

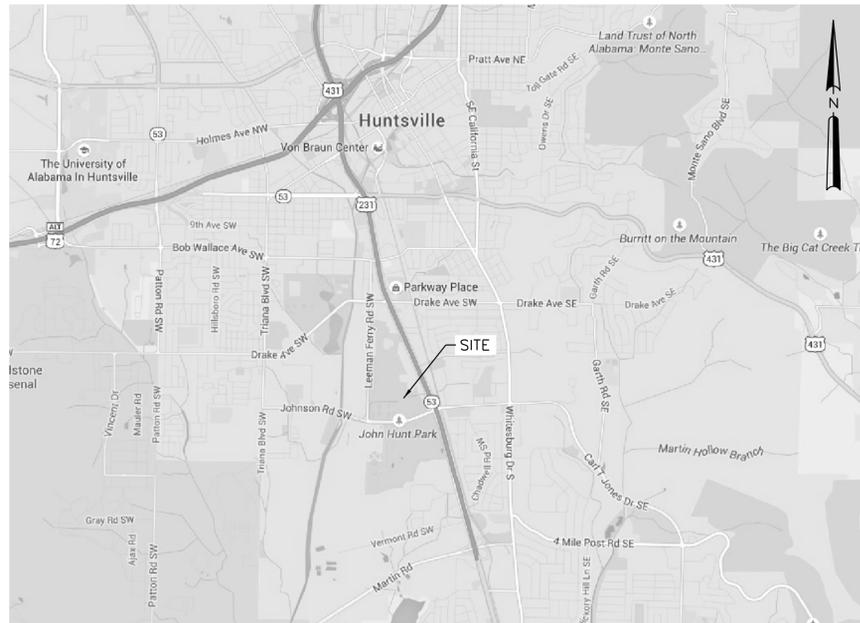
# CONSTRUCTION PLANS FOR JOHN HUNT PARK DRAINAGE DESIGN

FOR THE  
CITY OF HUNTSVILLE ENGINEERING DIVISION  
C.O.H. PROJECT NO. 65-15-SP38

HUNTSVILLE, ALABAMA  
AUGUST 26, 2016



**HUNTSVILLE**  
The Star of Alabama



VICINITY MAP  
NOT TO SCALE

CITY OF HUNTSVILLE, ALABAMA	
SUBMITTED FOR APPROVAL	
DIRECTOR, CITY ENGINEERING DIVISION	
_____	_____
KATHY MARTIN, PE	DATE
DIRECTOR, WATER POLLUTION CONTROL	
_____	_____
SHANE COOK, PE	DATE
PROJECT ENGINEER, CITY ENGINEERING DIVISION	
_____	_____
PROJECT ENGINEER	DATE

SHEET INDEX		
SHEET NO.	DWG. NO.	SHEET TITLE
1	C-0.1	TITLE SHEET
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16	C-6.1	TRAFFIC CONTROL PLAN

