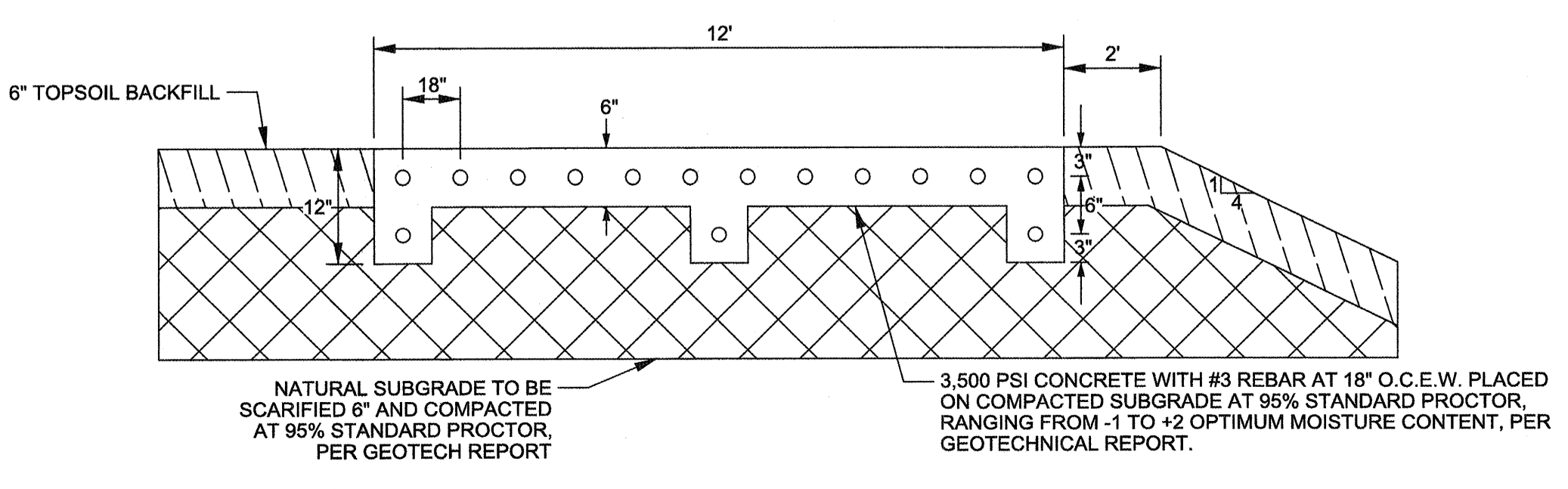


02 GRADING AND EROSION CONTROL PLAN
SCALE: 1"=20'-0"
SCALE: 1"=20'



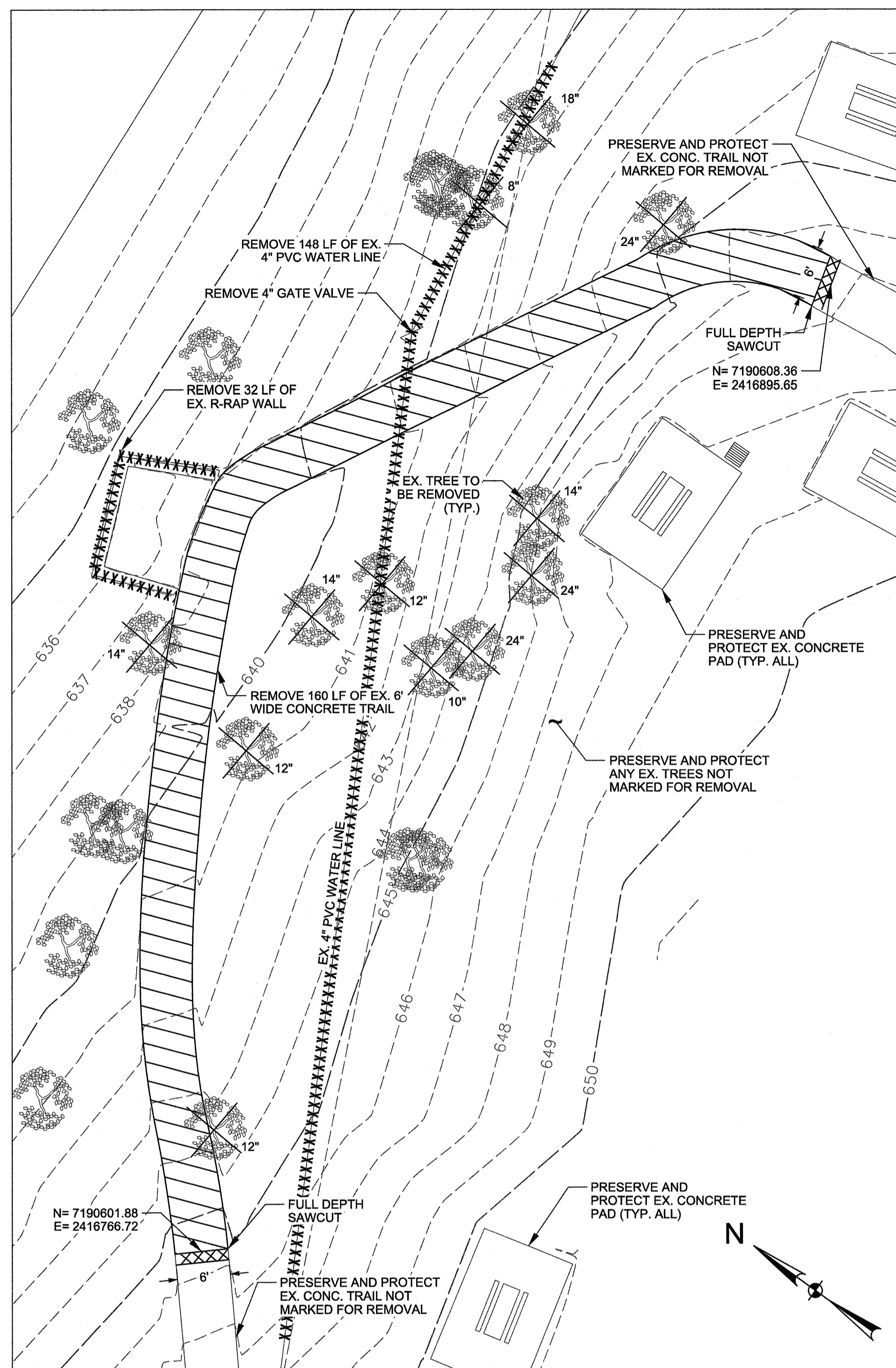
03 SITE RESTORATION PLAN
SCALE: 1"=10'-0"
SCALE: 1"=10'

CROSS SECTION 'A'
N.T.S.

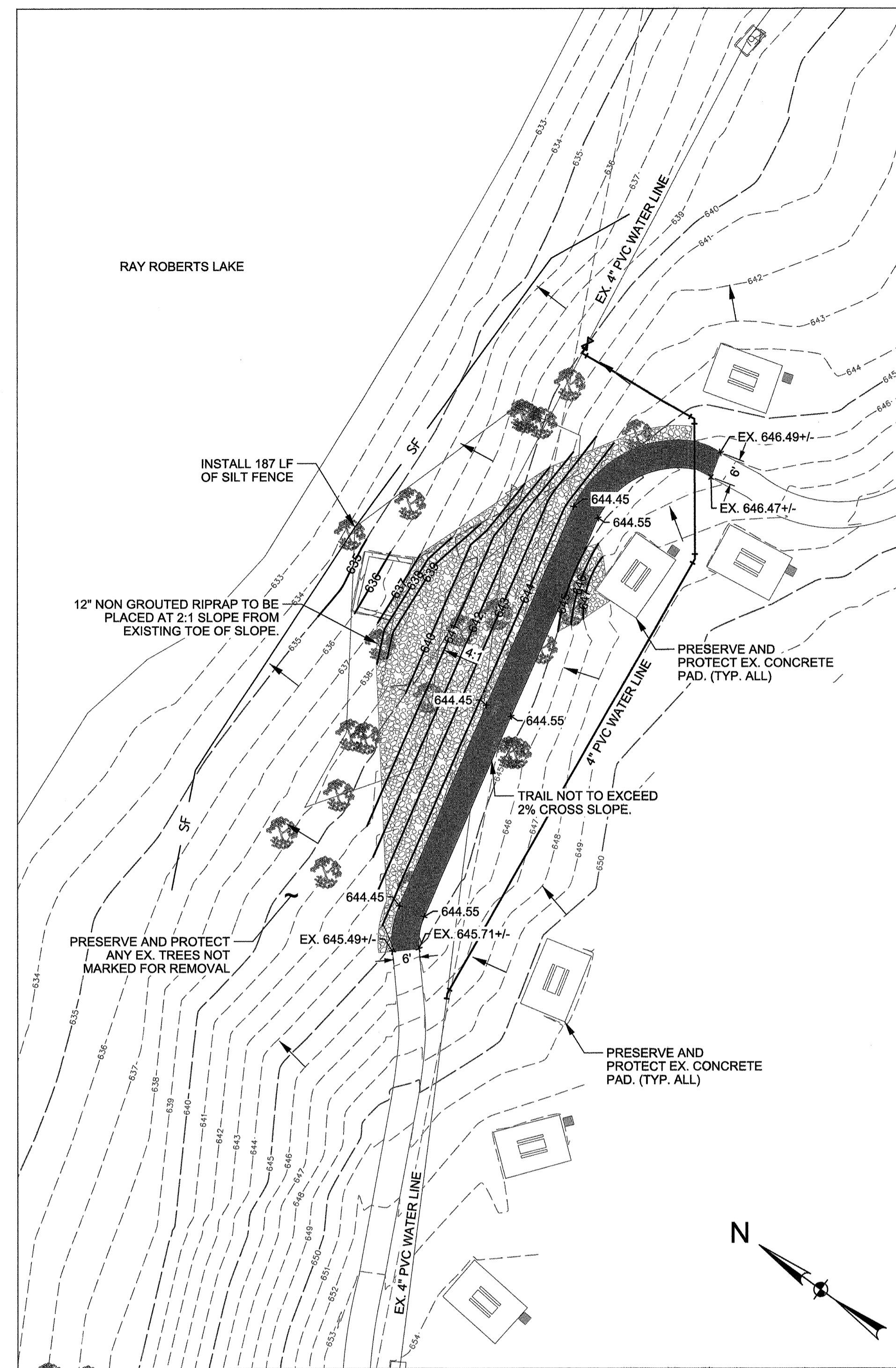


ISLE DU BOIS - PARK PICNIC AREA

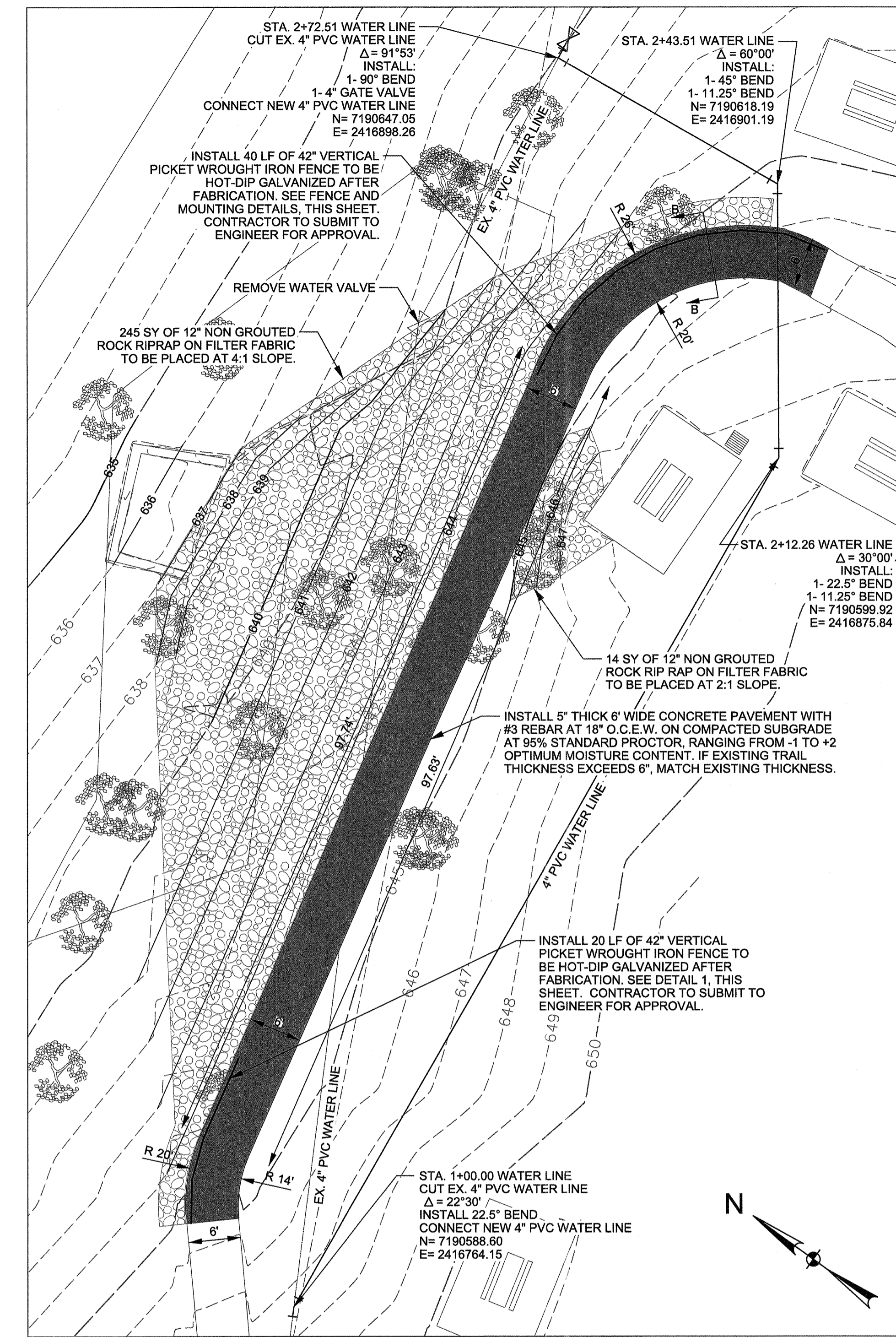
EXISTING UTILITIES SHOWN ARE TAKEN FROM AVAILABLE RECORDS PROVIDED BY THE UTILITY OWNER AND FIELD LOCATIONS OF SURFACE APPURTENANCES. LOCATIONS SHOWN ARE GENERALLY SCHEMATIC IN NATURE AND MAY NOT ACCURATELY REFLECT THE SIZE AND LOCATION OF EACH PARTICULAR UTILITY. SOME UTILITY LINES MAY NOT BE SHOWN. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL FIELD LOCATION AND PROTECTION OF EXISTING FACILITIES WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES, WHETHER SHOWN OR NOT, IF DAMAGED BY CONTRACTOR'S ACTIVITIES. DIFFERENCES IN HORIZONTAL OR VERTICAL LOCATION OF EXISTING UTILITIES SHALL NOT BE A BASIS FOR ADDITIONAL EXPENSE.



01 DEMOLITION PLAN
SCALE: 1"=10'-0"

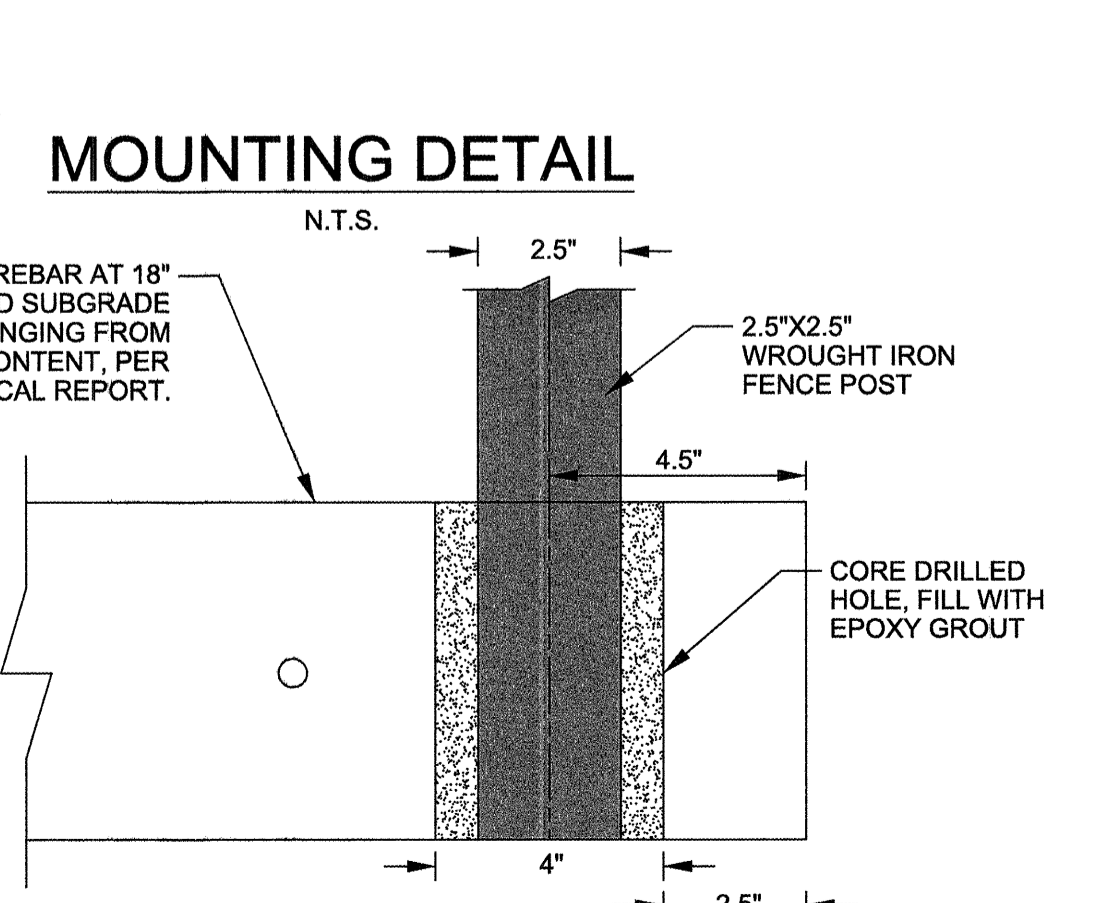
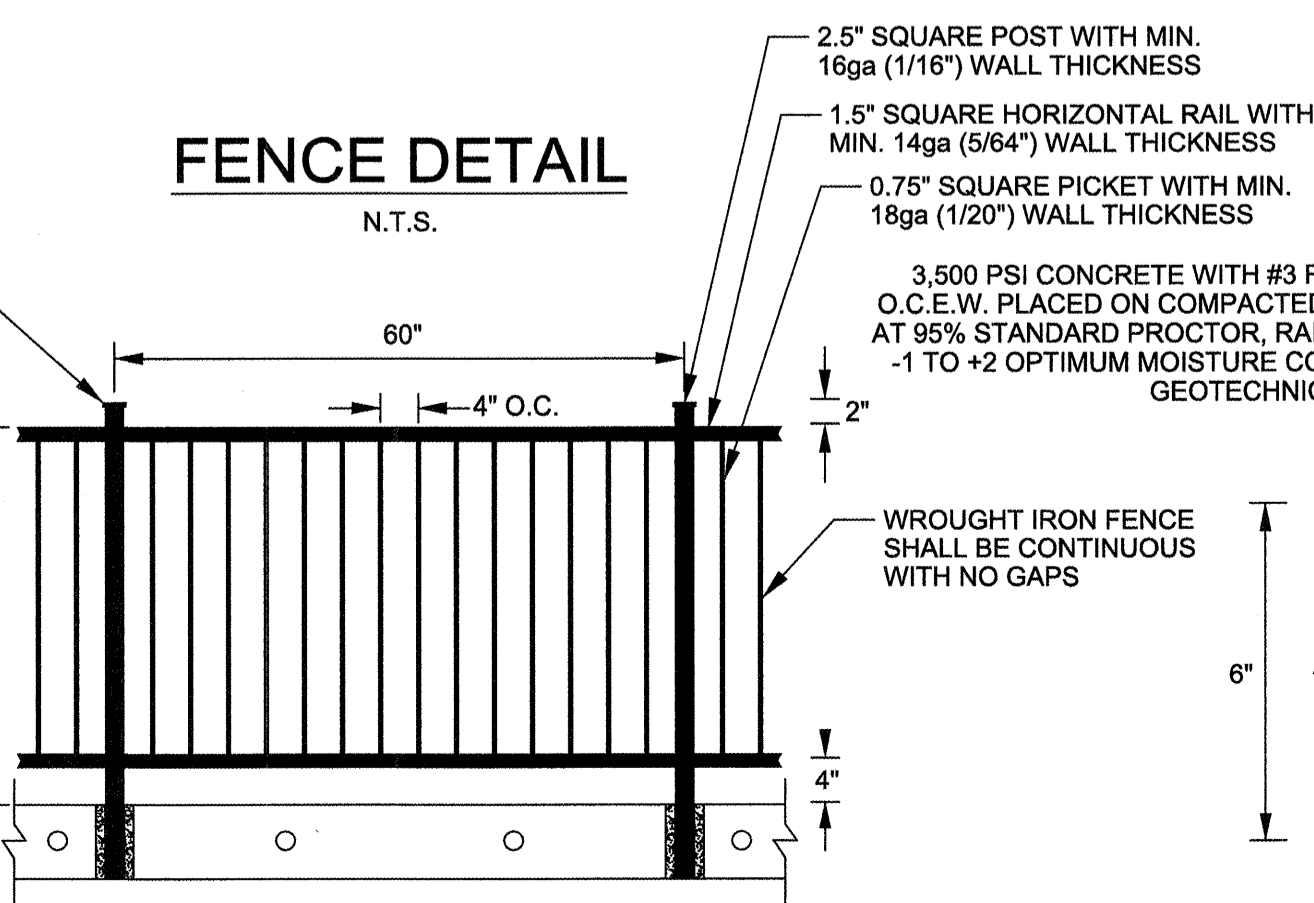
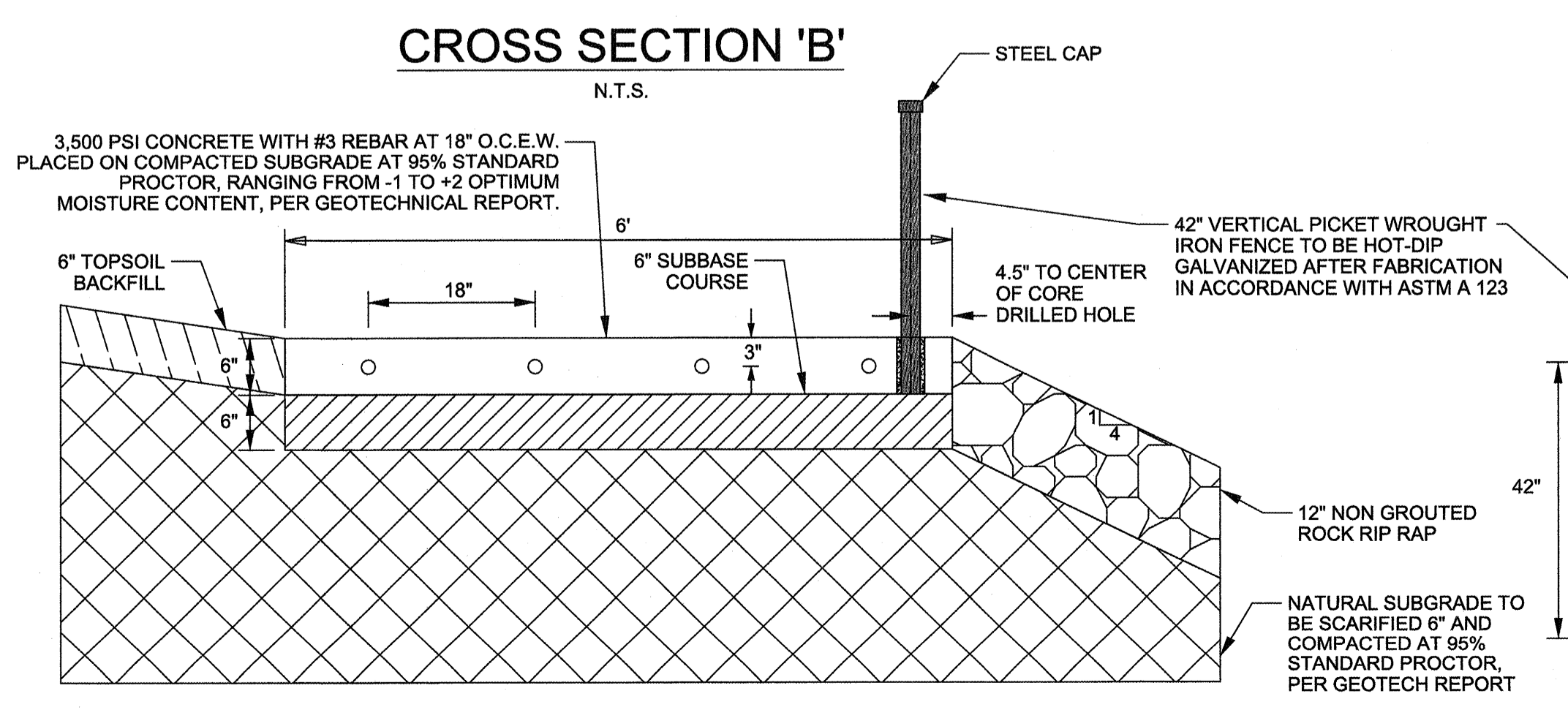


02 GRADING AND EROSION CONTROL PLAN
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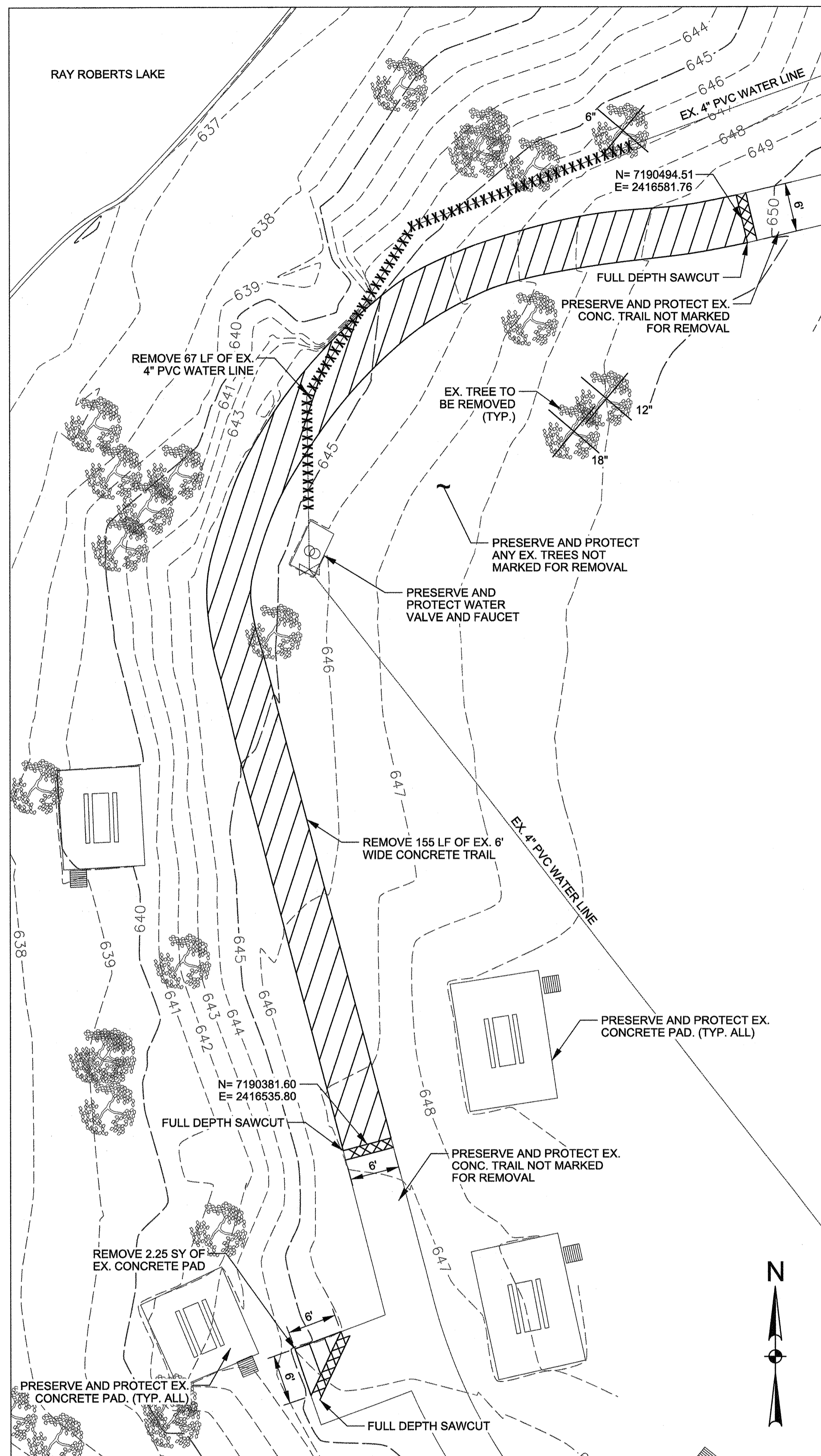


03 SITE RESTORATION PLAN
SCALE: 1"=10'-0"

ISLE DU BOIS - TRAIL AREA #1

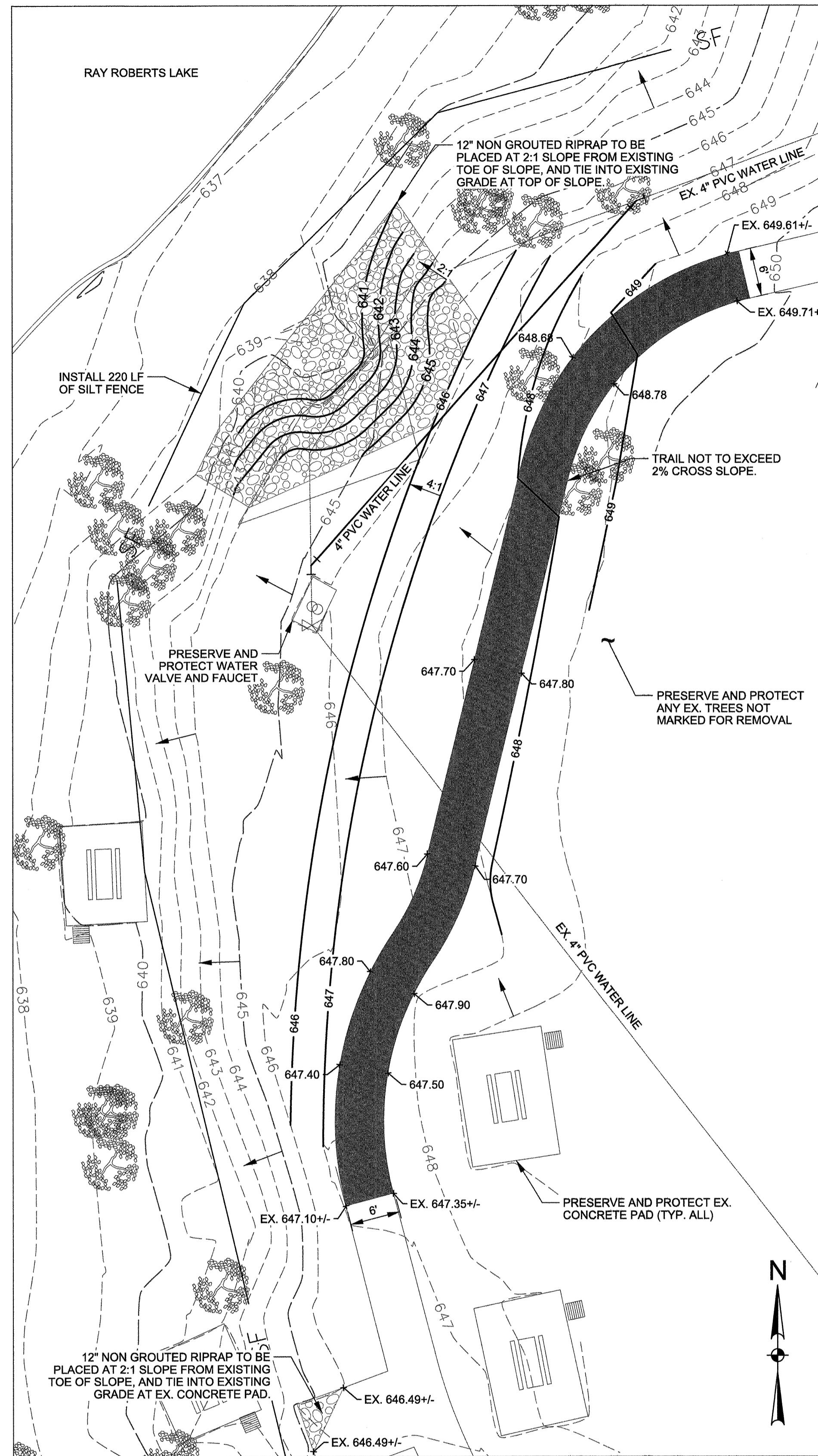
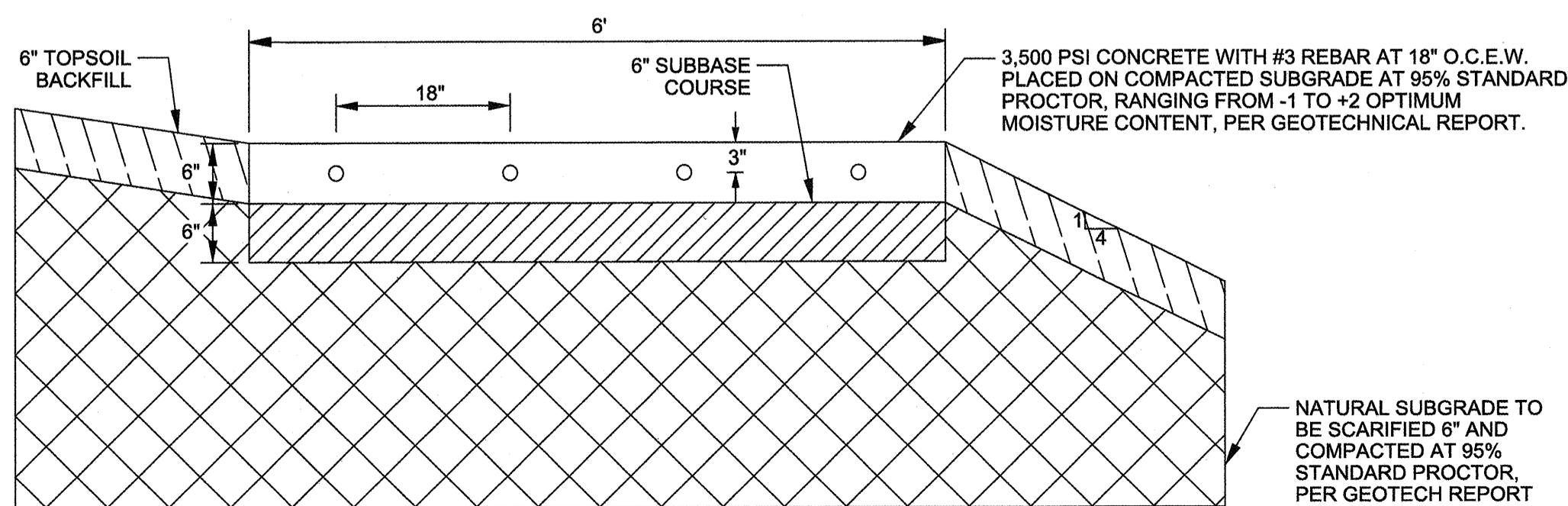


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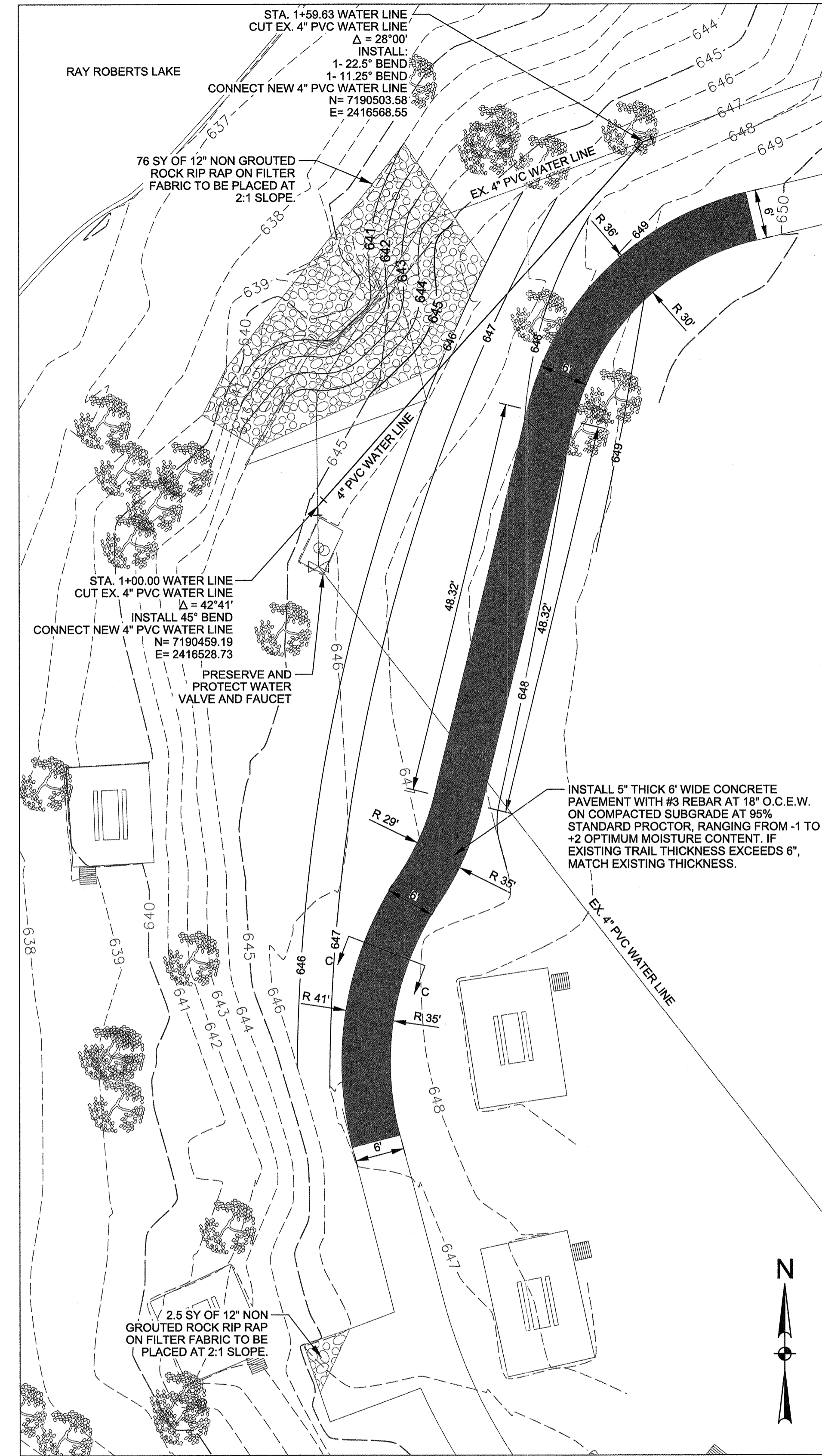
01 DEMOLITION PLAN
SCALE: 1"=10'-0"

CROSS SECTION 'C'
N.T.S.



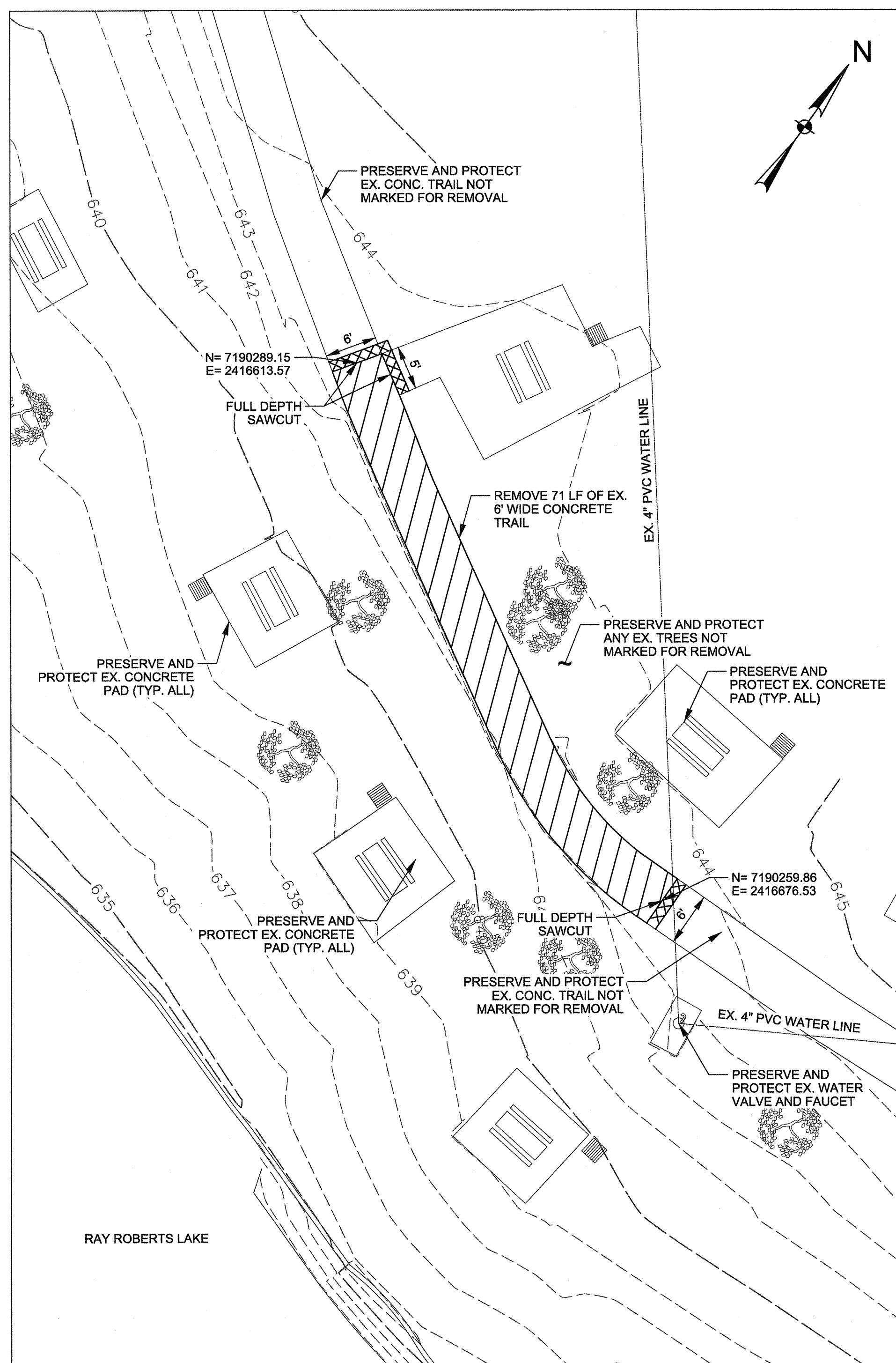
02 GRADING AND EROSION CONTROL PLAN
SCALE: 1"=10'-0"

ISLE DU BOIS - TRAIL AREA #2

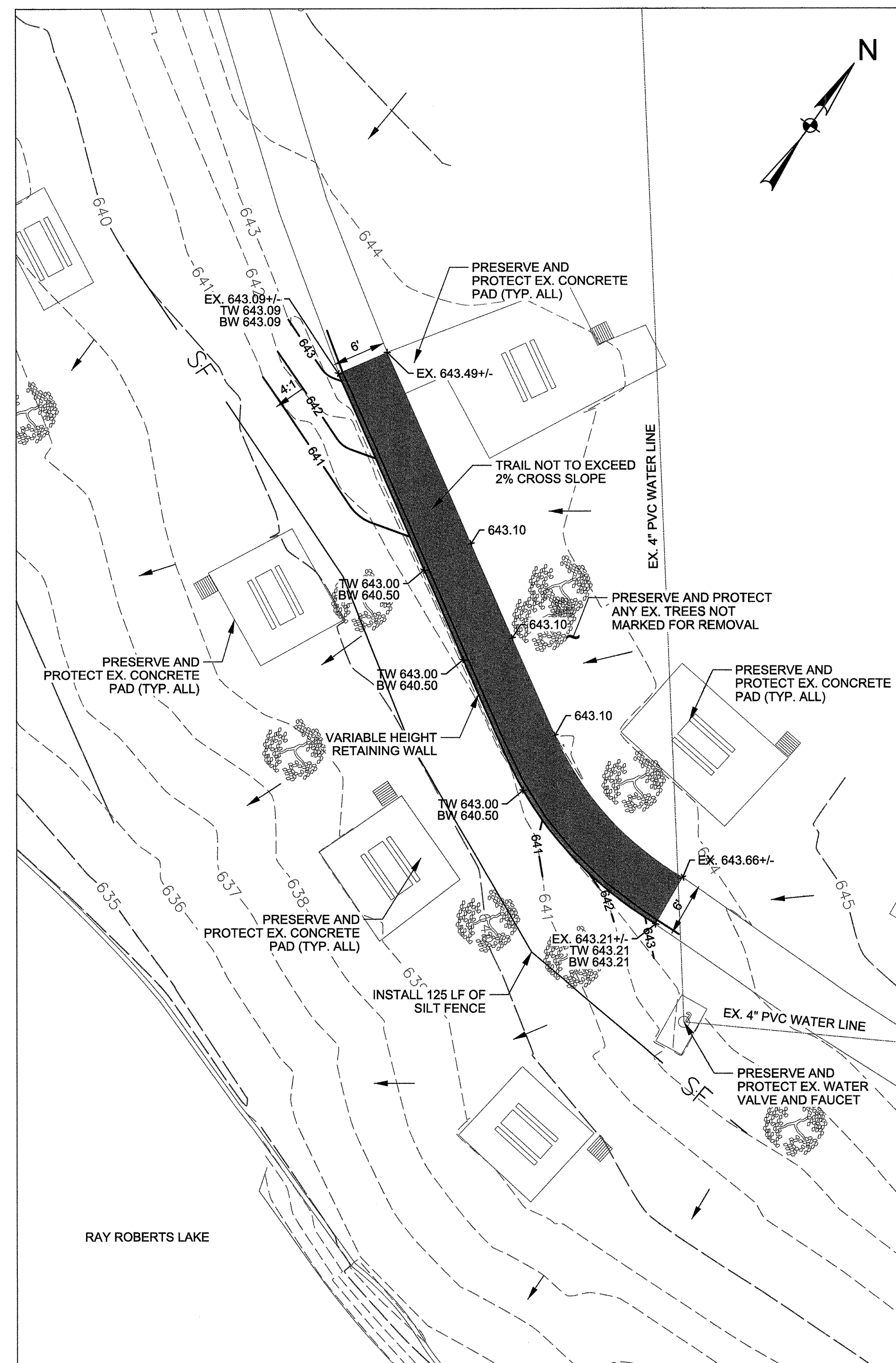


03 SITE RESTORATION PLAN
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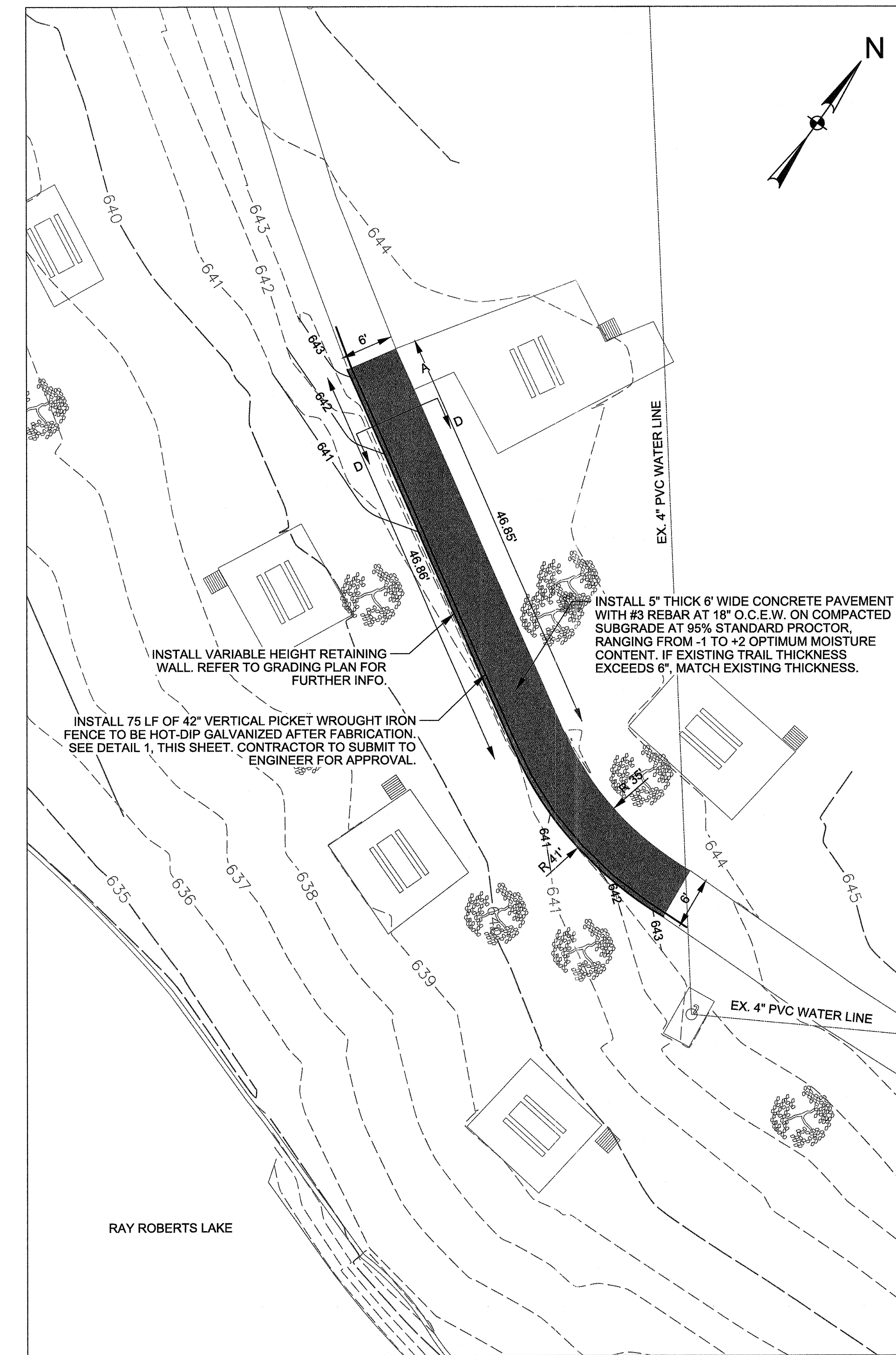
EXISTING UTILITIES SHOWN ARE TAKEN FROM AVAILABLE RECORDS PROVIDED BY THE UTILITY OWNER AND FIELD LOCATIONS OF SURFACE APPURTENANCES. LOCATIONS SHOWN ARE GENERALLY SCHEMATIC IN NATURE AND MAY NOT ACCURATELY REFLECT THE SIZE AND LOCATION OF EACH PARTICULAR UTILITY. SOME UTILITY LINES MAY NOT BE SHOWN. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL FIELD LOCATION AND PROTECTION OF EXISTING FACILITIES WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES, WHETHER SHOWN OR NOT, IF DAMAGED BY CONTRACTOR'S ACTIVITIES. DIFFERENCES IN HORIZONTAL OR VERTICAL LOCATION OF EXISTING UTILITIES SHALL NOT BE A BASIS FOR ADDITIONAL EXPENSE.