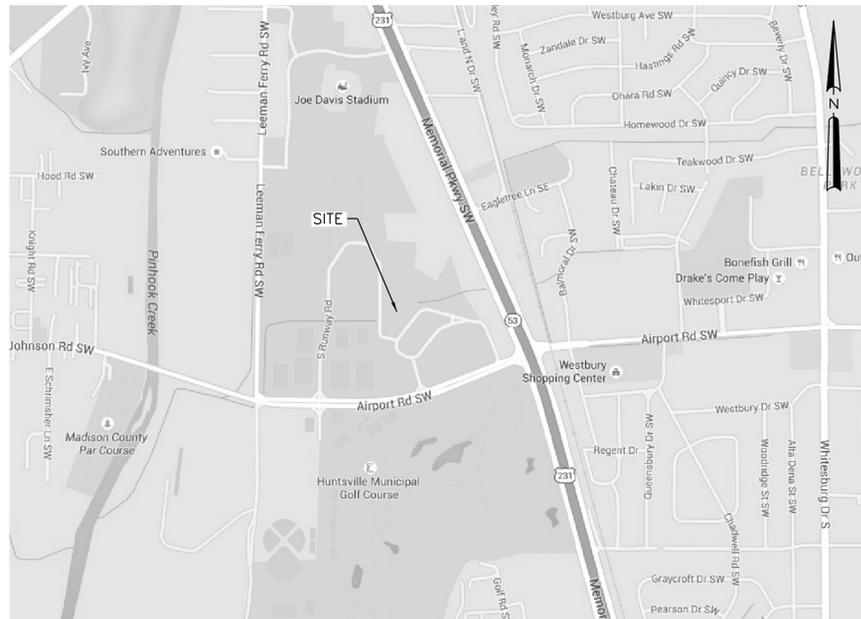
APPENDIX A - ALDOT STANDARD DRAWINGS		
DWG. NO.	INDEX NO.	DESCRIPTION
CS-3-1 (SHEET NO. 1 OF 1)	1509	GENERAL NOTES AND MISCELLANEOUS DETAILS
CD-108	-	REINFORCED CONCRETE BOX CULVERT OPENING DOUBLE 10' x 8' FILL 0'-42'
CX-2-1 (SHEET NO. 1 OF 1)	1517	BEND IN NEW BOX CULVERTS OR METHOD OF JOINING BOX CULVERTS EXTENDED ON SKEW
PEC-1 (SHEET NO. 1 OF 1)	1520	PIPE ENTRANCE INTO CONCRETE BOX CULVERT SIDES
ESC-505	1168	TEMPORARY STREAM DIVERSION
WB-3;1-0'	-	STANDARD REINFORCED CONCRETE BOX CULVERT WINGS OPENING 8' HEIGHT 3:1 SLOPE 0' SKEW
IF-634	210	INDUSTRIAL FENCE (3'-12' CHAIN LINK, WITH/WITHOUT BARBED WIRE)
ESC-400 (SHEET 3 OF 4)	1163-B	INLET PROTECTION DETAILS OF WATTLIES

amec foster wheeler 

Engineer of Record:  
Byron Hinchey  
169 Dauphin Street, Suite 320  
Mobile, AL 36602  
(251) 433-0880



SET NO. \_\_\_\_\_



LOCATION MAP  
NOT TO SCALE



OVERALL SITE PLAN



GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE SECTIONS OF DIVISIONS 100 - 800 OF THE ALDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION AND SIZES OF ALL UTILITIES AND PROTECTING UTILITIES PROPOSED TO REMAIN, ANY EXISTING STRUCTURE, PIPING OR UTILITY DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND/OR ENGINEER. THE CONTRACTOR SHALL CONTACT ALABAMA LINE LOCATION CENTER, INC. (800) 292-8525 AND HUNTSVILLE UTILITIES (256) 882-8255 PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF UNDERGROUND UTILITIES AND ASSOCIATED SERVICE LINES PRIOR TO ORDERING PRECAST STRUCTURES.
3. CONTRACTOR SHALL HAVE PROPERTY LINES AND EASEMENTS LOCATED AND STAKED BY A LICENSED SURVEYOR PRIOR TO BEGINNING CONSTRUCTION (AT CONTRACTOR'S EXPENSE).
4. RELOCATION AND REPLACEMENT OF UTILITIES IN CONFLICT WITH THE WORK, INCLUDING SANITARY SEWER, WATER, GAS, ELECTRIC POWER, AND COMMUNICATIONS WILL BE PERFORMED BY OTHERS. CONTRACTOR SHALL IDENTIFY AND INCLUDE ACTIVITIES FOR UTILITY RELOCATIONS AND REPLACEMENTS BY OTHERS IN THE CONSTRUCTION SCHEDULE.
5. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF DIFFERING CONDITIONS PRIOR TO PROCEEDING WITH WORK.
6. CONTRACTOR SHALL REPAIR ALL DAMAGE TO STREETS, YARDS, MAILBOXES, FENCES, SIGNS, DRIVEWAYS, TREES, LANDSCAPING, ETC. AT NO ADDITIONAL COST TO OWNER. CONTRACTOR SHALL VIDEO TAPE OR TAKE PHOTOS PRIOR TO WORK COMMENCING. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVE ANY DAMAGE TO THE SURROUNDING AREA WAS DONE BY OTHERS.
7. ALL PAVEMENT REPAIRS SHALL MATCH THE EXISTING IN WIDTH, DEPTH & MATERIALS UNLESS OTHERWISE NOTED.
8. EROSION AND SEDIMENT (E&S) CONTROL MEASURES SHALL BE INSTALLED PER GUIDELINES PUBLISHED IN THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (PUBLISHED BY THE ALABAMA SOIL AND WATER CONSERVATION COMMITTEE), LATEST EDITION.
9. SEDIMENT AND EROSION CONTROL DEVICES SUCH AS SILT FENCE AND DITCH CHECKS ARE INTENDED TO PROVIDE A GENERAL UNDERSTANDING OF REQUIREMENTS IN THE ADEM NPDES GENERAL PERMIT AND THE CITY OF HUNTSVILLE STORMWATER MANAGEMENT MANUAL. TEMPORARY CONTROLS SHALL BE INSTALLED IN A MANNER TO PREVENT EROSION, FILTER STORM WATER AND PREVENT SUSPENDED SEDIMENT FROM FLOWING OUTSIDE OF THE CONSTRUCTION LIMITS. CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF SUCH DEVICES IN CONFORMANCE WITH THE REQUIREMENTS OF REGULATORY AGENCIES THROUGHOUT THE CONSTRUCTION PERIOD.
10. ALL TEMPORARY SEDIMENT AND EROSION CONTROLS, SUCH AS ROCK CHECK DAMS, SILT FENCE, ETC. SHALL BE REMOVED ONCE THE SITE HAS REACHED FINAL STABILIZATION.
11. CONSTRUCTION OF BOX CULVERT SHALL BE COMPLETED IN SEGMENTS OF NO MORE THAN 500 FEET IN LENGTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER. EACH SEGMENT SHALL BE CONSTRUCTED AS SHOWN AND SPECIFIED INCLUDING PERMANENT STABILIZATION BEFORE PROCEEDING TO THE NEXT SEGMENT.
12. ROTOTILL, DISC, OR HARROW DISTURBED AREAS THAT HAVE BEEN SUBJECTED TO COMPACTION BY EQUIPMENT PRIOR TO SEEDING.
13. APPLY PERMANENT SEED BEFORE INSTALLING EROSION CONTROL BLANKETS AND/OR MATTING.
14. APPLY MULCH OVER PERMANENT SEED IN ALL AREAS NOT COVERED WITH EROSION CONTROL BLANKET OR MATTING.
15. CONTRACTOR SHALL INSTALL GRANULAR TEMPORARY ACCESS ROADS UNDERLAIN BY FILTER FABRIC WHERE REQUIRED BY SITE CONDITIONS TO MINIMIZE RUTTING AND DISTURBANCE OF SOIL. UPON COMPLETION OF CONSTRUCTION, ALL TEMPORARY ACCESS ROADS SHALL BE REMOVED BY THE CONTRACTOR AND THE AREA RE-VEGETATED AS SHOWN AND SPECIFIED.
16. ONCE WORK HAS STARTED, CONTRACTOR SHALL PURSUE WORK DILIGENTLY UNTIL COMPLETE.
17. ALL JOINTS SHALL BE SAW CUT TO FULL DEPTH (ASPHALT AND CONCRETE).
18. ALL UNIT PRICES SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS FOR A COMPLETE INSTALLATION.
19. ALL PROPERTY OWNERS THAT ARE ADJACENT TO ANY PROPOSED WORK SHALL BE CONTACTED BY THE CONTRACTOR 72 HRS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM PROPERTY OWNERS PRIOR TO UTILIZING PRIVATE PROPERTY FOR STORAGE (EQUIPMENT OR EXCAVATED MATERIALS), PARKING AREA OR ACCESS. TEMPORARY ACCESS TO AREA RESIDENCES AND BUSINESSES WILL BE MAINTAINED THROUGHOUT CONSTRUCTION.
20. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL APPLICABLE PERMITS AS NEEDED FOR WORK, EXCAVATION, ROAD CLOSURE, ETC. ALL COSTS ASSOCIATED WITH OBTAINING PERMITS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS.
21. DEWATERING AND STREAM BYPASS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL NOT BE PAID FOR SEPARATELY.
22. CONTRACTOR IS RESPONSIBLE FOR CLEANING SOIL AND DEBRIS FROM ADJOINING STREETS DURING CONSTRUCTION. ANY DAMAGE TO ADJOINING STREETS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COSTS TO THE CITY OF HUNTSVILLE.
23. EXISTING MANHOLES AND VALVE BOXES TO REMAIN SHALL BE ADJUSTED AS NECESSARY FOR TOP OF CASTINGS AND COVERS TO MATCH FINAL GRADES. NO ADDITIONAL PAYMENT WILL BE MADE TO ADJUST MANHOLES AND VALVE BOXES.
24. ALL TREE REMOVALS SHALL BE INCLUDED IN THE COST FOR SELECT CLEARING.