01 DEMOLITION PLAN
SCALE: 1"=10'-0"
0 5 10 15 20
SCALE: 1"=10'

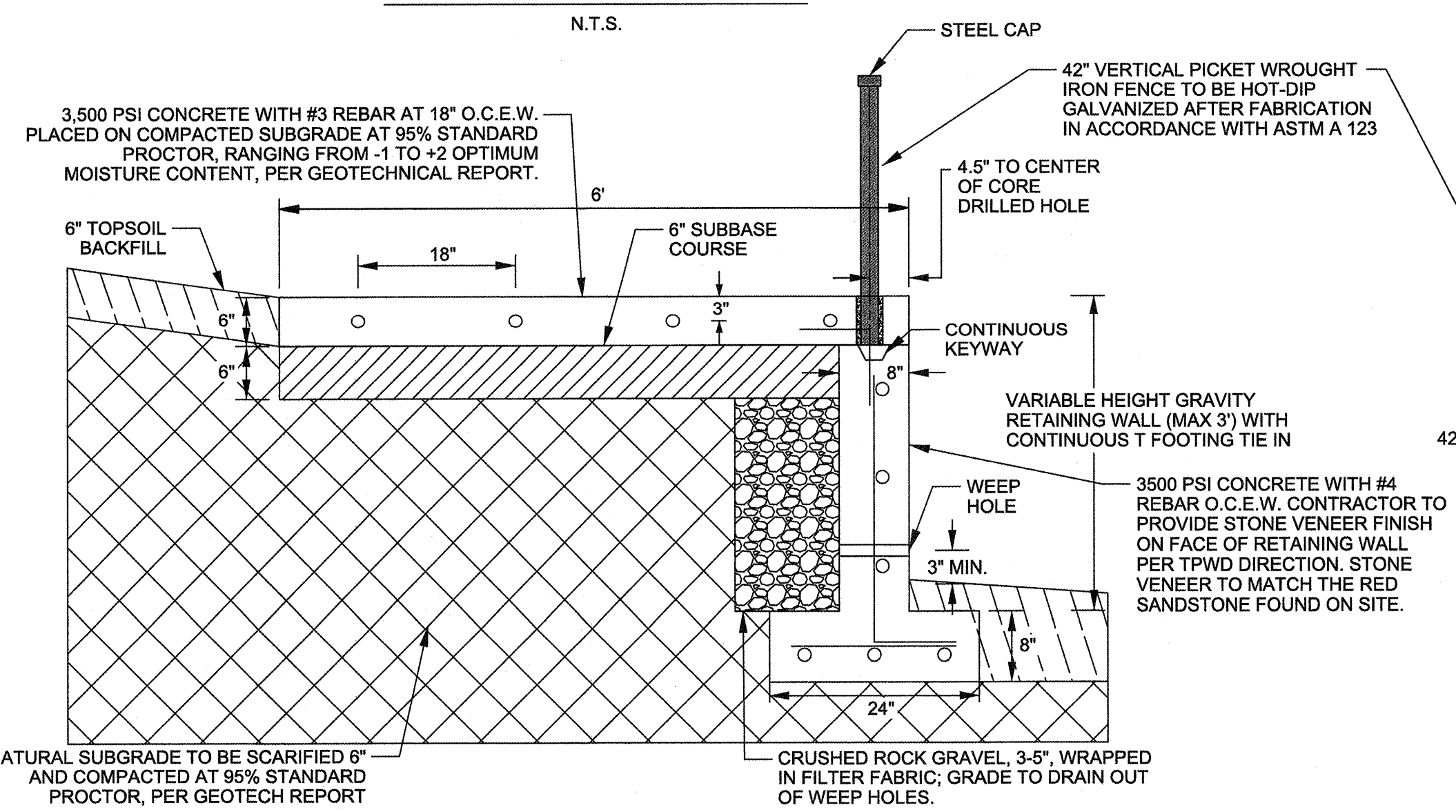


02 GRADING AND EROSION CONTROL PLAN
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SCALE: 1"=10'

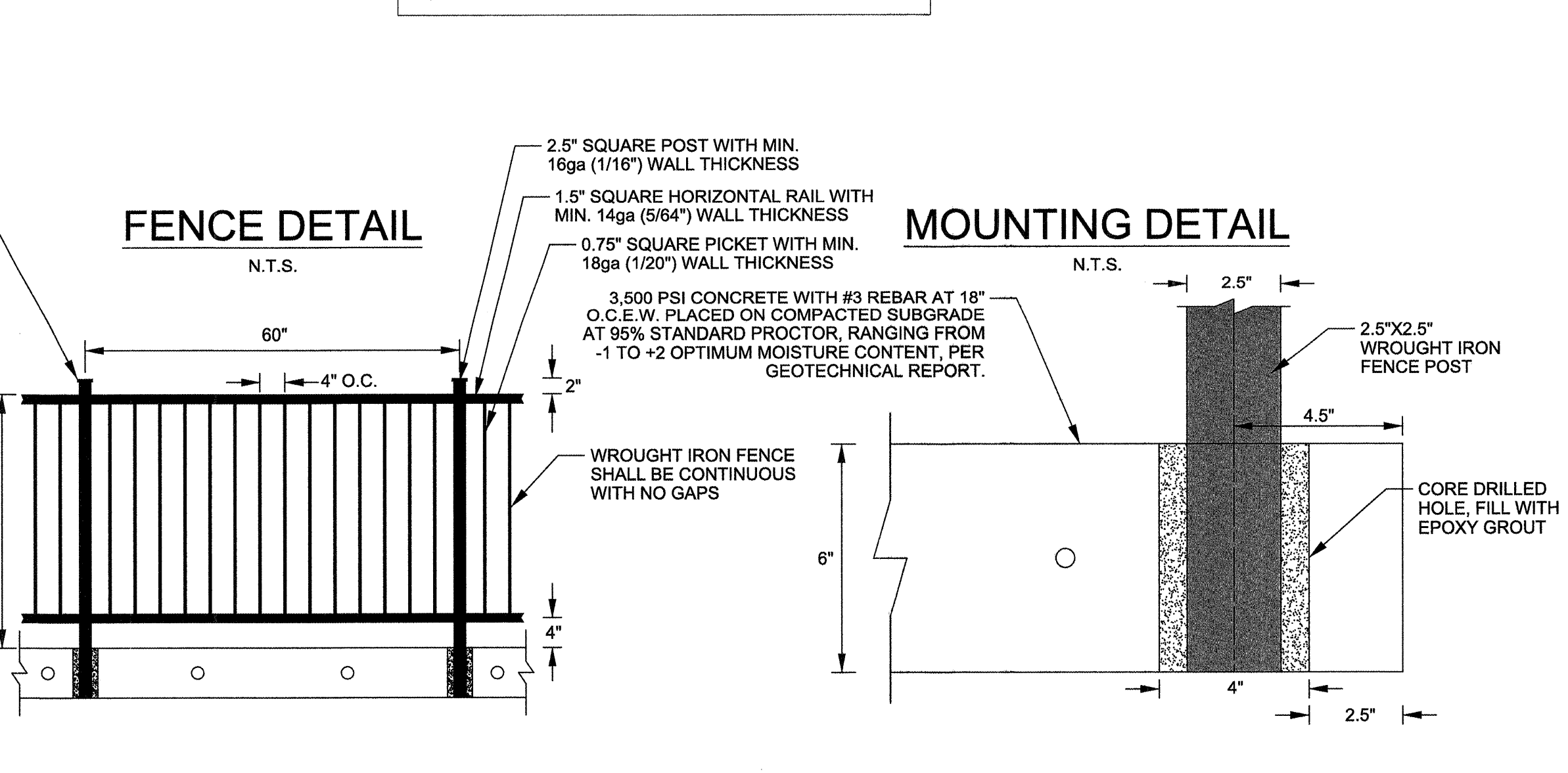


03 SITE RESTORATION PLAN
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0 5 10 15 20
SCALE: 1"=10'

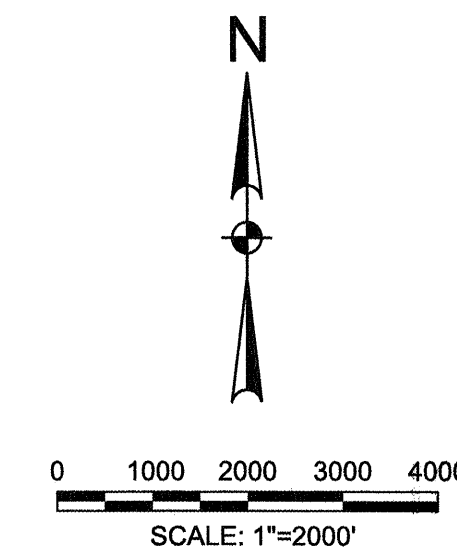
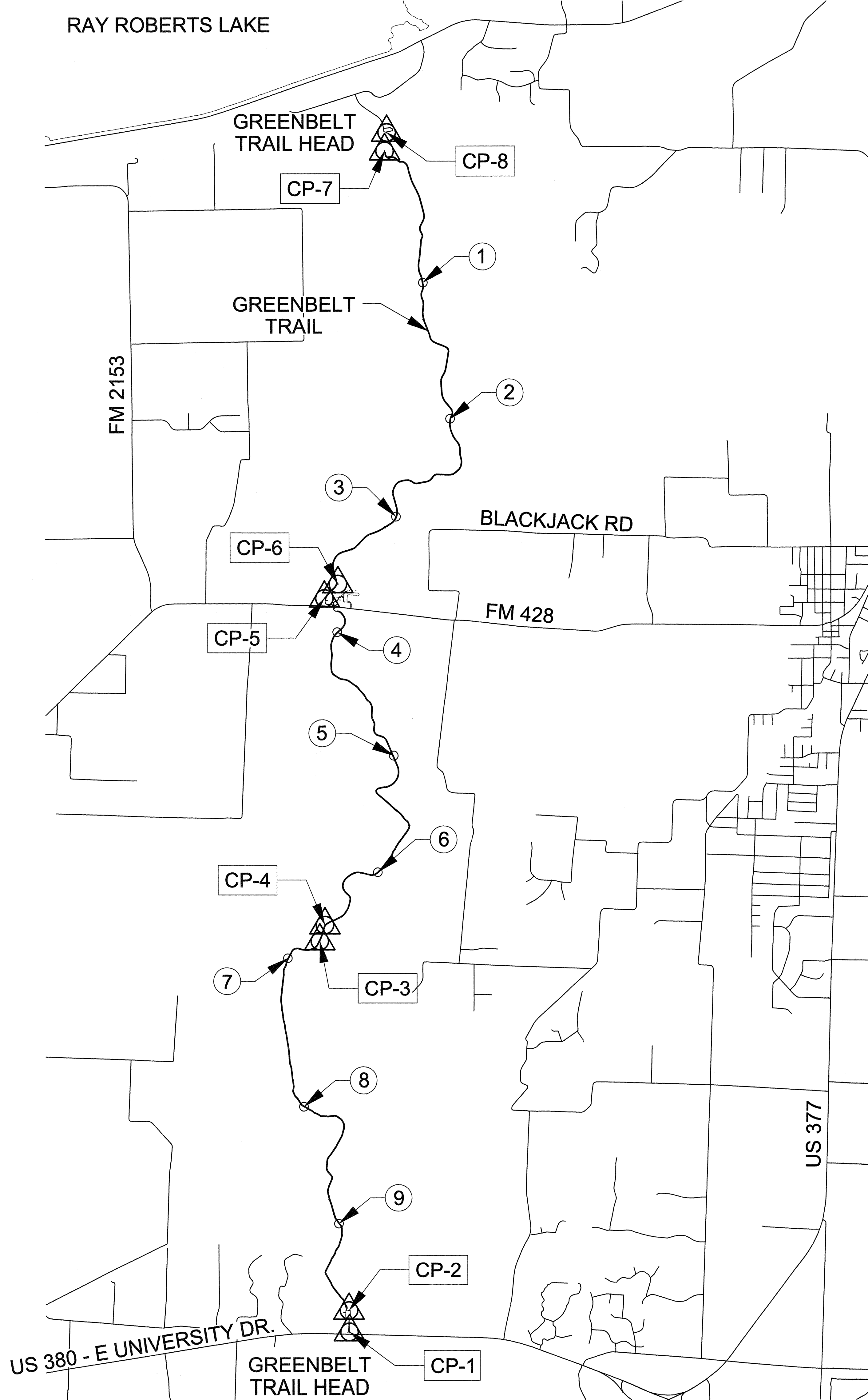
CROSS SECTION 'D'



ISLE DU BOIS - TRAIL AREA #3



EXISTING UTILITIES SHOWN ARE TAKEN FROM AVAILABLE RECORDS PROVIDED BY THE UTILITY OWNER AND FIELD LOCATIONS OF SURFACE APPURTENANCES. LOCATIONS SHOWN ARE GENERALLY SCHEMATIC IN NATURE AND MAY NOT ACCURATELY REFLECT THE SIZE AND LOCATION OF EACH PARTICULAR UTILITY. SOME UTILITY LINES MAY NOT BE SHOWN. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL FIELD LOCATION AND PROTECTION OF EXISTING FACILITIES WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES, WHETHER SHOWN OR NOT, IF DAMAGED BY CONTRACTOR'S ACTIVITIES. DIFFERENCES IN HORIZONTAL OR VERTICAL LOCATION OF EXISTING UTILITIES SHALL NOT BE A BASIS FOR ADDITIONAL EXPENSE.



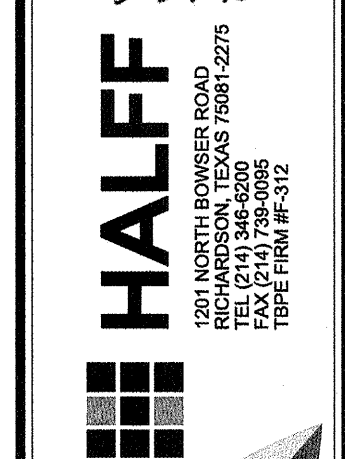
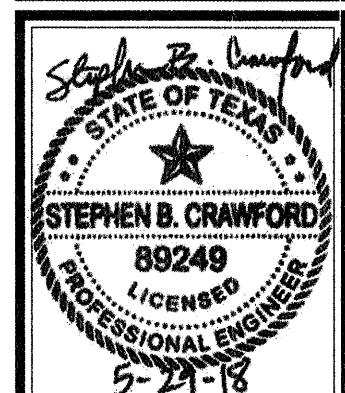
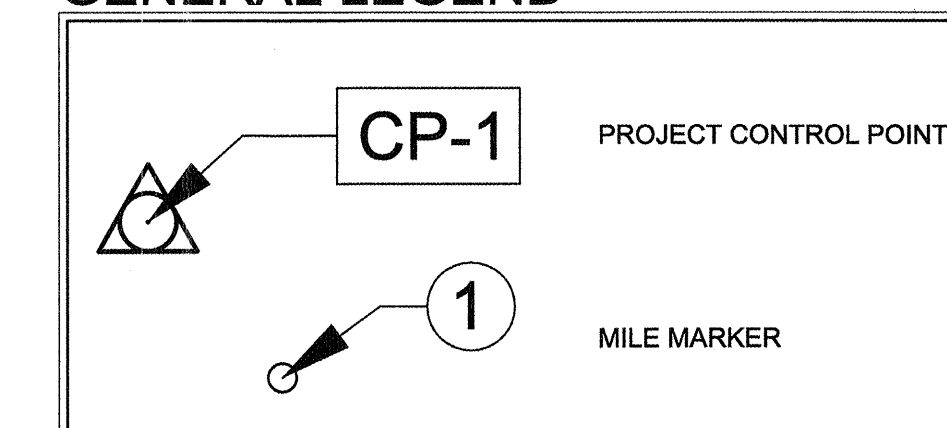
PROJECT CONTROL POINTS

PT. NO.	COORDINATES	ELEV.	DESCRIPTION
CP-1	N=7137661.84 E=2414804.38	541.74	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-2	N=7138395.11 E=2414788.04	526.67	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-3	N=7151083.99 E=2413799.18	532.43	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-4	N=7151635.60 E=2413974.49	531.90	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-5	N=7162802.98 E=2413963.16	540.86	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-6	N=7163293.00 E=2414424.68	542.99	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-7	N=7178040.34 E=2416034.95	555.07	5/8" IRON ROD WITH 2" ALUMINUM CAP
CP-8	N=7178667.22 E=2416107.09	556.12	5/8" IRON ROD WITH 2" ALUMINUM CAP

NOTES:

1. ALL BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NORTH CENTRAL ZONE 4202, NAD 83 (2011), EPOCH 2010.00. ALL DISTANCES AND COORDINATES SHOWN ARE SURFACE VALUES AND MAY BE CONVERTED TO GRID BY DIVIDING BY A COMBINED SCALE FACTOR OF 1.00015063. ELEVATIONS ARE REFERENCED TO NAVD88 AND COMPUTED USING GEOID12A.
2. ALL TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BY COBB, FENDLEY & ASSOCIATES, INC. BETWEEN DECEMBER 6, 2016 AND DECEMBER 15, 2016.

GENERAL LEGEND

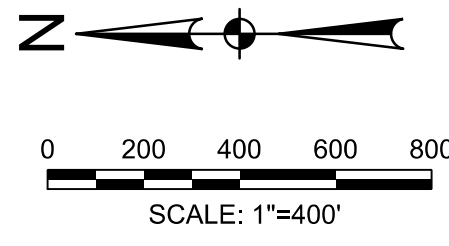


RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
PROJECT NUMBER: 128302

DATE: 5/29/2018
DESIGNED BY: HALFF
DRAWN BY: CAD
REVIEWED BY: SBC
REVISED:
REVISED:

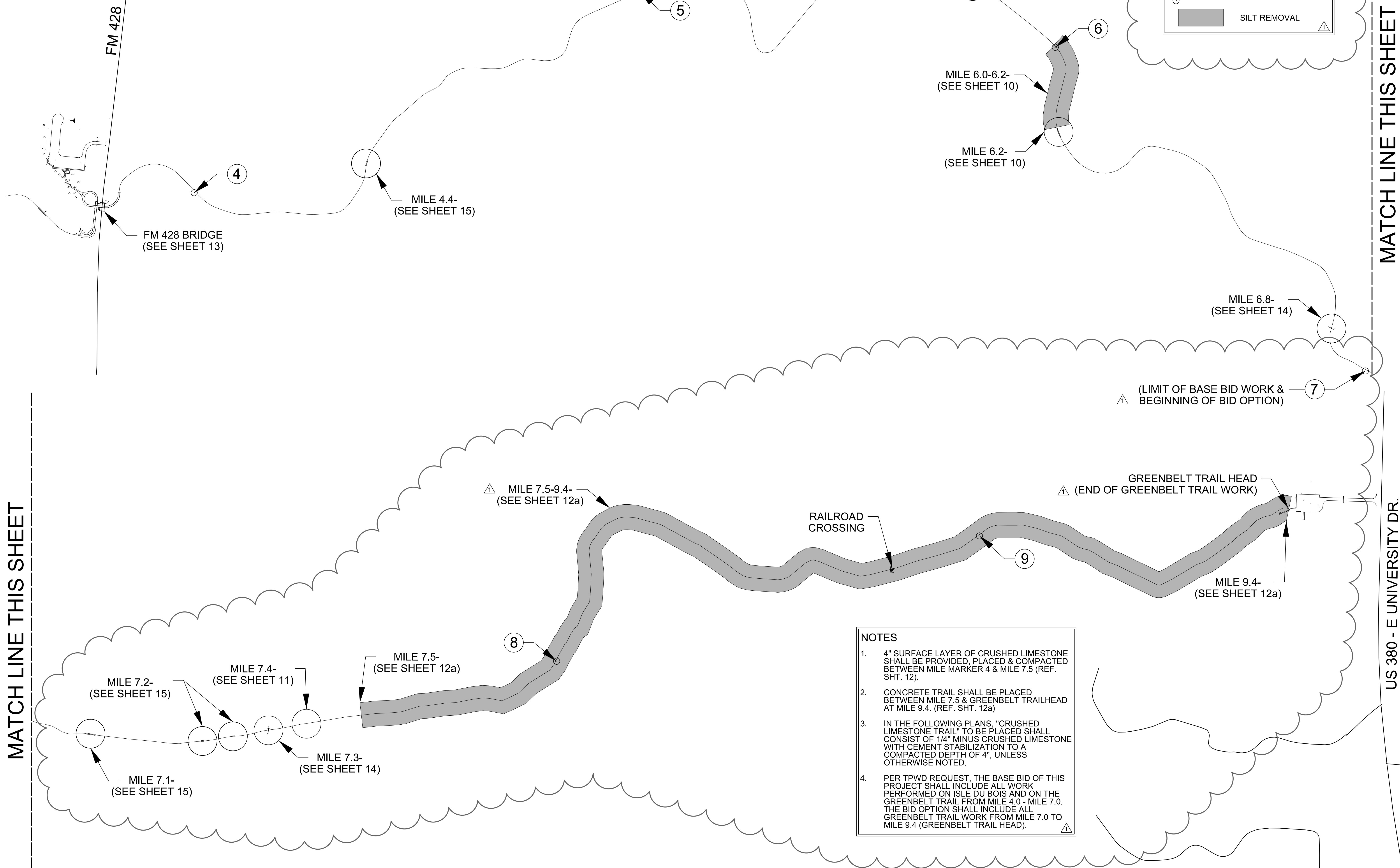
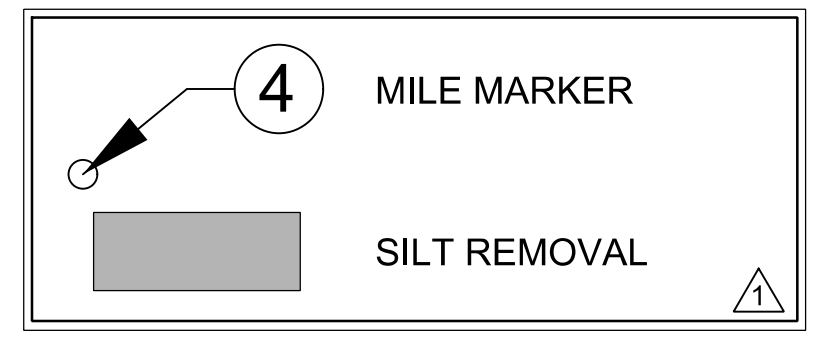
SHEET TITLE
GREENBELT TRAIL -
SURVEY CONTROL
PLAN

SHEET NUMBER
08/29



The seal originally appearing on this document was authorized by Stephen B. Crawford, PE#89249 on 12/10/2018. Alteration of a previously sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The record copy of this drawing is on file at the offices of Half Associates, Inc. 1201 N. Bowser Rd. Richardson, Texas 75081. TBPE FIRM #F-312.

GENERAL LEGEND



- NOTES**
1. 4" SURFACE LAYER OF CRUSHED LIMESTONE SHALL BE PROVIDED, PLACED & COMPACTED BETWEEN MILE MARKER 4 & MILE 7.5 (REF. SHT. 12).
 2. CONCRETE TRAIL SHALL BE PLACED BETWEEN MILE 7.5 & GREENBELT TRAILHEAD AT MILE 9.4. (REF. SHT. 12a)
 3. IN THE FOLLOWING PLANS, "CRUSHED LIMESTONE TRAIL" TO BE PLACED SHALL CONSIST OF 1/4" MINUS CRUSHED LIMESTONE WITH CEMENT STABILIZATION TO A COMPACTED DEPTH OF 4", UNLESS OTHERWISE NOTED.
 4. PER TPWD REQUEST, THE BASE BID OF THIS PROJECT SHALL INCLUDE ALL WORK PERFORMED ON ISLE DU BOIS AND ON THE GREENBELT TRAIL FROM MILE 4.0 - MILE 7.0. THE BID OPTION SHALL INCLUDE ALL GREENBELT TRAIL WORK FROM MILE 7.0 TO MILE 9.4 (GREENBELT TRAIL HEAD).

TEXAS
PARKS &
WILDLIFE

HALFF
 1201 NORTH BOWSER ROAD
 RICHARDSON, TEXAS 75081
 TEL: (972) 384-4200
 FAX: (972) 384-4202
 TBPE FIRM #F-312

MATCH LINE THIS SHEET

US 380 - E UNIVERSITY DR.

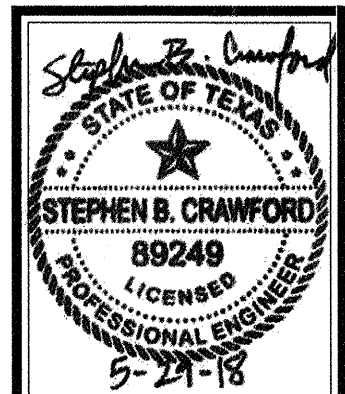
RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
 PROJECT NUMBER: 128302

NEW

DATE: 12/10/2018
 DESIGNED BY: HALFF
 DRAWN BY: CAD
 REVIEWED BY: SBC
 REVISED:
 △ NOTES ADDED & LEGEND UPDATED

SHEET TITLE
 GREENBELT TRAIL - LOCATION MAP

SHEET NUMBER
 09/29



HALFF
ARCHITECTS
10000 WEST LOOP SOUTH
RICHMOND, TEXAS 77042-2276
TEL: (714) 796-0900
FAX: (714) 796-0906
TYPE: FIRM #312



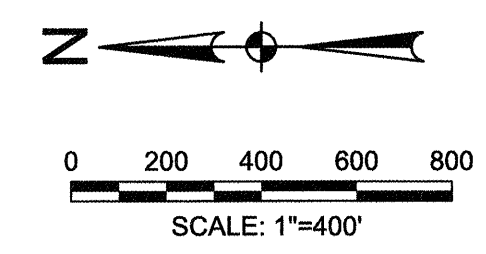
RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
PROJECT NUMBER: 128302

OLD

DATE: 5/29/2018
DESIGNED BY: HALFF
DRAWN BY: CAD
REVIEWED BY: SBC
REVISED:
REVISED:
REVISED:

SHEET TITLE
GREENBELT TRAIL -
LOCATION MAP

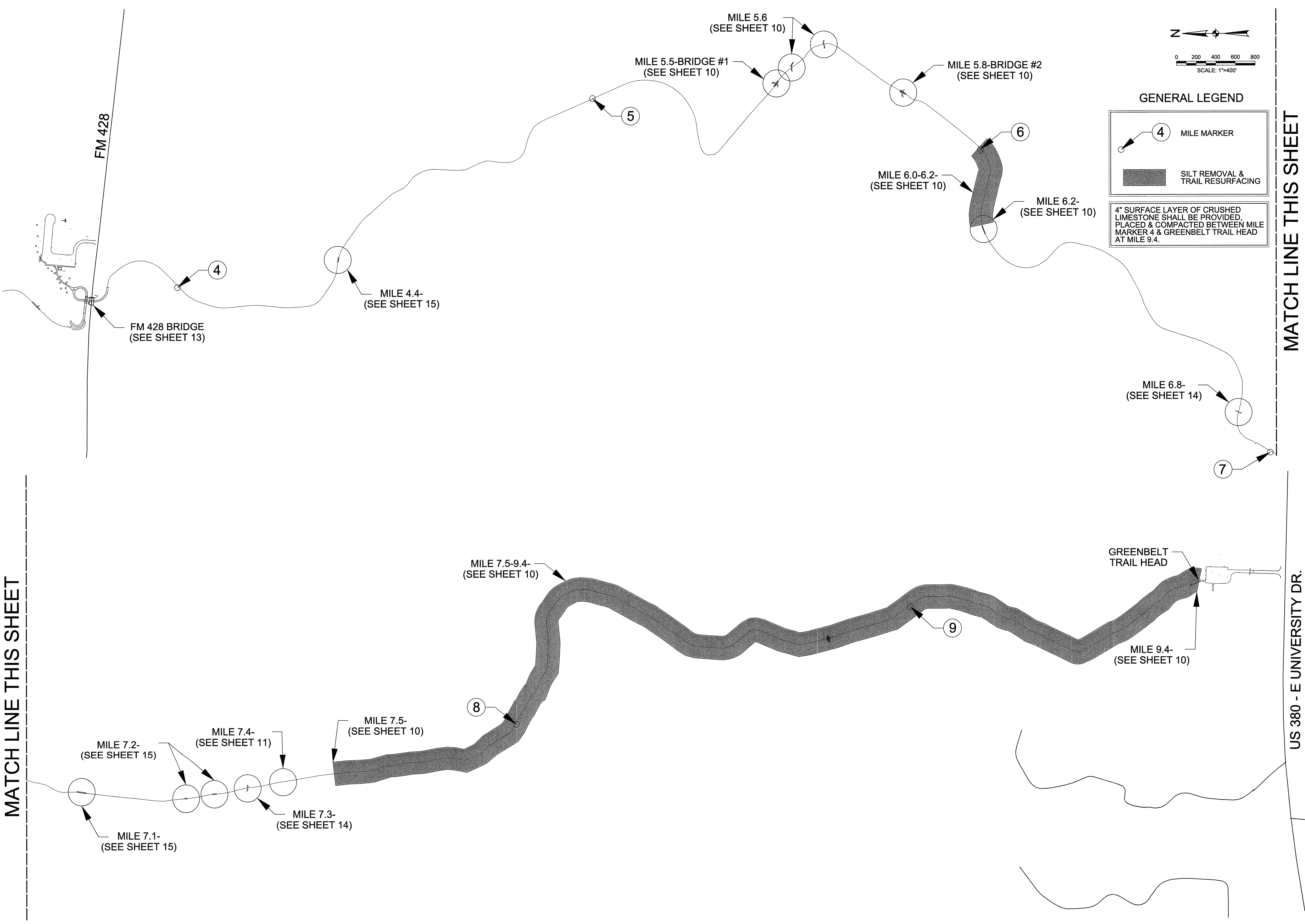
SHEET NUMBER
09/29



GENERAL LEGEND

- MILE MARKER
- SILT REMOVAL & TRAIL RESURFACING

4" SURFACE LAYER OF CRUSHED LIMESTONE SHALL BE PROVIDED, PLACED & COMPACTED BETWEEN MILE MARKER 4 & GREENBELT TRAIL HEAD AT MILE 9.4.



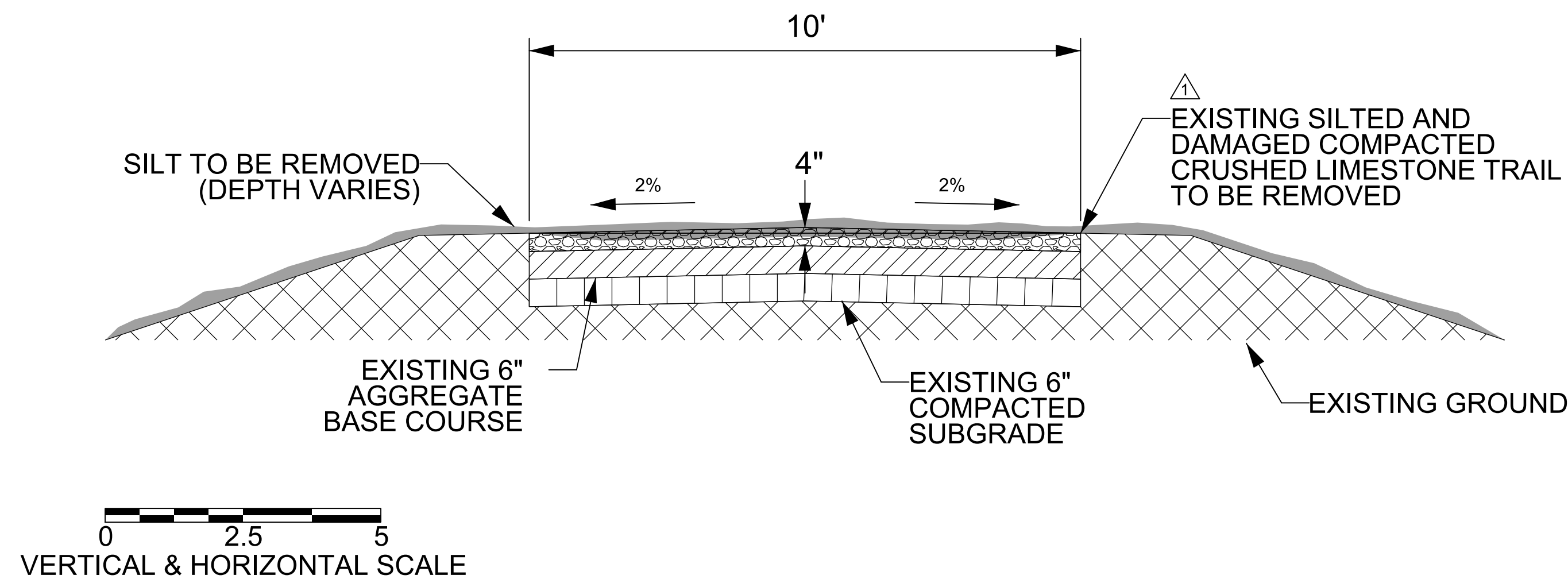
MATCH LINE THIS SHEET

MATCH LINE THIS SHEET

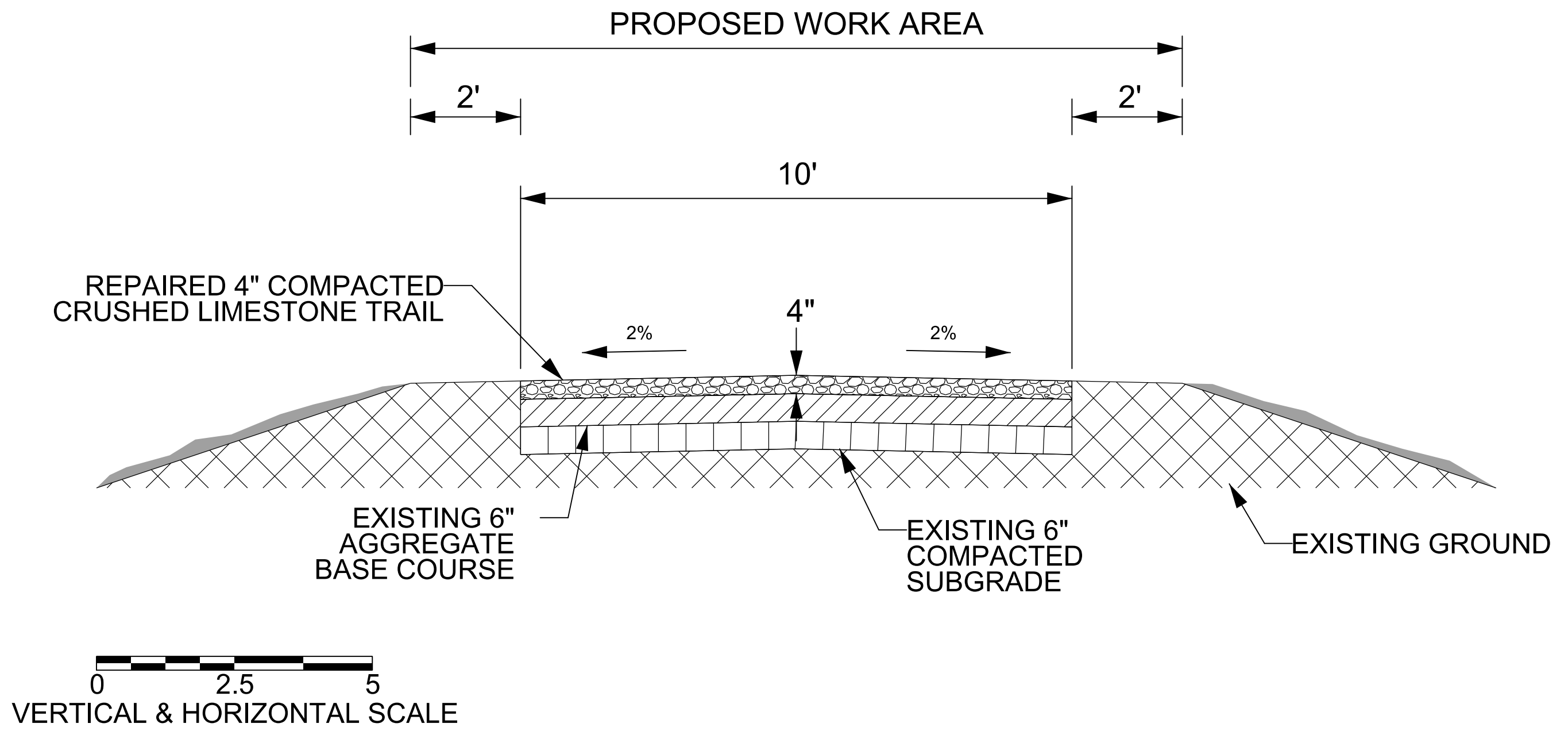
US 380 - E UNIVERSITY DR.

TYPICAL SILT REMOVAL PLAN

TYPICAL EXISTING CONDITIONS CROSS SECTION

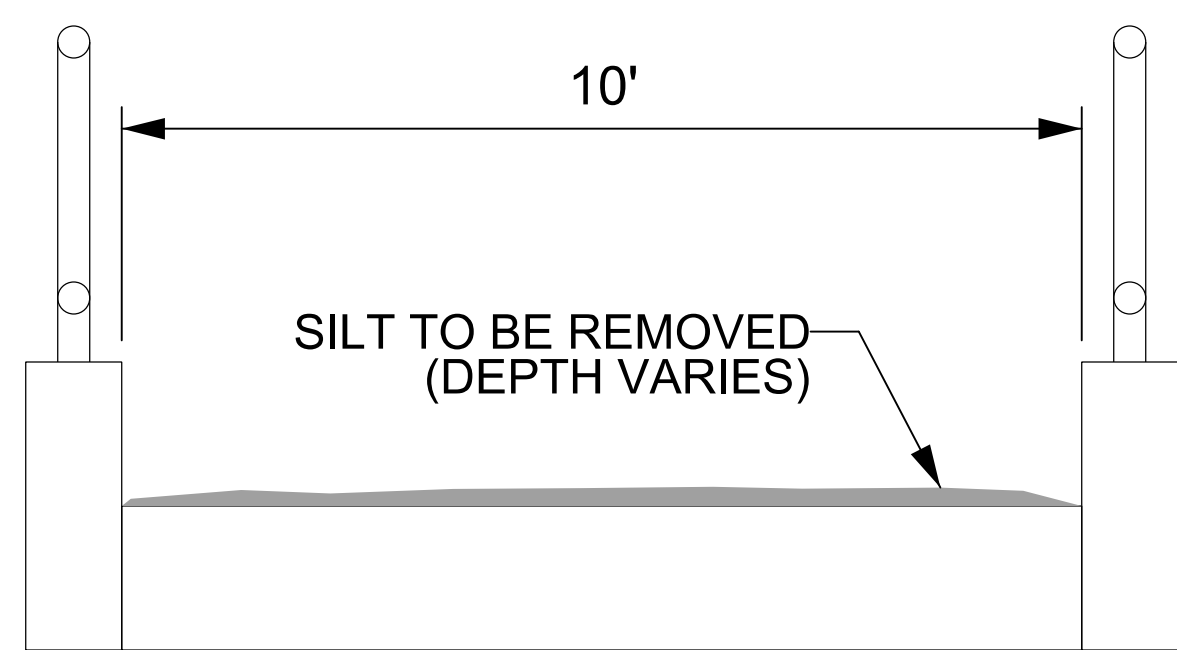


TYPICAL PROPOSED CONDITIONS CROSS SECTION

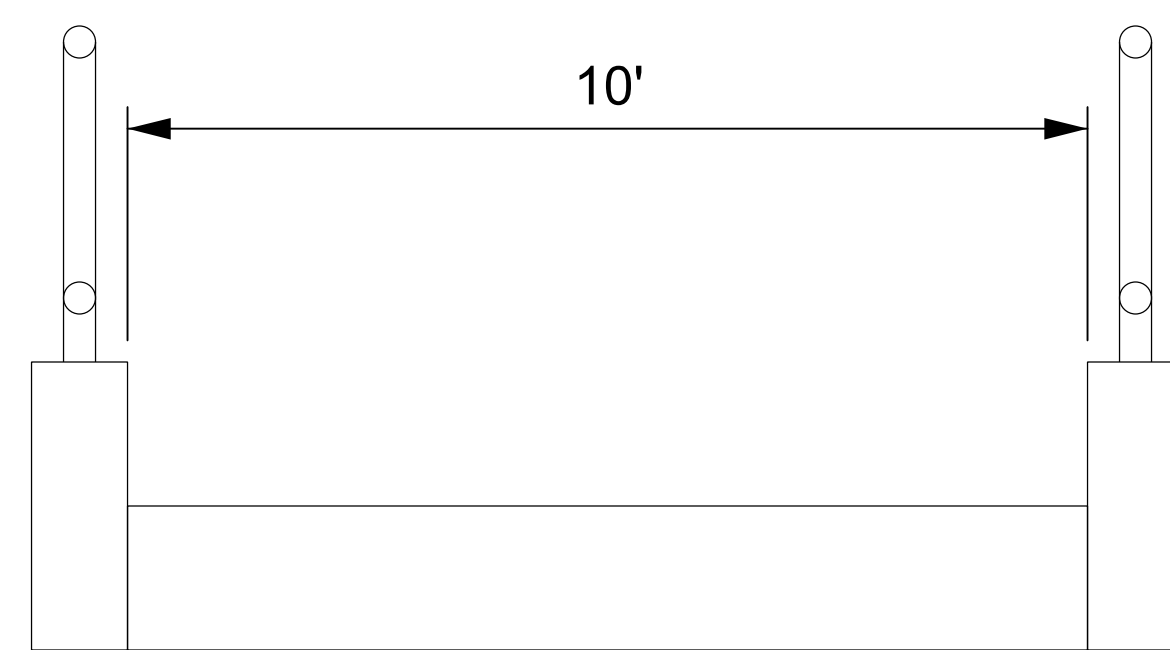


TYPICAL BRIDGE CROSS SECTION

EXISTING CONDITIONS



PROPOSED CONDITIONS



*NOTE: SEE #1 AND #3 OF 'LOCATIONS' ON THIS SHEET

STEPS:

1. REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
2. REMOVE EXISTING SILT BUILDUP AND EXISTING SILTED AND DAMAGED CRUSHED LIMESTONE OFF OF 10' WIDE TRAIL. DEPTH OF SILT IS APPROXIMATELY 2" (VARIES BY LOCATION). DEPTH OF EXISTING CRUSHED LIMESTONE IS APPROXIMATELY 4". TOTAL DEPTH TO BE REMOVED IS APPROXIMATELY 6".
3. COMPACT EXISTING AGGREGATE BASE COURSE PRIOR TO INSTALLING PROPOSED COMPACTED CRUSHED LIMESTONE.
4. PLACE AND COMPACT NEW CRUSHED LIMESTONE ALONG 10' WIDE TRAIL TO MINIMUM DEPTH OF 4".
5. REMOVED SILT MATERIAL, INCLUDING CONTRACTOR'S TEMPORARY STOCKPILES AND EXISTING PILES, SHALL BE LEGALLY DISPOSED OF BY CONTRACTOR OFF OF PARK PROPERTY.

TEMPORARY SILT MATERIAL STOCKPILE LOCATIONS:

- MILE 7.5
- MILE 7.6
- MILE 7.7
- MILE 8.0
- MILE 8.3
- MILE 8.4
- MILE 8.7
- MILE 8.9
- MILE 9.0
- MILE 9.2
- MILE 9.3
- MILE 9.4

LOCATIONS:

1. MILE 5.5 (BRIDGE #1) -- CONTRACTOR SHALL REMOVE SILT AND EXISTING CRUSHED LIMESTONE TRAIL, AND PLACE NEW COMPACTED CRUSHED LIMESTONE APPROXIMATELY 150 FEET ON BOTH THE NORTH AND SOUTH ENTRANCES OF THE BRIDGE, AS LISTED IN 'STEPS' ON THIS SHEET AND THE TYPICAL PROPOSED CROSS SECTION. CONTRACTOR TO ENSURE ALL SILT AND DEBRIS HAS BEEN REMOVED FROM BRIDGE DECK. TRANSITIONS FROM COMPACTED CRUSHED LIMESTONE TO CONCRETE APRONS AT BRIDGE ENTRANCES TO BE SMOOTH.
2. MILE 5.6 -- CONTRACTOR SHALL REMOVE SILT AND EXISTING CRUSHED LIMESTONE TRAIL ON AND AROUND TWO LOW WATER CROSSINGS AND REPLACE COMPACTED CRUSHED LIMESTONE AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.
3. MILE 5.8 (BRIDGE #2) -- CONTRACTOR SHALL REMOVE SILT AND EXISTING CRUSHED LIMESTONE TRAIL, AND PLACE NEW COMPACTED CRUSHED LIMESTONE APPROXIMATELY 150 FEET ON BOTH THE NORTH AND SOUTH ENTRANCES OF THE BRIDGE, AS LISTED IN 'STEPS' ON THIS SHEET AND THE TYPICAL PROPOSED CROSS SECTION. CONTRACTOR TO ENSURE ALL SILT AND DEBRIS HAS BEEN REMOVED FROM BRIDGE DECK. TRANSITIONS FROM COMPACTED CRUSHED LIMESTONE TO CONCRETE APRONS AT BRIDGE ENTRANCES TO BE SMOOTH.
4. MILE 6 - MILE 6.2 -- CONTRACTOR SHALL REMOVE SILT AND EXISTING CRUSHED LIMESTONE TRAIL, AND PLACE NEW COMPACTED CRUSHED LIMESTONE ACCORDING TO 'STEPS' LISTED ON THIS SHEET AND THE TYPICAL PROPOSED CROSS SECTION. CONTRACTOR SHALL ALSO SCRAPE AND RESURFACE TRAIL 200' SOUTH OF MILE 6.0.
5. MILE 6.2 -- CONTRACTOR SHALL REMOVE SILT AND EXISTING CRUSHED LIMESTONE TRAIL ON AND AROUND CONCRETE LOW WATER CROSSING AS NEEDED, AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.

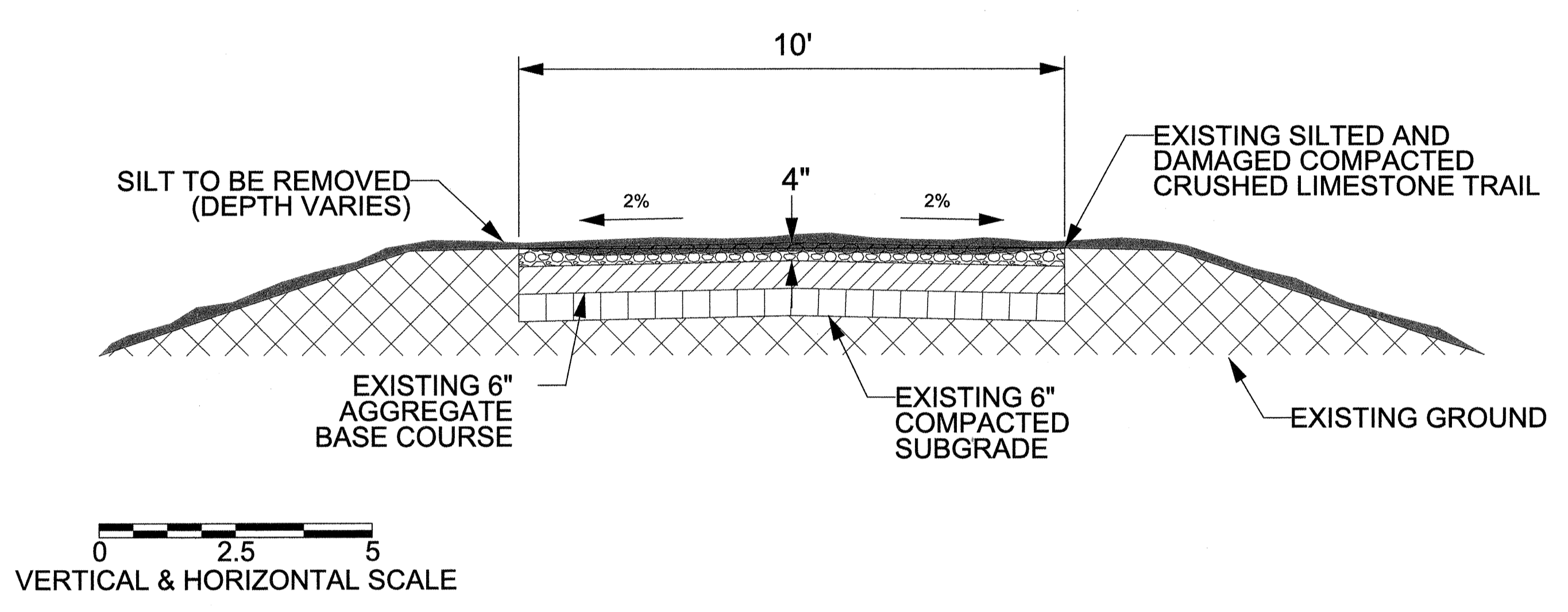
* "SILT MATERIAL" IS DEFINED AS SILT BUILDUP AND EXISTING SILTED AND DAMAGED CRUSHED LIMESTONE.

* CONTRACTOR MAY TEMPORARILY STORE REMOVED SILT MATERIAL IN STOCKPILES SHOWN IN SILT STOCKPILE LOCATION TABLE. SILT STOCKPILES SHALL BE LEGALLY DISPOSED OF OFF PARK PROPERTY BY CONTRACTOR BEFORE PROJECT ACCEPTANCE.

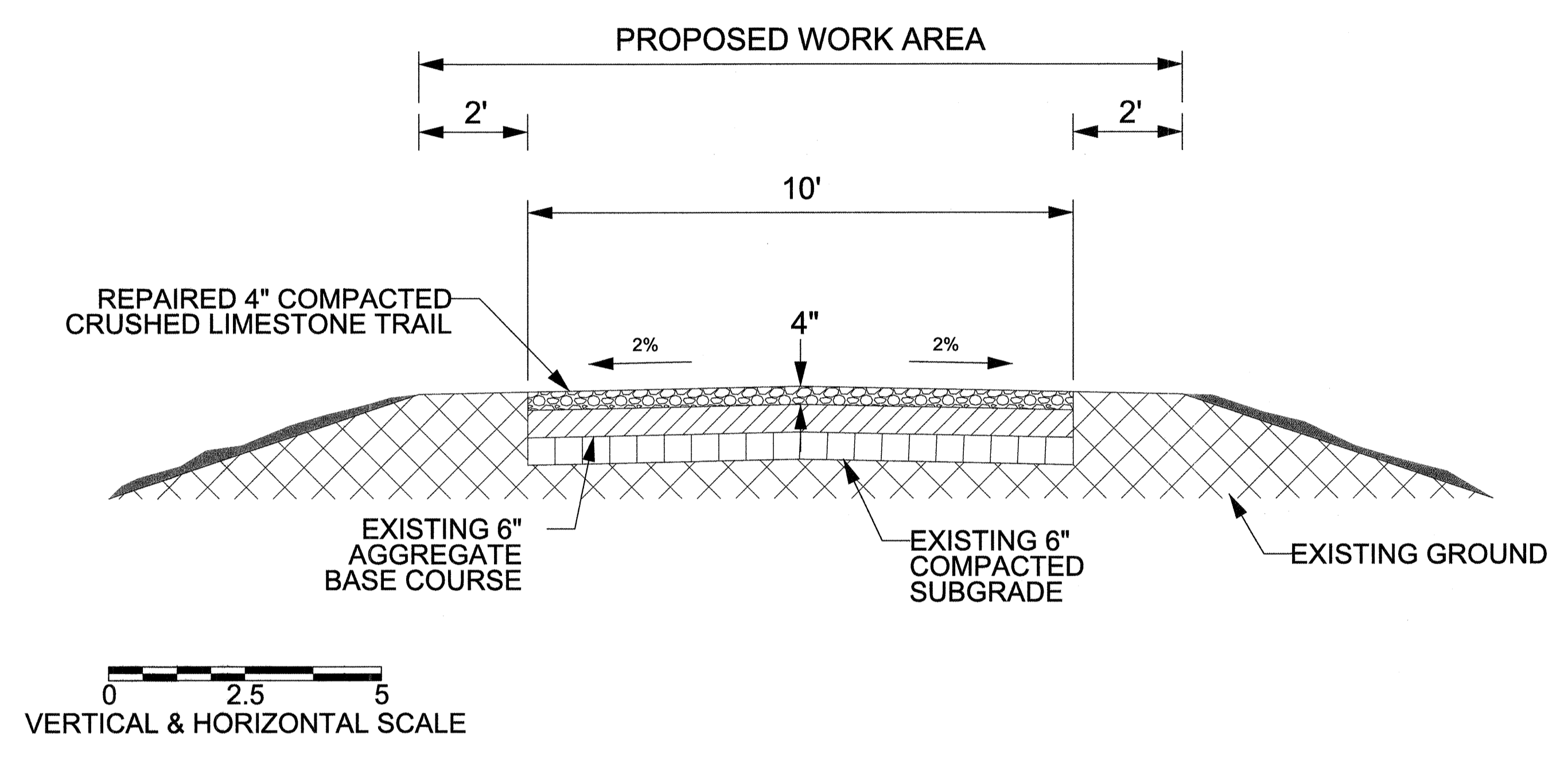
* MILEAGE DENOTED FROM TRAIL ENTRANCE AT TRAILHEAD SOUTH OF LAKE RAY ROBERTS DAM.

TYPICAL SILT REMOVAL PLAN

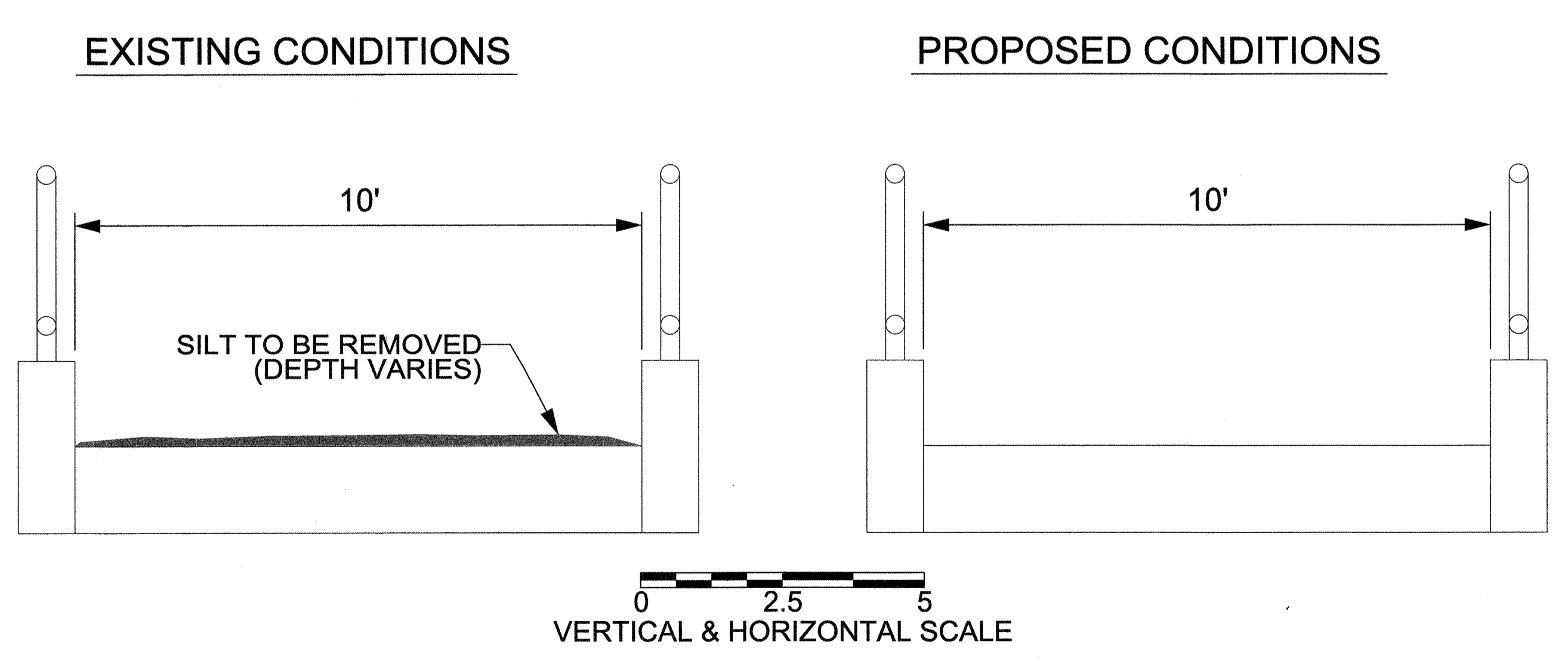
TYPICAL EXISTING CONDITIONS CROSS SECTION



TYPICAL PROPOSED CONDITIONS CROSS SECTION



TYPICAL BRIDGE CROSS SECTION



*NOTE: SEE #1 AND #3 OF 'LOCATIONS' ON THIS SHEET

STEPS:

1. REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
2. REMOVE EXISTING SILT BUILDUP AND EXISTING SILTED AND DAMAGED CRUSHED LIMESTONE OFF OF 10' WIDE TRAIL. DEPTH OF SILT APPROXIMATELY 2'. DEPTH VARIES BY LOCATION.
3. COMPACT EXISTING AGGREGATE BASE COURSE PRIOR TO INSTALLING PROPOSED COMPACTED CRUSHED LIMESTONE.
4. PLACE AND COMPACT NEW CRUSHED LIMESTONE ALONG 10' WIDE TRAIL TO MINIMUM DEPTH OF 4".
5. REMOVED SILT MATERIAL, INCLUDING CONTRACTOR'S TEMPORARY STOCKPILES AND EXISTING PILES, SHALL BE LEGALLY DISPOSED OF BY CONTRACTOR OFF OF PARK PROPERTY.

TEMPORARY SILT STOCKPILE LOCATIONS:

- MILE 7.5
- MILE 7.6
- MILE 7.7
- MILE 8.0
- MILE 8.3
- MILE 8.4
- MILE 8.7
- MILE 8.9
- MILE 9.0
- MILE 9.2
- MILE 9.3
- MILE 9.4

LOCATIONS:

1. MILE 5.5 (BRIDGE #1) -- CONTRACTOR SHALL REMOVE SILT AND PLACE NEW COMPACTED CRUSHED LIMESTONE APPROXIMATELY 150 FEET ON BOTH THE NORTH AND SOUTH ENTRANCES OF THE BRIDGE, AS LISTED IN 'STEPS' ON THIS SHEET AND THE TYPICAL PROPOSED CROSS SECTION. CONTRACTOR TO ENSURE ALL SILT AND DEBRIS HAS BEEN REMOVED FROM BRIDGE DECK. TRANSITIONS FROM COMPACTED CRUSHED LIMESTONE TO CONCRETE APRONS AT BRIDGE ENTRANCES TO BE SMOOTH.
2. MILE 5.6 -- CONTRACTOR SHALL REMOVE SILT ON AND AROUND TWO LOW WATER CROSSINGS AS NEEDED AND REPLACE COMPACTED CRUSHED LIMESTONE AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.
3. MILE 5.8 (BRIDGE #2) -- CONTRACTOR SHALL REMOVE SILT AND PLACE NEW COMPACTED CRUSHED LIMESTONE APPROXIMATELY 150 FEET ON BOTH THE NORTH AND SOUTH ENTRANCES OF THE BRIDGE, AS LISTED IN 'STEPS' ON THIS SHEET AND THE TYPICAL PROPOSED CROSS SECTION. CONTRACTOR TO ENSURE ALL SILT AND DEBRIS HAS BEEN REMOVED FROM BRIDGE DECK. TRANSITIONS FROM COMPACTED CRUSHED LIMESTONE TO CONCRETE APRONS AT BRIDGE ENTRANCES TO BE SMOOTH.
4. MILE 6 - MILE 6.2 -- CONTRACTOR SHALL REMOVE SILT AND PLACE NEW COMPACTED CRUSHED LIMESTONE AS NEEDED ACCORDING TO 'STEPS' LISTED ON THIS SHEET AND THE TYPICAL PROPOSED CROSS SECTION. CONTRACTOR SHALL ALSO SCRAPE AND RESURFACE TRAIL 200' SOUTH OF MILE 6.0.
5. MILE 6.2 -- CONTRACTOR SHALL REMOVE SILT ON AND AROUND CONCRETE LOW WATER CROSSING AS NEEDED, AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.
6. MILE 7.5 - MILE 9.4 -- CONTRACTOR SHALL REMOVE SILT AND PLACE NEW COMPACTED CRUSHED LIMESTONE AS NEEDED ACCORDING TO 'STEPS' LISTED ON THIS SHEET AND THE TYPICAL PROPOSED CROSS SECTION. SILT REMOVAL SHALL BE DONE TO SMOOTHEN TRAIL AT CONCRETE APRON TO GREENBELT TRAIL HEAD PARKING LOT FOR US 380. APPROXIMATELY 60% OF TRAIL AREA COVERED.

*CONTRACTOR MAY TEMPORARILY STORE REMOVED SILT MATERIAL IN STOCKPILES SHOWN IN SILT STOCKPILE LOCATION TABLE. SILT STOCKPILES SHALL BE LEGALLY DISPOSED OF OFF PARK PROPERTY BY CONTRACTOR BEFORE PROJECT ACCEPTANCE.

*MILEAGE DENOTED FROM TRAIL ENTRANCE AT TRAILHEAD SOUTH OF LAKE RAY ROBERTS DAM.

CONCRETE LOW WATER CROSSING PLAN

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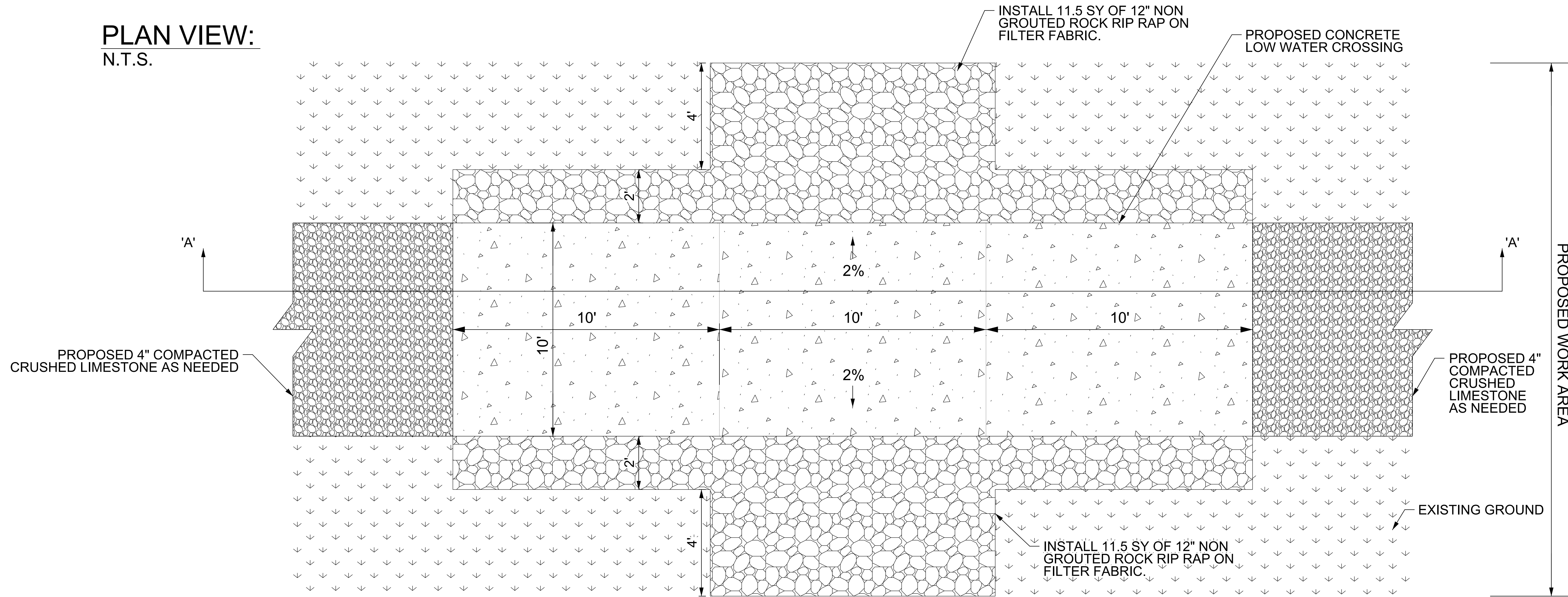
TEXAS
PARKS &
WILDLIFE

Stephen B. Crawford
 STEPHEN B. CRAWFORD
 LICENSED PROFESSIONAL ENGINEER
 12-16-18

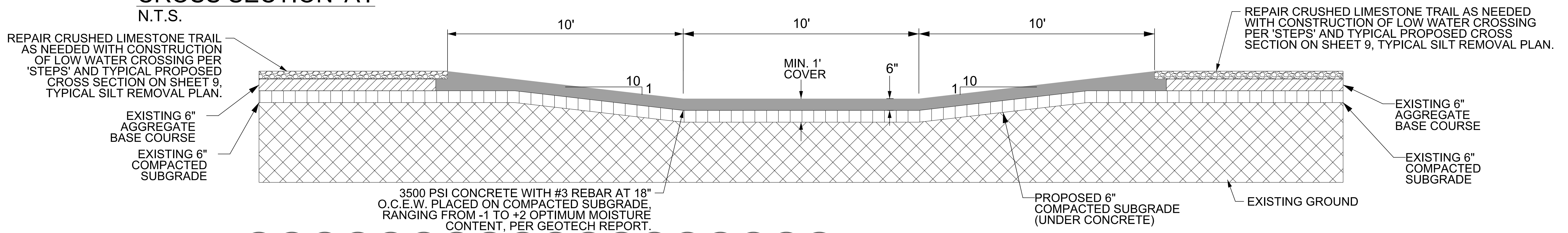
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 1201 NORTH BOWSER ROAD
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 TEL: (972) 344-4200
 FAX: (972) 344-4202
 TBPE FIRM #F-312

CCA
 LANDSCAPE ARCHITECTS

PLAN VIEW:
 N.T.S.



CROSS SECTION 'A':
 N.T.S.



STEPS:

1. REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
2. REMOVE EXISTING SILT AND CRUSHED LIMESTONE FROM PROPOSED WORK AREA.
3. REMOVE CRUSHED LIMESTONE TRAIL, AGGREGATE BASE COURSE, AND COMPACTED SUBGRADE FOR INSTALLATION OF LOW WATER CROSSING.
4. PLACE AND COMPACT SUBGRADE TO 95% STANDARD PROCTOR, RANGING FROM -1 TO +2 OPTIMUM MOISTURE CONTENT, PER GEOTECH REPORT.
5. INSTALL 6" THICK 3500 PSI CONCRETE WITH #3 REBAR AT 18" O.C.E.W. ON COMPACTED SUBGRADE.
6. PLACE AND COMPACT NEW CRUSHED LIMESTONE ALONG 10' TRAIL, BEGINNING AT EDGE OF CONCRETE, AND TYING INTO EXISTING 10' CRUSHED LIMESTONE TRAIL PER SHEET 10, TYPICAL SILT REMOVAL PLAN.
7. INSTALL 11.5 SY OF 12" NONGROUDED ROCK RIP RAP ON FILTER FABRIC ACCORDING TO PLAN VIEW ABOVE, ON EACH SIDE OF LOW WATER CROSSING.
8. EXCESS SILT MATERIAL SHALL BE LEGALLY DISPOSED OF OFF PARK PROPERTY BY CONTRACTOR.

LOCATIONS:

1. MILE 7.4 -- CONTRACTOR SHALL REMOVE SILT AND DEBRIS AND INSTALL NEW CONCRETE LOW WATER CROSSING ACCORDING TO 'STEPS' LISTED ON THIS SHEET.

NATURAL GRAVEL GRADATION

PASSING OR RETAINED ON SIEVE	PERCENT BY WEIGHT
PASSING 1 1/2 IN. SIEVE	100%
RETAINED ON 3/4 IN. SIEVE	100%

RAY ROBERTS LAKE STATE PARK
 ISLE DU BOIS - FLOOD REPAIRS
 PROJECT NUMBER: 128302

DATE: 12/10/2018
 DESIGNED BY: HALFF
 DRAWN BY: CAD
 REVIEWED BY: SBC
 REVISED:
 'STEPS' REVISED.

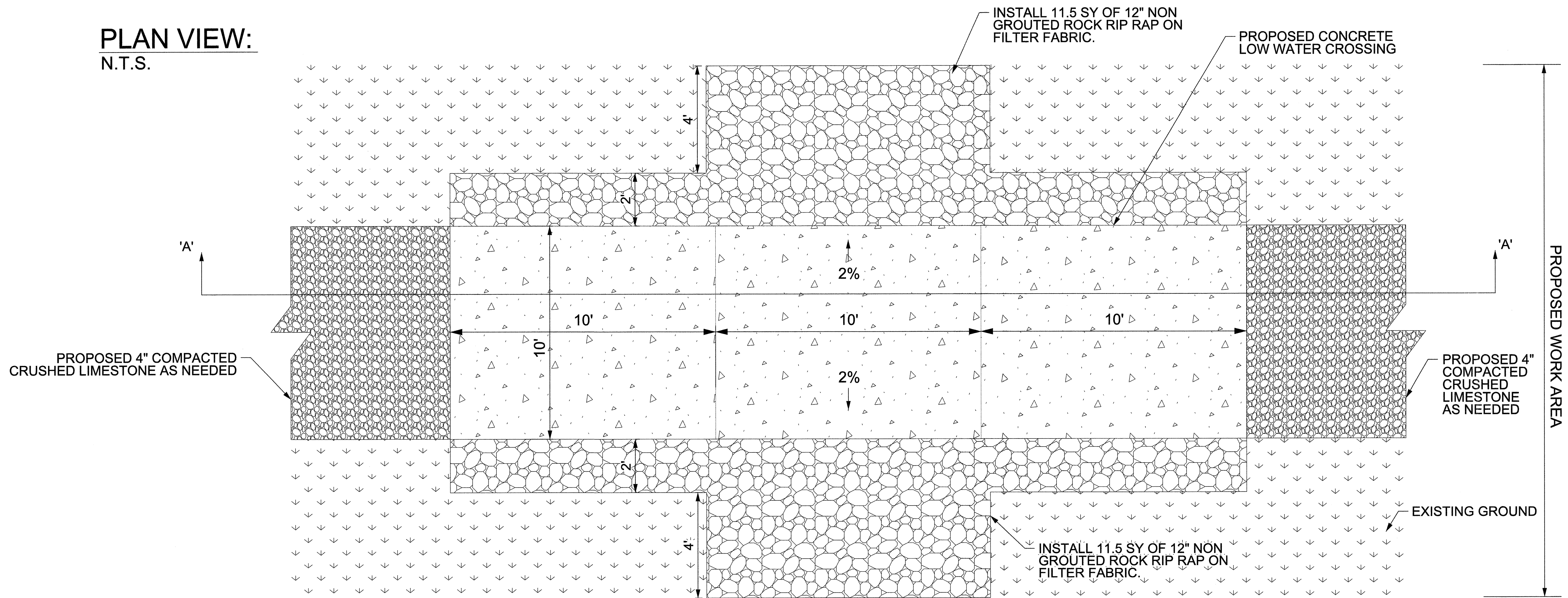
NEW

SHEET TITLE
 GREENBELT TRAIL -
 TYPICAL CONCRETE
 LOW WATER
 CROSSING PLAN

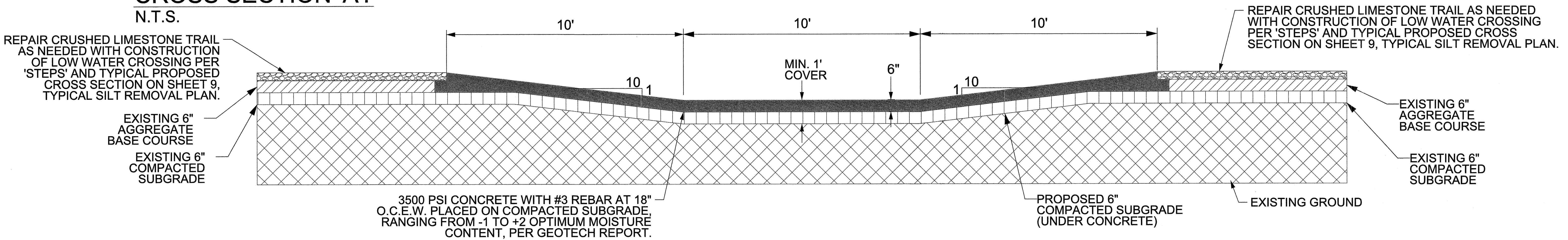
SHEET NUMBER
 11/29

CONCRETE LOW WATER CROSSING PLAN

PLAN VIEW:
N.T.S.



CROSS SECTION 'A':
N.T.S.



STEPS:

1. REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
2. REMOVE EXISTING SILT AND CRUSHED LIMESTONE FROM PROPOSED WORK AREA.
3. REMOVE CRUSHED LIMESTONE TRAIL, AGGREGATE BASE COURSE, AND COMPACTED SUBGRADE AS NEEDED FOR INSTALLATION OF LOW WATER CROSSING.
4. PLACE AND COMPACT SUBGRADE TO 95% STANDARD PROCTOR, RANGING FROM -1 TO +2 OPTIMUM MOISTURE CONTENT, PER GEOTECH REPORT.
5. INSTALL 6" THICK 3500 PSI CONCRETE WITH #3 REBAR AT 18" O.C.E.W. ON COMPACTED SUBGRADE.
6. PLACE AND COMPACT NEW CRUSHED LIMESTONE ALONG 10' TRAIL AS NEEDED, BEGINNING AT EDGE OF CONCRETE, AND TYING INTO EXISTING 10' CRUSHED LIMESTONE TRAIL PER SHEET 10, TYPICAL SILT REMOVAL PLAN.
7. INSTALL 11.5 SY OF 12" NONGROUTED ROCK RIP RAP ON FILTER FABRIC ACCORDING TO PLAN VIEW ABOVE, ON EACH SIDE OF LOW WATER CROSSING.
8. EXCESS SILT MATERIAL SHALL BE LEGALLY DISPOSED OF OFF PARK PROPERTY BY CONTRACTOR.

LOCATIONS:

1. MILE 7.4 - CONTRACTOR SHALL REMOVE SILT AND DEBRIS AND INSTALL NEW CONCRETE LOW WATER CROSSING ACCORDING TO 'STEPS' LISTED ON THIS SHEET.

NATURAL GRAVEL GRADATION	
PASSING OR RETAINED ON SIEVE	PERCENT BY WEIGHT
PASSING 1 1/2 IN. SIEVE	100%
RETAINED ON 3/4 IN. SIEVE	100%

GENERAL TRAIL RESURFACING TYPICAL CONCRETE TRAIL PLAN

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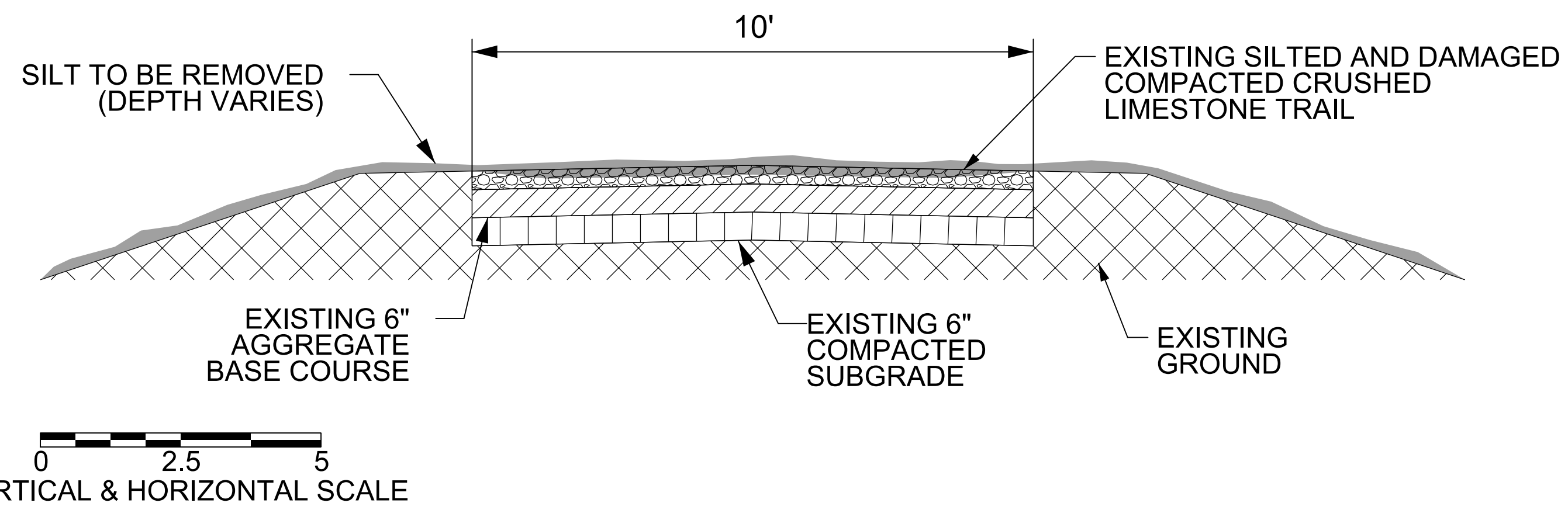
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12-16-18

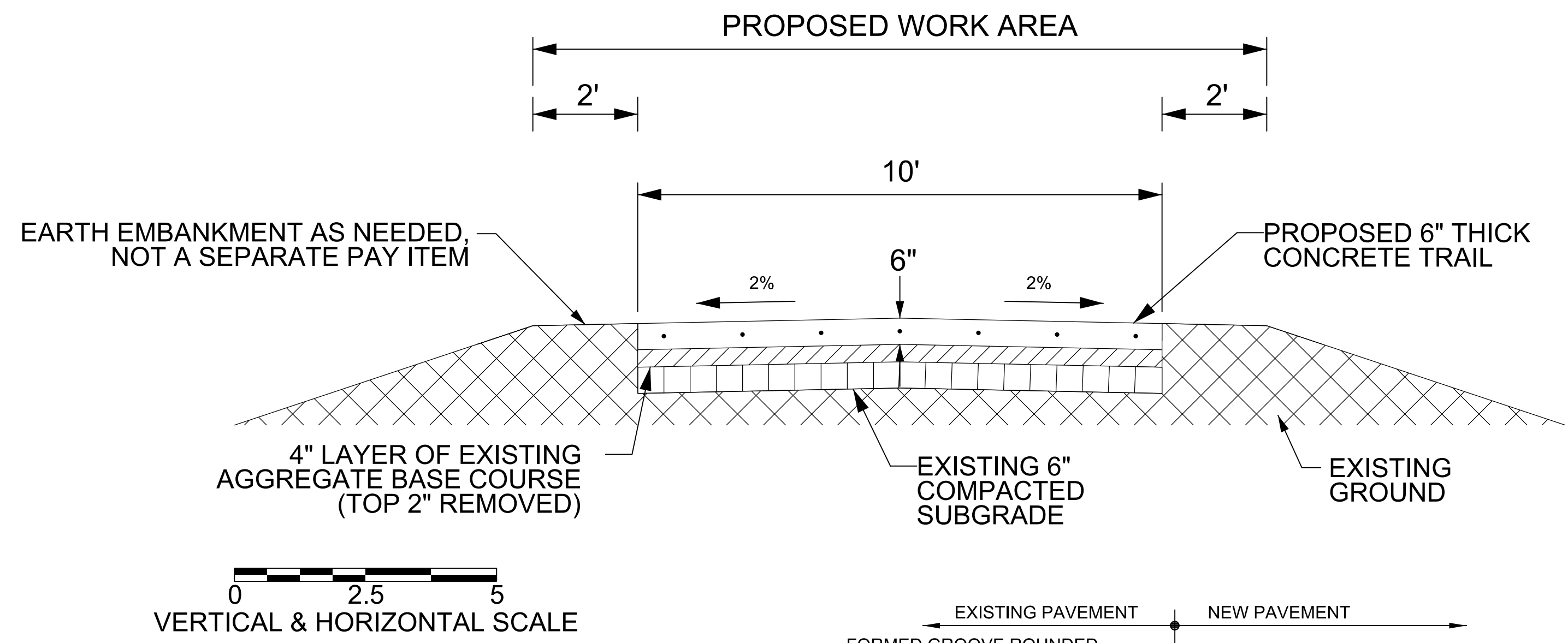
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TBPE FIRM #F-312

CCA
LANDSCAPE ARCHITECTS

TYPICAL EXISTING CONDITIONS CROSS SECTION



TYPICAL PROPOSED CONDITIONS CROSS SECTION (A-A)



LOCATIONS:

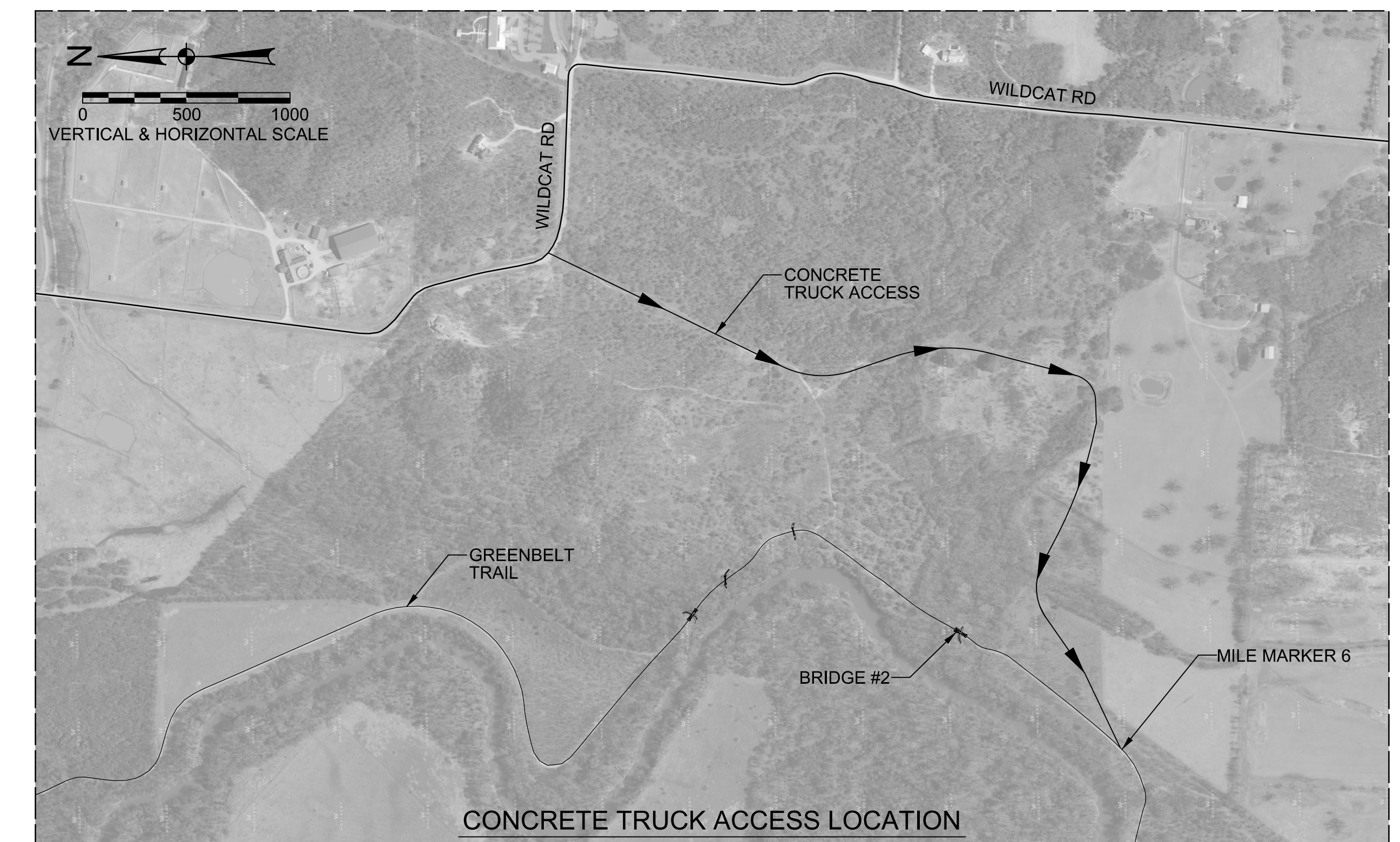
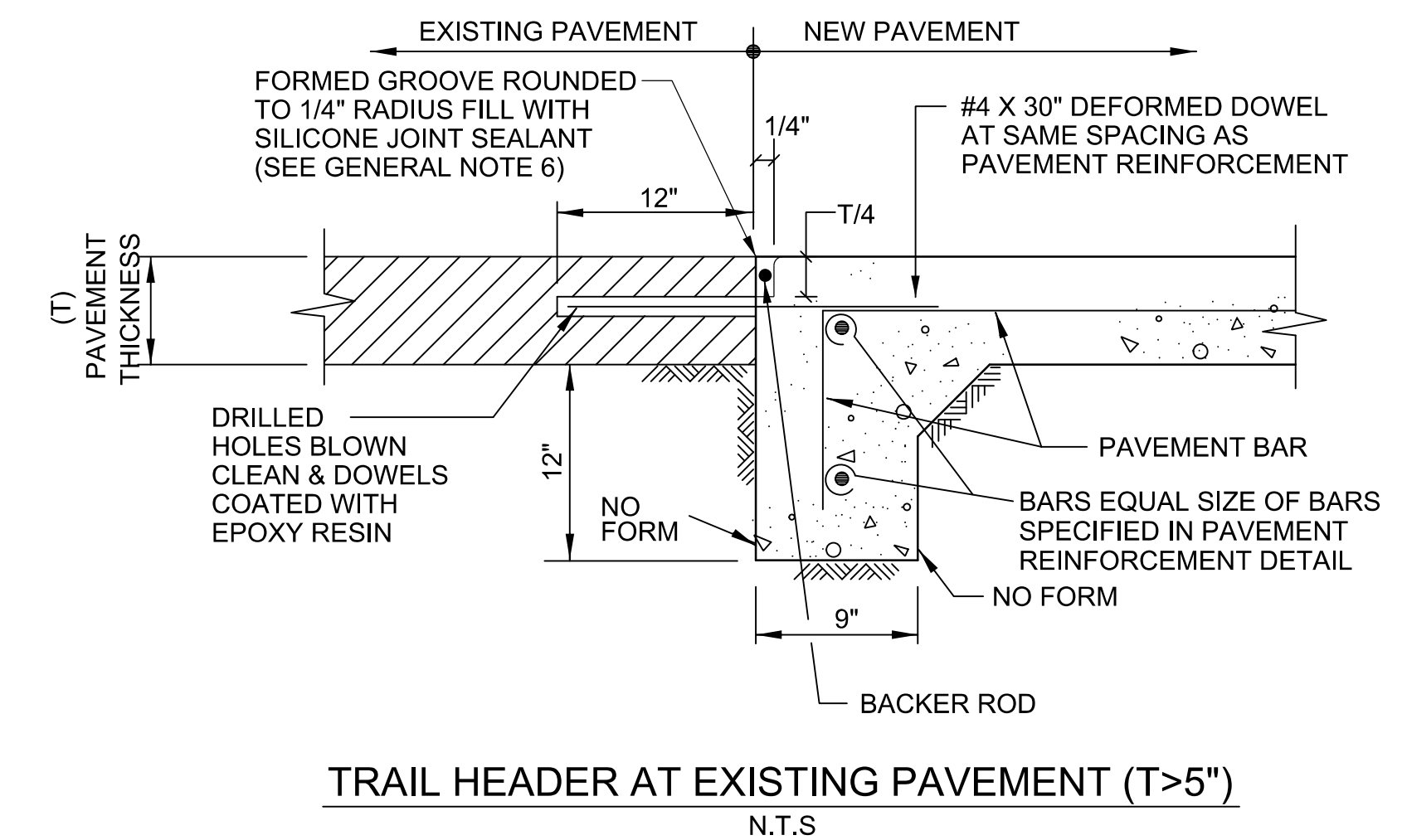
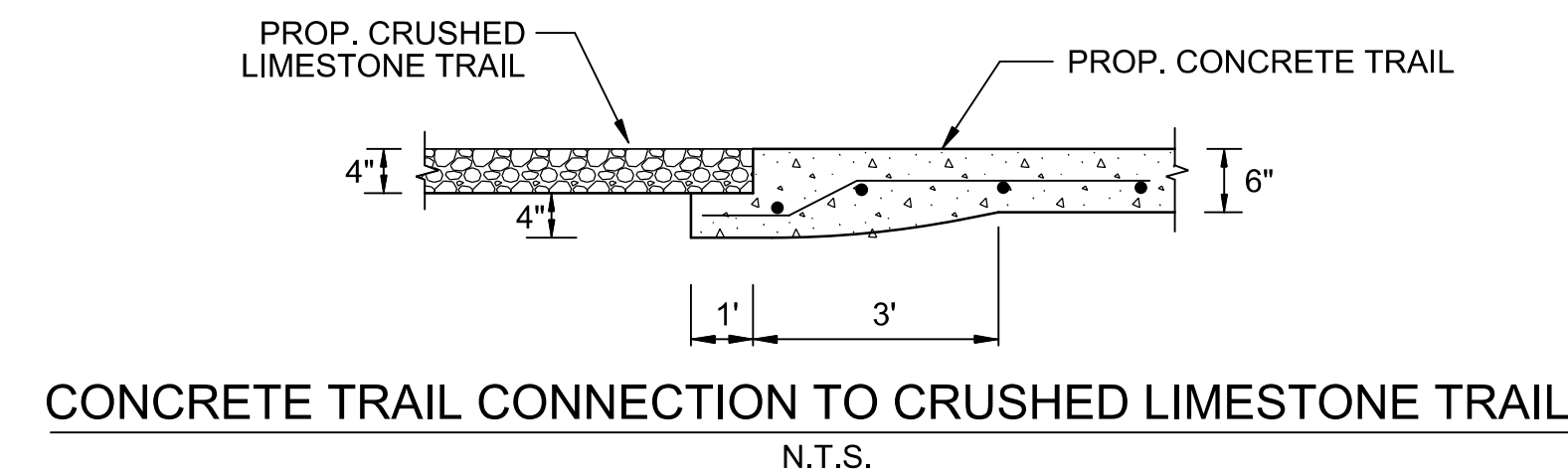
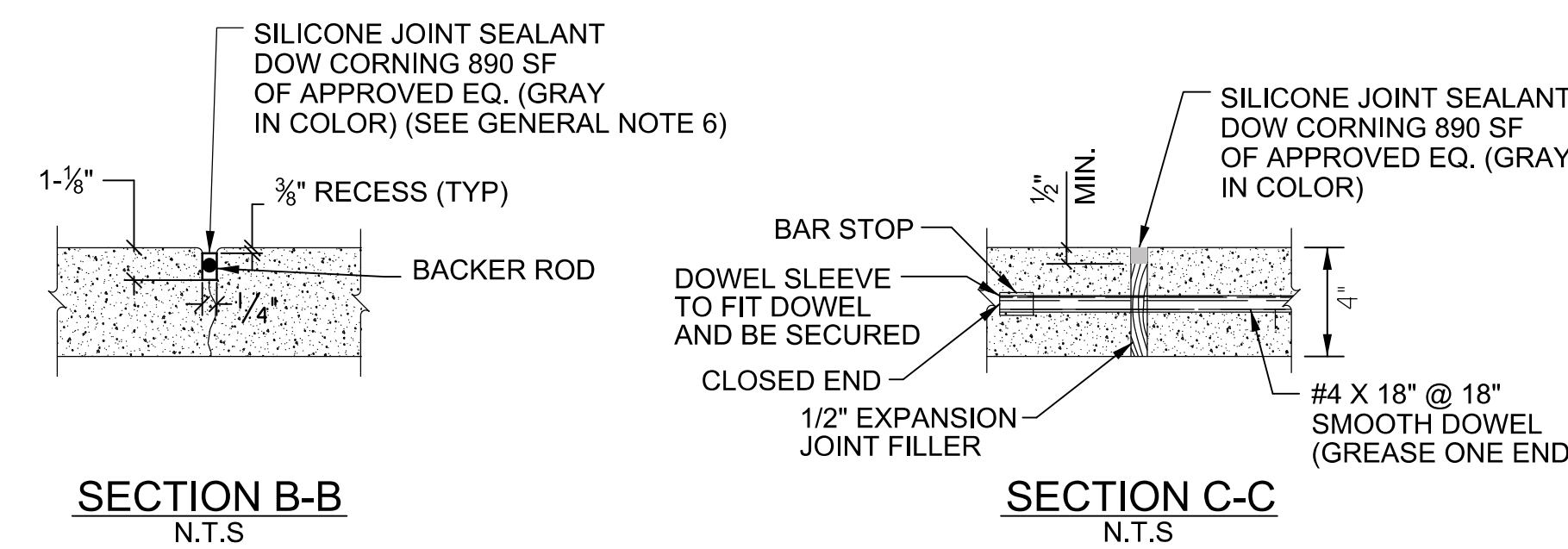
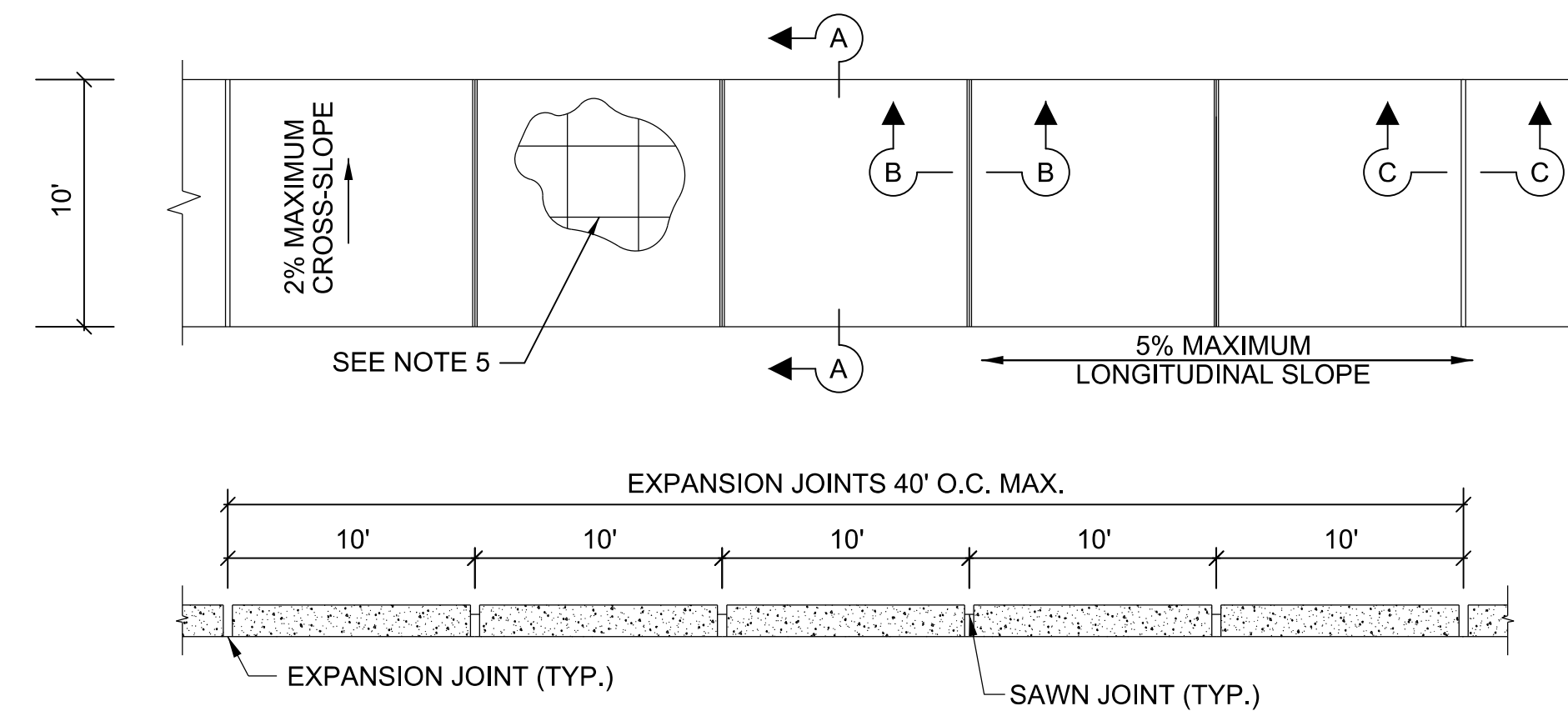
- MILE 7.5-9.4 -- PLACE AND NEW CONCRETE TRAIL ACCORDING TO PROPOSED CROSS SECTION AND 'STEPS' ON THIS SHEET.