FILE: C-0.2\_GENERAL.dgn

NO.	REVISIONS:	BY	DATE
0	ISSUED FOR CONSTRUCTION	WBH	8/26/2016

JOHN HUNT PARK  
DRAINAGE DESIGN  
CITY OF HUNTSVILLE PROJ. NO.: 65-15-SP38  
PREPARED FOR  
CITY OF HUNTSVILLE, AL  
ENGINEERING DIVISION



amec foster wheeler  
169 Daphin Dr., Suite 320  
Huntsville, AL 35892  
(256) 433-0880

SCALE: AS SHOWN

GENERAL NOTES & PROJECT LOCATION

C-0.2

DR	CHK	REV
RES	WBH	LBK

DATE: 08/26/2016

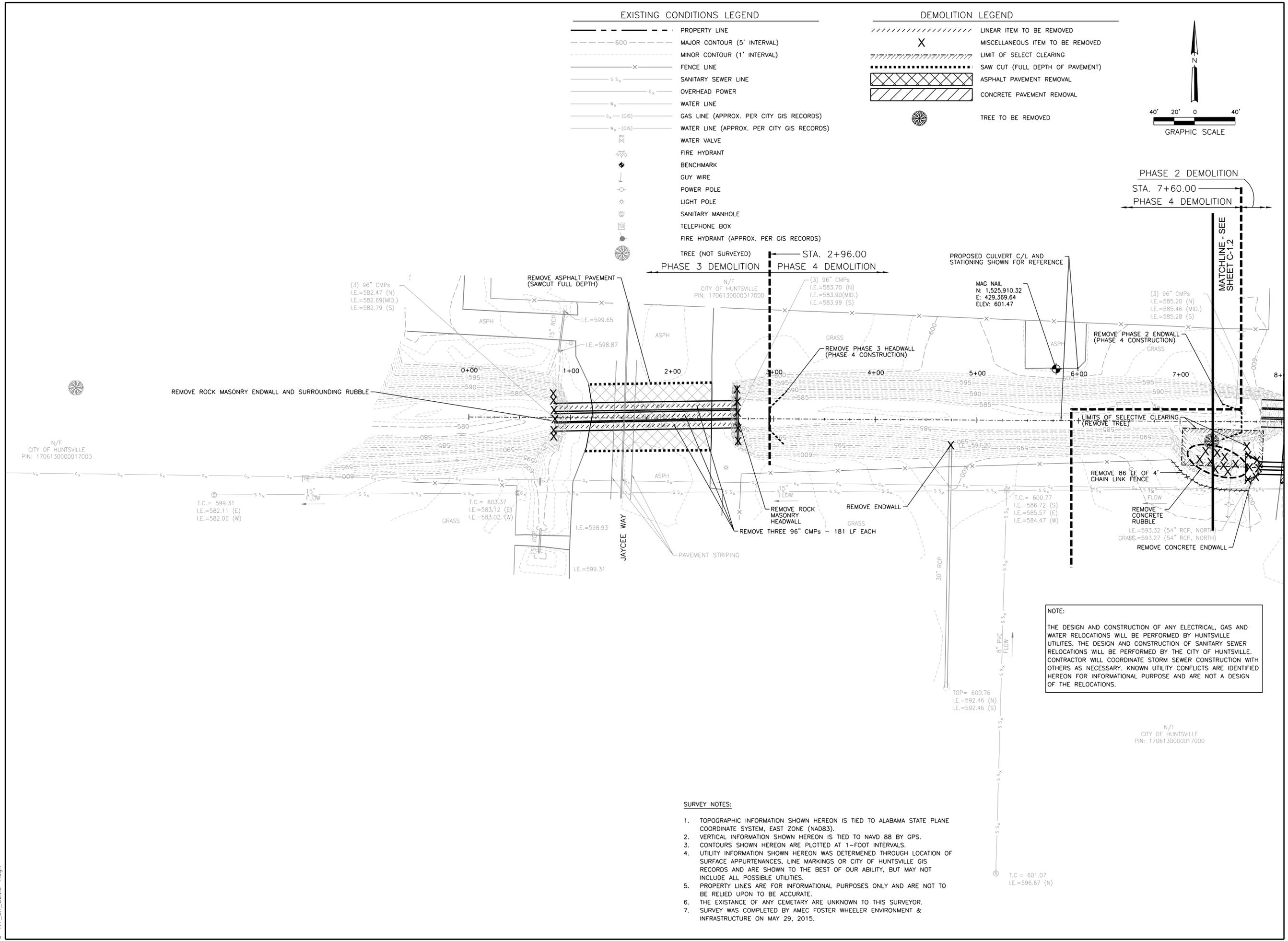
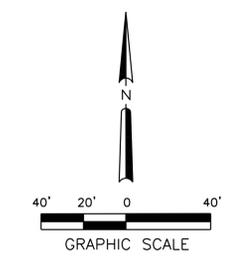
SHEET 2 OF 16