STEPS:

- REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
- REMOVE EXISTING SILT BUILD UP (APPROX. DEPTH = 2"). EXISTING SILTED AND DAMAGED CRUSHED LIMESTONE TRAIL (APPROX. DEPTH = 4"), AND TOP 2" OF EXISTING AGGREGATE BASE COURSE OFF OF 10' WIDE TRAIL. TOTAL DEPTH TO BE REMOVED IS APPROXIMATELY 8".
- COMPACT EXISTING AGGREGATE BASE COURSE (4" DEPTH REMAINING) TO 95% STANDARD PROCTOR DENSITY AT OR ABOVE OPTIMUM MOISTURE CONTENT, PRIOR TO INSTALLING PROPOSED CONCRETE TRAIL.
- PLACE NEW CONCRETE ALONG 10' WIDE TRAIL TO DEPTH OF 6".
- REMOVED SILT MATERIAL (AS DEFINED ON SHT. 10) AND TOP 2" LAYER OF AGGREGATE BASE COURSE SHALL BE LEGALLY DISPOSED OF BY CONTRACTOR OFF OF PARK PROPERTY.

NOTES:

- THE MATERIALS AND WORKMANSHIP FOR CONCRETE PAVING SHALL BE IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS SECTION 321313.
- JOINTS SHALL BE AS INDICATED.
- COST FOR INSTALLATION OF ALL JOINTS SHALL BE INCIDENTAL TO CONCRETE PAVEMENT CONSTRUCTION. JOINTS SHALL BE SAWN AS SOON AS PRACTICAL AFTER CONCRETE IS PLACED (COMPRESSIVE STRENGTH SHALL REACH APPROXIMATELY 1000 PSI), BUT NOT EXCEEDING 18 HOURS AFTER CONCRETE PLACEMENT. CONTRACTOR SHALL MATCH NEW PAVEMENT JOINTS WITH EXISTING ADJOINING PAVEMENT WHERE APPLICABLE.
- HOT POURED RUBBER NOT PERMITTED IN LIEU OF SILICONE JOINT SEALANT.
- CONCRETE TRAIL SHALL BE 6" THICK, 3500 PSI CONCRETE WITH #3 BARS, 18" O.C.E.W. AND LIGHT BROOM FINISH.
- SCARIFY AND COMPACT EXISTING AGGREGATE BASE COURSE TO 95% STANDARD PROCTOR DENSITY AT OR ABOVE OPTIMUM MOISTURE CONTENT.
- CONTRACTOR SHALL PRESERVE AND PROTECT EXISTING CONCRETE TRAIL, AS WELL AS ANY PARK STRUCTURES ALONG THE TRAIL, BETWEEN MILE 7.5 AND 9.4.



RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
PROJECT NUMBER: 128302

DATE: 12/10/2018
DESIGNED BY: HALFF
DRAWN BY: CAD
REVIEWED BY: SBC
REVISED:
SHEET ADDED

NEW

SHEET TITLE
GREENBELT TRAIL - TYPICAL CONCRETE TRAIL PLAN

SHEET NUMBER
12a/29

GENERAL TRAIL RESURFACING TYPICAL CRUSHED LIMESTONE REPAIR PLAN

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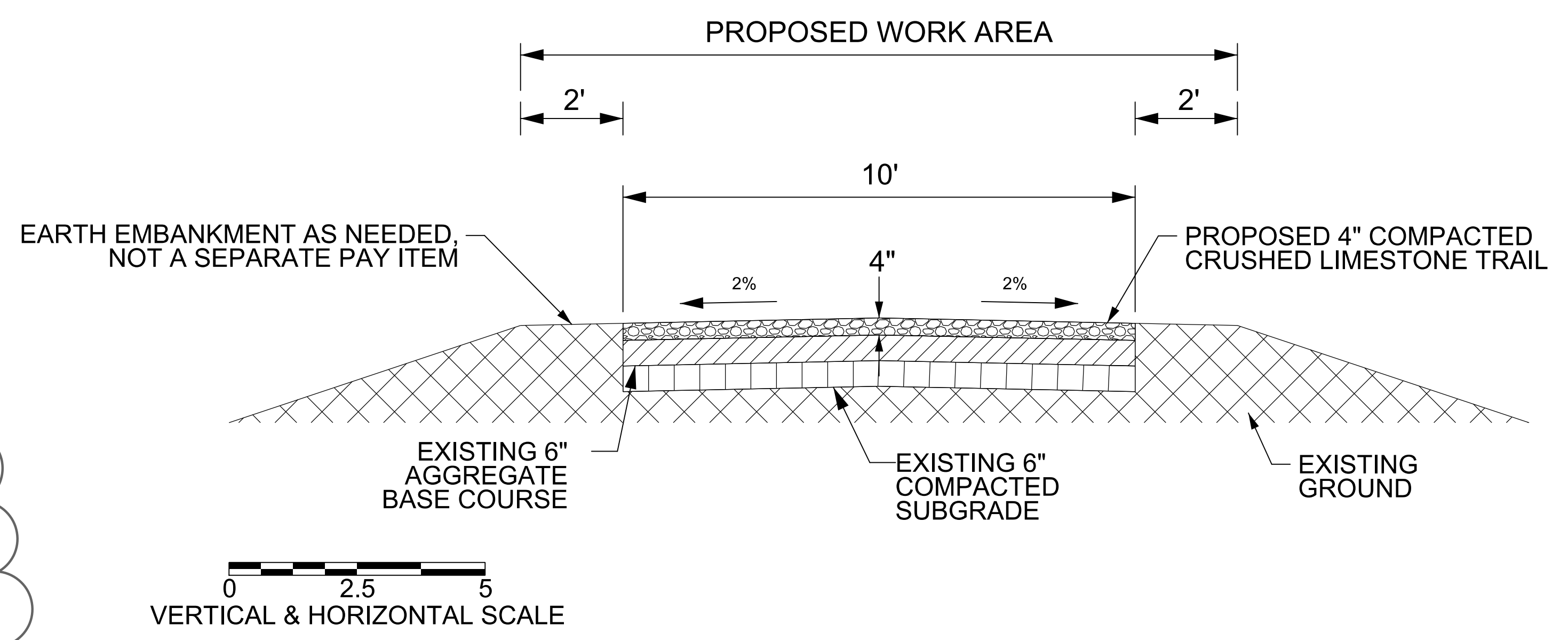
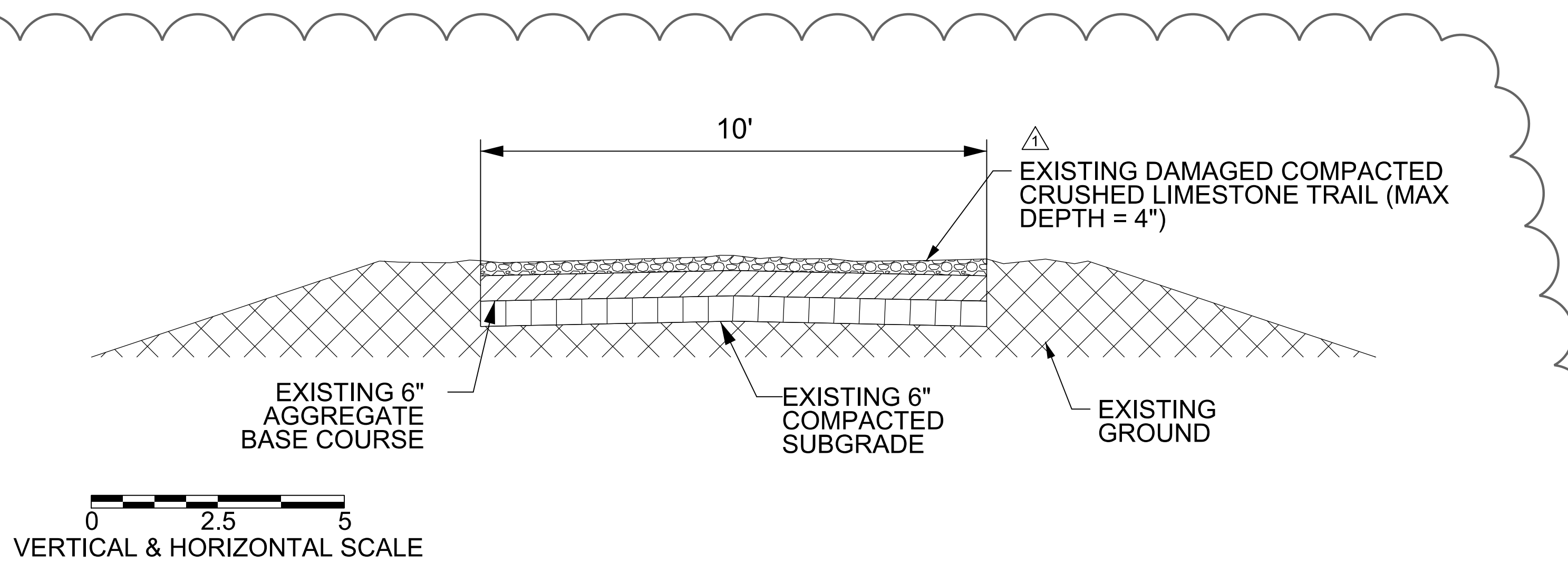
Stephen B. Crawford
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TBPE FIRM #F-312

CCA
LANDSCAPE ARCHITECTS

TYPICAL EXISTING CONDITIONS CROSS SECTION

TYPICAL PROPOSED CONDITIONS CROSS SECTION



- STEPS:**
1. REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
 2. REMOVE EXISTING DAMAGED CRUSHED LIMESTONE OFF OF 10' WIDE TRAIL TO A MAXIMUM DEPTH OF 4".
 3. COMPACT EXISTING AGGREGATE BASE COURSE PRIOR TO INSTALLING PROPOSED COMPACTED CRUSHED LIMESTONE.
 4. PLACE AND COMPACT NEW CRUSHED LIMESTONE ALONG 10' WIDE TRAIL TO MINIMUM DEPTH OF 4".
 5. REMOVED CRUSHED LIMESTONE SHALL BE LEGALLY DISPOSED OF BY CONTRACTOR OFF OF PARK PROPERTY.

- LOCATIONS:**
1. MILE 4.0-7.5 -- UNLESS OTHERWISE NOTED IN OTHER GREENBELT TRAIL REPAIR PLANS (SHT.10 - 15a), TRAIL RESURFACING SHALL BE PERFORMED ACCORDING TO PROPOSED CROSS SECTION AND 'STEPS' ON THIS SHEET.

RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
PROJECT NUMBER: 128302

DATE: 12/10/2018
DESIGNED BY: HALFF
DRAWN BY: CAD
REVIEWED BY: SBC
REVISED:
'STEPS' & 'LOCATIONS' REVISED & CROSS SECTION UPDATED.

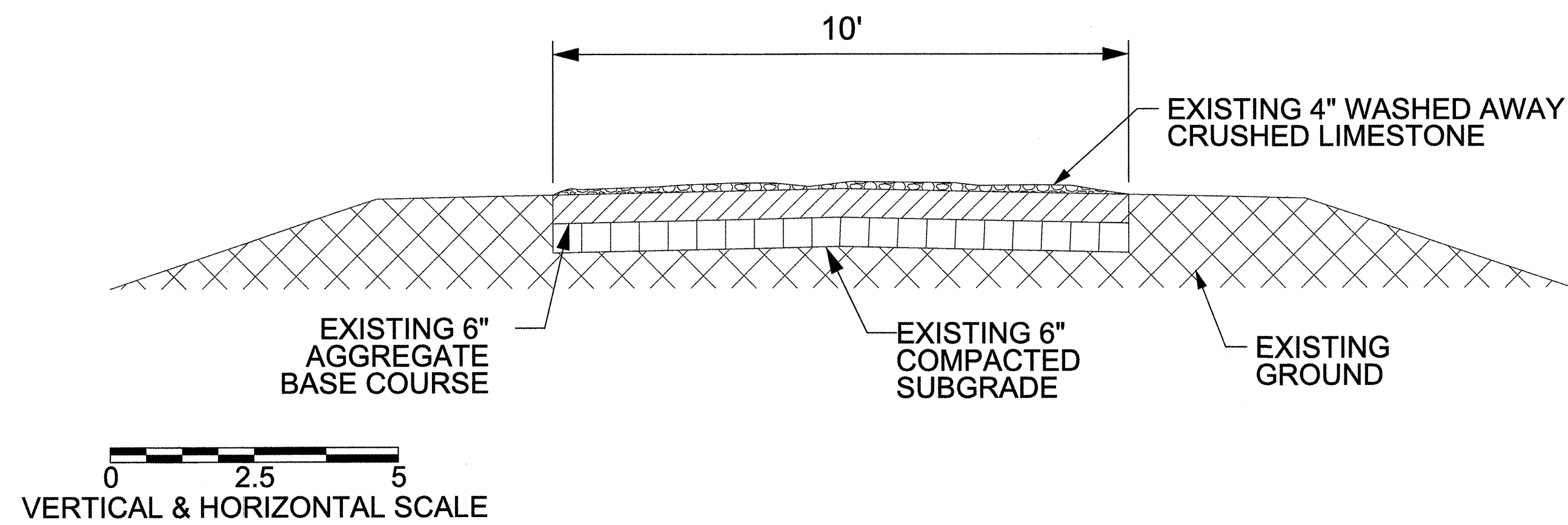
NEW

SHEET TITLE
GREENBELT TRAIL - TYPICAL CRUSHED LIMESTONE REPAIR PLAN

SHEET NUMBER
12/29

GENERAL TRAIL RESURFACING TYPICAL CRUSHED LIMESTONE REPAIR PLAN

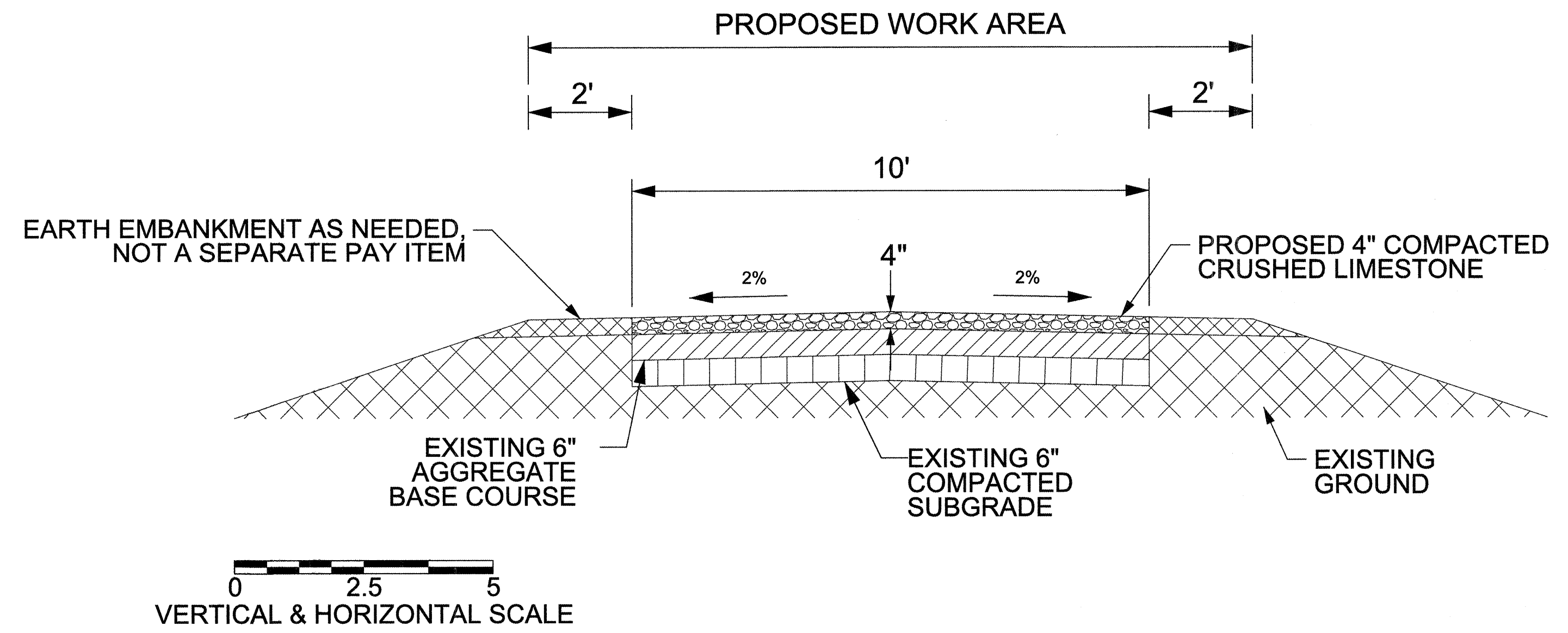
TYPICAL EXISTING CONDITIONS CROSS SECTION



STEPS:

1. REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
2. IF NEEDED, COMPACT EXISTING AGGREGATE BASE COURSE PRIOR TO INSTALLING PROPOSED COMPACTED CRUSHED LIMESTONE.
3. PLACE AND COMPACT NEW CRUSHED LIMESTONE ALONG 10' WIDE TRAIL TO MINIMUM DEPTH OF 4", AS NEEDED.

TYPICAL PROPOSED CONDITIONS CROSS SECTION

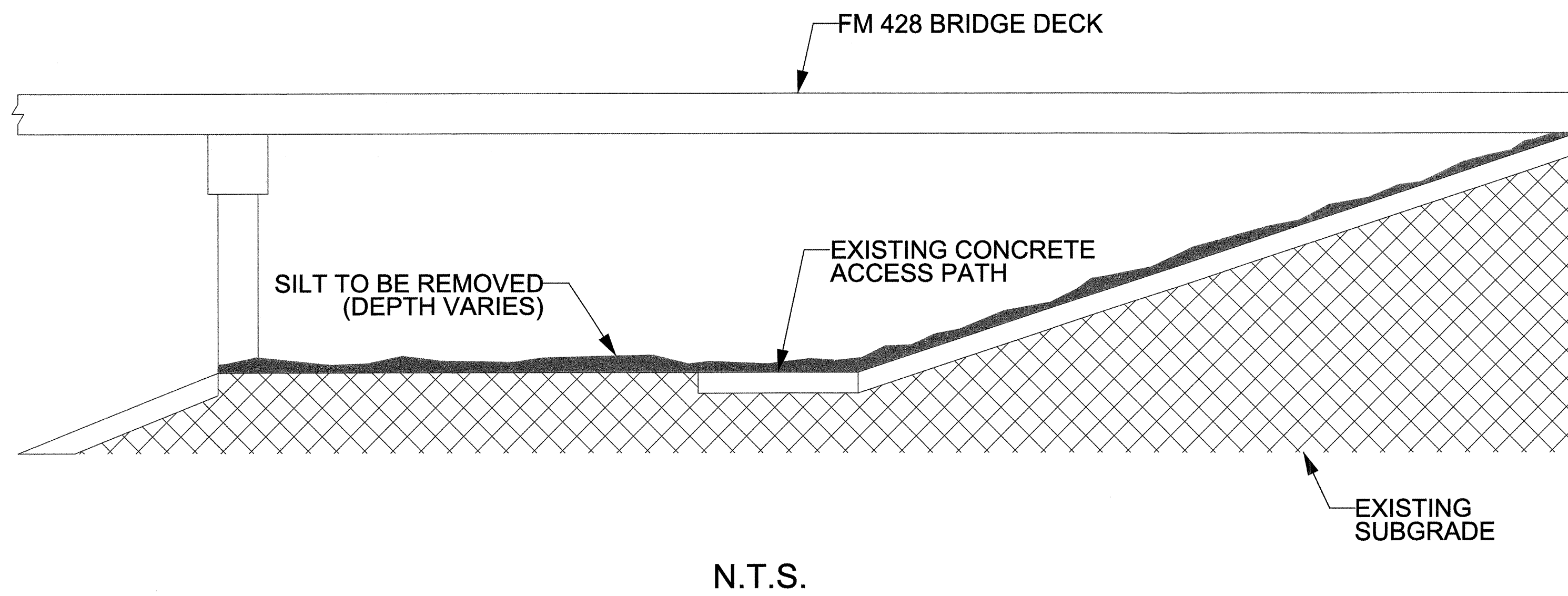


LOCATIONS:

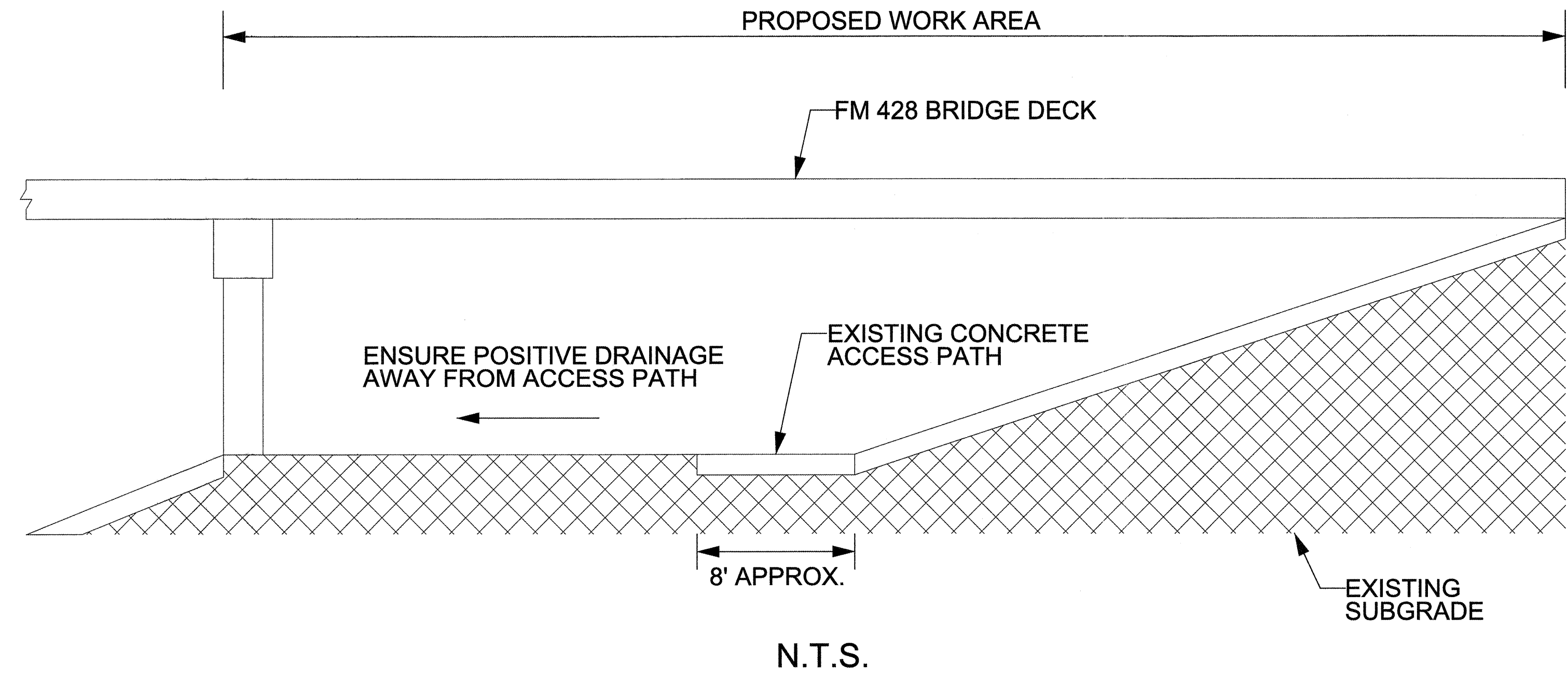
1. MILE 4.0-9.4 -- PLACE AND COMPACT NEW CRUSHED LIMESTONE AS NEEDED, ACCORDING TO PROPOSED CROSS SECTION AND 'STEPS' ON THIS SHEET.

FM 428 BRIDGE AND RED BRIDGE SILT REMOVAL PLAN

TYPICAL EXISTING CONDITIONS CROSS SECTION



TYPICAL PROPOSED CONDITIONS CROSS SECTION

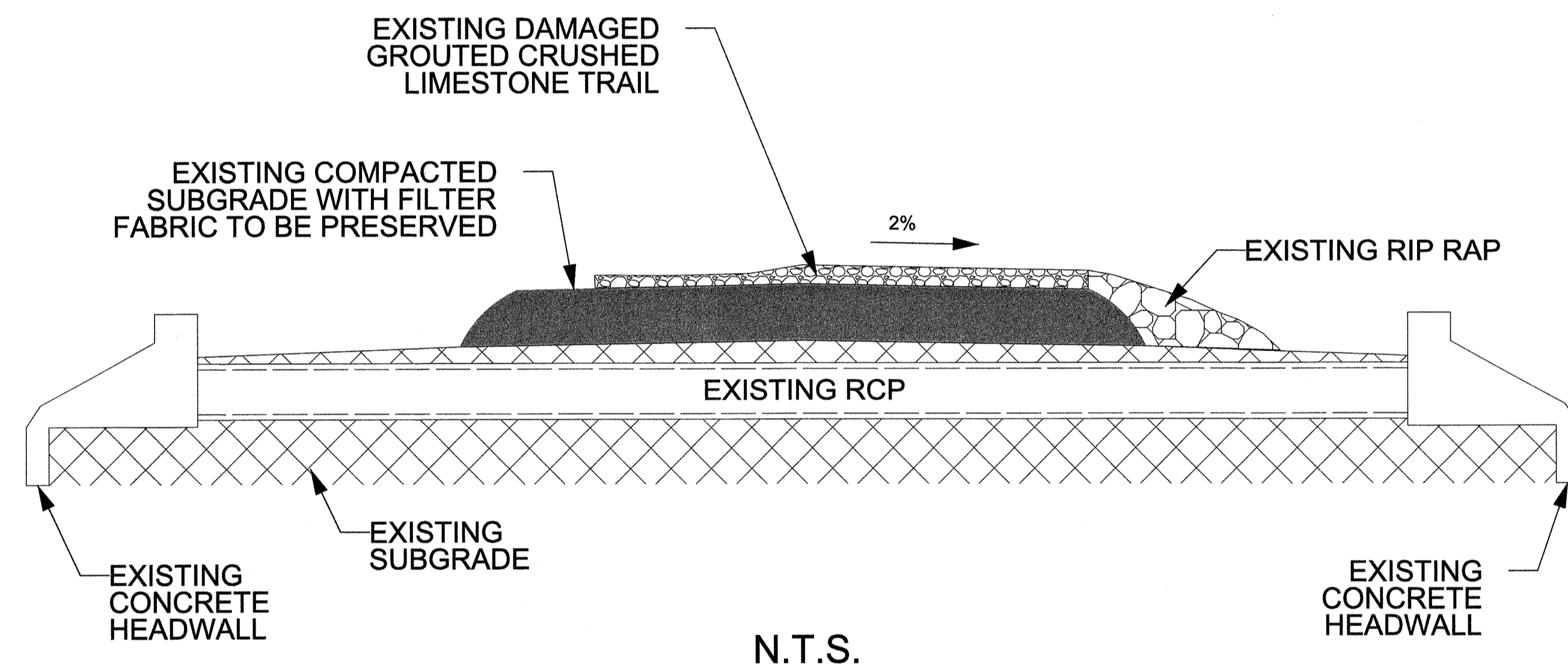


STEPS:

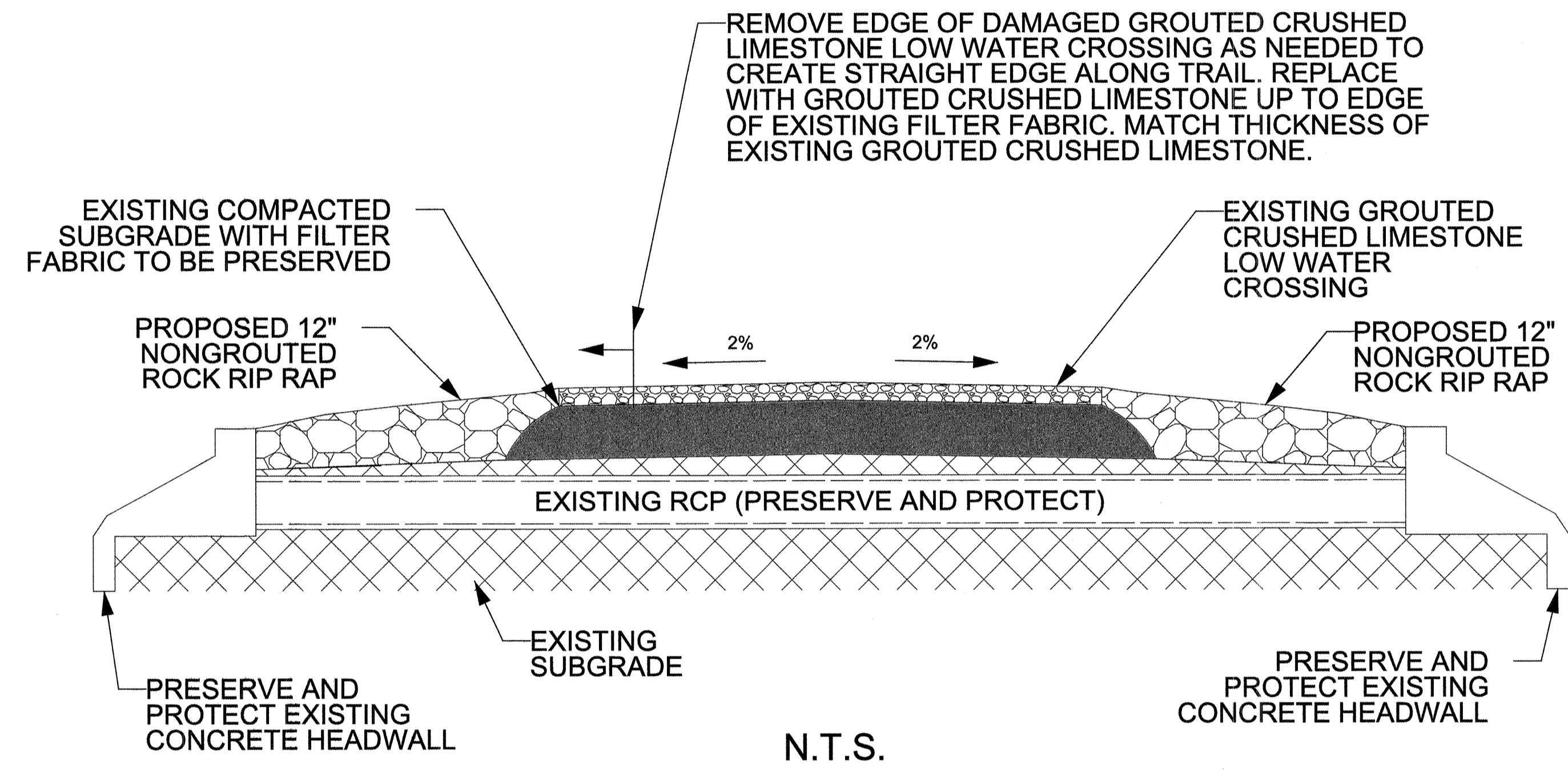
1. THE CONTRACTOR MUST COMPLETE A TXDOT MAINTENANCE WORK FORM (SECTION 340001, TECHNICAL SPECIFICATIONS) AND SUBMIT TO TXDOT FOR APPROVAL. AFTER APPROVAL, THE CONTRACTOR MUST GIVE TXDOT 48 HOURS NOTICE, PRIOR TO CONSTRUCTION.
2. REMOVE ANY LARGE DEBRIS FROM PROPOSED WORK AREA. LARGE DEBRIS INCLUDES TREE LIMBS, LARGE LOOSE ROCKS, AND OTHER DEBRIS THAT WOULD CAUSE A HINDRANCE TO PEDESTRIAN OR VEHICULAR (SERVICE) TRAFFIC.
3. REMOVE EXISTING SILT BUILDUP UNDERNEATH FM 428 BRIDGE AND RED BRIDGE WITHIN PROPOSED WORK AREA SHOWN ABOVE.
4. REMOVE EXISTING SILT BUILDUP 150' NORTH AND 150' SOUTH OF FM 428 BRIDGE AND RED BRIDGE ALONG WIDTH OF TRAIL AND MINIMUM 2' ON EACH SIDE OF TRAIL.
5. EXCESS SILT MATERIAL SHALL BE LEGALLY DISPOSED OF OFF PARK PROPERTY BY CONTRACTOR.

TYPICAL GROUTED CRUSHED LIMESTONE LOW WATER CROSSING REPAIR PLAN

TYPICAL EXISTING CONDITIONS CROSS SECTION



TYPICAL PROPOSED CONDITIONS CROSS SECTION



STEPS:

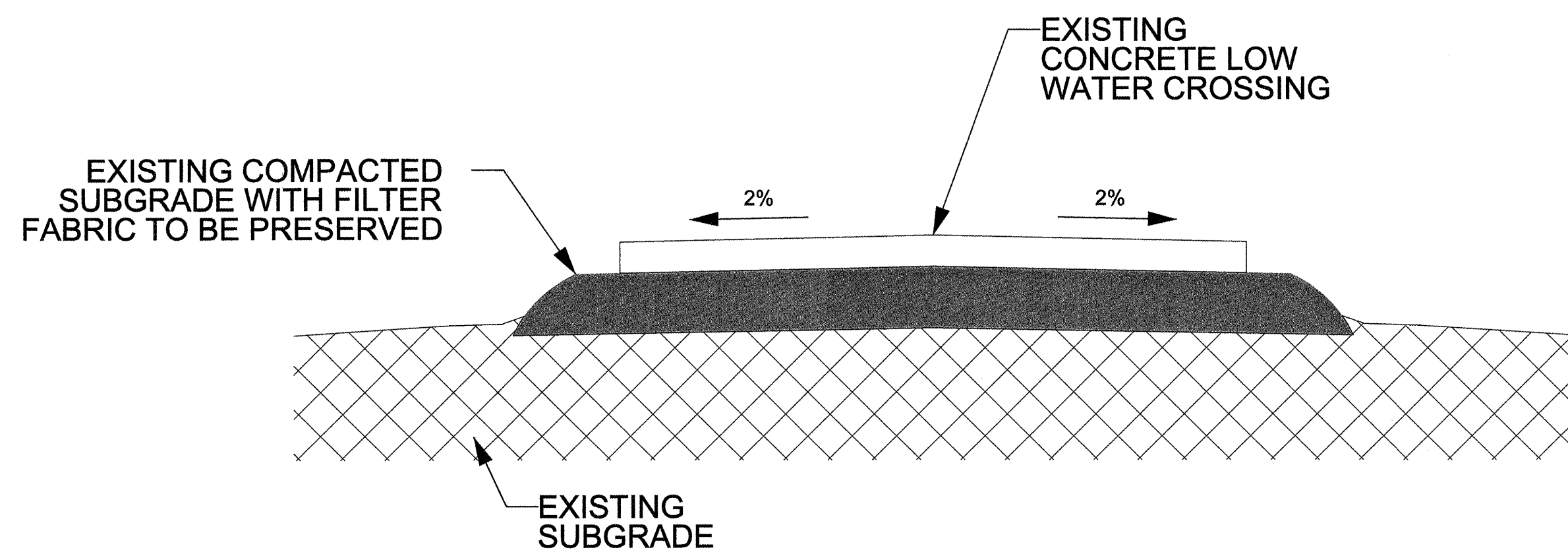
1. CLEAR DEBRIS FROM LOW WATER CROSSING AS NEEDED AND REMOVE SILT 100' ON EITHER SIDE.
2. REMOVE 6" OF DAMAGED GROUTED CRUSHED LIMESTONE ALONG EDGE OF LOW WATER CROSSING.
3. REPLACE REMOVED GROUTED CRUSHED LIMESTONE WITH NEW GROUTED CRUSHED LIMESTONE UP TO EDGE OF EXISTING FILTER FABRIC.
4. ADHERE NEW GROUTED CRUSHED LIMESTONE TO EDGE OF COMPACTED CRUSHED LIMESTONE LOW WATER CROSSING.
5. PLACE 12" NONGROUTED ROCK RIP RAP EDGE ALONG EDGE OF COMPACTED CRUSHED LIMESTONE LOW WATER CROSSING, UP TO BACK SIDE OF EXISTING HEADWALL ON EACH SIDE.
6. EXCESS CRUSHED LIMESTONE SHALL BE LEGALLY DISPOSED OF OFF PARK PROPERTY BY CONTRACTOR.

LOCATIONS:

1. MILE 6.8 -- REPAIR GROUTED CRUSHED LIMESTONE TRAIL AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.
2. MILE 7.3 -- REPAIR GROUTED CRUSHED LIMESTONE TRAIL AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.

TYPICAL CONCRETE LOW WATER CROSSING REPAIR PLAN

TYPICAL EXISTING CONDITIONS CROSS SECTION

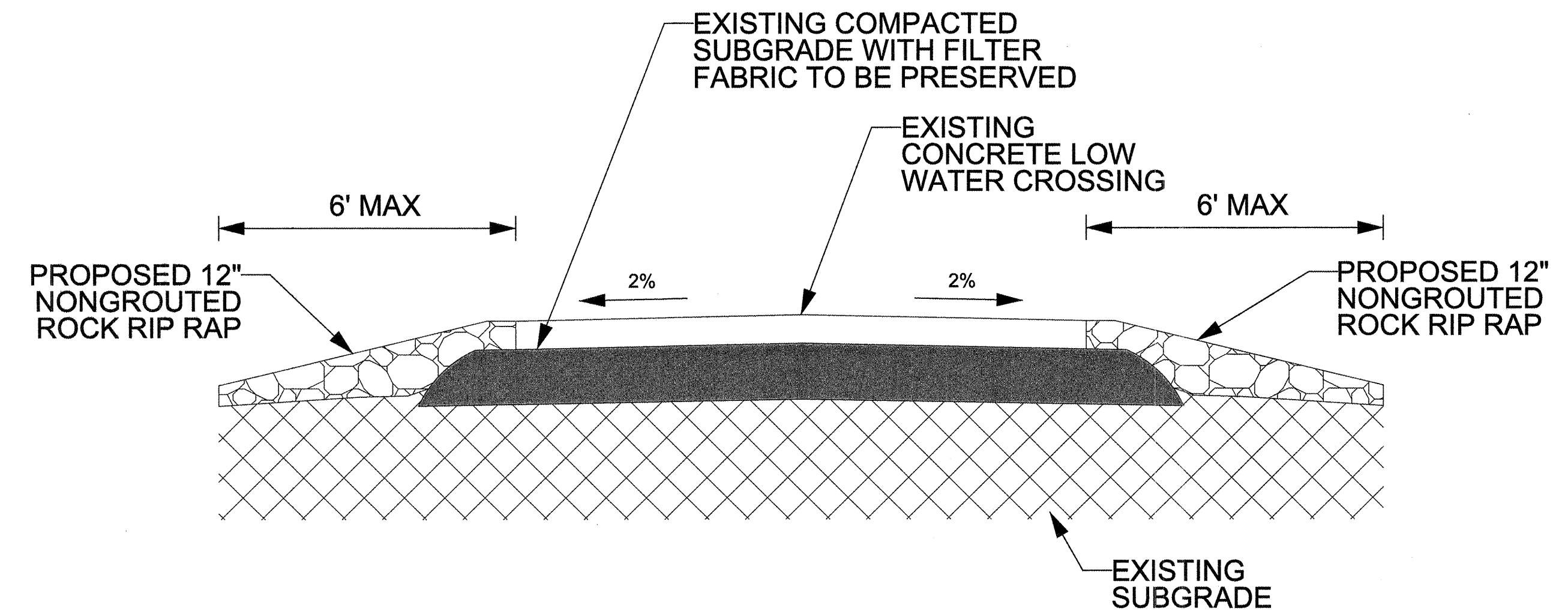


N.T.S.

STEPS:

1. REMOVE SILT AND CRUSHED LIMESTONE FROM CONCRETE LOW WATER CROSSING, AS NEEDED.
2. PLACE 12" NONGROUTED ROCK RIP RAP TO A MAXIMUM DISTANCE OF 6' FROM THE TRAIL ACCORDING TO CROSS SECTION ABOVE AND SMOOTHEN AT AGE OF CONCRETE

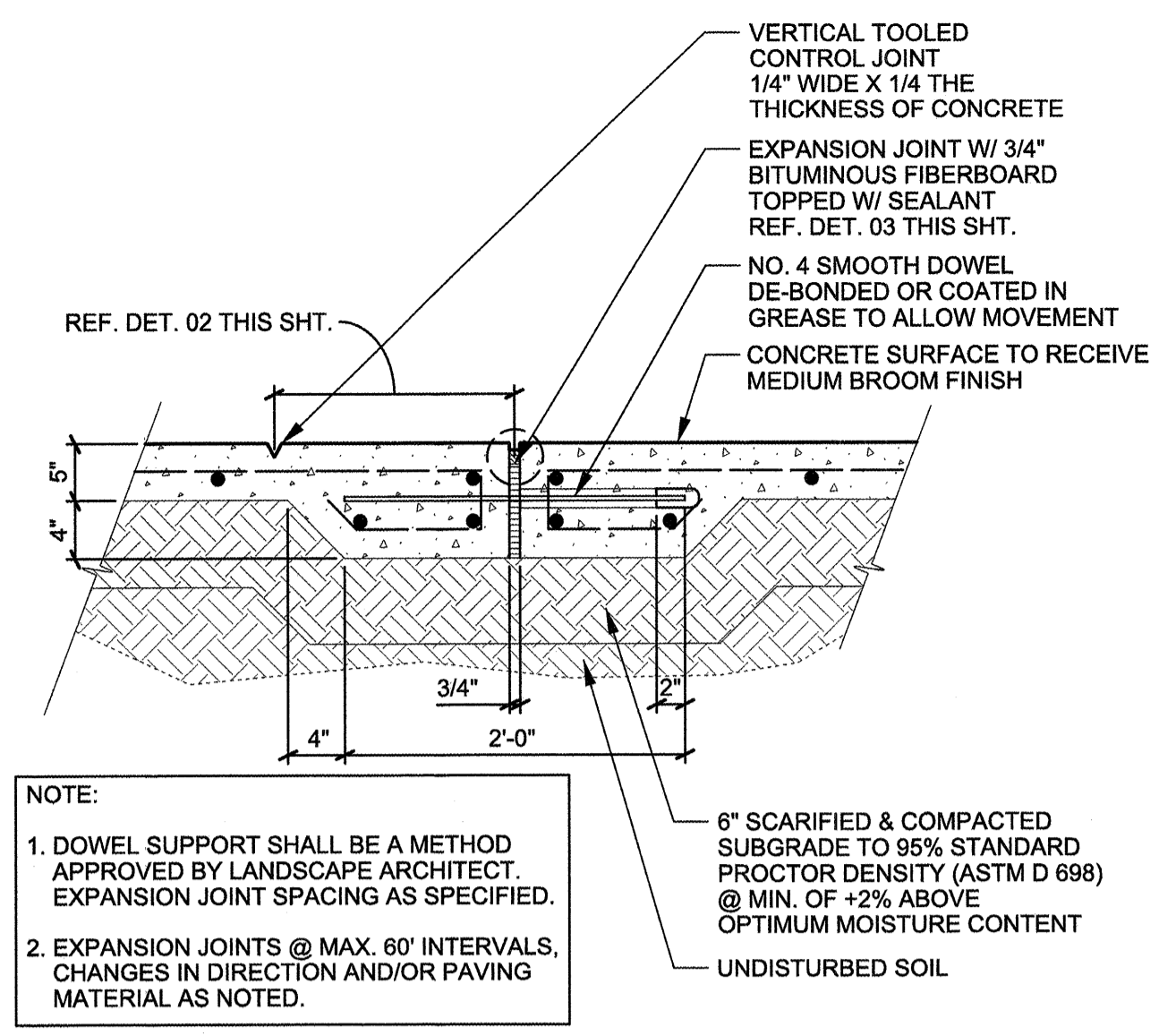
TYPICAL PROPOSED CONDITIONS CROSS SECTION



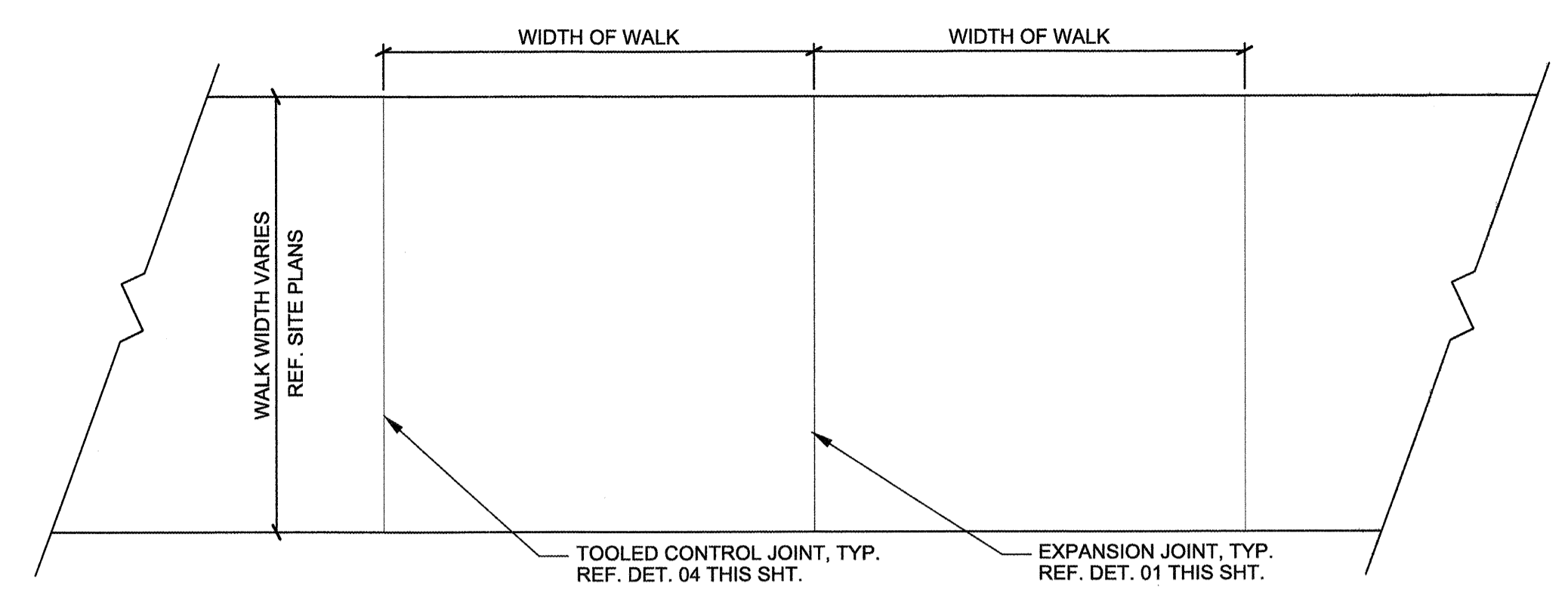
N.T.S.

LOCATIONS:

1. MILE 4.4 - REPAIR CONCRETE LOW WATER CROSSING (48') AND ADD RIP RAP AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.
2. MILE 7.1 - REPAIR CONCRETE LOW WATER CROSSING (93') AND ADD RIP RAP AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.
3. MILE 7.2 - REPAIR TWO CONCRETE LOW WATER CROSSINGS (27' & 40') AND ADD RIP RAP AS SHOWN ABOVE IN THE TYPICAL PROPOSED CROSS SECTION AND AS LISTED IN 'STEPS' ON THIS SHEET.

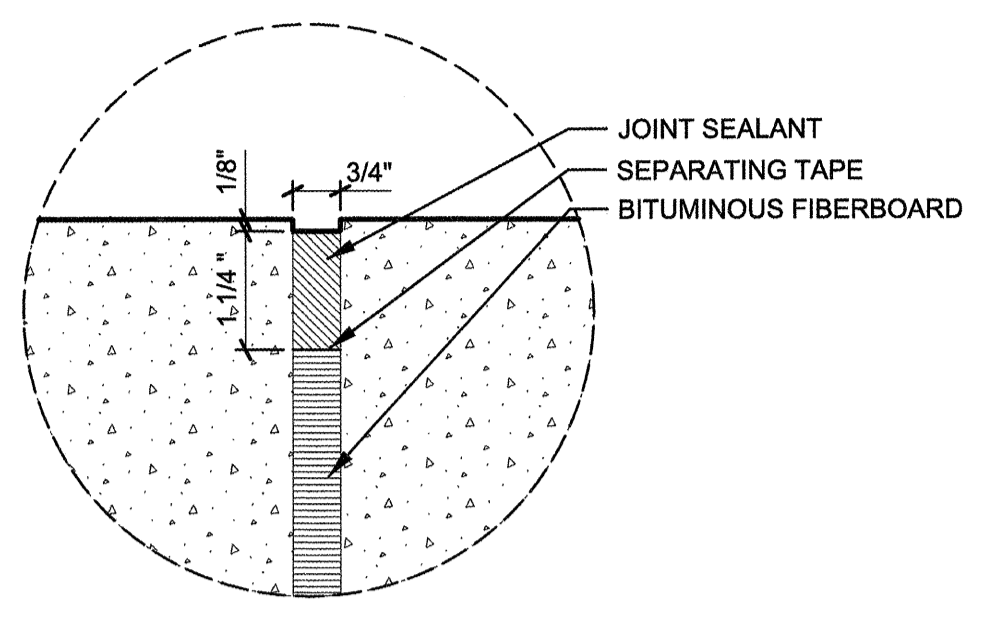


TYPICAL FLATWORK W/ JOINTING
SCALE: 1"=1'-0" SECTION

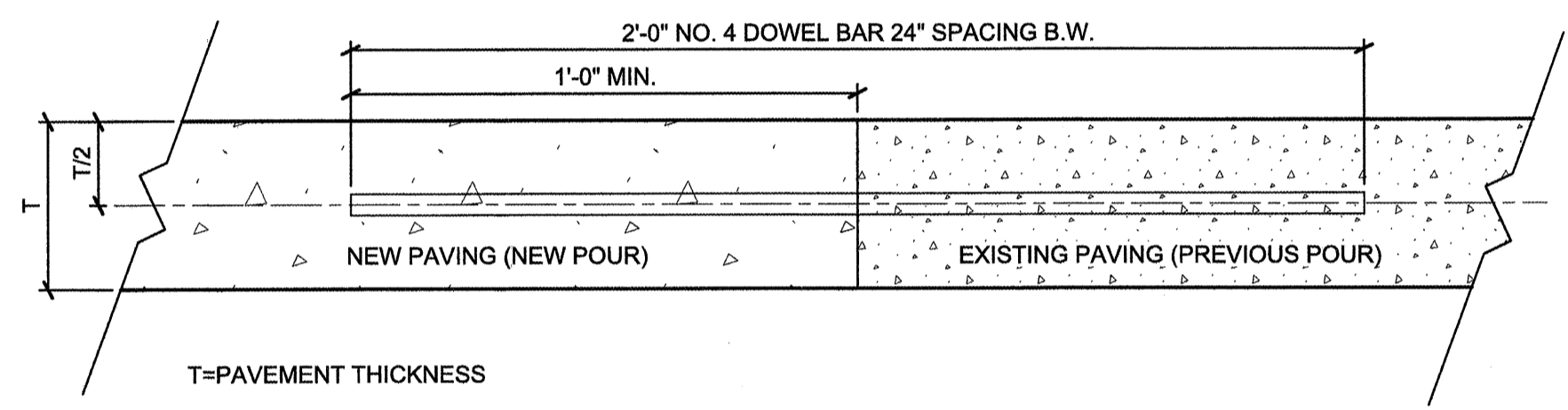


TYPICAL JOINT SPACING
SCALE: 3/8"=1'-0" PLAN

NOTE:
1. EXPANSION JOINT SHALL BE REQUIRED AT THE POINT OF CURVE AND POINT OF TANGENT
2. EXPANSION JOINTS WILL BE SPACED MAX. 60'
3. ALTERNATE METHODS TO SAWING MAY BE USED FOR FORMING CONTROL JOINTS. SUBJECT TO APPROVAL OF THE CONSTRUCTION ENGINEER. WORKMANSHIP SHALL BE COMPARABLE TO A SAWED JOINT.

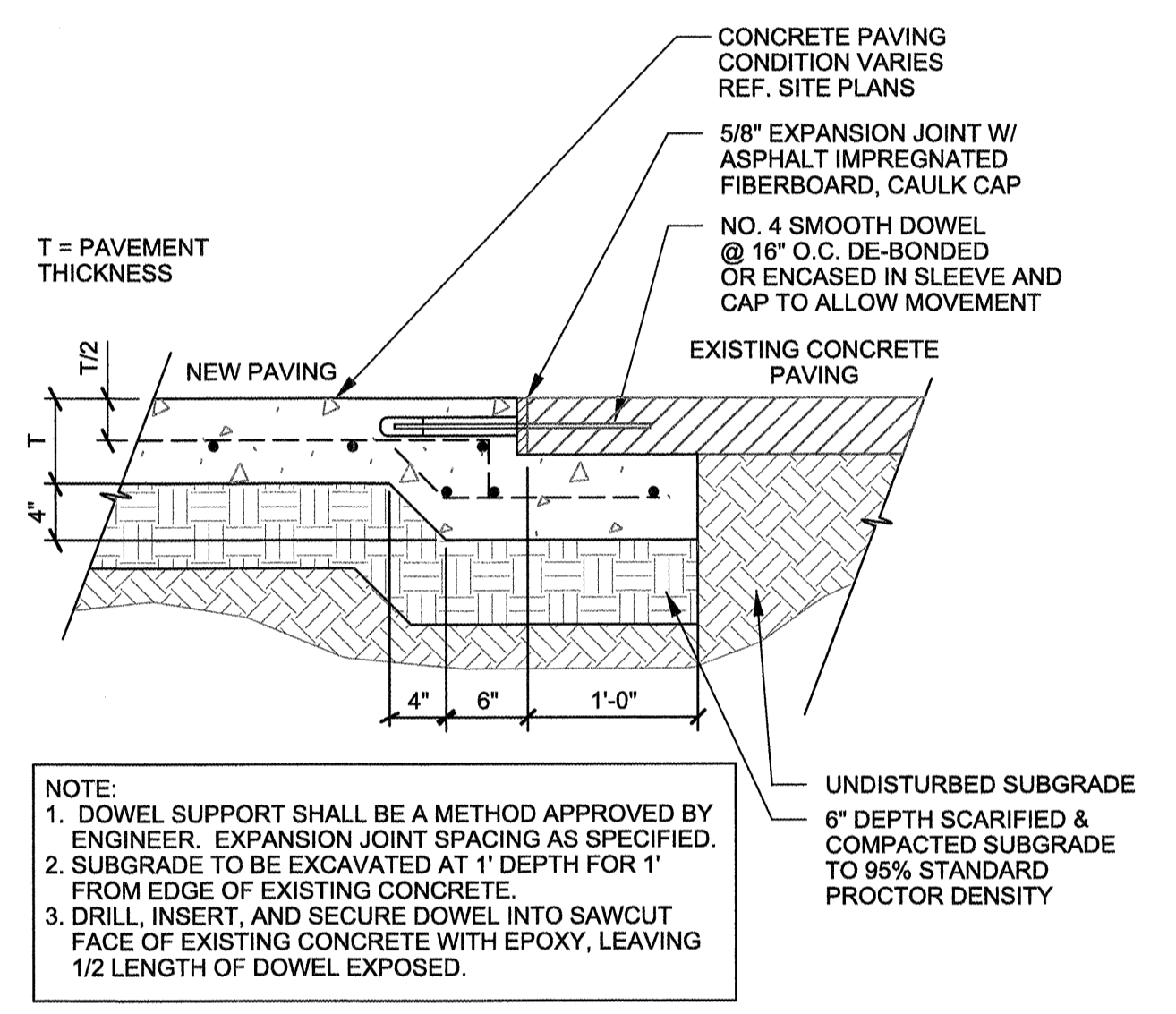


EXPANSION JOINT W/ SEALANT
SCALE: 6"=1'-0" SECTION



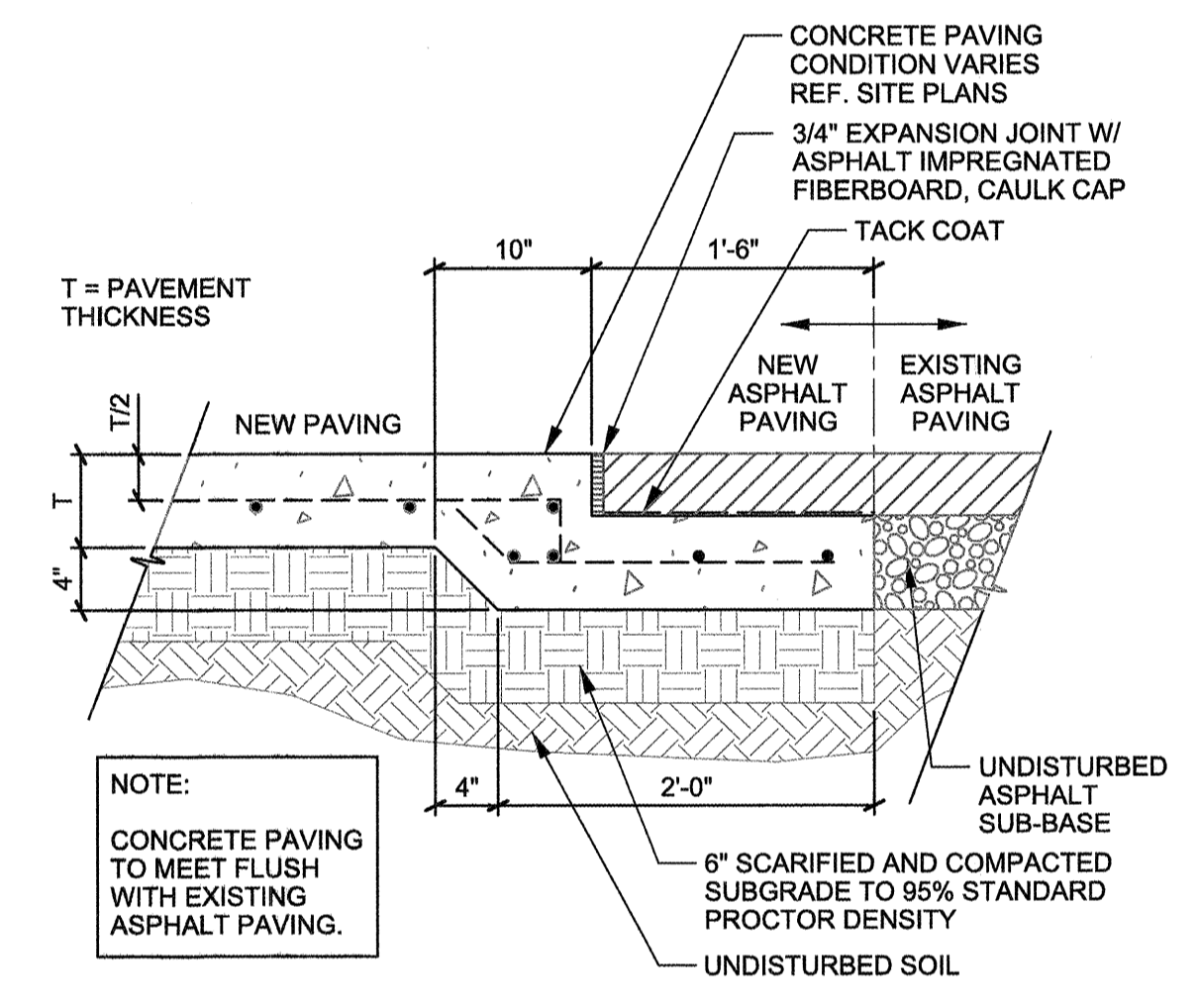
NOTE:
1. NO. 3 DOWEL BAR MAY BE USED IN 5" PAVEMENT THICKNESS OR LESS.
2. DOWEL BARS SHALL BE POURED IN PLACE WITH PREVIOUS DAYS POUR.
3. DRILLING BY HAND IS NOT ACCEPTABLE. PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.
4. CONSTRUCTION JOINTS TO BE PLACED AT A MINIMUM OF 20' FROM EXPANSION JOINTS IN EITHER DIRECTION

TYPICAL CONSTRUCTION JOINT
SCALE: 3"=1'-0" SECTION



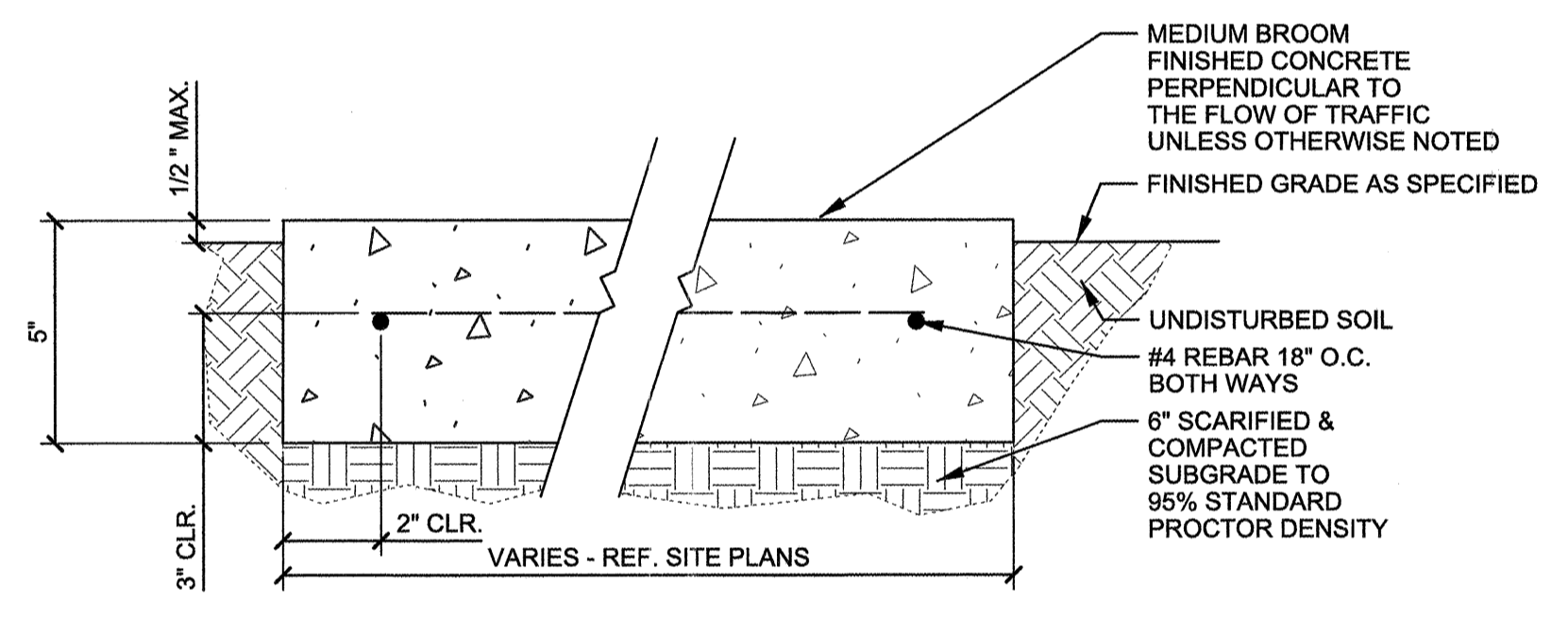
NOTE:
1. DOWEL SUPPORT SHALL BE A METHOD APPROVED BY ENGINEER. EXPANSION JOINT SPACING AS SPECIFIED.
2. SUBGRADE TO BE EXCAVATED AT 1' DEPTH FOR 1" FROM EDGE OF EXISTING CONCRETE.
3. DRILL, INSERT, AND SECURE DOWEL INTO SAWCUT FACE OF EXISTING CONCRETE WITH EPOXY, LEAVING 1/2 LENGTH OF DOWEL EXPOSED.

TYPICAL EXISTING/NEW CONCRETE CONNECTION
SCALE: 1"=1'-0" SECTION

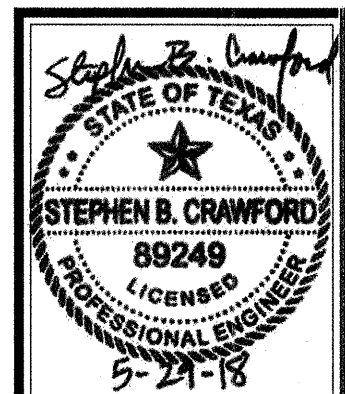


NOTE:
CONCRETE PAVING TO MEET FLUSH WITH EXISTING ASPHALT PAVING.

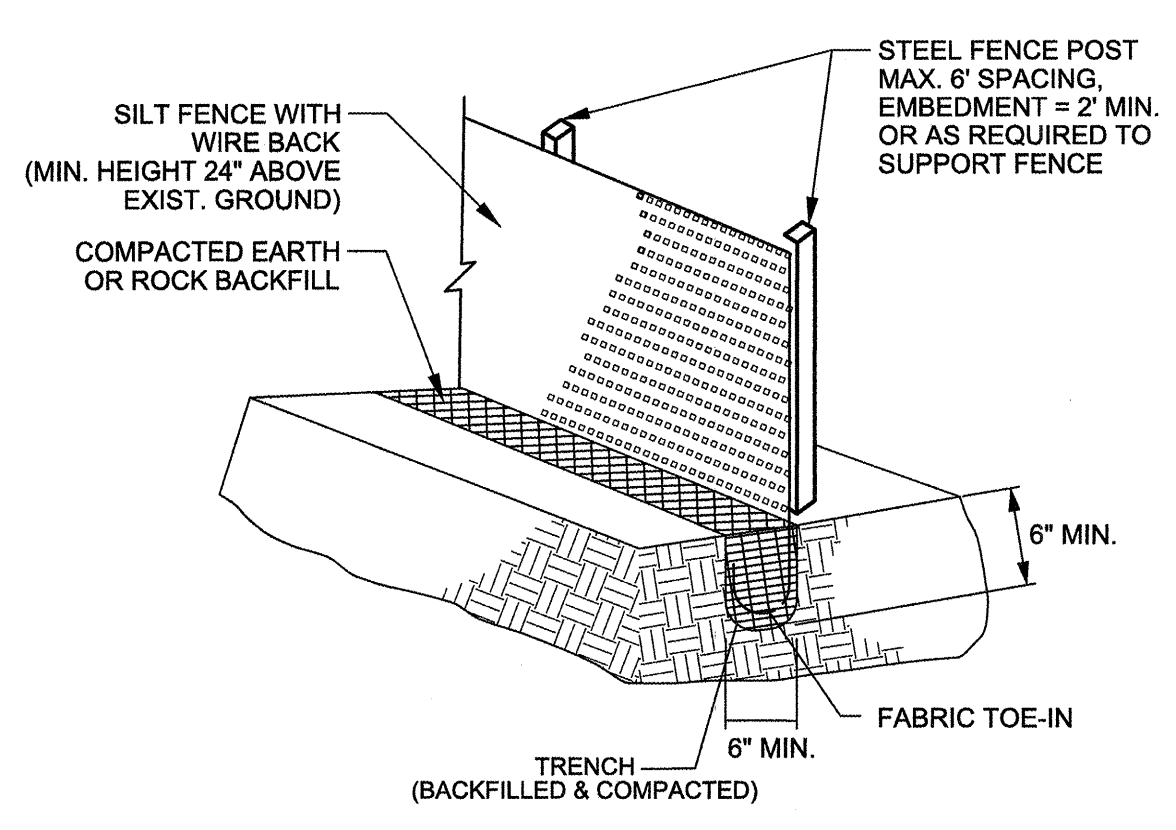
CONCRETE HEADER AT ASPHALT PAVING
SCALE: 1"=1'-0" SECTION



TYPICAL WALK & SLAB CONCRETE PAVEMENT
SCALE: 3"=1'-0" SECTION



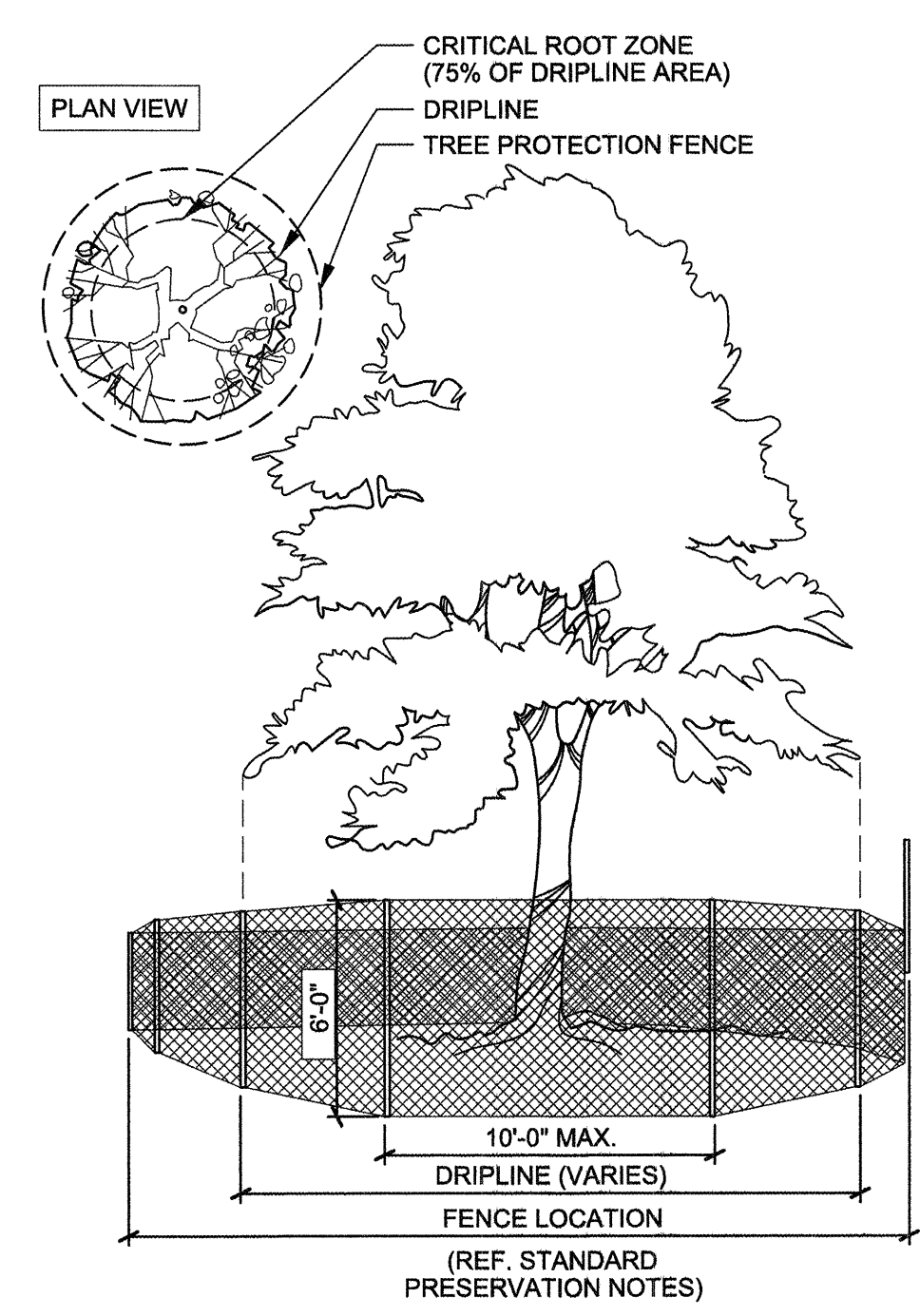
HALFF
LANDSCAPE ARCHITECTS
10000 W. UNIVERSITY BLVD.
RICHMOND, TEXAS 77401-2276
TEL: 281-346-6000
FAX: 281-346-6000
TYPE: FIRM #P-312



SILT FENCE
SCALE: N.T.S.

SILT FENCE GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED WITH A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF TWO FEET.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW, WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD 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 6" DOUBLE OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.



TREE PROTECTION DETAIL
SCALE: N.T.S.

STANDARD PRESERVATION NOTES FOR TREE AND NATURAL AREA PROTECTION

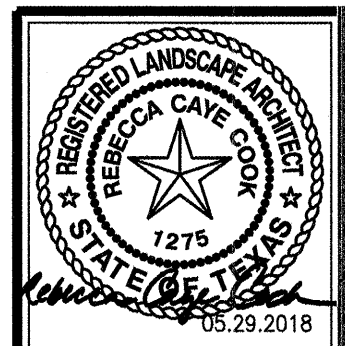
1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING AND OTHER MEASURES AS NEEDED WHICH MAY INCLUDE RETAINING WALLS, PRUNING OF LIMBS, ROOTS, ETC.
2. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
3. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
4. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED NO CLOSER THAN THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE) PLUS AN ADDITIONAL 2'-0" AWAY FROM THE LIMITS OF DRIPLINE. FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
 - A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
 - B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE LANDSCAPE ARCHITECT;
 - C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;
 - D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
5. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
 - A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT A FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
 - B. WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY BY HAND PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
 - C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW ROOT PRUNING IN THE WORK SPACE BETWEEN THE FENCE AND THE BUILDING, PRIOR TO DISTURBANCE. THE FENCE CAN BE ERECTED AT THE POINT OF ROOT PRUNING;
 - D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT AN ARBORIST TO DISCUSS ALTERNATIVES.
6. SPECIAL NOTE: EXCEPTIONS ARE PERMITTED FOR AREAS OUTSIDE THE CRITICAL ROOT ZONE. NO DISTURBANCES ARE PERMITTED WITHIN THE CRITICAL ROOT ZONE (75% OF THE DRIPLINE AREA). FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED, AND NO SILTING OF STOCK PILING OF MATERIAL OR DIRT IS ALLOWED AROUND TREES.
7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT. IN ADDITION TO THE REDUCED FENCING PROVIDED.
8. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
10. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 2 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL OR MULCH IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
11. LIMBING & PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS.
12. ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).

RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
PROJECT NUMBER: 128302

DATE: 5/29/2018
DESIGNED BY: HALFF
DRAWN BY: CAD
REVIEWED BY: SBC
REVISED:
REVISED:
REVISED:

SHEET TITLE
LANDSCAPE DETAILS

SHEET NUMBER
17/29



HALFF
LANDSCAPE ARCHITECTS
1215
05.29.2018

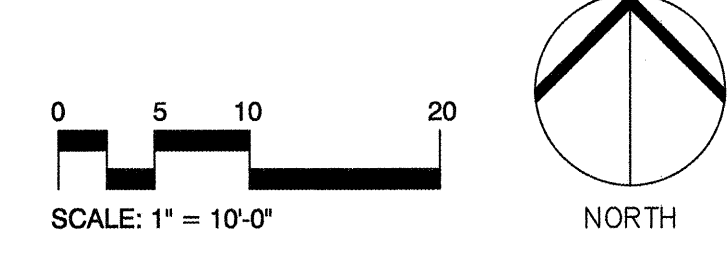


**RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS**
PROJECT NUMBER: 128302

DATE: 04/20/2018
DESIGNED BY: CCA
DRAWN BY: GWW
REVIEWED BY: RCC
REVISED:
REVISED:

SHEET TITLE
DEMOLITION AND TREE
PROTECTION PLAN

SHEET NUMBER
18/29



DEMOLITION LEGEND

- EXISTING PLAYGROUND EDGE TO BE REMOVED
- SAWCUT EXISTING CONCRETE - LIMIT OF PAVING REMOVAL
- EXISTING CONCRETE PAVING TO BE REMOVED
- EXISTING CONCRETE PLAYGROUND EQUIPMENT FOOTING TO BE REMOVED
- EXISTING GRILL TO BE RELOCATED - REFER TO LAYOUT PLAN FOR POINT OF RELOCATION
- DRAINAGE SWALE
- TREE PROTECTION FENCING
- APPROXIMATE LOCATION - EXISTING SHADE TREE TO REMAIN AND BE PROTECTED
- APPROXIMATE LOCATION - EXISTING SHADE TREE TO BE REMOVED

DEMOLITION NOTES

1. PRIOR TO DEMOLITION / EXCAVATION, CONTACT CONTACT NAME, TITLE WITH DALLAS PARK & RECREATION DEPARTMENT - AT PHONE NUMBERS
2. ALL REQUIRED NOI, SUIFS, CSN, NOC, AND NOT FORMS MUST BE LOCATED ON THE CONSTRUCTION SIGNAGE WITH ALL REGULATORY PERMITS SIGNED, POSTED AND FOLLOWED.
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL AREAS TO HAVE MATERIALS REMOVED AS PART OF THIS CONTRACT. CONDITIONS VARYING FROM THESE PLANS AND SPECIFICATIONS MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION AND REMOVAL FROM THE SITE ONLY OF THOSE EXISTING PARK STRUCTURES AND SURFACES SHOWN OR NOTED. ALL MATERIAL REMOVED SHALL BE DISPOSED OF OFF-SITE AT ACCEPTABLE LOCATIONS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
5. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND ALL OTHER SITE FEATURES NOT SHOWN TO BE REMOVED BOTH INSIDE AND OUTSIDE OF THE PROJECT CONSTRUCTION SITE. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY HIS FORCES TO THE REMAINING PARK FACILITIES AND SHALL REPAIR AND RESTORE ANY DAMAGES TO THE COMPLETE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR.
6. EXISTING TREES ARE TO BE PROTECTED FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION - REF. TREE PROTECTION AND FENCING NOTES ON THIS SHEET. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING ANY PLANT MATERIAL DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER. ANY REPLACEMENT PLANTS WILL BE OF THE SAME SIZE AND TYPE AND SHALL BE APPROVED BY THE OWNER.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, STRUCTURES, AND PIPES EITHER SHOWN OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES FOR THE LINE LOCATIONS BEFORE BEGINNING DEMOLITION / EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COST INCURRED DUE TO DAMAGE OR REPLACEMENT OF SAID UTILITIES OR STRUCTURES CAUSED BY HIS FORCES.
8. SILT FENCING SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF ANY WORK. SILT FENCING SHALL BE AS INDICATED ON PLANS.

S.U.P.P.P. NOTES

BEST MANAGEMENT PRACTICES (BMP'S) SUCH AS SILT FENCING, EROSION CONTROL LOGS, INLET PROTECTION, AND OTHER MEASURES MUST BE INSTALLED PRIOR TO ANY DEMOLITION OR CONSTRUCTION ACTIVITY, AND MUST BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. REFER TO CIVIL PLANS AND SPECIFICATIONS FOR S.U.P.P.P. REQUIREMENTS.

TREE PROTECTION

TREE PROTECTION SUCH AS TREE PROTECTION FENCING, ROOT PRUNING, AND MULCH PROTECTION MATS MUST BE INSTALLED PRIOR TO DEMOLITION OR CONSTRUCTION ACTIVITIES, AND MUST BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.

PROTECTIVE FENCING

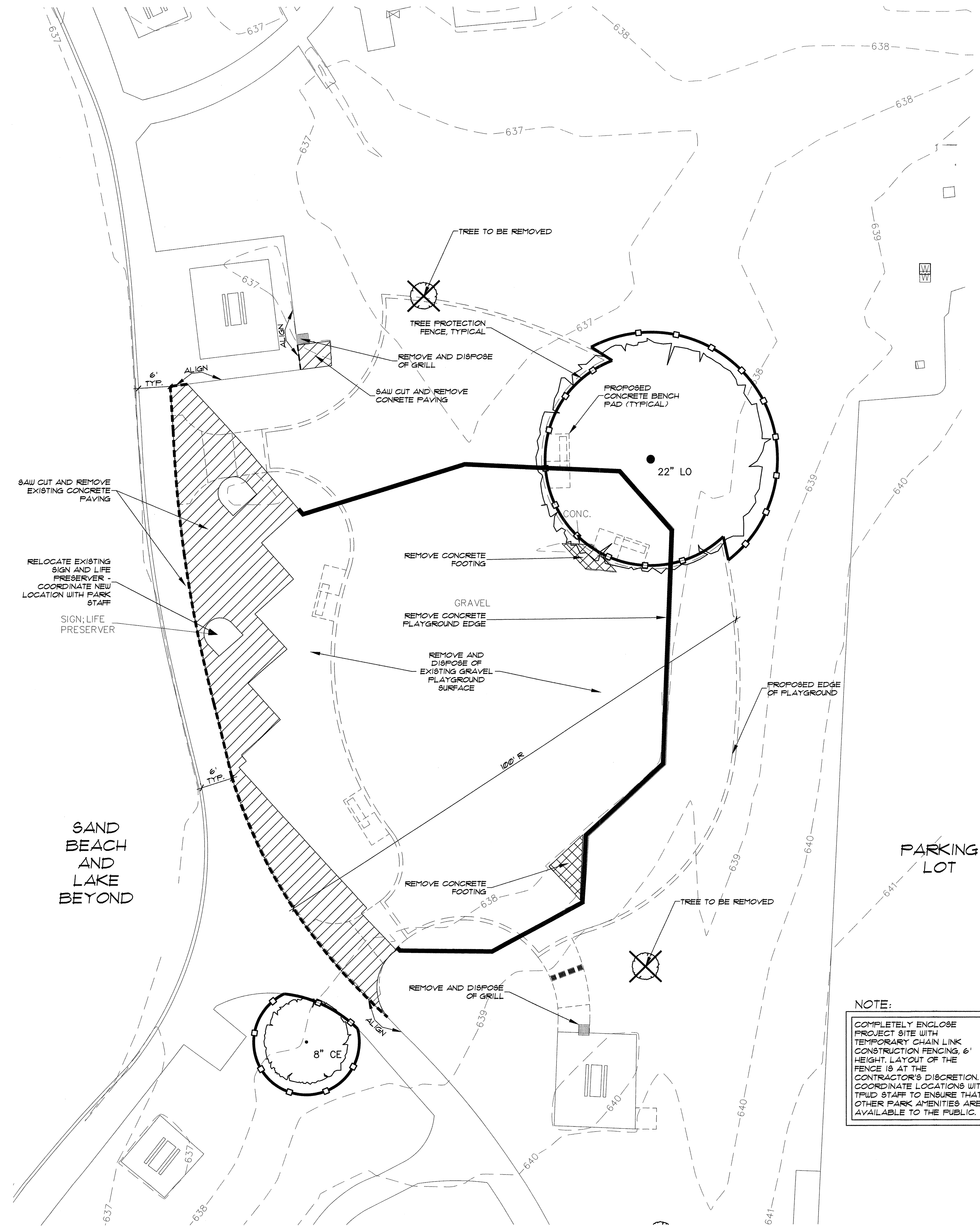
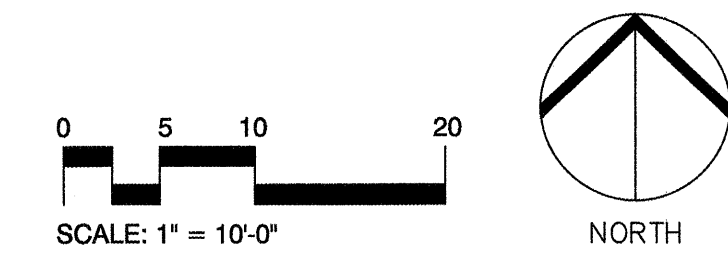
A PROTECTED TREE (DESIGNATED "TO REMAIN" ON THE PLAN) MUST HAVE PROTECTIVE FENCING WHICH COMPLETELY ENCLOSES THE DRIP LINE OF THE TREE UNTIL CONSTRUCTION IS COMPLETED. DURING CONSTRUCTION, NO EXCESS SOIL, ADDITIONAL FILL, EQUIPMENT, LIQUIDS, OR CONSTRUCTION DEBRIS MAY BE PLACED INSIDE THE PROTECTIVE BARRIER, NOR MAY ANY SOIL BE REMOVED FROM WITHIN THE BARRIER. CONTRACTOR IS TO PROVIDE TEMPORARY, CONTINUOUS FENCING AT THE DRIP LINE, MIN. HEIGHT 4 FEET.

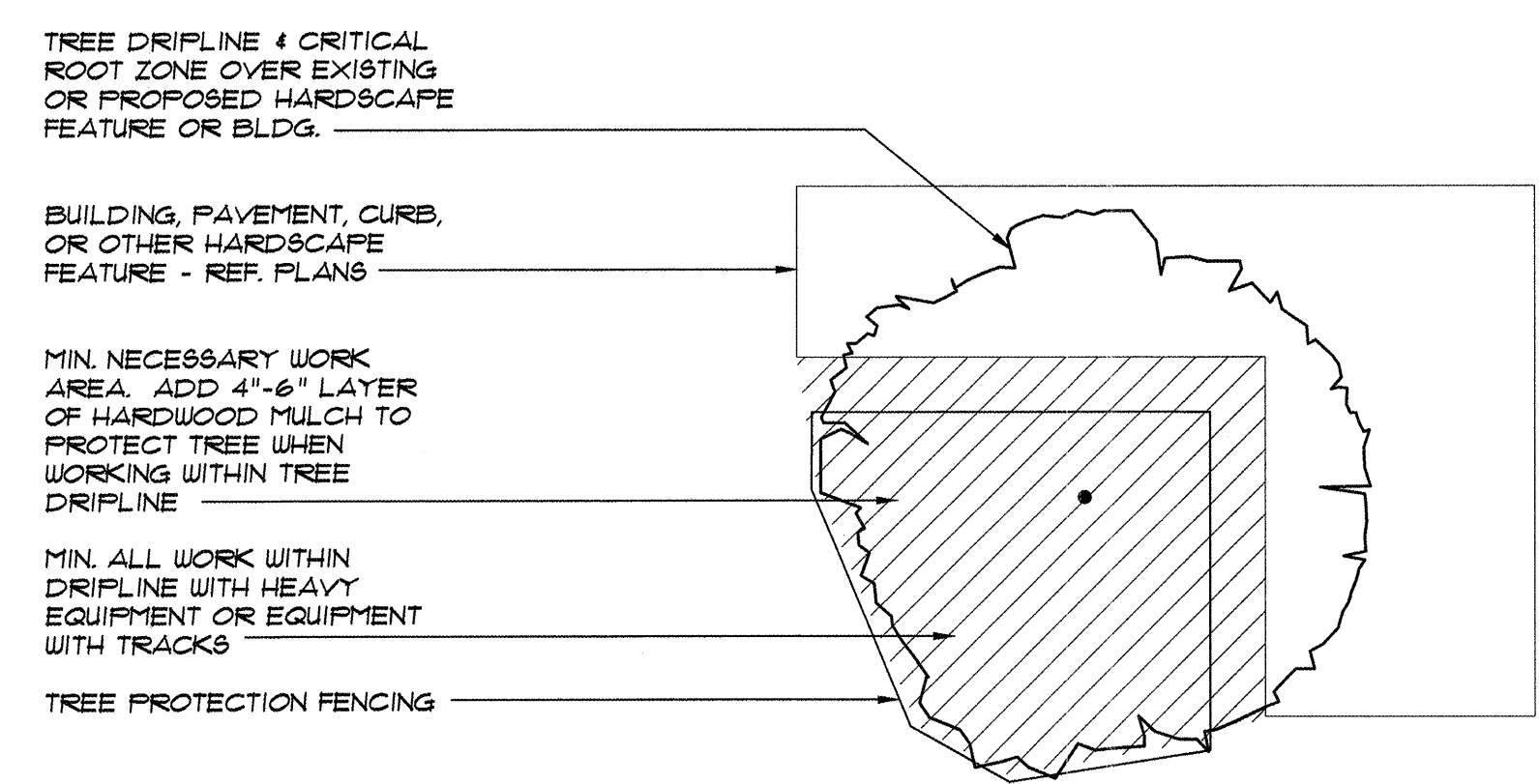
TREE PROTECTION NOTES

1. REFER TO GRADING PLAN FOR GRADING CUTS/FILLS ADJACENT TO EXISTING TREES. GRADING WORK WITHIN TREE DRIP LINE SHALL BE PERFORMED BY HAND.
2. REFER TO SHEET 11 FOR TREE PROTECTION FENCE DETAILS AND SHEET 19 FOR PRUNING DETAILS.
3. TREE PROTECTION MUST OCCUR PRIOR TO DEMOLITION OR CONSTRUCTION AND BE MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. ALL PROTECTED TREES MUST BE FLAGGED WITH COLORED VINYL TAPE WRAPPED AROUND THE MAIN TRUNK AT A HEIGHT OF AT LEAST 4 FEET SO AS TO BE VISIBLE TO WORKERS ON FOOT OR DRIVING EQUIPMENT.
5. A PROTECTED TREE (DESIGNATED "TO REMAIN" ON THE PLAN) MUST HAVE PROTECTIVE FENCING WHICH COMPLETELY ENCLOSES THE DRIP LINE OF THE TREE UNTIL CONSTRUCTION IS COMPLETED. FENCING TO BE HELD 3 FEET FROM EDGE OF CANOPY DRIP LINE. DURING CONSTRUCTION, NO EXCESS SOIL, ADDITIONAL FILL, EQUIPMENT, LIQUIDS, OR CONSTRUCTION DEBRIS MAY BE PLACED INSIDE THE PROTECTIVE BARRIER, NOR MAY ANY SOIL BE REMOVED FROM WITHIN THE BARRIER. CONTRACTOR IS TO PROVIDE TEMPORARY, CONTINUOUS FENCING AT THE DRIP LINE, MIN. HEIGHT 4 FEET. FENCING MATERIAL - REFER TO SPECIFICATION SECTION 01 56 39.
6. TREE PRUNING SHALL COMPLY WITH ARBORIST'S PRACTICES AND AS PER SPECIFICATION SECTION 01 56 39. REMOVE ALL DEADWOOD FROM TREE CANOPIES. PROVIDE REPAIR TO EXISTING DAMAGED TREES PER ARBORIST'S RECOMMENDATIONS. REMOVE SUCKERS FROM TRUNKS AND LIMB UP LOWER BRANCHES TO MIN. 1' CLEAR AT BOTTOM OF CANOPY, UNLESS TREE IS TOO SMALL FOR THIS PROCEDURE.

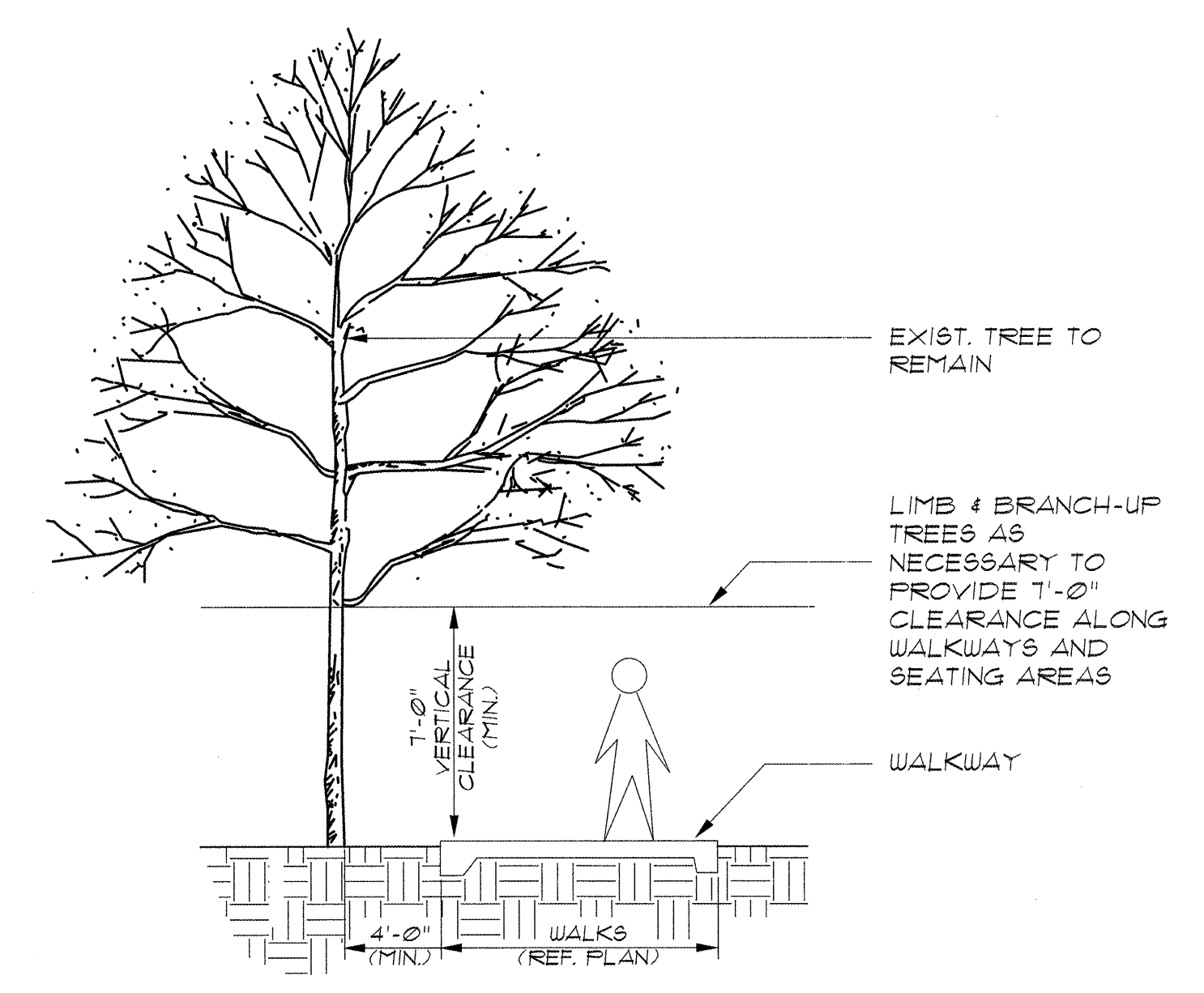
NOTE:

COMPLETELY ENCLOSE PROJECT SITE WITH TEMPORARY CHAIN LINK CONSTRUCTION FENCING, 6' HEIGHT. LAYOUT OF THE FENCE IS AT THE CONTRACTOR'S DISCRETION. COORDINATE LOCATIONS WITH TRIP STAFF TO ENSURE THAT OTHER PARK AMENITIES ARE AVAILABLE TO THE PUBLIC.





1 TREE PROT. FENCE NEAR CONSTRUCTION ACTIVITY
NOT TO SCALE



2 TREE CLEARANCE AT WALK
NOT TO SCALE

USE TO REMOVE TREE LIMBS AS NECESSARY. COMPLY WITH HORTICULTURAL PRACTICES.

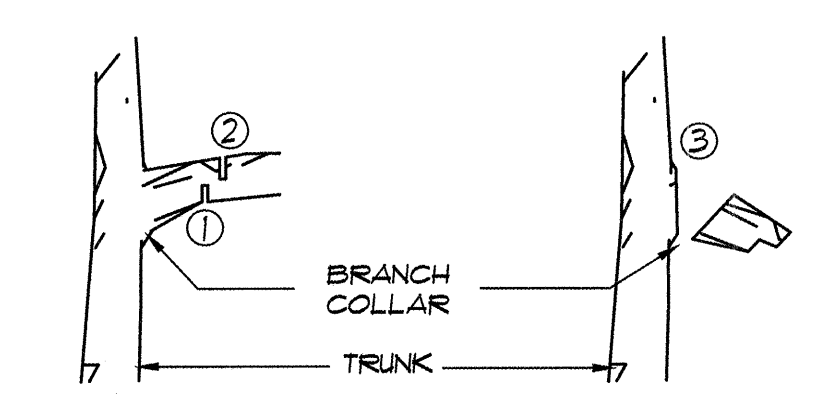
STEP 1: SAW BOTTOM CUT APPROX. 6-12" AWAY FROM TRUNK AND APPROX. 1/3 OF THE WAY THROUGH THE LIMB.

STEP 2: MAKE A SECOND CUT APPROX. 3" FURTHER FROM THE TRUNK THAN THE FIRST CUT UNTIL THE WEIGHT OF THE BRANCH PULLS THE BRANCH DOWN.

STEP 3: CUT THE STUB BACK TO THE COLLAR OF THE BRANCH - DO NOT CUT FLUSH WITH TRUNK.

REMOVE AND DISPOSE OF ALL BRANCHES PER NOTES ON SHEET L1 AND SPECIFICATIONS.

NOTE: PRIOR TO LIMB REMOVAL ON EXISTING TREES, GET WRITTEN PERMISSION AND FIELD VERIFICATION FROM OWNER'S REPRESENTATIVE.



3 3-CUT LIMB PRUNING
NOT TO SCALE

NOTE:
REFER TO CIVIL FOR TREE PROTECTION FENCING DETAIL(S).