EXISTING CONDITIONS LEGEND

	PROPERTY LINE
	MAJOR CONTOUR (5' INTERVAL)
	MINOR CONTOUR (1' INTERVAL)
	FENCE LINE
	SANITARY SEWER LINE
	OVERHEAD POWER
	WATER LINE
	GAS LINE (APPROX. PER CITY GIS RECORDS)
	WATER LINE (APPROX. PER CITY GIS RECORDS)
	WATER VALVE
	FIRE HYDRANT
	BENCHMARK
	GUY WIRE
	POWER POLE
	LIGHT POLE
	SANITARY MANHOLE
	TELEPHONE BOX
	FIRE HYDRANT (APPROX. PER GIS RECORDS)
	TREE (NOT SURVEYED)

DEMOLITION LEGEND

	LINEAR ITEM TO BE REMOVED
	MISCELLANEOUS ITEM TO BE REMOVED
	LIMIT OF SELECT CLEARING
	SAW CUT (FULL DEPTH OF PAVEMENT)
	ASPHALT PAVEMENT REMOVAL
	CONCRETE PAVEMENT REMOVAL
	TREE TO BE REMOVED



PHASE 2 DEMOLITION  
STA. 7+60.00  
PHASE 4 DEMOLITION

MATCHLINE - SEE SHEET C-1.2

PHASE 3 DEMOLITION  
PHASE 4 DEMOLITION

PROPOSED CULVERT C/L AND STATIONING SHOWN FOR REFERENCE

MAG NAIL  
N: 1,525,910.32  
E: 429,369.64  
ELEV: 601.47

REMOVE PHASE 2 ENDWALL (PHASE 4 CONSTRUCTION)

REMOVE ROCK MASONRY ENDWALL AND SURROUNDING RUBBLE

LIMITS OF SELECTIVE CLEARING (REMOVE TREE)