SITE LAYOUT NOTES

- All workmanship and materials shall conform to the Specifications for this project.
- Contractor shall refer to specific details for this project for paving thicknesses, finishes, reinforcing, jointing, materials and brick patterns with related installation materials. Refer to detail sheets for details.
- All reinforcing steel shall be new domestic billet steel conforming to ASTM A-615, grade 60, and shall be supported by bar chairs.
- Contractor is responsible for locating and protecting all existing and new utilities.
- All dimensions must be verified on-site. The Contractor is responsible for notifying the Owner's Representative of any discrepancies before proceeding with the work.
- All dimensions are taken perpendicular to wall, curb, point of beginning (P.O.B.), or centerline unless otherwise noted. Dimensions at curb are from back of curb.
- Verify locations of all site improvements installed under other sections. If any part of this plan cannot be followed due to site conditions contact the Owner's Representative for instruction prior to commencing work.
- Written dimensions take precedence over scale.
- Provide expansion joints in all cases where concrete flatwork meets vertical structures and utility vaults such as walls, curbs, steps, building, meter boxes and utility access boxes.
- Surfaces shall be ADA compliant along access and egress routes.
- All ramps and material finishes shall conform to the Texas Accessibility Standards as adopted in 2012 by the Texas Department of Licensing and Regulation as a result of the amendments to the Texas Architectural Barriers Act in 1993.
- All paving and playground layout shall be staked and/or marked for review and approval by the Owner's Representative prior to setting reinforcement and also prior to pouring concrete.
- Where dimensions are called as "Equal", all referenced items shall be spaced equally, measured to their center lines.
- Install all intersecting elements at 90 degrees to each other unless otherwise noted.

SITE LAYOUT LEGEND

NEW PLAYGROUND EDGE
 POURED IN PLACE PLAYGROUND SAFETY SURFACE (BLUE)
 POURED IN PLACE PLAYGROUND SAFETY SURFACE (MEDIUM GREEN)
 POURED IN PLACE PLAYGROUND SAFETY SURFACE (LIGHT GREEN)
 POURED IN PLACE PLAYGROUND SAFETY SURFACE (LIGHT GRAY)
 POURED IN PLACE PLAYGROUND SAFETY SURFACE (TAN)
 NEW LIMESTONE BLOCK BENCH
 POINT OF RELOCATION - GRILL
 APPROXIMATE LOCATION - EXISTING SHADE TREE TO REMAIN AND BE PROTECTED
 CJ CONSTRUCTION JOINT
 EJ EXPANSION JOINT
 PA PLANTING AREA
 DIMENSION CONTROL BASE LINE
 SECTION REFERENCE
 SECTION NUMBER
 SHEET NUMBER

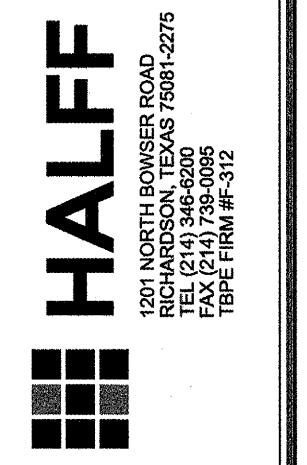
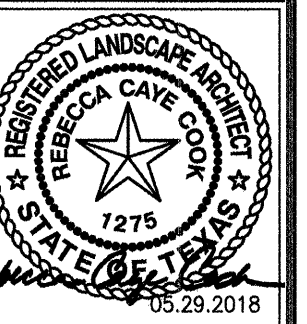
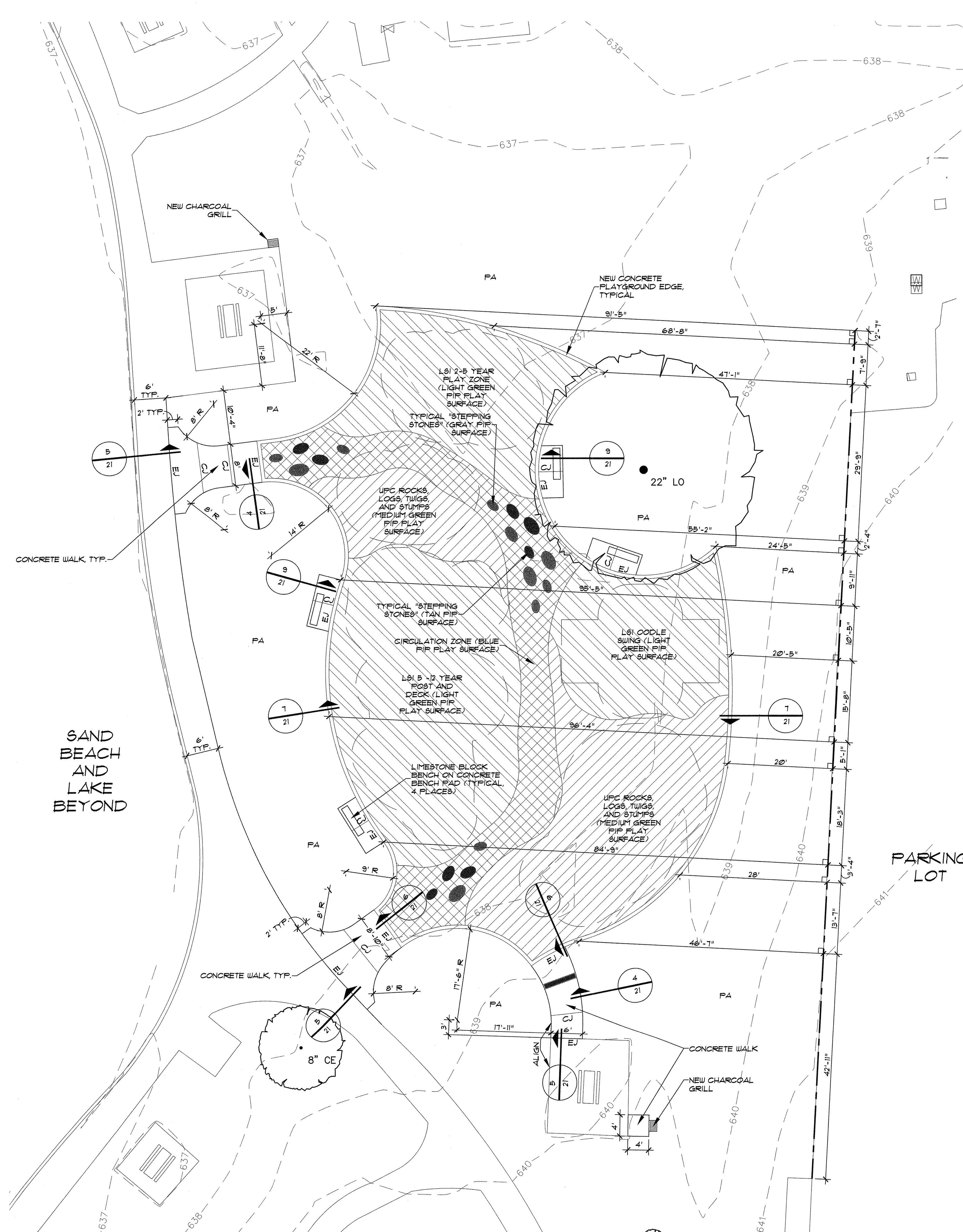
EQUIPMENT AND SITE FURNISHING NOTES

- PLAYGROUND EQUIPMENT AND SITE FURNISHINGS SHALL BE AS INDICATED AND LABELED ON THE DRAWINGS.
- CONTRACTOR MUST OBTAIN A SHOP DRAWING FROM VENDOR AND SUBMIT IT TO TRUD AND THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO BEGINNING OF CONSTRUCTION. MANUFACTURER'S SHOP DRAWINGS SHALL INCLUDE (AT A MINIMUM) DETAILED LAYOUT AND INSTALLATION DETAILS, INCLUDING FOOTINGS.
- ALL PLAYGROUND EQUIPMENT SHALL BE ASSEMBLED AND INSTALLED IN ACCORDANCE WITH THE CORRESPONDING PLAYGROUND EQUIPMENT MANUFACTURER'S SPECIFICATIONS, DETAILS, AND INSTRUCTIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL LAYOUT AND FALL ZONES AS SPECIFIED BY THE PLAYGROUND EQUIPMENT MANUFACTURER.
- VERIFY ALL FALL ZONES AND PLAYGROUND EQUIPMENT LAYOUTS BEFORE BEGINNING INSTALLATION. REPORT ANY DISCREPANCIES TO THE TRUD REPRESENTATIVE AND THE LANDSCAPE ARCHITECT IMMEDIATELY. CONTRACTOR WILL BE RESPONSIBLE FOR ALL CORRECTIONS IF DISCREPANCIES OR CONDITIONS ARE NOT REPORTED BEFORE BEGINNING INSTALLATION.
- SEE THE TECHNICAL SPECIFICATIONS FOR ADDITIONAL PLAYGROUND EQUIPMENT INFORMATION.
- THE CONTRACTOR MUST REQUEST AND OBTAIN A WRITTEN SITE AND PLAY EQUIPMENT INSPECTION REPORT FROM AN INDEPENDENT CERTIFIED PLAYGROUND SAFETY INSPECTOR (CPSI) FOLLOWING INSTALLATION COMPLETION. THE WRITTEN REPORT SHALL BE PROVIDED TO TRUD REPRESENTATIVE AND THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPAIR, AT NO COST TO THE OWNER, ANY ITEMS NOTED AS DEFECTIVE OR INCORRECT IN THE INSPECTION REPORT INCLUDING, BUT NOT LIMITED TO THE LOCATION OF THE PLAY EQUIPMENT.

EQUIPMENT AND MATERIALS SCHEDULE

QTY.	DESCRIPTION	REMARKS
506 SF (VERIFY)	CONCRETE PAVING SIDEWALK	VARIABLE WIDTH x 6" DEPTH, 3500 PSI, REINFORCED, MEDIUM BROOM FINISH, SAW-CUT JOINTS, WALKWAY AT PLAY AREA EDGE TO BE DOWELED INTO CONCRETE PLAYGROUND EDGE PER DETAILS, WALKWAY AT EXISTING CONCRETE PAVING TO BE DOWELED INTO EXISTING CONCRETE PER DETAILS.
371 LF (VERIFY)	CONCRETE PLAYGROUND EDGE	8" WIDE x 8" DEPTH, 3500 PSI, REINFORCED, MEDIUM BROOM FINISH, SAW-CUT JOINTS.
6,596 SF (VERIFY)	VITRITURE "95" SEALED SYSTEM AND "TK" SYSTEM POURED-IN-PLACE SAFETY SURFACING	(OR EQUIVALENT AS APPROVED BY OWNER'S REPRESENTATIVE) INSTALLED OVER 4" DEPTH CONCRETE SUBSLAB, MEETING OR EXCEEDING ALL APPLICABLE PLAYGROUND SAFETY STANDARDS, PROJECT SPECIFICATION AND MANUFACTURER'S SPECIFICATIONS, AS PROVIDED BY WEBUILDFUN, CONTACT: JOSH BAILEY, PHONE: 512-636-0933, EMAIL: JOSHBA@WEBUILDFUN.COM. MANUFACTURER SHOP DRAWINGS AND SUBMITTALS REQUIRED FOR REVIEW AND APPROVAL. 100 PERCENT COLOR MIX IN THE WEAR SURFACE COURSE AS FOLLOWS: TPV COLOR LIGHT GREEN = RH11, TPV COLOR MEDIUM GREEN = RH10, TPV COLOR TAN = RH32, TPV COLOR BLUE = RH22, TPV COLOR LIGHT GRAY = RH61. PLAYGROUND SURFACING PRODUCT MUST BE TOLERANT OF FLOODING.
1 EA.	LANDSCAPE STRUCTURES, INC. OODLE SWING	(OR EQUIVALENT AS APPROVED BY OWNER'S REPRESENTATIVE) AS PROVIDED BY WHIRLIX DESIGN, LLC, CONTACT: GREG HAWKINS, PHONE: 800-975-2147, EMAIL: GHAWKINS@WHIRLIX.COM. COLOR AND MATERIALS PER ATTACHED DRAWINGS. MATERIALS AND INSTALLATION PER MANUFACTURER SPECIFICATIONS. MANUFACTURER TO PROVIDE SHOP DRAWINGS OF DETAILED LAYOUT AND INSTALLATION DETAILS (INCLUDING FOOTINGS) PRIOR TO INSTALLATION. PLAYGROUND EQUIPMENT MUST BE TOLERANT OF FLOODING.
1 EA.	LANDSCAPE STRUCTURES, INC. 2-5 YEAR-OLD PLAY STRUCTURE	(OR EQUIVALENT AS APPROVED BY OWNER'S REPRESENTATIVE) AS PROVIDED BY WHIRLIX DESIGN, LLC, CONTACT: GREG HAWKINS, PHONE: 800-975-2147, EMAIL: GHAWKINS@WHIRLIX.COM. COLOR AND MATERIALS PER ATTACHED DRAWINGS. MATERIALS AND INSTALLATION PER MANUFACTURER SPECIFICATIONS. MANUFACTURER TO PROVIDE SHOP DRAWINGS OF DETAILED LAYOUT AND INSTALLATION DETAILS (INCLUDING FOOTINGS) PRIOR TO INSTALLATION. PLAYGROUND EQUIPMENT MUST BE TOLERANT OF FLOODING.
1 EA.	LANDSCAPE STRUCTURES, INC. 5-12 YEAR-OLD PLAY STRUCTURE	(OR EQUIVALENT AS APPROVED BY OWNER'S REPRESENTATIVE) AS PROVIDED BY WHIRLIX DESIGN, LLC, CONTACT: GREG HAWKINS, PHONE: 800-975-2147, EMAIL: GHAWKINS@WHIRLIX.COM. COLOR AND MATERIALS PER ATTACHED DRAWINGS. MATERIALS AND INSTALLATION PER MANUFACTURER SPECIFICATIONS. MANUFACTURER TO PROVIDE SHOP DRAWINGS OF DETAILED LAYOUT AND INSTALLATION DETAILS (INCLUDING FOOTINGS) PRIOR TO INSTALLATION. PLAYGROUND EQUIPMENT MUST BE TOLERANT OF FLOODING.
AS SHOWN	UPC PARKS EQUIPMENT CLIMBING BOULDERS AND LOGS	(OR EQUIVALENT AS APPROVED BY OWNER'S REPRESENTATIVE) AS PROVIDED BY WEBUILDFUN, CONTACT: JOSH BAILEY, PHONE: 512-636-0933, EMAIL: JOSHBA@WEBUILDFUN.COM. COMPONENTS AS SHOWN ON ATTACHED DRAWINGS. MATERIALS AND INSTALLATION PER MANUFACTURER SPECIFICATIONS. MANUFACTURER TO PROVIDE SHOP DRAWINGS OF DETAILED LAYOUT AND INSTALLATION DETAILS (INCLUDING FOOTINGS) PRIOR TO INSTALLATION. PLAYGROUND EQUIPMENT MUST BE TOLERANT OF FLOODING.
4 EA.	LIMESTONE BLOCK BENCH	(OR EQUIVALENT AS APPROVED BY OWNER'S REPRESENTATIVE) AS PROVIDED BY CUSTOM STONE SUPPLY, 2627 JOE FIELD ROAD, DALLAS TEXAS 75229 PHONE: 972-243-1144. REFERENCE DETAILS AND SPECIFICATIONS FOR DIMENSIONS, FINISHES, LAYOUT, AND INSTALLATION.
2 EA.	CHARCOAL GRILL	TRUD STANDARD INSTALLED PER MANUFACTURER'S GUIDELINES AND DETAILS.

NOTE: ALL QUANTITIES MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ANY COST INCREASES DUE TO MISCALCULATION OR NON-VERIFICATION OF QUANTITIES - IN NO EVENT WILL THE PARK DEPARTMENT ENTAIL EXTRA COST DUE TO MISCALCULATION BY THE CONTRACTOR.



RAY ROBERTS LAKE STATE PARK
 ISLE DU BOIS - FLOOD REPAIRS
 PROJECT NUMBER: 128302

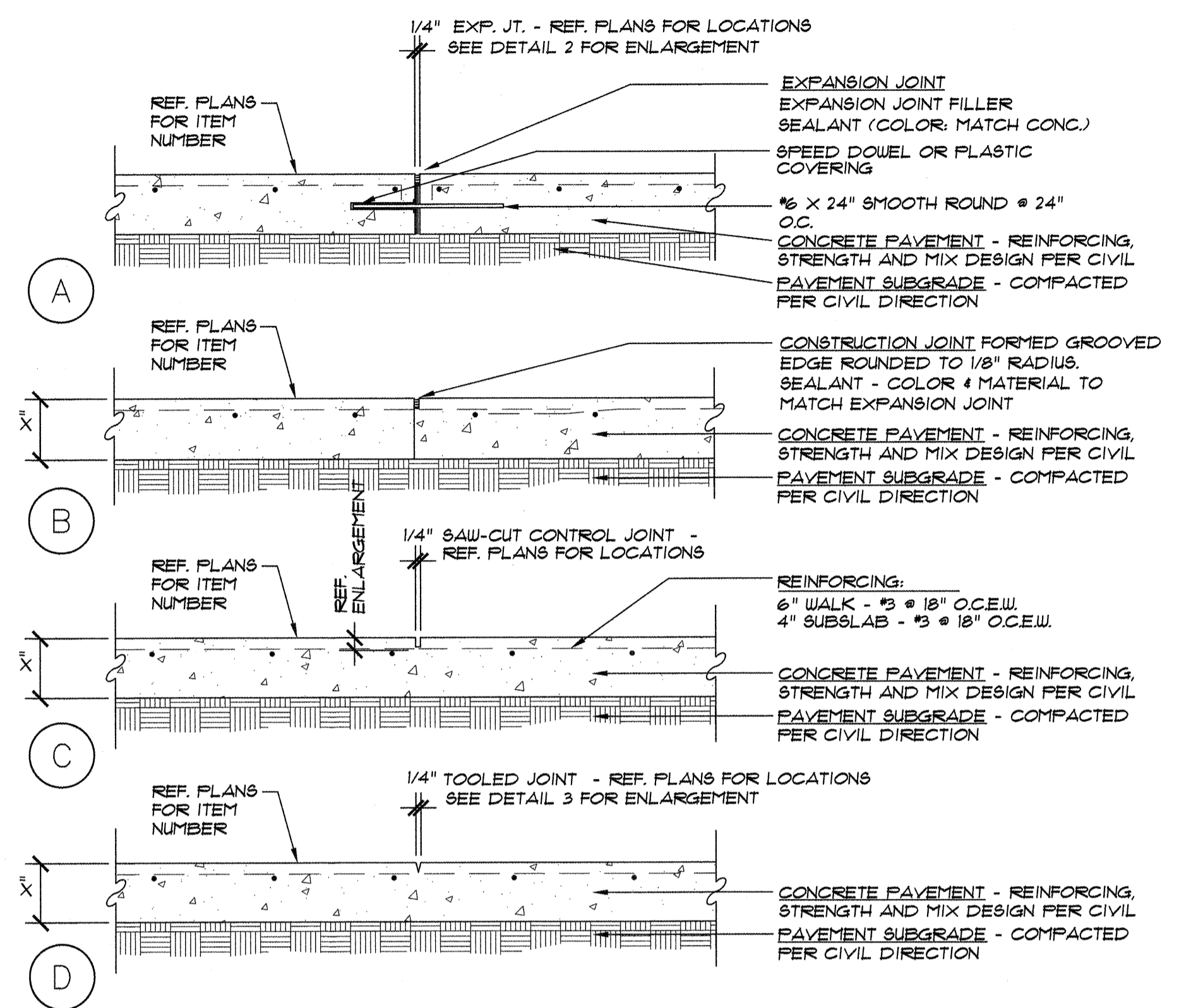
DATE: 04/20/2018
 DESIGNED BY: CCA
 DRAWN BY: GWW
 REVIEWED BY: RCC
 REVISED:

SHEET TITLE
 SITE LAYOUT PLAN

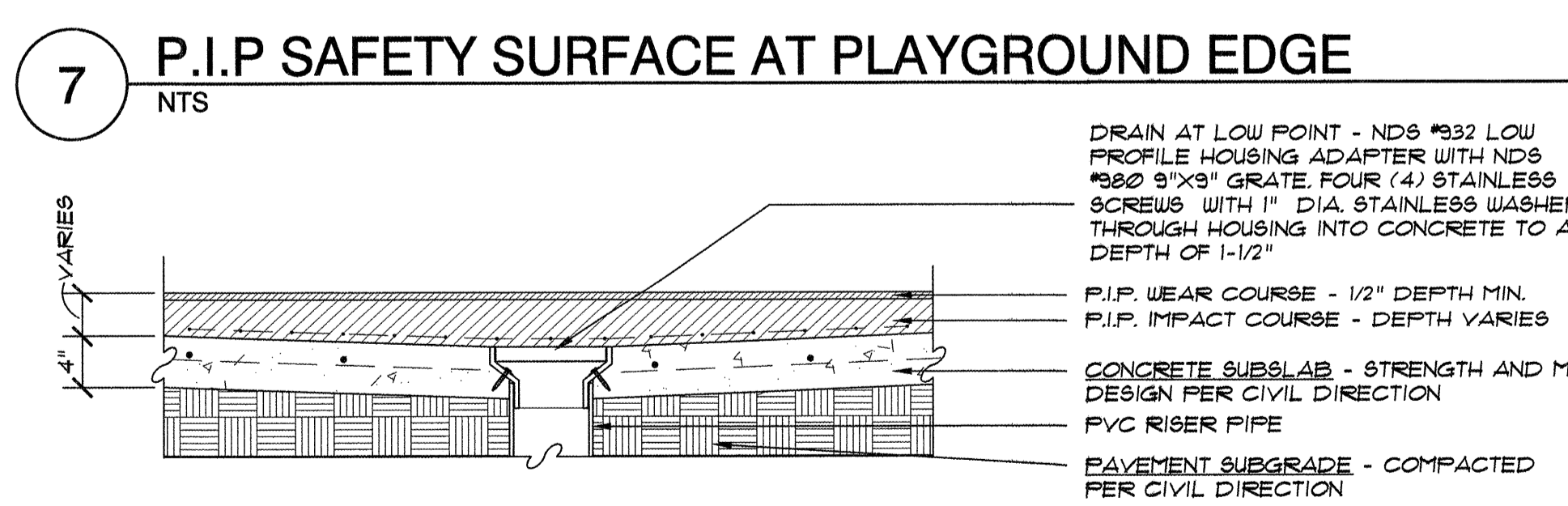
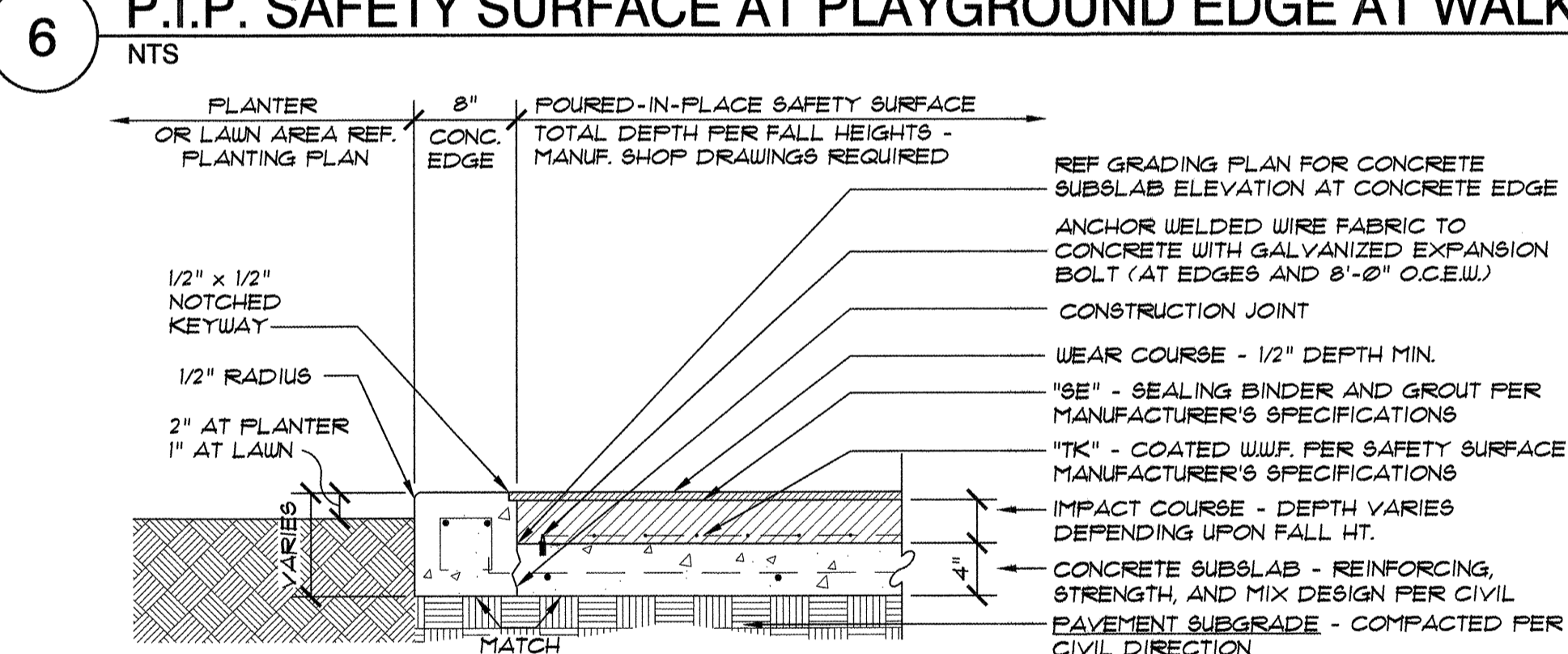
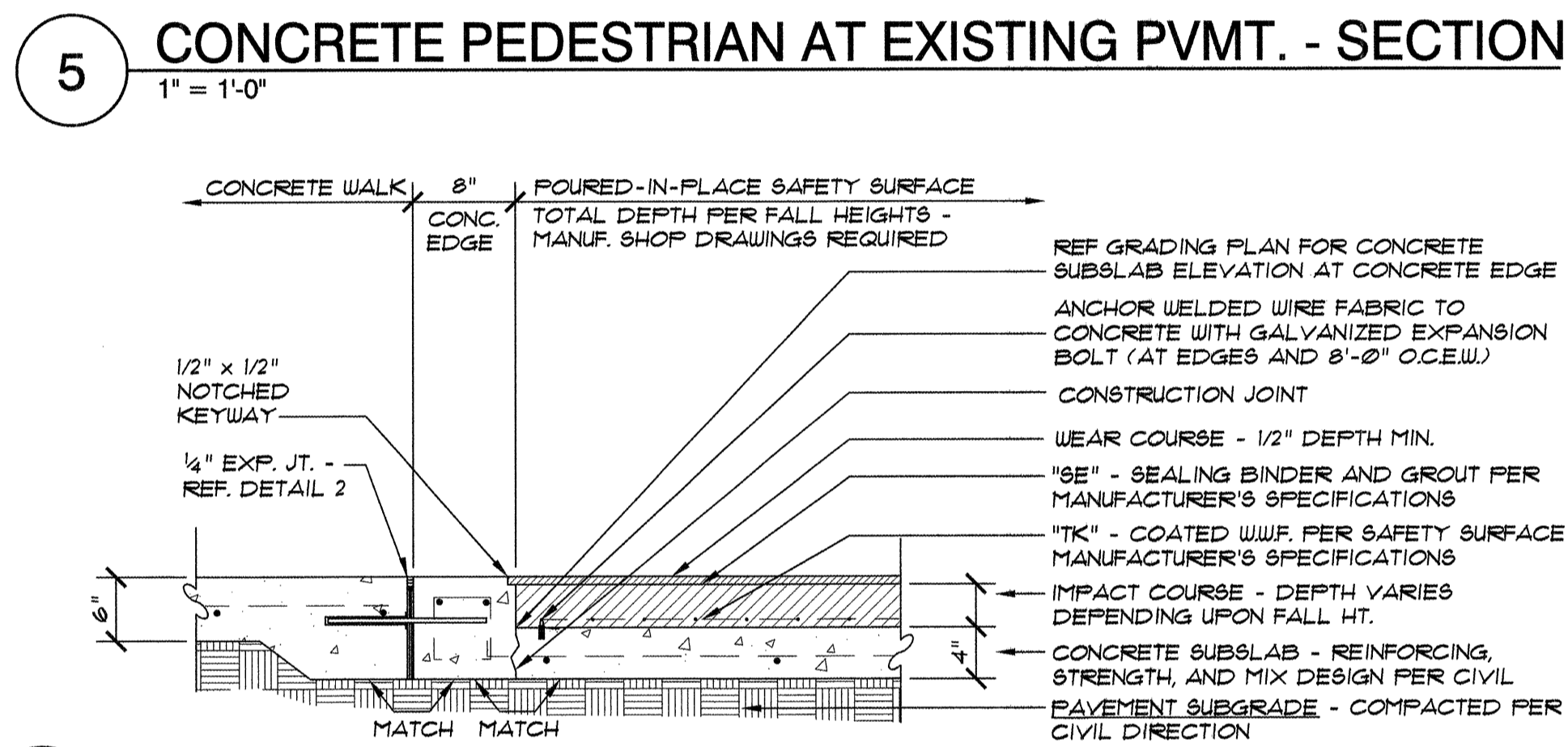
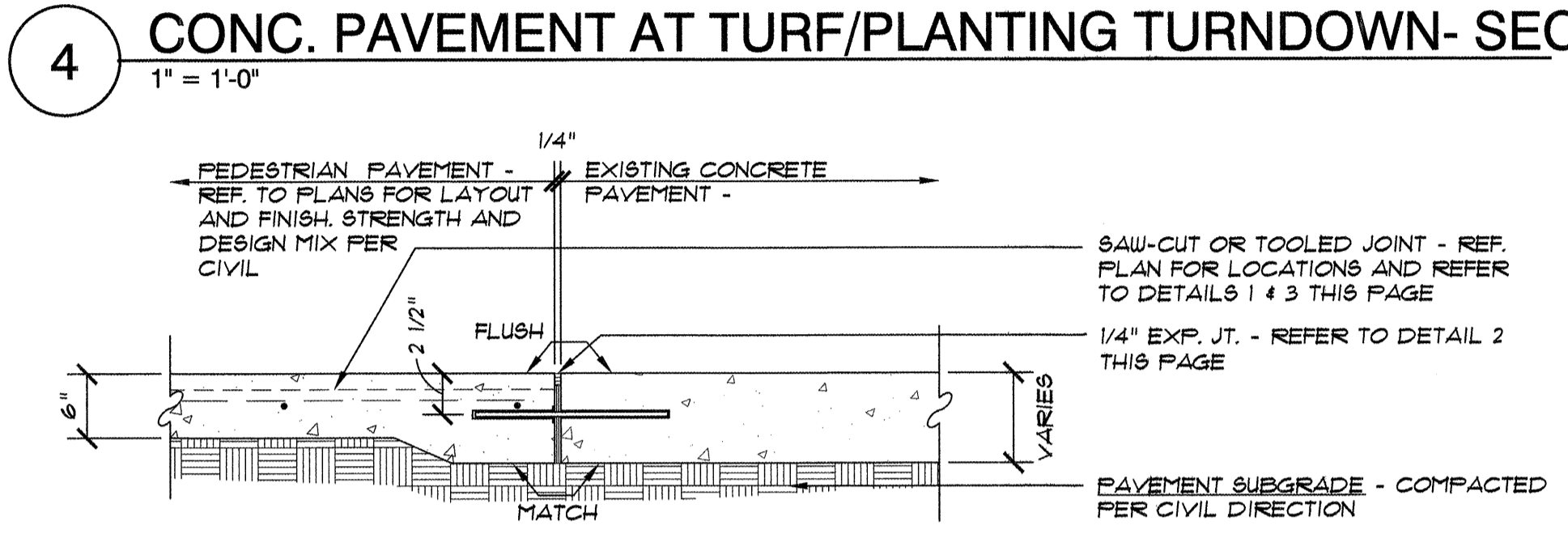
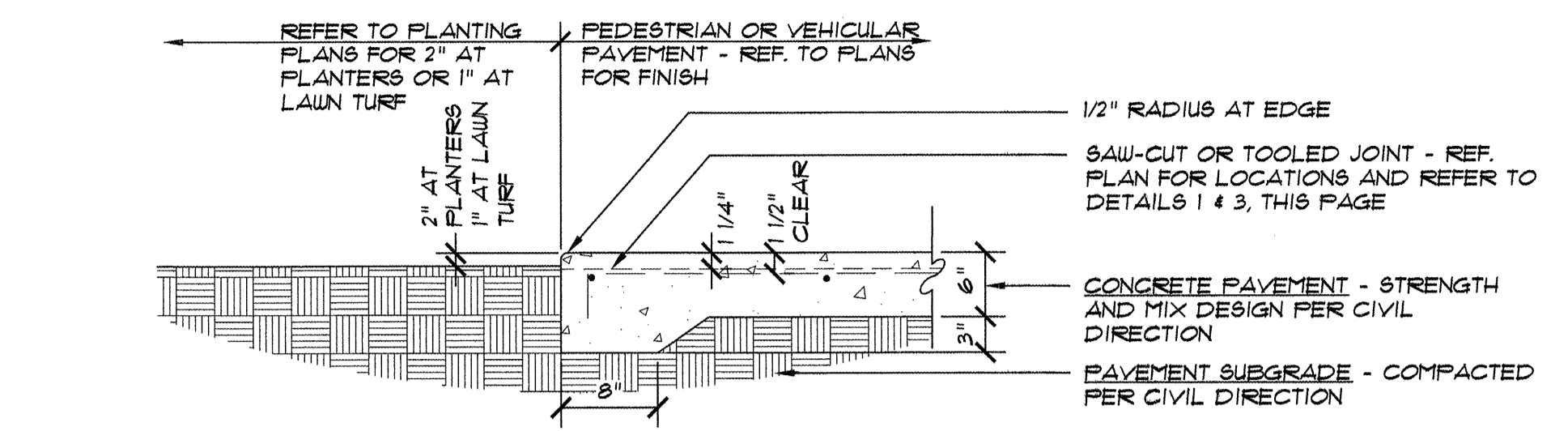
SHEET NUMBER
 20/29

SAWCUT CONTROL JOINTS AND REBAR DEPTHS

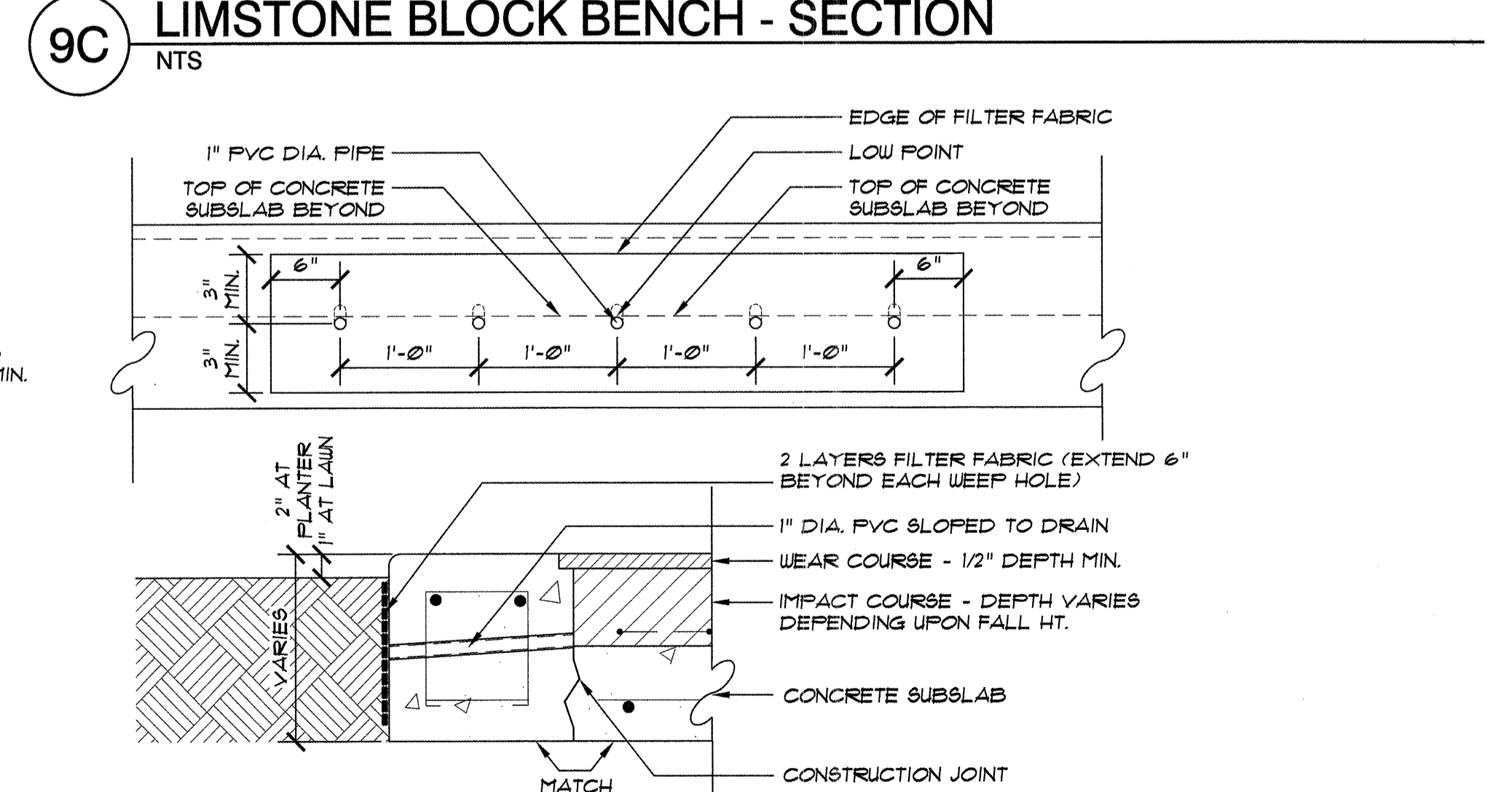
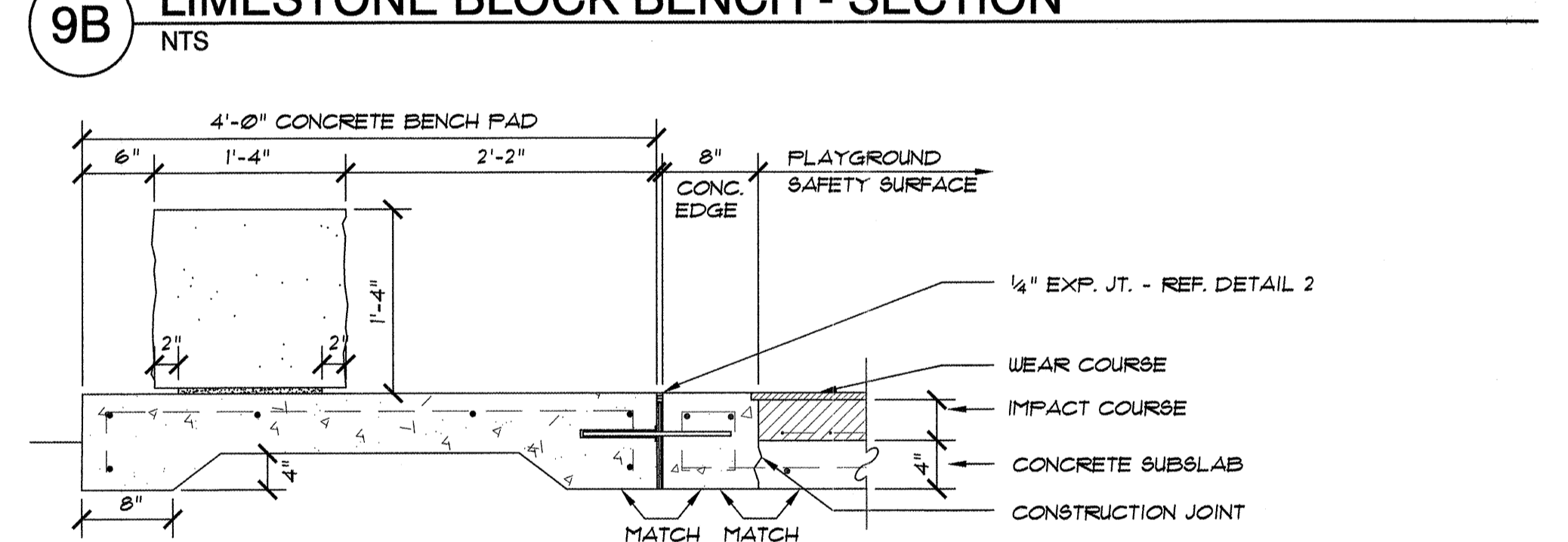
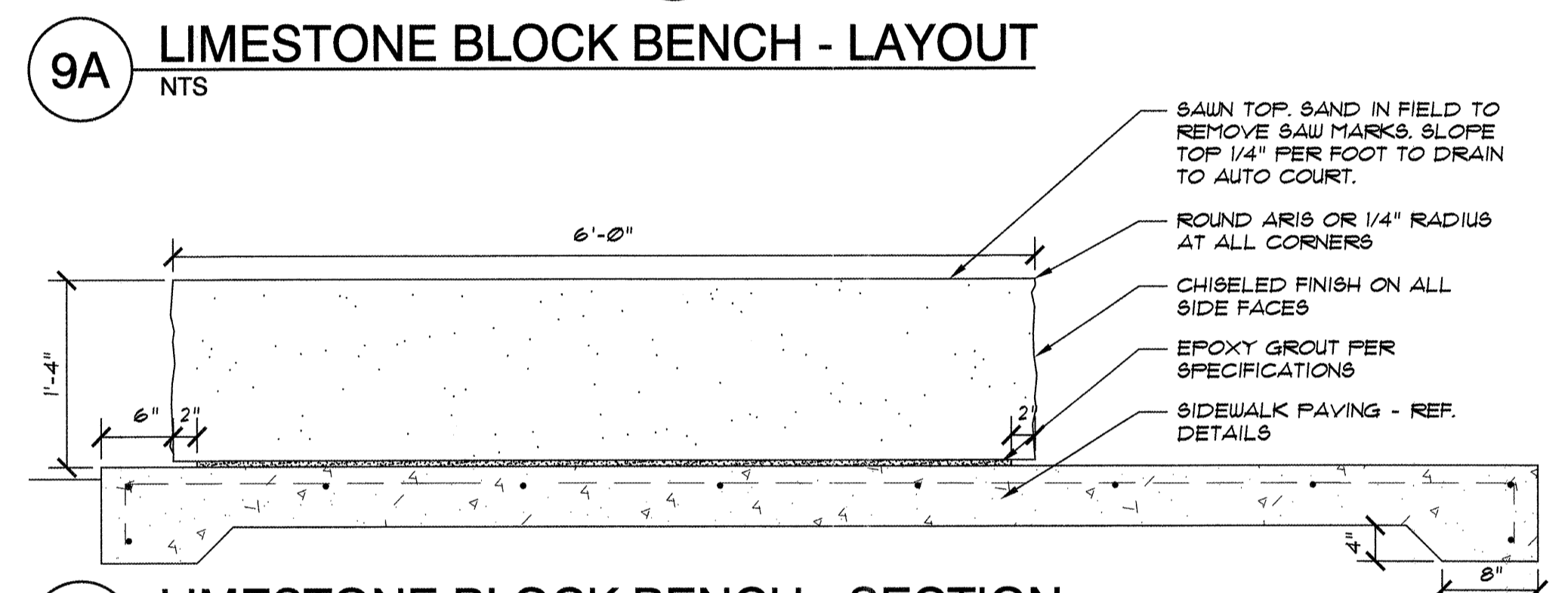
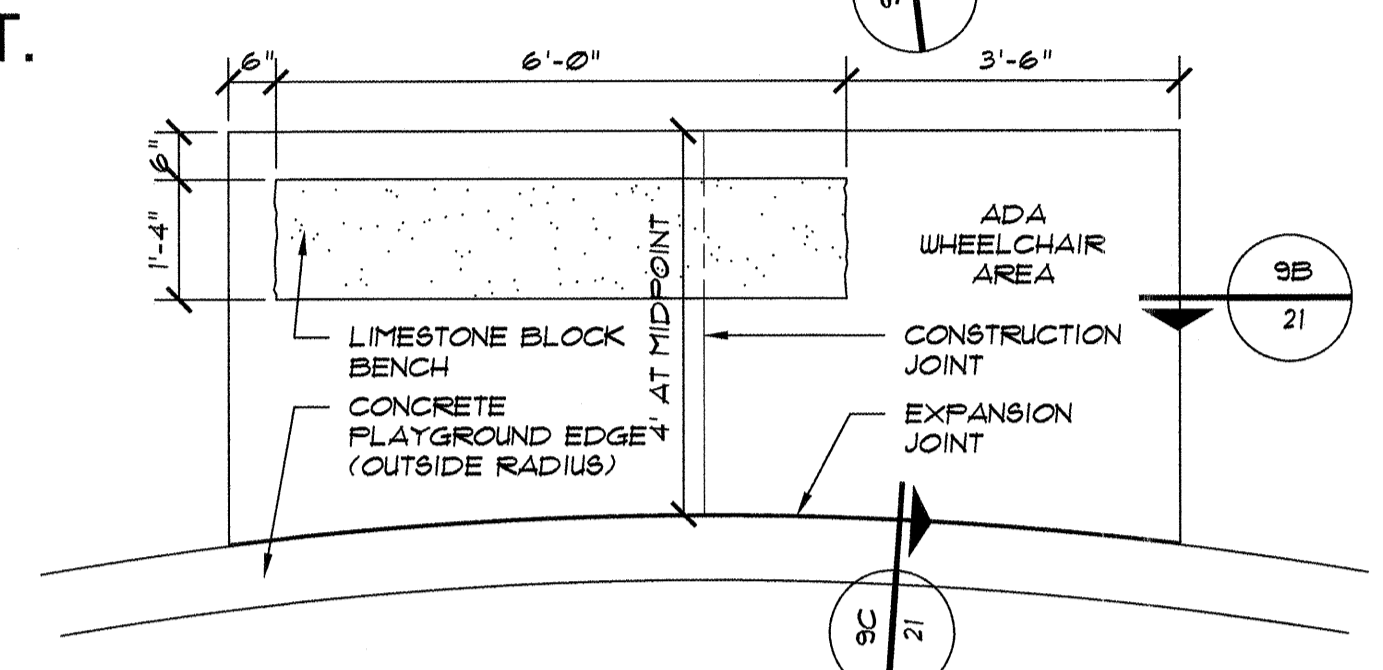
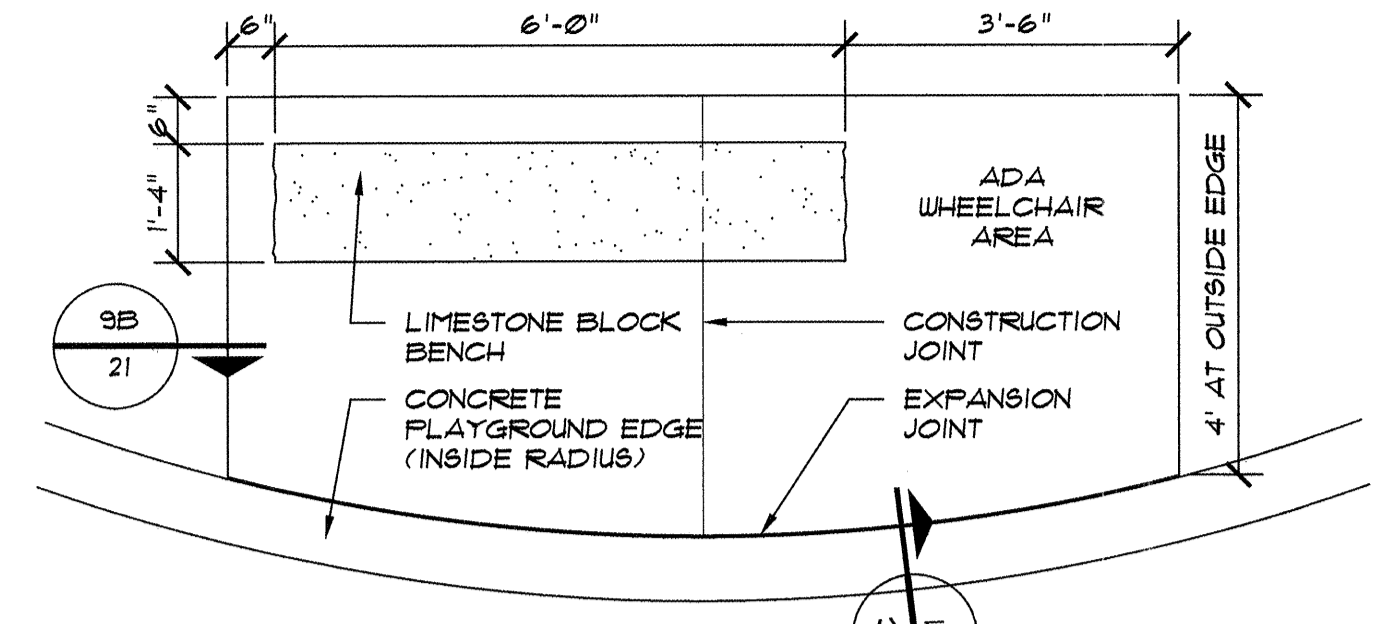
4" SLAB	SAWCUT AT 3/4" DEPTH	REBAR DEPTH AT 1" FROM SURFACE
5" SLAB	SAWCUT AT 1" DEPTH	REBAR DEPTH AT 1-1/4" FROM SURFACE
6" SLAB	SAWCUT AT 1-1/4" DEPTH	REBAR DEPTH AT 1-1/2" FROM SURFACE

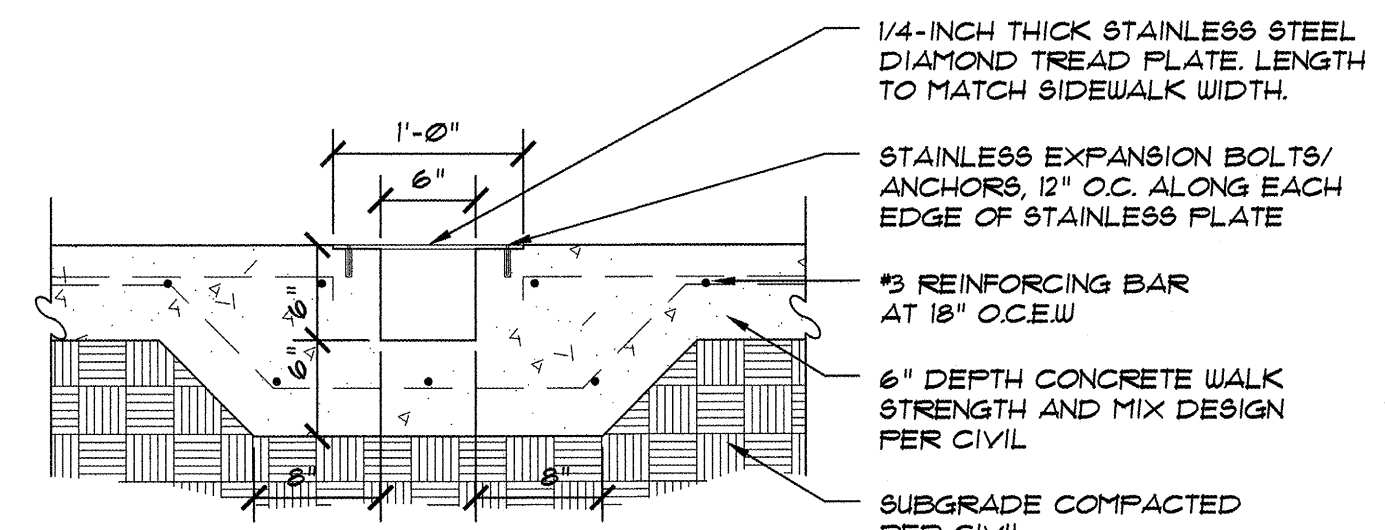
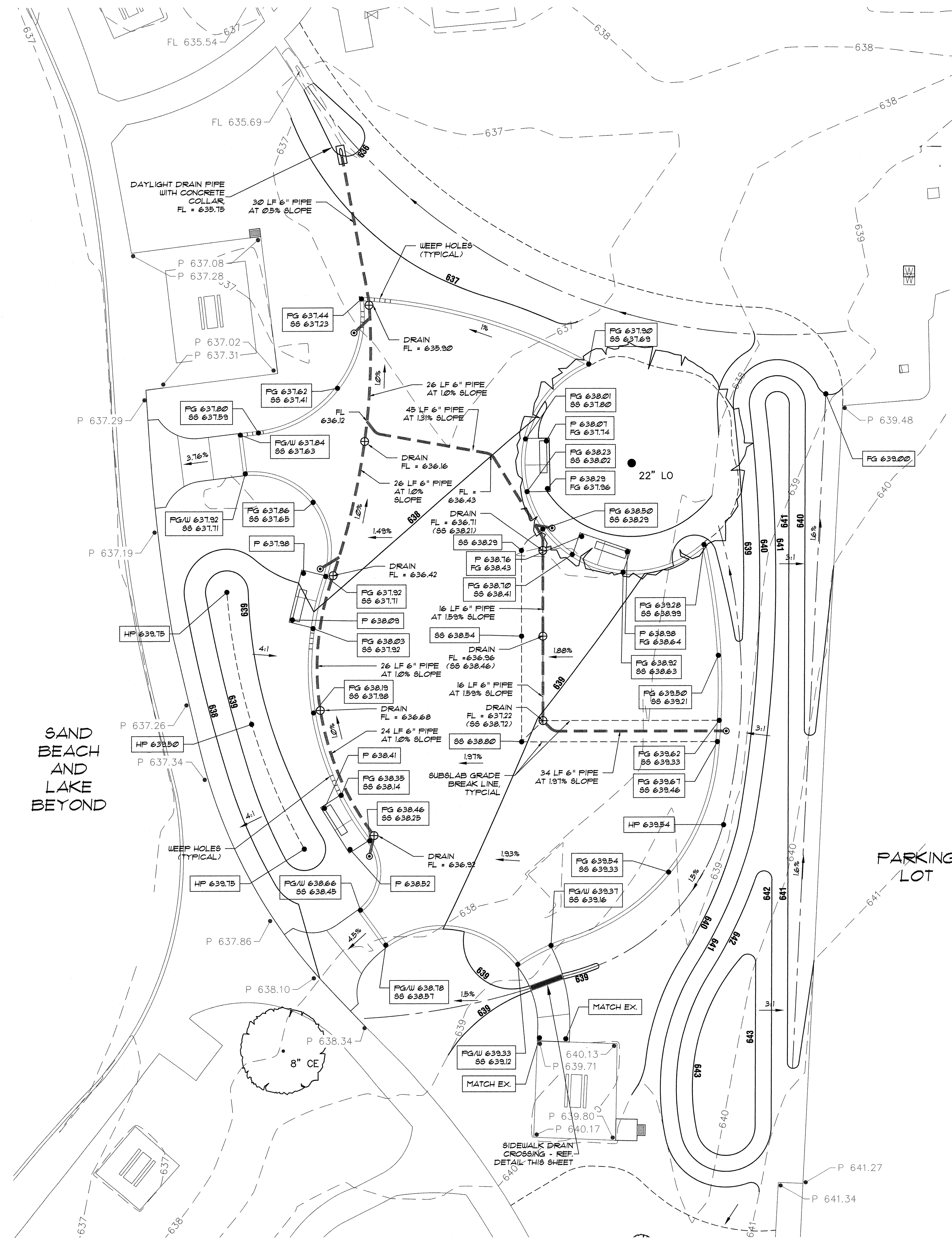


- NOTES:
- CONTRACTOR'S OPTION TO USE 1/4" WIDE POLY CAP STRIP OF REMOVABLE TOP OF FOAM TO FORM VOID FOR SEALANT FILL
 - DELETE DOUCEL @ UTILITIES AND VAULTS/ WALLS
 - DOUCEL AT THRESHOLDS ONLY AND TO FIRST EJ BEYOND DOOR OPENING

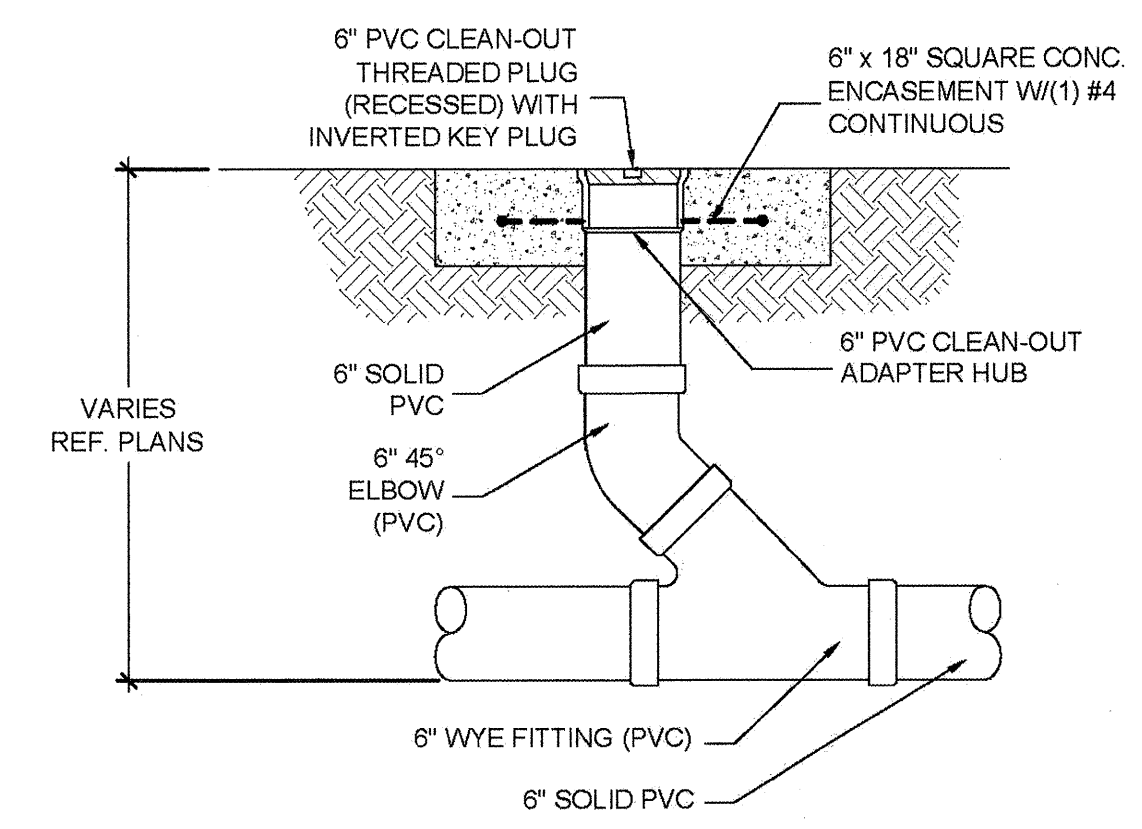


NOTE:
PLAYGROUND EQUIPMENT INSTALLATION DETAILS, INCLUDING ALL FOOTINGS, MUST BE SUBMITTED BY MANUFACTURERS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF PLAYGROUND EQUIPMENT

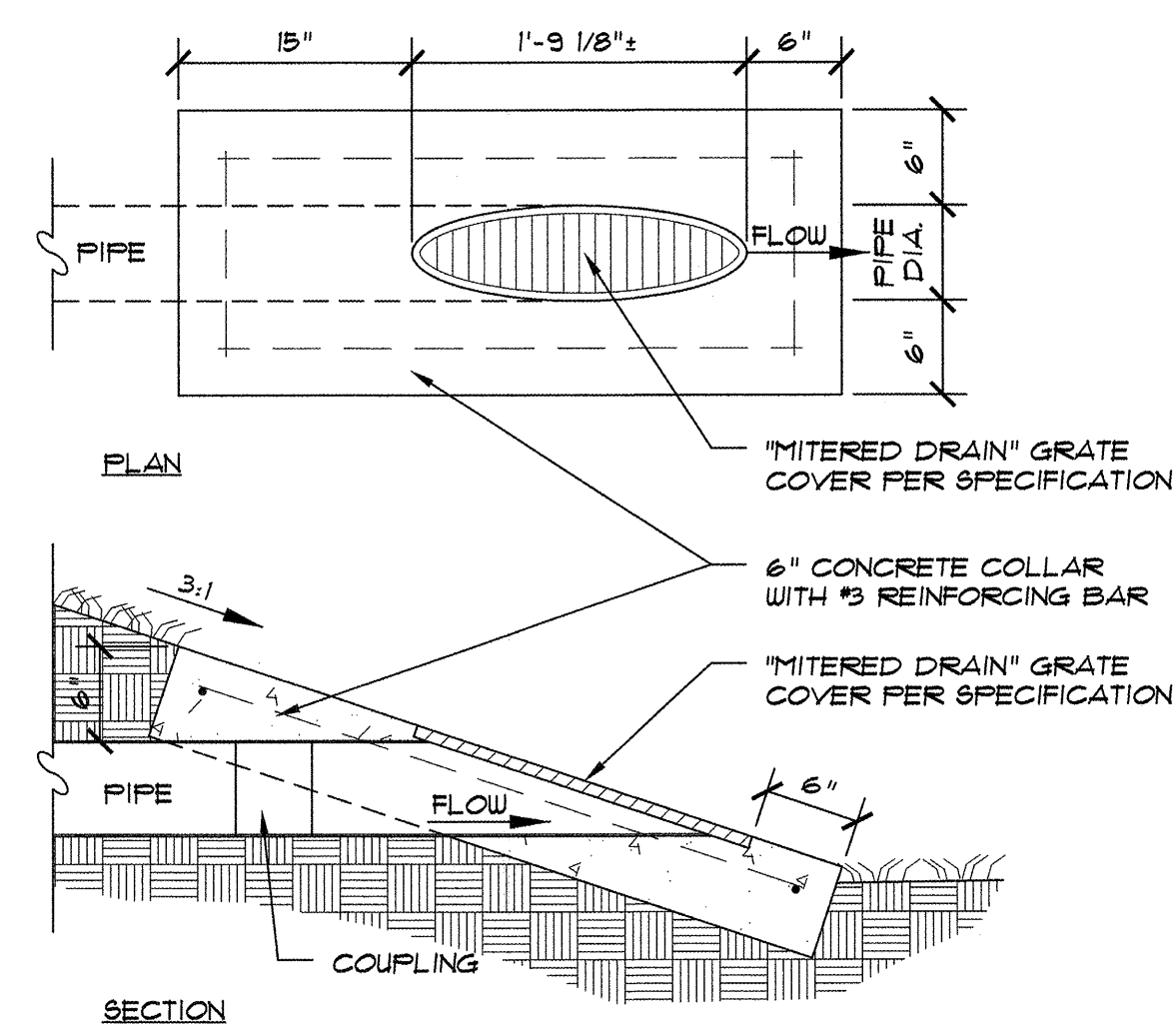




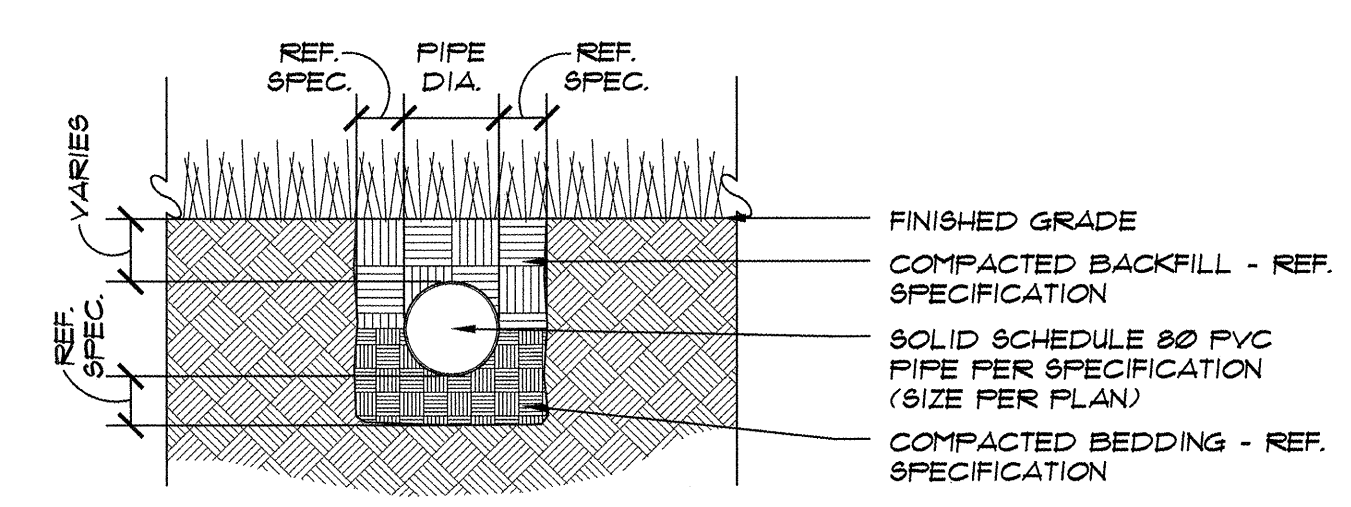
1 SIDEWALK DRAIN CROSSING
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2 PLAYGROUND DRAIN CLEANOUT
NTS



3 PLAYGROUND DRAIN OUTFALL
NTS



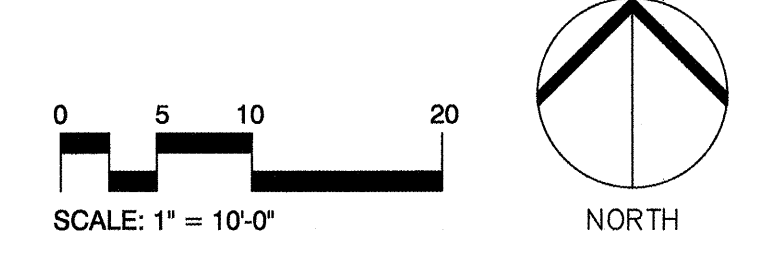
4 PLAYGROUND DRAIN PIPE BEDDING
NTS

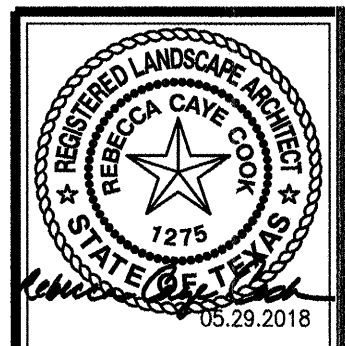
GRADING LEGEND

- NEW PLAYGROUND EDGE
- NEW DRAINAGE SWALE
- 640 NEW CONTOUR
- 640 EXISTING CONTOUR
- - - GRADE BREAK LINE
- PLAYGROUND DRAIN LINE
- ⊕ PLAYGROUND DRAIN, REF. DETAIL 2/21
- ⊙ CLEANOUT, REF. DETAIL 2/22
- XXX.XX EXISTING SPOT ELEVATION
- XXXXXX PROPOSED SPOT ELEVATION
- 133% SLOPE AND DIRECTION OF SURFACE FLOW
- P PAVEMENT
- FG TOP OF PLAY GROUND EDGE
- SS TOP OF CONCRETE SUBSLAB
- FG FINISHED GRADE
- W TOP OF WALK
- HP HIGH POINT
- FL FLOW LINE

GRADING NOTES

1. Any Existing and/or on-site conditions which vary from those shown on the drawings shall be immediately brought to the attention of the Owner's Representative.
2. Contractor shall be responsible for positive drainage in all areas.
3. Refer to the General Conditions and the Technical Specifications Sections for the placement, compaction, grading and testing of all fill material.
4. Refer to plan drawings for subsurface drain system.
5. After placement and adjustment of subsurface drain system to proposed grades and flow line elevations, Contractor shall notify the Owner's Representative to review the pipes in all areas.
6. The Contractor shall request a review for inspection of final in-place grading a minimum of 48 hours in advance of performing any subsequent work unless otherwise noted on this sheet. Final grading shall be approved by the Owner's Representative in the field prior to installation of planting.
7. Refer to Landscape Planting Notes for fine grading requirements.





HALFF
LANDSCAPE ARCHITECTS
1501 WEST WILSON ROAD
ROCKWELL, TEXAS 75087-0275
PHONE: (972) 738-0000
FAX: (972) 738-0000
TXPE FIRM #312

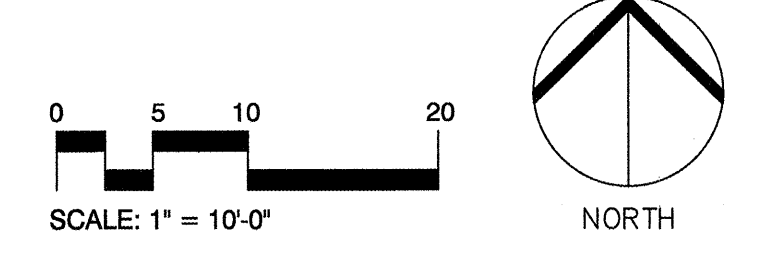


**RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS**
PROJECT NUMBER: 128302

DATE: 04/20/2018
DESIGNED BY: CCA
DRAWN BY: GWW
REVIEWED BY: RCC
REVISED:
REVISED:
REVISED:

**SHEET TITLE
PLANTING PLAN**

**SHEET NUMBER
23/29**



TEMPORARY IRRIGATION DESIGN/BUILD NOTES

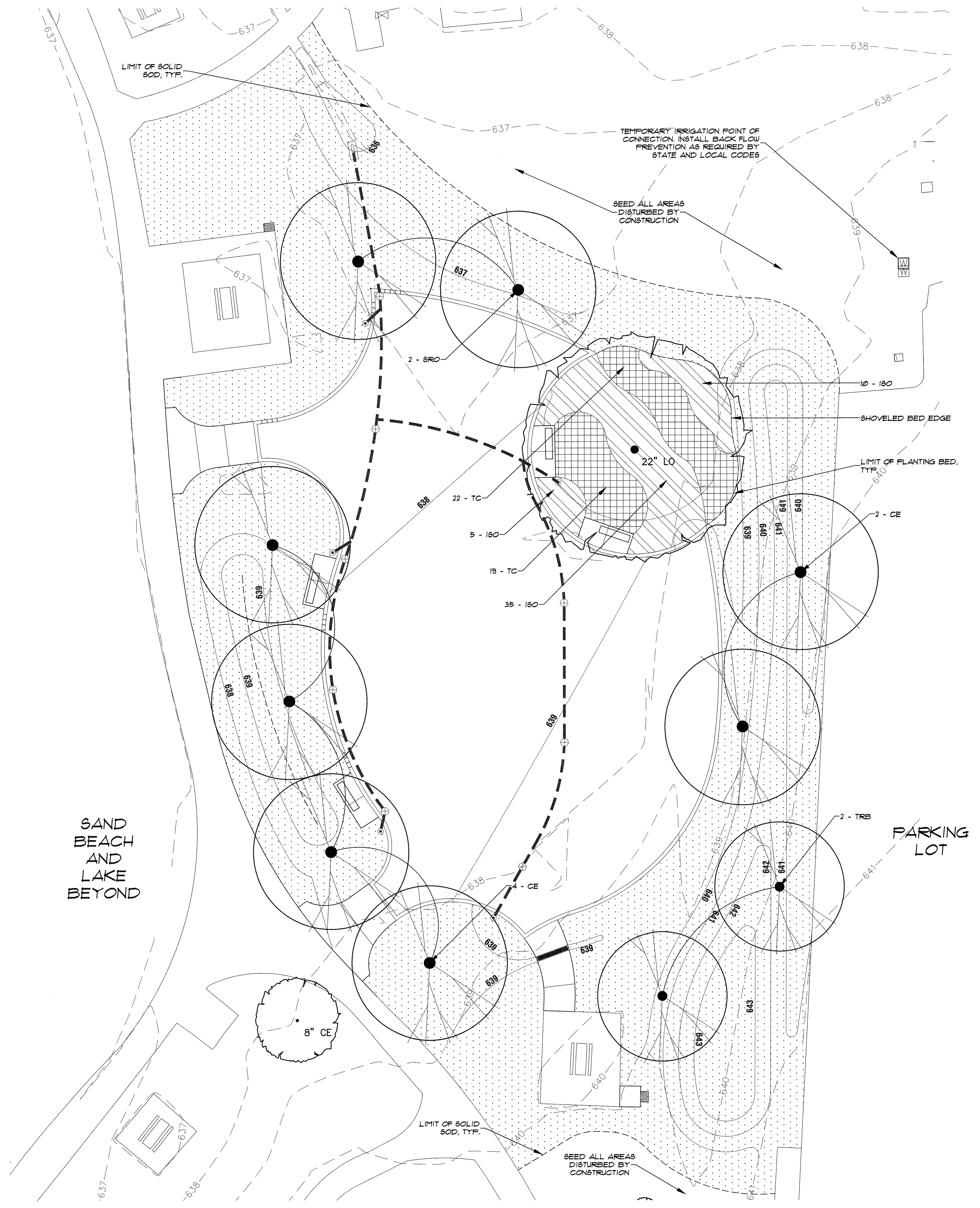
- FURNISH WATER BY MEANS OF TEMPORARY METERING / IRRIGATION WATER TRUCK OR BY ANY OTHER METHOD NECESSARY TO ACHIEVE AN ACCEPTABLE STAND OF TURF AND WILDFLOWERS AS DEFINED IN SPECIFICATIONS. COORDINATE ANY AND ALL WATER TAPS AND BACKFLOW PREVENTION WITH TRUP PERSONNEL.
- BEFORE TEMPORARY IRRIGATION SYSTEM INSTALLATION BEGINS, THE CONTRACTOR SHALL SUBMIT A COMPLETE IRRIGATION PLAN FOR APPROVAL AND ANY REQUIRED PERMITTING.
- CONTRACTOR IS TO CONTACT APPROPRIATE AUTHORITIES AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
- COORDINATE TEMPORARY IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITIONS TO PROVIDE COMPLETE COVERAGE WITH MINIMUM OVERSPRAY ONTO PAVEMENT.
- THE IRRIGATION CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE MANDATED IRRIGATION ORDINANCES AND CODES, AND WILL SECURE ALL REQUIRED PERMITS. L.I.C. SHALL PAY ANY ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL GOVERN THE DESIGN/INSTALLATION OF THE TEMPORARY IRRIGATION SYSTEM.
- COORDINATE WITH THE GENERAL CONTRACTOR REGARDING ALL REQUIRED PAVEMENT CROSSINGS. SLEEVES OR BORES SHALL BE REQUIRED WHERE EXISTING PAVEMENT MUST BE CROSSED.
- WATER SOIL TO A MINIMUM DEPTH OF 4 INCHES THOROUGHLY MOISTEN SEED BED WITHIN 48 HOURS OF SEEDING.
- WATER AS PROVIDED IN SPECIFICATIONS. FOR CONTRACTOR'S INFORMATION, IRRIGATION FREQUENCY IS AT LEAST TWICE DAILY FOR 14 DAYS AFTER SEEDING IN SUCH A MANNER AS TO PREVENT WASHING OF THE SLOPES OR DISLODGEEMENT OF THE SEED. THE FREQUENCY CAN BE ADJUSTED TO MAINTAIN OPTIMAL MOISTURE FOR SEED GENERATION AND SOD ESTABLISHMENT WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- FOR CONTRACTOR'S INFORMATION, APPLY AN AMOUNT OF WATER THAT IS EQUAL TO THE AVERAGE AMOUNT OF RAINFALL PLUS 1/2 INCH PER WEEK SHOULD BE APPLIED UNTIL ACCEPTED. THIS RATE CAN BE ADJUSTED TO MAINTAIN OPTIMAL MOISTURE FOR SEED GENERATION AND SOD ESTABLISHMENT WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- AT MAXIMUM ONE YEAR FROM ACCEPTANCE, THE SYSTEM SHALL BE DISCONNECTED FROM THE WATER SOURCE AND CONTROLLER. THE BACKFLOW PREVENTOR SHALL BE REMOVED AND ALL OTHER UNDERGROUND EQUIPMENT SHALL BE ABANDONED.

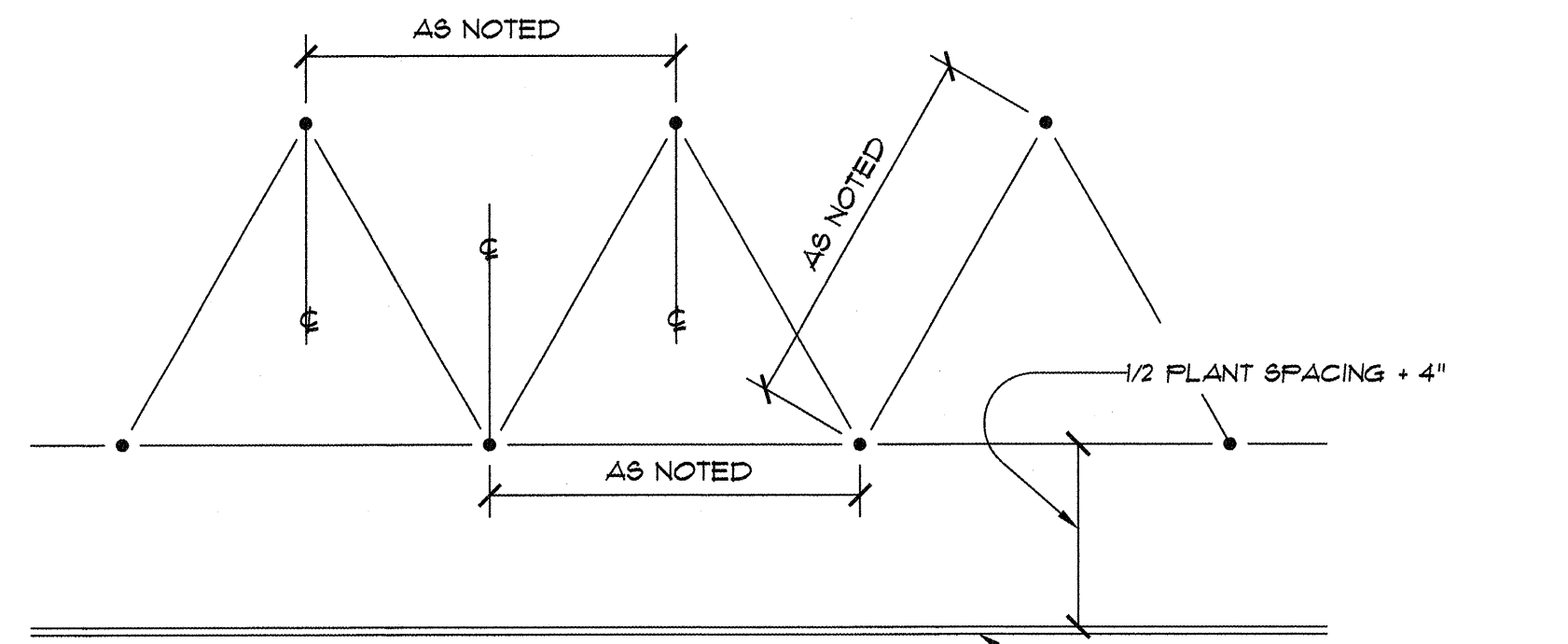
PLANTING LEGEND

- LIMIT OF PLANT BED OR LIMIT OF SOLID SOD TIWAY 419 BERMUDAGRASS
- [Dotted pattern] TIWAY 419 BERMUDAGRASS SOLID SOD LAWN
- [Cross-hatch pattern] COMMON BERMUDAGRASS SEED LAWN (ALL AREAS DISTURBED BY CONSTRUCTION EXCEPT AREAS WHERE SOLID SOD IS NOTED ON THE PLANS)
- [Grid pattern] TURK'S CAP (TC)
- [Diagonal lines] INLAND SEA OATS NATIVE GRASS (ISO)
- [Circle with center dot] APPROXIMATE LOCATION - EXISTING SHADE TREE TO REMAIN AND BE PROTECTED
LO = LIVE OAK
CE = CEDAR ELM
- [Circle with center dot] NEW CANOPY OR ORNAMENTAL TREE
CE = CEDAR ELM
TRB = TEXAS RED BUD
SRO = SHUMARD RED OAK

PLANTING NOTES

- Final grading shall be installed by the Contractor and approved by the Owner's Representative in the field prior to planting or planting layout.
- Trees are to be centered in each tree opening. Contractor shall stake out all tree locations for review and approval by the Owner's Representative prior to excavation. Owner's Representative reserves the right to adjust trees to exact location in field.
- Unless dimensioned on the plan, all proposed tree locations are diagrammatic. Contractor shall stake out all informal tree locations in the field using colored flags for review and approval by the Owner's Representative prior to excavation. Owner's Representative reserves the right to adjust plants to exact location in the field.
- Shrub bed layouts shall be staked for approval by Owner's Representative prior to bed preparation. Align and equally space in all directions all shrubs as noted in the drawings.
- Finish grade of shrub beds shall be three and one half (3 1/2) inches below adjacent pavement or curb where 8 layers newroll stock, two (2") inches compost and two (2") inches mulch is to be applied unless otherwise noted.
- Unless otherwise indicated, all shrub beds shall be topdressed with a two (2") inch compost layer covered with a two (2") inch mulch layer. Contractor shall provide samples of compost and mulch to the Owner's Representative along with specific test data per the requirements of the specifications.
- It is the responsibility of the contractor to advise the Owner's Representative of any condition found on the site which prohibits installation as shown on these drawings.
- All plant material shall be maintained in a healthy and growing condition, and must be replaced with plant material of similar variety, character, and size if damaged, destroyed, or removed.
- Contractor shall meet or exceed all minimum sizes listed in Plant Schedule including container size.
- Landscape areas shall be kept free of trash, litter, and weeds at all times during construction.
- The Contractor shall be responsible for fine grading, removal of miscellaneous debris and any additional fill required to create a smooth condition prior to planting in all planter leave-outs.
- Prune newly planted trees to provide seven (7) foot clear canopy above the elevation of the sidewalk. Remove any damaged branches to the nearest fork. Prune and remove limbs per the Specifications.
- Finish mulch grades of all tree bases shall be (1/2") below adjacent pavement elevation. In areas where a combined (4") layer of mulch and compost is to be applied finish soil grades shall be (4 1/2") below adjacent pavement or curb.
- Contractor shall patch all areas of disturbed lawn with solid sod Common Bermuda (CB) grass - Ref. plans. New sod shall be flush to existing turf.
- Refer to Planting Detail sheets for all planting details.
- Refer to Planting Detail sheets L304 Schedule.
- Refer to Specification Section 32030 - Landscape Maintenance for One (1) Year.
- Replace dead plants within 7 days after determination of condition.



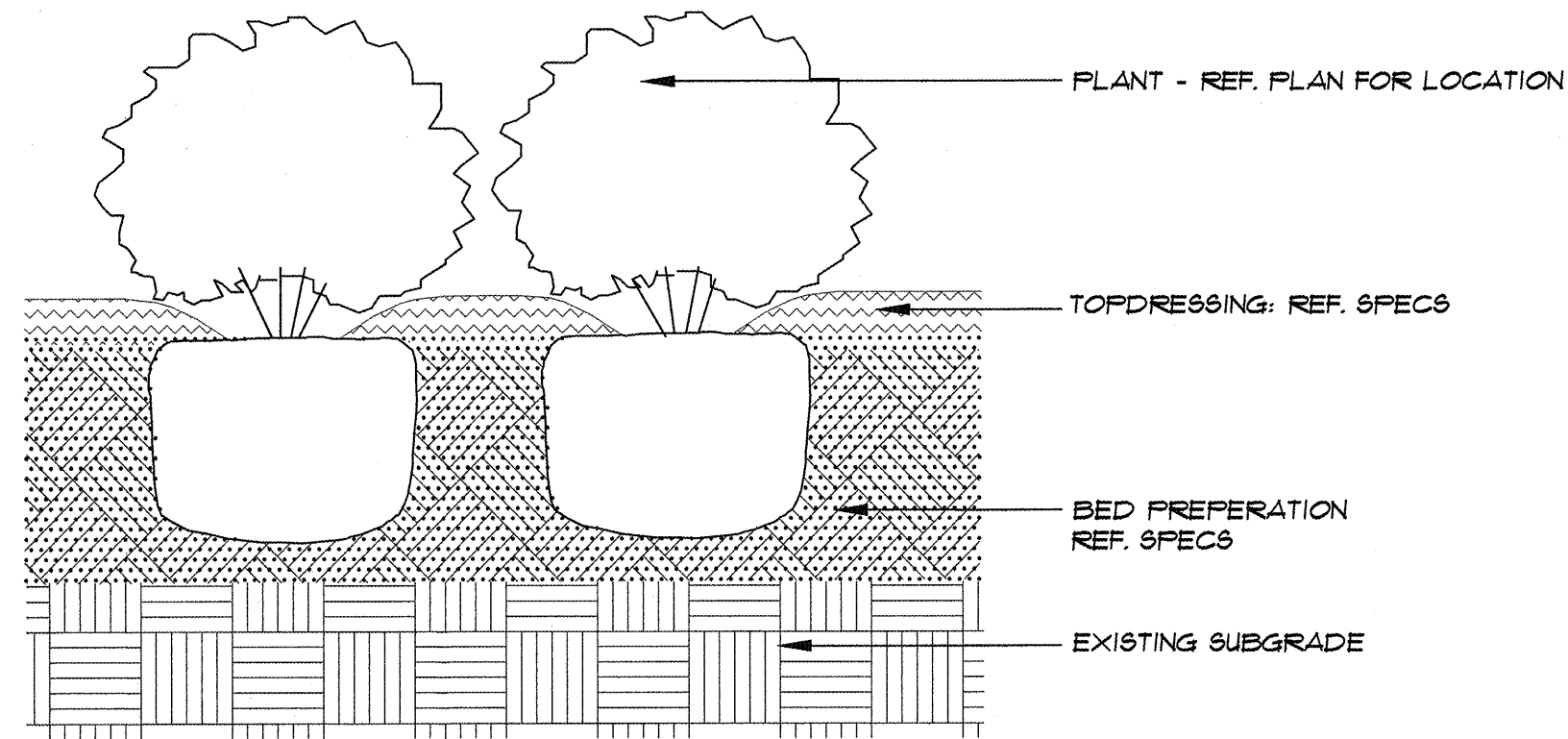


NOTE: SPACING DIAGRAM REFERS TO ALL PLANTING UNLESS NOTED OTHERWISE.

PAVING EDGE/BUILDING BAND/ CURB/STEEL EDGING

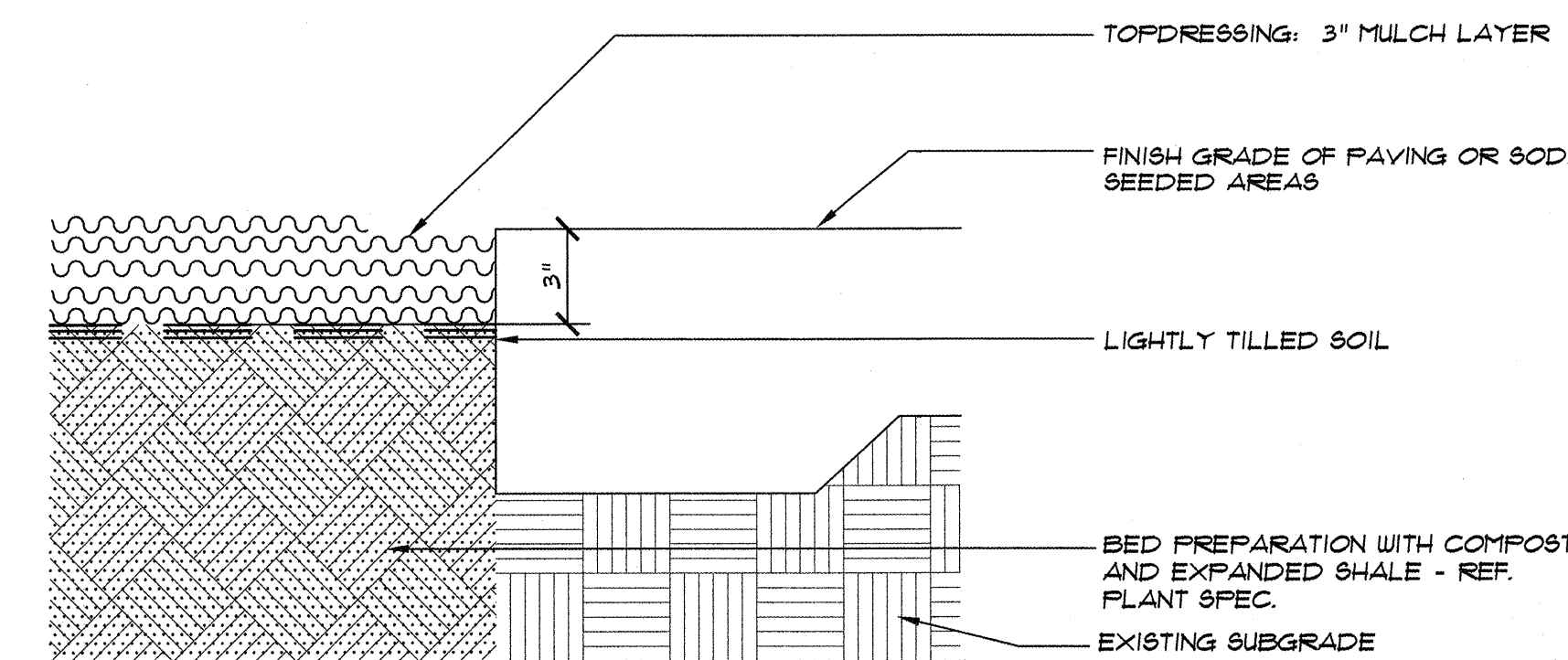
1 TRIANGULAR SPACING - PLAN

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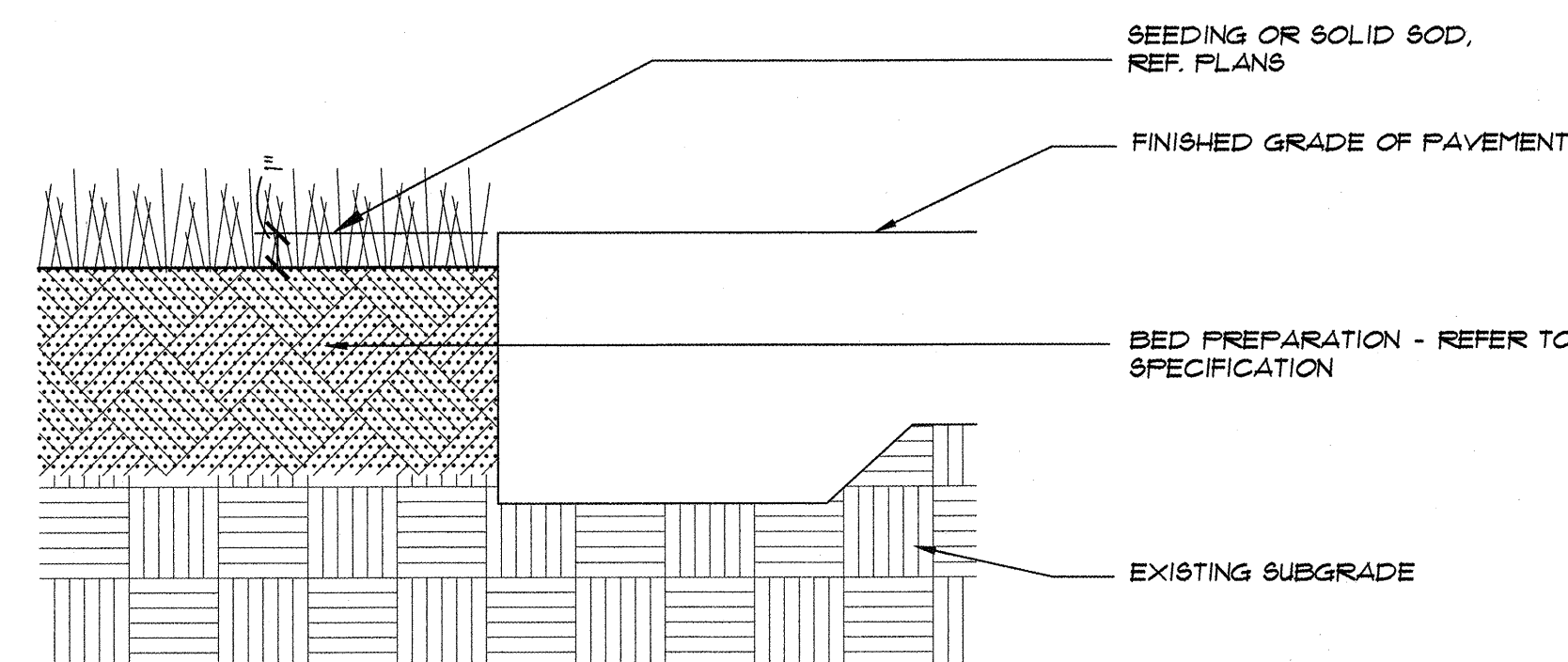
2 SHRUB/PERENNIAL/ORN. GRASS AT BEDS - SECT.

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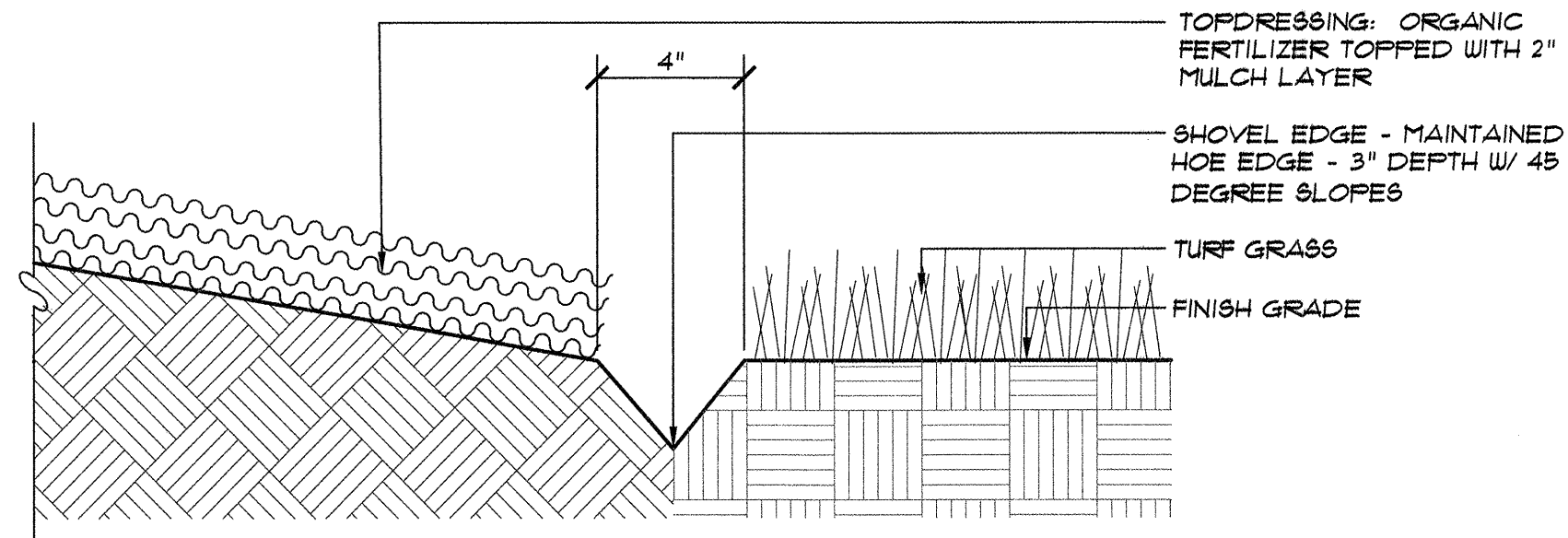
3 MULCH BED - SECTION

NTS



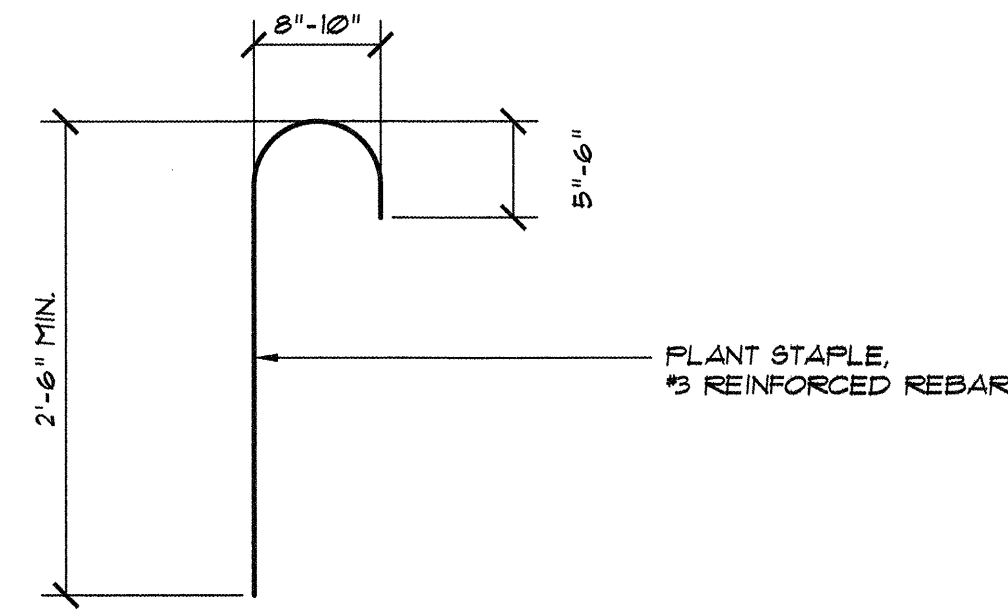
4 SEEDING OR SODDING AT PAVEMENT - SECTION

NTS



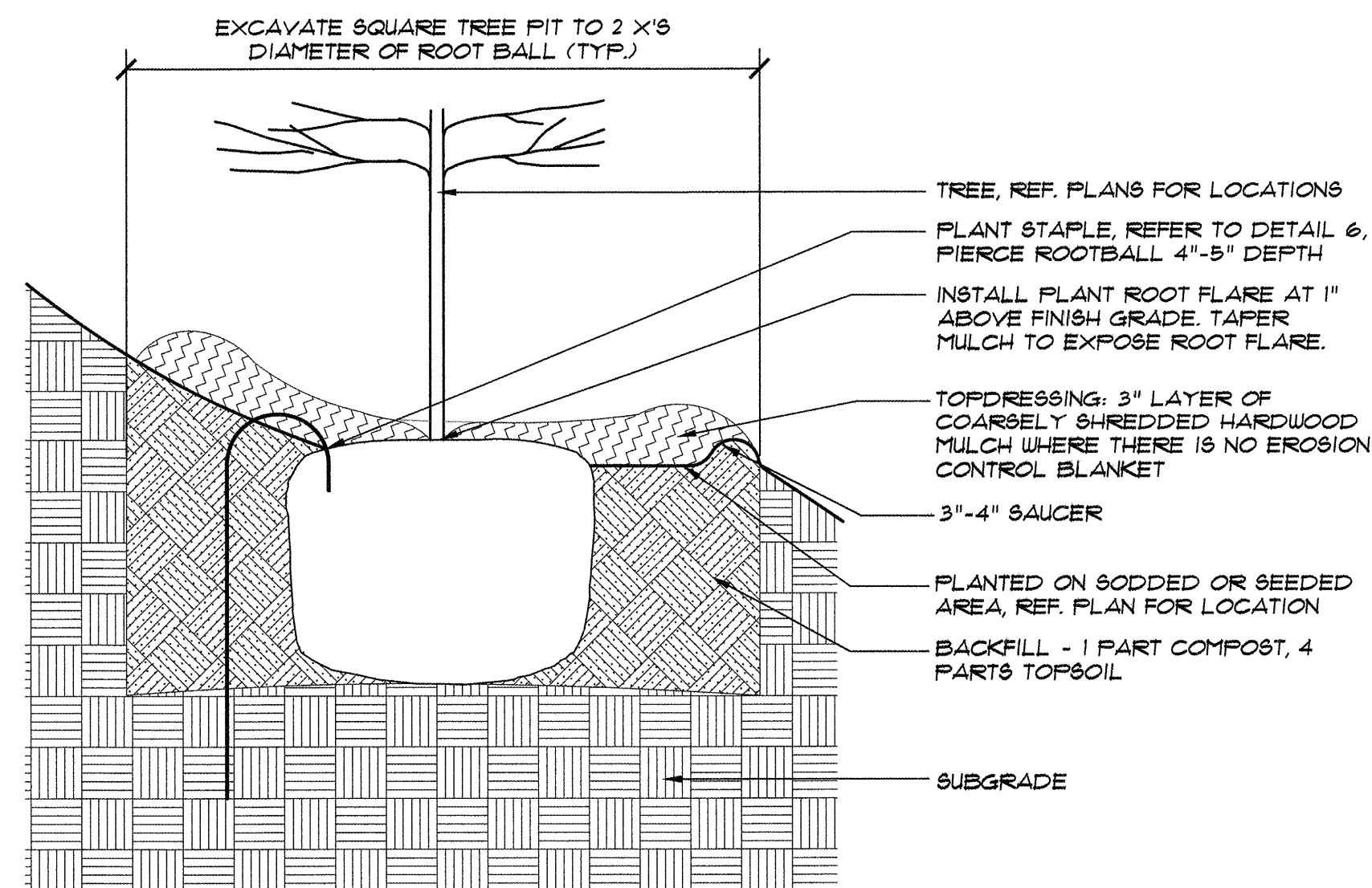
5 SHOVEL EDGE - SECTION

NTS



6 PLANT STAPLE (1-INCH CALIPER TREES)

NTS



7 TREE PLANTING DETAIL (1-INCH CALIPER TREES)

NTS

TREE REQUIREMENTS

ROOT SYSTEM DEVELOPMENT:

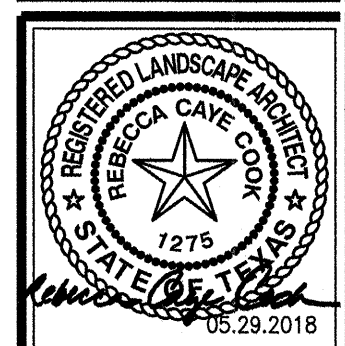
- ALL NAMED CULTIVARS WILL BE OWN ROOT CLONES. NO GRAFTER OR BUD-GRAFTED TREES WILL BE ACCEPTED.
- 100% MECHANICALLY ROOT-PRUNED AT LEAST ONCE AND TRANSPLANTED A MINIMUM OF 3 TIMES DURING THE FIRST 3 YEARS OF THE TREE'S LIFE.
- THE TREES WILL HAVE BEEN GROWN IN HEAVY CLAY SOIL AND IRRIGATED WITH DRIP IRRIGATION.
- THE TRUNK FLARE MUST BE ABOVE GROUND AND VISIBLE AT NURSERY BEFORE HARVEST AND AFTER TRANSPLANTING INTO THE LANDSCAPE.
- THE ROOT BALLS WILL HAVE BEEN HEELED IN FOR AT LEAST 30 DAYS AND HAVE A FLESH FLUSH OF NEW ROOT GROWTH INTO THE BURLAP.