REMOVE 86 LF OF CHAIN LINK FENCE

REMOVE CONCRETE RUBBLE

REMOVE CONCRETE ENDWALL

REMOVE ROCK MASONRY HEADWALL  
REMOVE THREE 96" CMPs - 181 LF EACH

REMOVE ENDWALL

NOTE:  
THE DESIGN AND CONSTRUCTION OF ANY ELECTRICAL, GAS AND WATER RELOCATIONS WILL BE PERFORMED BY HUNTSVILLE UTILITIES. THE DESIGN AND CONSTRUCTION OF SANITARY SEWER RELOCATIONS WILL BE PERFORMED BY THE CITY OF HUNTSVILLE. CONTRACTOR WILL COORDINATE STORM SEWER CONSTRUCTION WITH OTHERS AS NECESSARY. KNOWN UTILITY CONFLICTS ARE IDENTIFIED HEREON FOR INFORMATIONAL PURPOSE AND ARE NOT A DESIGN OF THE RELOCATIONS.

SURVEY NOTES:

- TOPOGRAPHIC INFORMATION SHOWN HEREON IS TIED TO ALABAMA STATE PLANE COORDINATE SYSTEM, EAST ZONE (NAD83).
- VERTICAL INFORMATION SHOWN HEREON IS TIED TO NAVD 88 BY GPS.
- CONTOURS SHOWN HEREON ARE PLOTTED AT 1-FOOT INTERVALS.
- UTILITY INFORMATION SHOWN HEREON WAS DETERMINED THROUGH LOCATION OF SURFACE APPURTENANCES, LINE MARKINGS OR CITY OF HUNTSVILLE GIS RECORDS AND ARE SHOWN TO THE BEST OF OUR ABILITY, BUT MAY NOT INCLUDE ALL POSSIBLE UTILITIES.
- PROPERTY LINES ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT TO BE RELIED UPON TO BE ACCURATE.
- THE EXISTANCE OF ANY CEMETARY ARE UNKNOWN TO THIS SURVEYOR.
- SURVEY WAS COMPLETED BY AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE ON MAY 29, 2015.

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JOHN HUNT PARK  
DRAINAGE DESIGN  
CITY OF HUNTSVILLE PROJ. NO.: 65-15-SP38  
PREPARED FOR  
CITY OF HUNTSVILLE, AL  
ENGINEERING DIVISION



amec foster wheeler  
169 Daphin Court, Suite 320  
Huntsville, AL 35892  
(256) 433-0880

SCALE: AS SHOWN

EXISTING CONDITIONS AND DEMOLITION PLAN 1

C-1.1

DR	RES	CHK	WBH	REV	LBK
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DATE: 08/26/2016

SHEET 3 OF 16

EXISTING CONDITIONS LEGEND

- PROPERTY LINE
- - - 600 MAJOR CONTOUR (5' INTERVAL)
- - - MINOR CONTOUR (1' INTERVAL)
- X- FENCE LINE
- S-S- SANITARY SEWER LINE
- E-E- OVERHEAD POWER
- W-W- WATER LINE
- G-G- GAS LINE (APPROX. PER CITY GIS RECORDS)
- W-W- (GIS) WATER LINE (APPROX. PER CITY GIS RECORDS)
- WV WATER VALVE
- FH FIRE HYDRANT
- ◆ BENCHMARK
- GUY WIRE
- POWER POLE
- LIGHT POLE
- SANITARY MANHOLE
- TELEPHONE BOX
- FIRE HYDRANT (APPROX. PER GIS RECORDS)
- TREE (NOT SURVEYED)