CANOPY DEVELOPMENT:

- TREES WILL HAVE A STRONG CENTRAL LEADER TO THE TOP OF THE CANOPY. THE TIP OF THE LEADER ON THE MAIN TRUNK MUST BE INTACT AND IT'S TERMINAL BUD MUST BE THE HIGHEST PART OF THE TREE.
- NO BRANCH CAN HAVE A DIAMETER GREATER THAN 2/3 THE TRUNK DIAMETER MEASURED DIRECTLY ABOVE THE BRANCH CROTCH. THE TREE WILL HAVE NO INCLUSIONS OR CO-DOMINANT BRANCHES.
- THE TREE CROWN MUST BE STRUCTURALLY UNIFORM. BRANCHES WILL BE EVENLY DISTRIBUTED AROUND THE TRUNK. THE CROWN WILL BE FULL OF FOLIAGE WHICH IS EVENLY DISTRIBUTED AROUND THE TREE.

PLANT SCHEDULE

SYMBL.	COMMON NAME/ BOTANICAL NAME	HEIGHT/ SPREAD	SIZE	REMARKS	QUANTITY
TREES					
CE	CEDAR ELM / ULMUS CRASSIFOLIA	4' MIN/ 2' MIN.	1" CAL.	B4B OR CONTAINER, FULL, SINGLE-TRUNK, MATCHED, WELL-BRANCHED, AS SHOWN	6
SRO	SHUMARD RED OAK / QUERCUS SHUMARDII	4' MIN/ 2' MIN.	1" CAL.	B4B OR CONTAINER, FULL, SINGLE-TRUNK, MATCHED, WELL-BRANCHED, AS SHOWN	2
TRB	TEXAS REDBUD / CERCIS CANADENSIS 'TEXENSIS'	4' MIN/ 2' MIN.	1" CAL.	B4B OR CONTAINER, FULL, SINGLE-TRUNK, MATCHED, WELL-BRANCHED, AS SHOWN	2
NATIVE PLANTINGS / SHRUBS / ORNAMENTAL GRASSES / PERENNIALS					
ISO	INLAND SEA OATS / CHASMANTHIUM LATIFOLIUM	4" POT OR 1 GAL.		4" POT PREFERRED, FULL TO BASE, HEAVILY ROOTED, 48" ON CENTER = 0.01 PLANTS / SF.	50
TC	TURK'S CAP / MALVAVISCUUS ARBOREUS VAR. DRUMONDII	4" POT OR 1 GAL.		4" POT PREFERRED, FULL TO BASE, HEAVILY ROOTED, 48" ON CENTER = 0.01 PLANTS / SF.	41
TURF					
SOLID SOD	TIFWAY 419 BERMUDAGRASS / CYNODON DACTYLON 'TIFWAY 419'	SOLID SOD		REFER TO SPECIFICATIONS	1,624 SF.
SEED	COMMON BERMUDAGRASS / CYNODON DACTYLON	SEED		REFER TO SPECIFICATIONS	1,62 SF.
MISCELLANEOUS					
	COMPOST - ORGANIC, WELL-DECOMPOSED	2" DEPTH		REFER TO DETAILS AND SPECIFICATIONS	VERIFY C.Y.
	MULCH - HARDWOOD	2" DEPTH		AT TREES WHERE SHOWN AND PER DETAILS AND SPECIFICATIONS	VERIFY C.Y.



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ARCHITECTS
12000 W. HUNTERS TRAIL
DALLAS, TEXAS 75244
TEL: (214) 346-6000
FAX: (214) 346-6001
TYPE: FIRM #312



RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
PROJECT NUMBER: 128302

DATE: 04/20/2018
DESIGNED BY: CCA
DRAWN BY: GWW
REVIEWED BY: RCC
REVISED:
REVISED:
REVISED:

SHEET TITLE
LANDSCAPE
STRUCTURES
PLAYGROUND
EQUIPMENT
LAYOUT

SHEET NUMBER
25/29

The play components identified on this plan are IPEMA certified. (Insert model number is preceded with *) The use and layout of these components conform to the requirements of ASTM F1487. To verify product certification, visit www.ipema.org

THIS PLAY AREA & PLAY EQUIPMENT IS DESIGNED FOR AGES 2-12 YEARS UNLESS OTHERWISE NOTED ON PLAN.

IT IS THE MANUFACTURERS OPINION THAT THIS PLAY AREA DOES CONFORM TO THE ADA ACCESSIBILITY STANDARDS, ASSUMING AN ACCESSIBLE PROTECTIVE SURFACING IS PROVIDED, AS INDICATED, OR WITHIN THE ENTIRE USE ZONE.

THIS CONCEPTUAL PLAN WAS BASED ON INFORMATION AVAILABLE TO US. PRIOR TO CONSTRUCTION, DETAILED SITE INFORMATION INCLUDING SITE DIMENSIONS, TOPOGRAPHY, EXISTING UTILITIES, SOIL CONDITIONS, AND DRAINAGE SOLUTIONS SHOULD BE OBTAINED, EVALUATED, & UTILIZED IN THE FINAL DESIGN. PLEASE VERIFY ALL DIMENSIONS OF PLAY AREA, SIZE, ORIENTATION, AND LOCATION OF ALL EXISTING UTILITIES, EQUIPMENT, AND SITE FURNISHINGS PRIOR TO ORDERING. SLIDES SHOULD NOT FACE THE NOT AFTERNOON SUN.

CHOOSE A PROTECTIVE SURFACING MATERIAL THAT HAS A CRITICAL HEIGHT VALUE TO MEET THE MAXIMUM FALL HEIGHT FOR THE EQUIPMENT. DEF: ASTM F1487 STANDARD CONSUMER SAFETY PERFORMANCE SPECIFICATION FOR PLAYGROUND EQUIPMENT FOR PUBLIC USE, SECTION 8 CURRENT REVISION). THE SUBSURFACE MUST BE WELL DRAINED. IF THE SOIL DOES NOT DRAIN NATURALLY IT MUST BE TILED OR SLOPED 1/8" TO 1/4" PER FOOT TO A STORM SEWER OR A TRENCH DRAIN.

AREA OF ACCESSIBLE PROTECTIVE SURFACING (POURED-IN-PLACE SUGGESTED) 7316 SQ FT

DESIGNED BY:
JCF
COPYRIGHT: 10/24/17
LANDSCAPE STRUCTURES, INC.
801 7th STREET SOUTH - P.O. BOX 188
DELANO, MINNESOTA 55338
PH: 1-800-328-0235 FAX: 1-763-972-9091

6/28/17	106854-1-1	JCF
Date	Previous Drawing #	Initials

5-12	Estimated manufacturing time: 6 weeks from the time of LSI order acceptance.
TOTAL ELEVATED PLAY COMPONENTS	10
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY RAMP	0 REQUIRED 0
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY TRANSFER	6 REQUIRED 5
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS SHOWN	5 REQUIRED 3
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS	4 REQUIRED 4

2-5	Estimated manufacturing time: 6 weeks from the time of LSI order acceptance.
TOTAL ELEVATED PLAY COMPONENTS	4
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY RAMP	0 REQUIRED 0
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY TRANSFER	4 REQUIRED 2
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS SHOWN	1 REQUIRED 1
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS	1 REQUIRED 1

SCALE IN FEET:

Nature Playground at
Isle du Bois

Recreation Consultants
of Texas
Greg Hawkins

SYSTEM TYPE:
PlayBooster

DRAWING #:
106854-1-2

OVERALL PERSPECTIVE VIEW, SHT. 21

5-12

PlayBooster (5-12 year)
Max Fall Height: 72 inches

PlayBooster (2-5 year)
Max Fall Height: 40 inches

UPC CLIMBING BOULDERS AND LOGS (BY OTHERS)

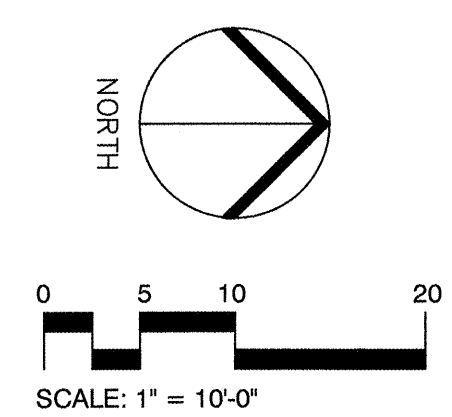
UPC CLIMBING BOULDERS AND LOGS (BY OTHERS)

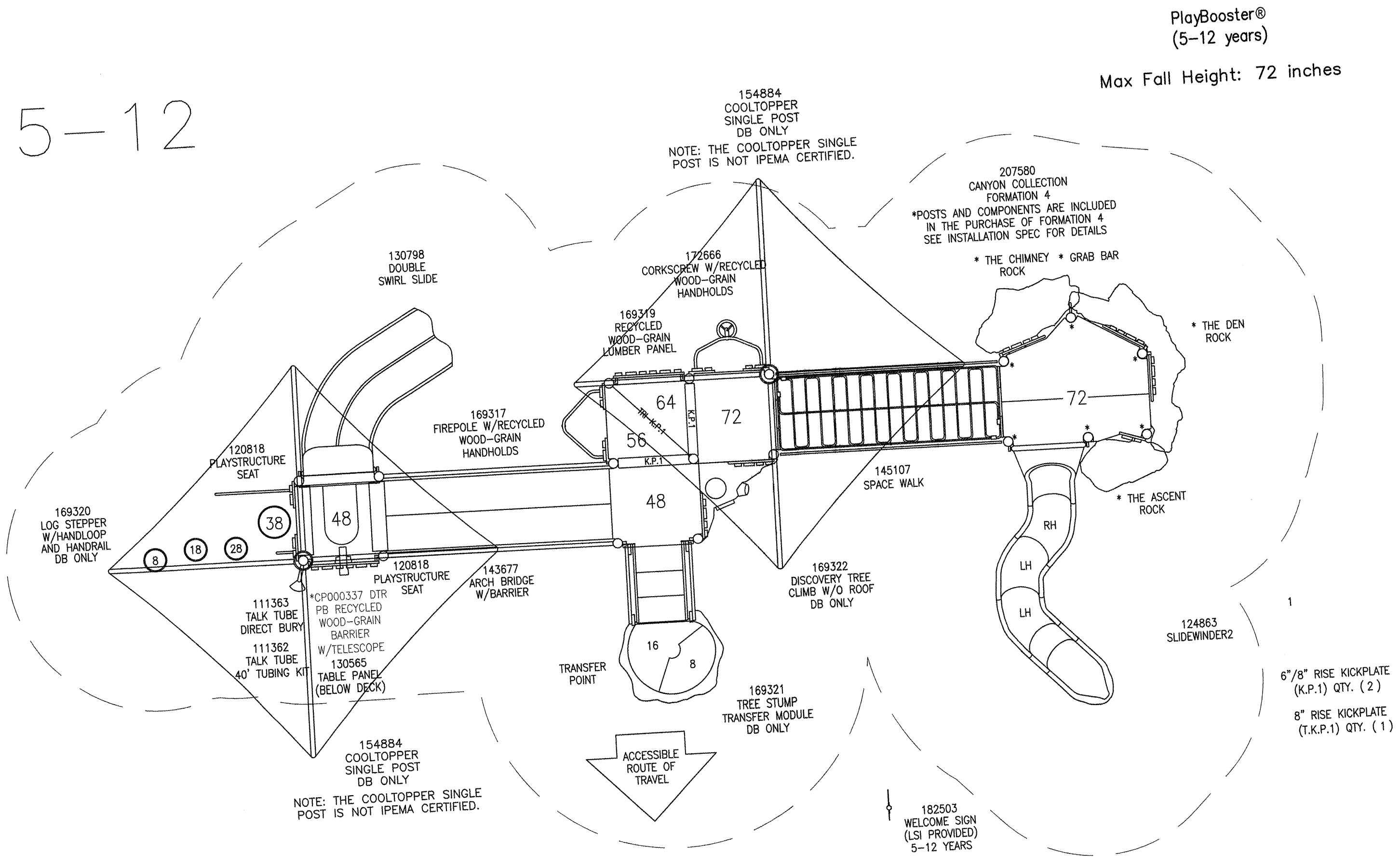
5-12 PERSPECTIVE VIEW, SHT. 21

5-12 PERSPECTIVE VIEW, SHT. 22

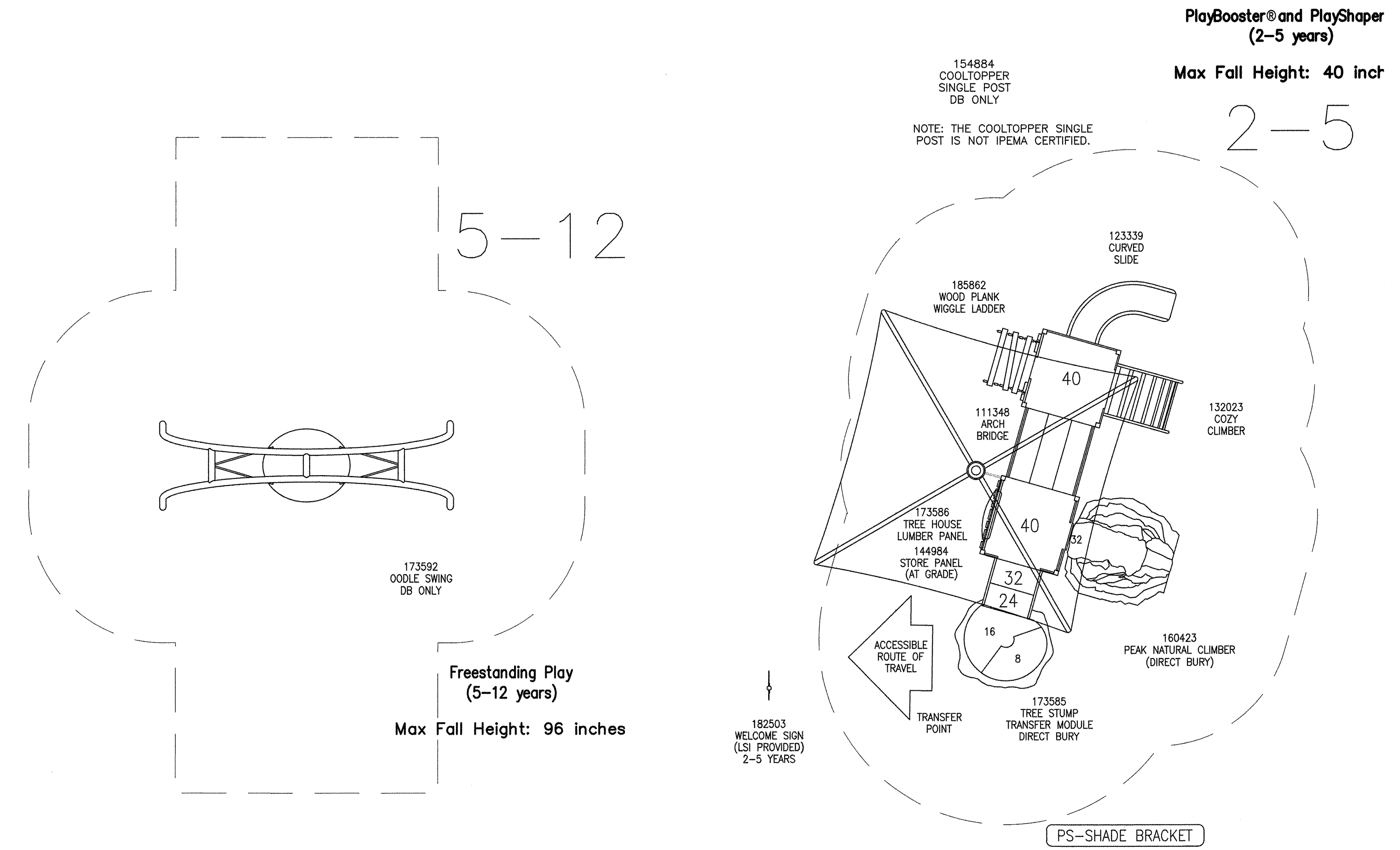
PlayBooster (5-12 year)
Max Fall Height: 68 inches

PLAN (1"=10'-0")

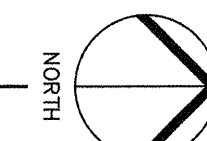




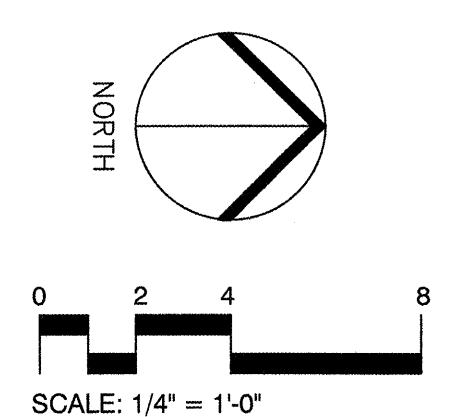
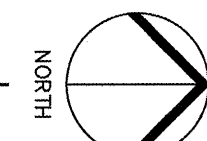
5-12 PLAY STRUCTURE ENLARGED PLAN (1/4" = 1'-0")

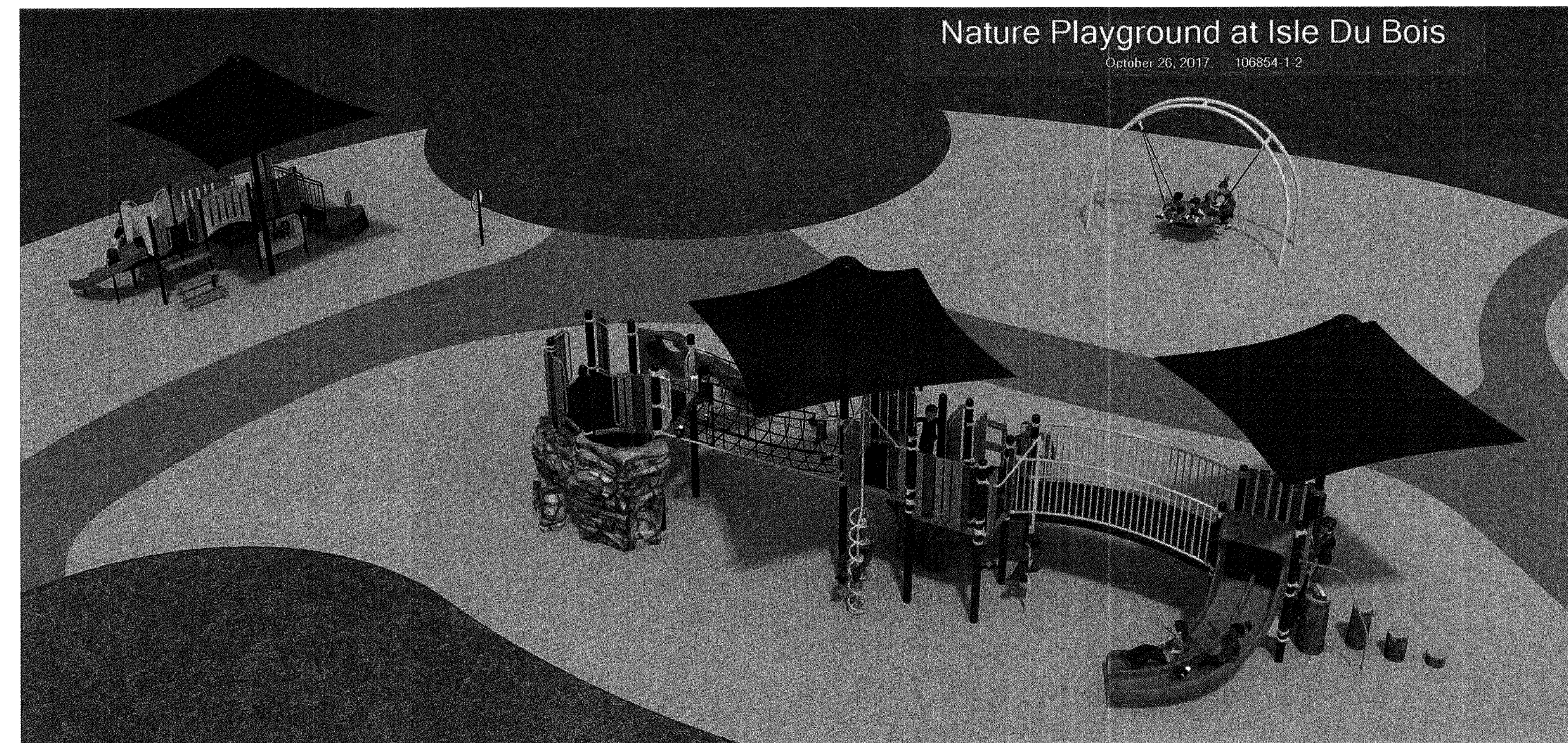


SWING ENLARGED PLAN (1/4" = 1'-0")



2-5 PLAY STRUCTURE ENLARGED PLAN (1/4" = 1'-0")





Nature Playground at Isle Du Bois
October 26, 2017 106854-1-2

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OVERALL PERSPECTIVE VIEW (N.T.S.)



Nature Playground at Isle Du Bois
October 26, 2017 106854-1-2

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2-5 PLAY STRUCTURE PERSPECTIVE VIEW (N.T.S.)



Nature Playground at Isle Du Bois
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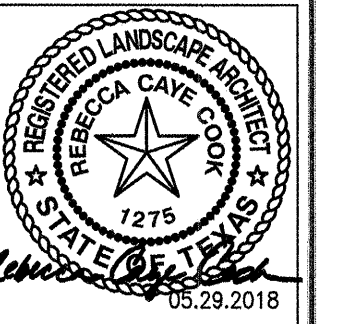
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5-12 PLAY STRUCTURE PERSPECTIVE VIEW (N.T.S.)



HALFF
ASSOCIATES, INC.
REGISTERED LANDSCAPE ARCHITECT
STATE OF TEXAS
NO. 1275
05.29.2018
1301 W. WILSON ST., SUITE 200
DALLAS, TX 75203
TEL: 214.736.0000
FAX: 214.736.0000
TBP# PRM #312

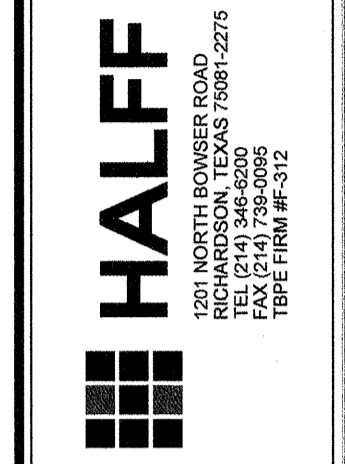


RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
PROJECT NUMBER: 128302

DATE: 04/20/2018
DESIGNED BY: CCA
DRAWN BY: GWW
REVIEWED BY: RCC
REVISED:
REVISED:
REVISED:

SHEET TITLE
LANDSCAPE
STRUCTURES
PLAYGROUND
EQUIPMENT
PERSPECTIVES

SHEET NUMBER
27/29

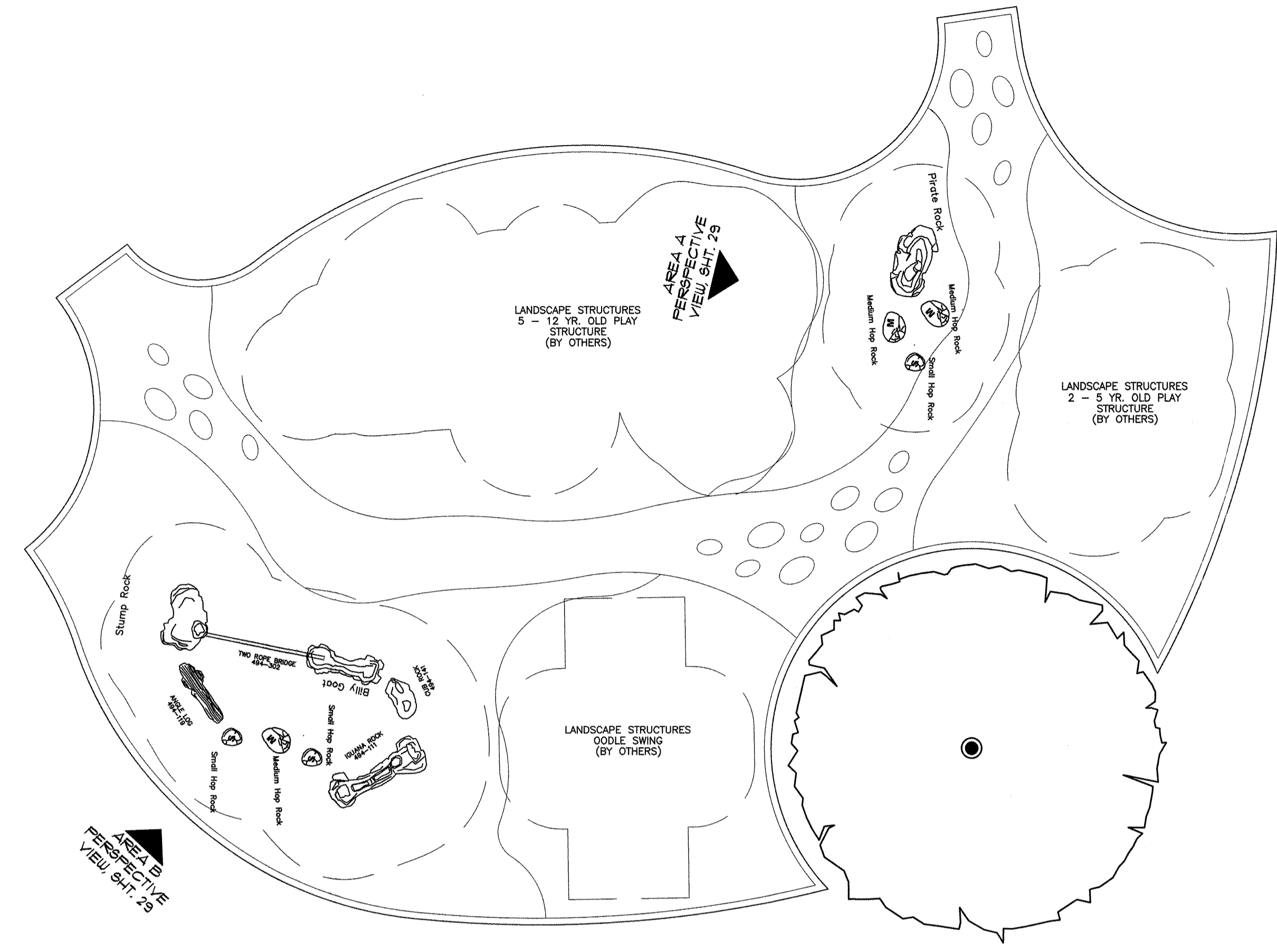


**RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS**
PROJECT NUMBER: 128302

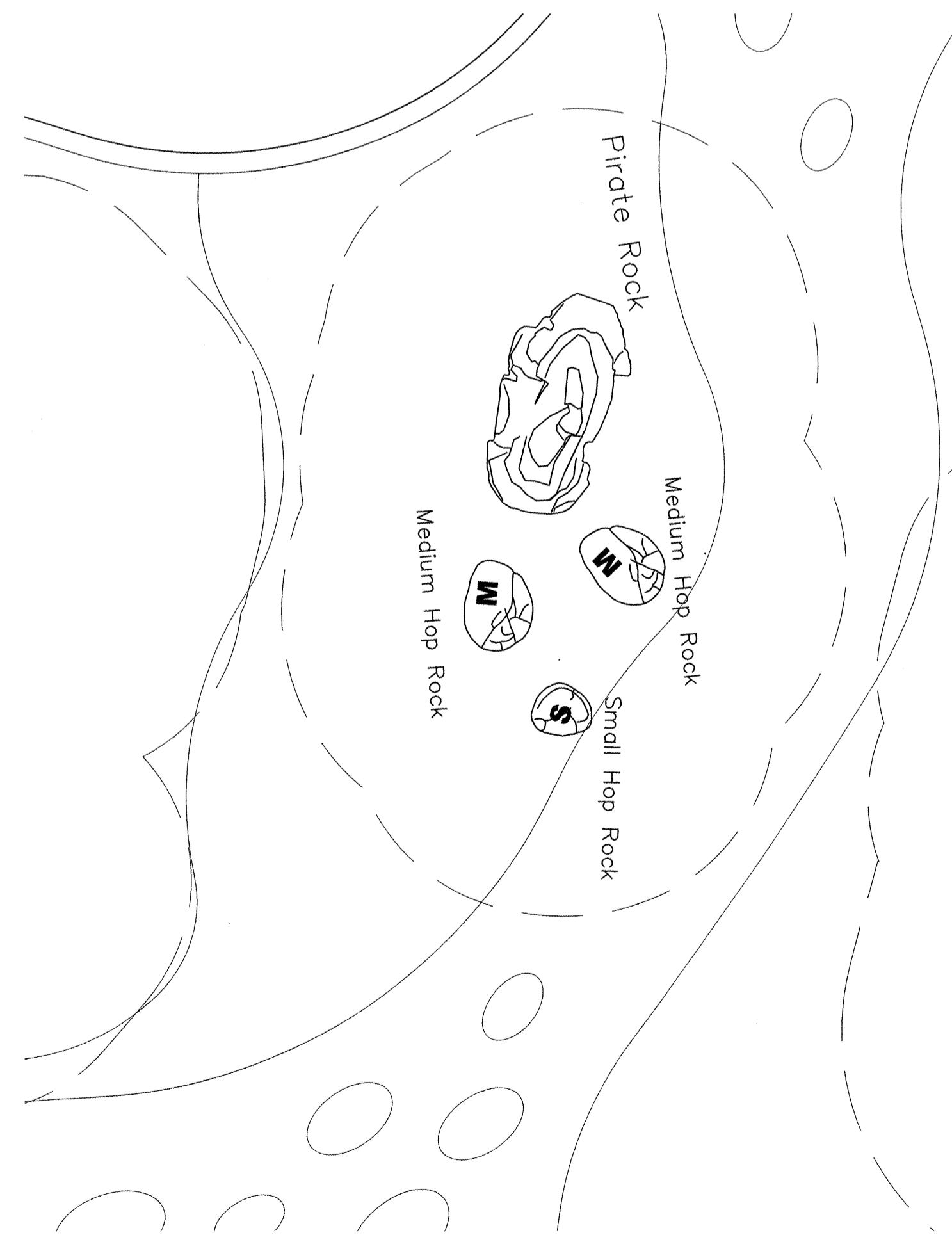
DATE: 04/20/2018
DESIGNED BY: CCA
DRAWN BY: GWW
REVIEWED BY: RCC
REVISED:
REVISED:

SHEET TITLE
U.P.C.
PLAYGROUND
EQUIPMENT
LAYOUT AND
ENLARGEMENTS

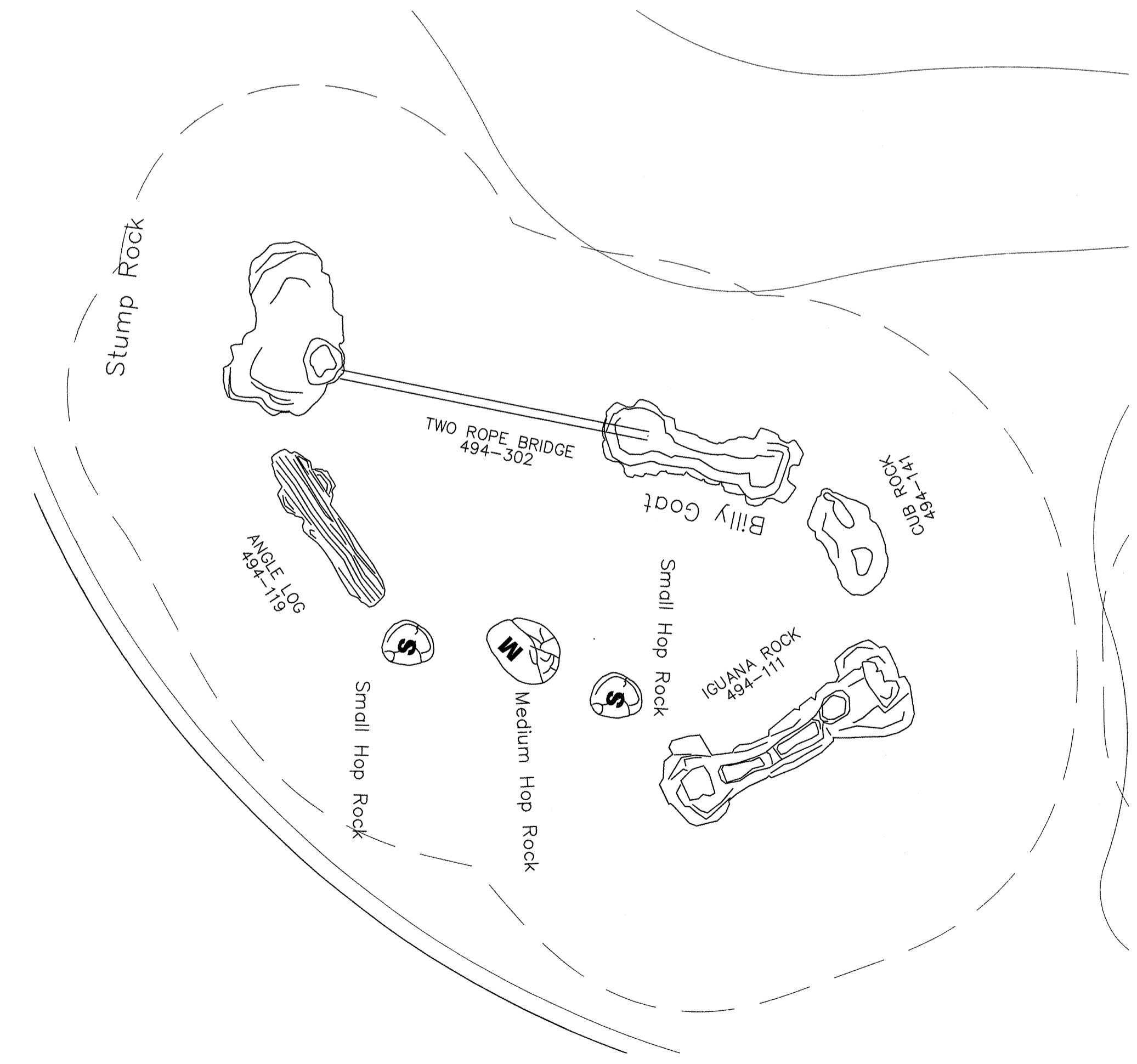
SHEET NUMBER
28/29



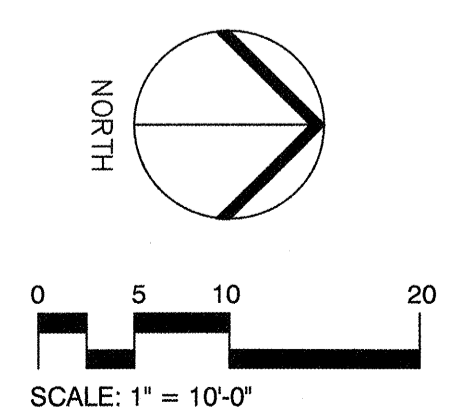
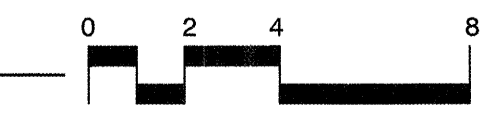
PLAN (1"=10'-0")

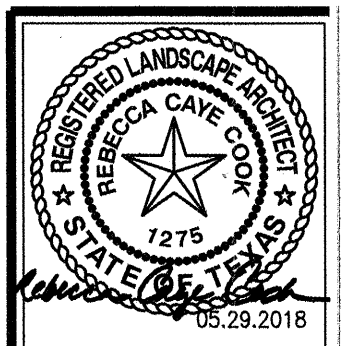


PLAY AREA A ENLARGED PLAN (1/4" = 1'-0")

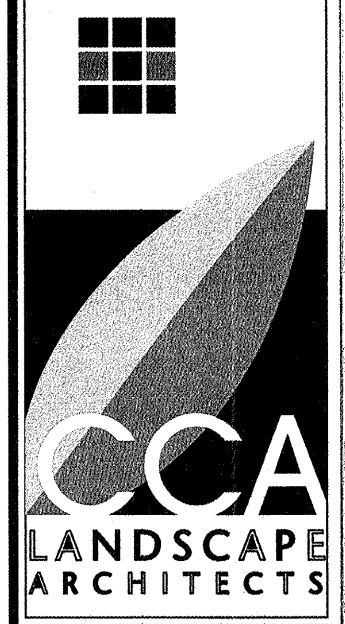


PLAY AREA B ENLARGED PLAN (1/4" = 1'-0")





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1201 NORTH ROBERTS ROAD
RICHMOND, TEXAS 75081-2278
TEL: 281.795.2000
FAX: 281.795.2000
TYPED FRM# 312

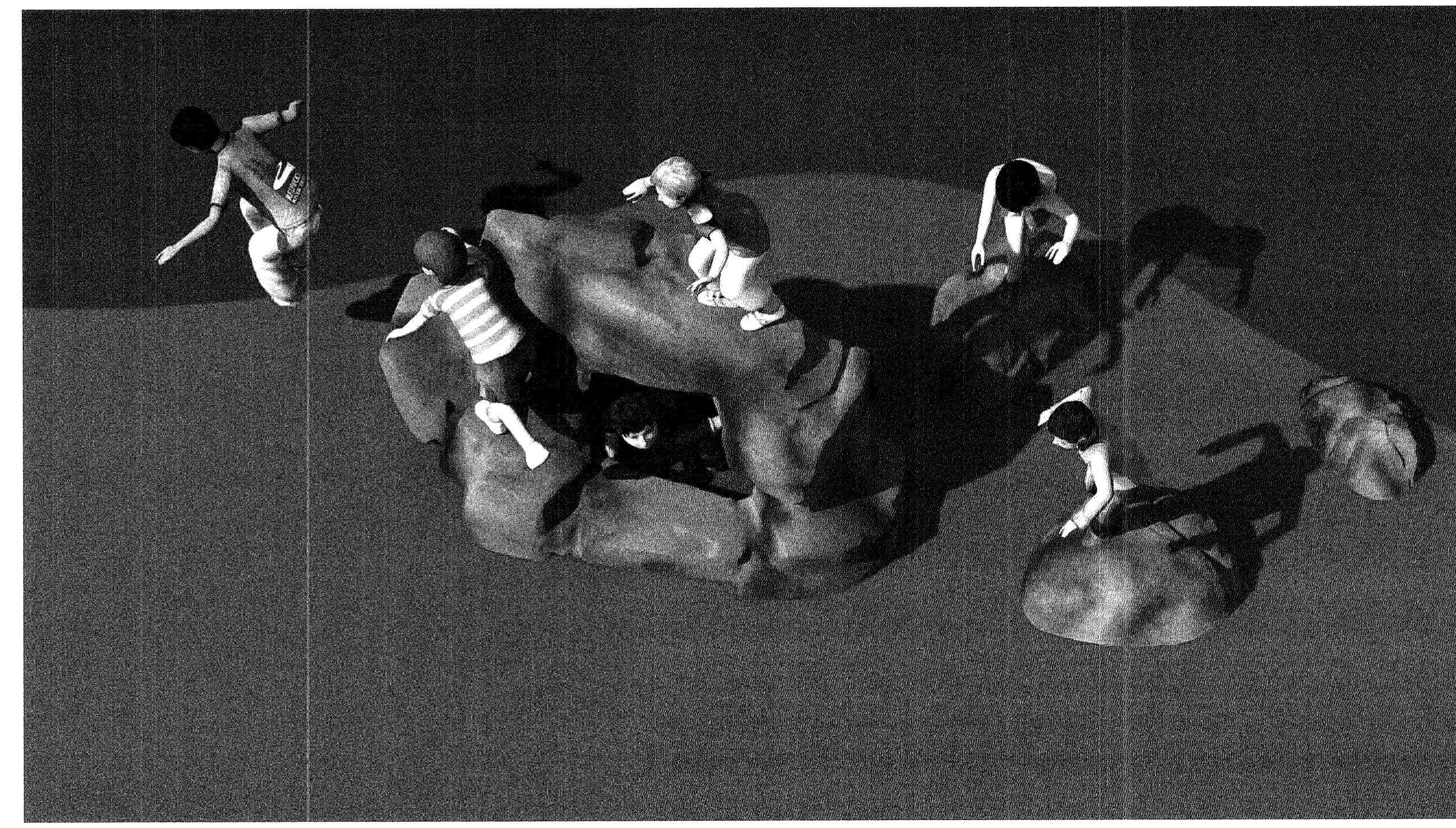


RAY ROBERTS LAKE STATE PARK
ISLE DU BOIS - FLOOD REPAIRS
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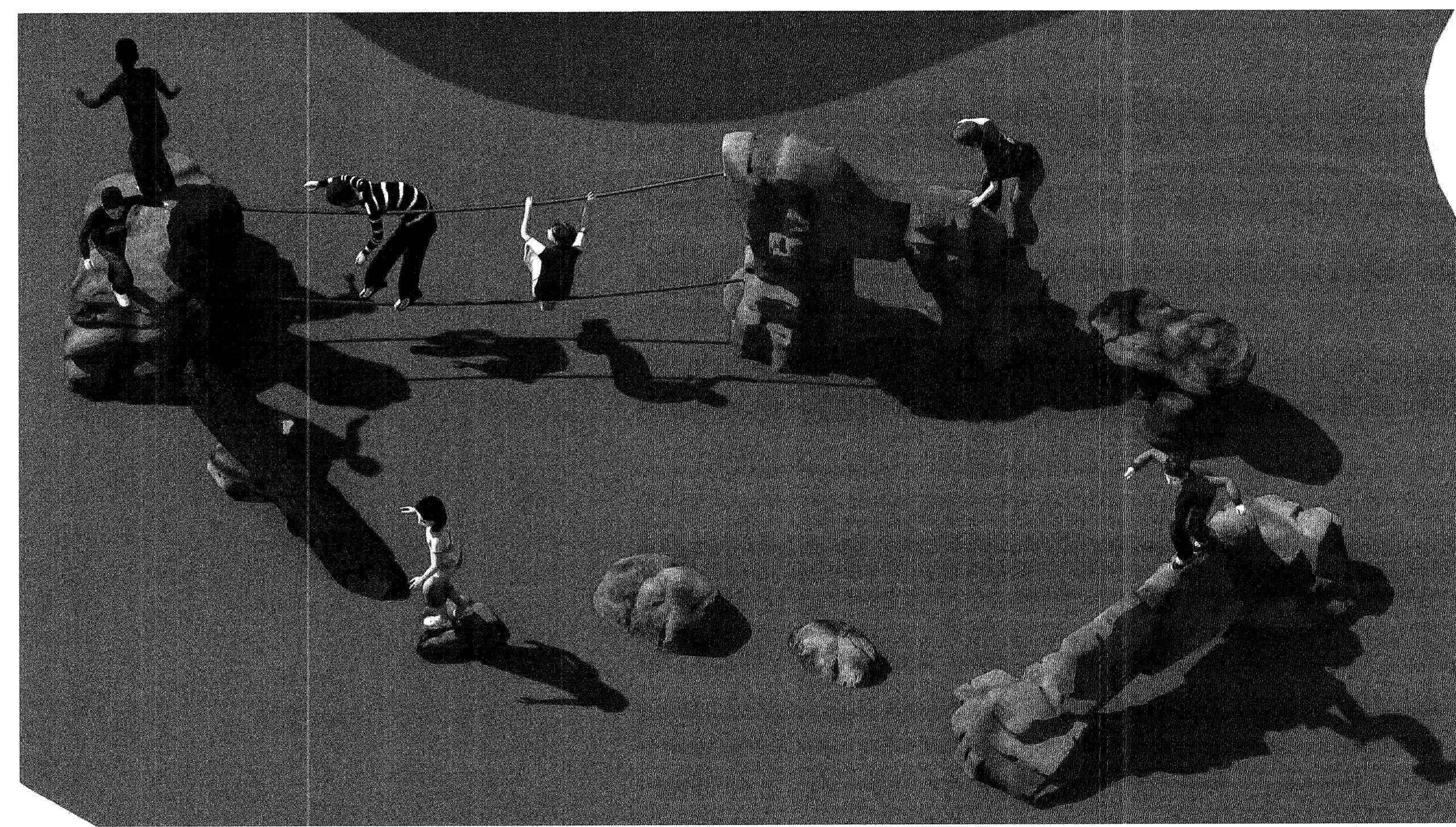
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DESIGNED BY: CCA
DRAWN BY: GWW
REVIEWED BY: RCC
REVISED:
REVISED:
REVISED:

SHEET TITLE
U.P.C.
PLAYGROUND
EQUIPMENT
PERSPECTIVES

SHEET NUMBER
29/29



AREA A PERSPECTIVE VIEW (N.T.S.)



AREA B PERSPECTIVE VIEW (N.T.S.)