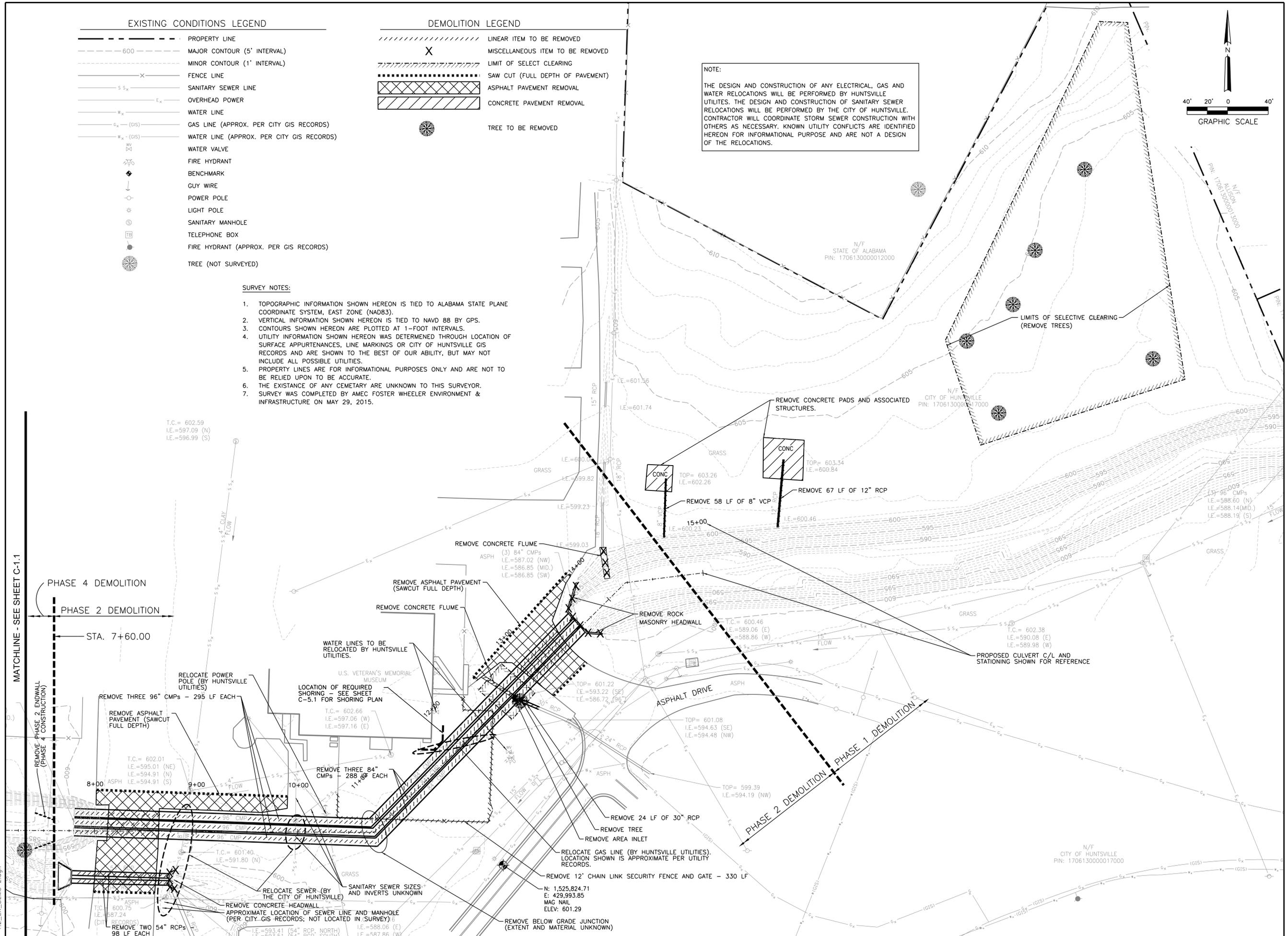
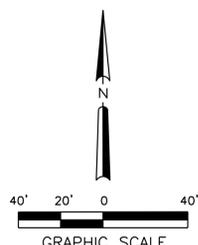
DEMOLITION LEGEND

- /// LINEAR ITEM TO BE REMOVED
- X MISCELLANEOUS ITEM TO BE REMOVED
- /// LIMIT OF SELECT CLEARING
- SAW CUT (FULL DEPTH OF PAVEMENT)
- ASPHALT PAVEMENT REMOVAL
- CONCRETE PAVEMENT REMOVAL
- TREE TO BE REMOVED

NOTE:  
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SURVEY NOTES:

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5. PROPERTY LINES ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT TO BE RELIED UPON TO BE ACCURATE.
6. THE EXISTANCE OF ANY CEMETARY ARE UNKNOWN TO THIS SURVEYOR.
7. SURVEY WAS COMPLETED BY AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE ON MAY 29, 2015.



T.C. = 602.59  
I.E. = 597.09 (N)  
I.E. = 596.99 (S)

STA. 7+60.00

T.C. = 602.01  
I.E. = 595.01 (NE)  
I.E. = 594.91 (N)  
I.E. = 594.91 (S)

T.C. = 601.40  
I.E. = 591.80 (N)

T.C. = 600.75  
I.E. = 597.24 (N)  
I.E. = 597.24 (S)

T.C. = 602.66  
I.E. = 597.06 (W)  
I.E. = 597.16 (E)

T.C. = 601.40  
I.E. = 591.80 (N)

T.C. = 600.75  
I.E. = 597.24 (N)  
I.E. = 597.24 (S)

N: 1,525,824.71  
E: 429,993.85  
MAG NAIL  
ELEV: 601.29

REMOVE BELOW GRADE JUNCTION (EXTENT AND MATERIAL UNKNOWN)

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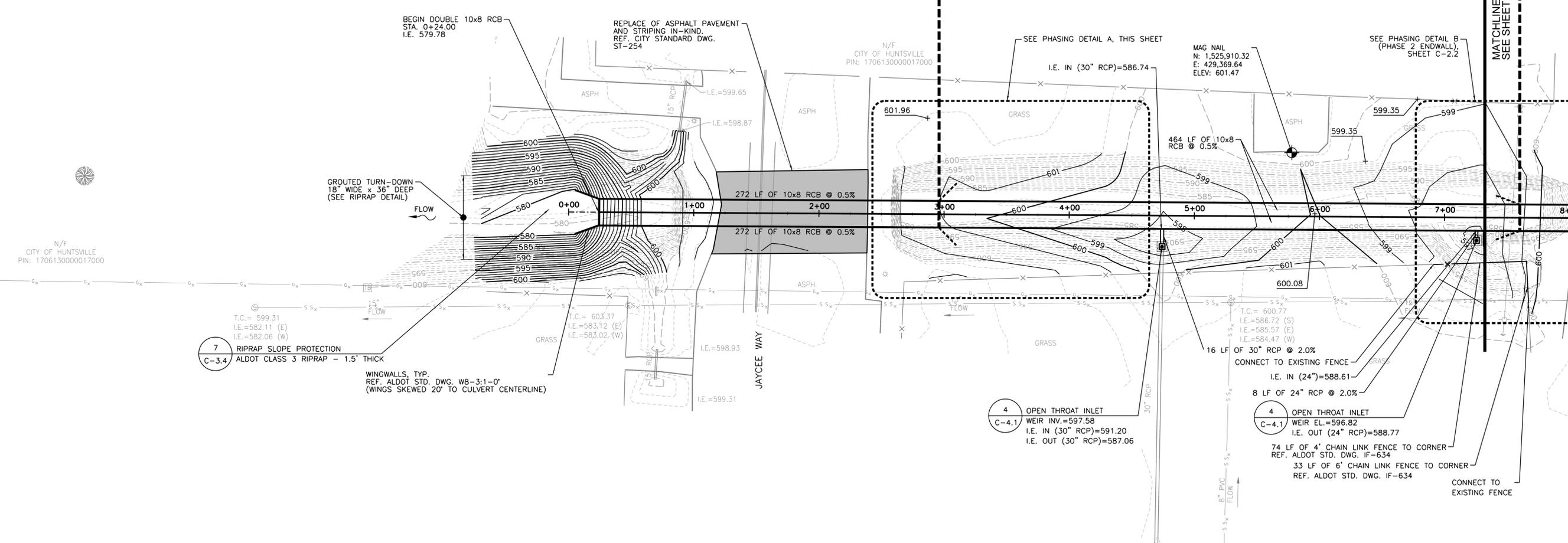
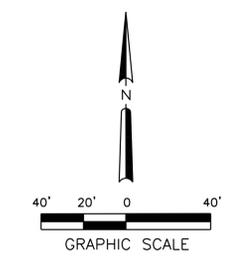
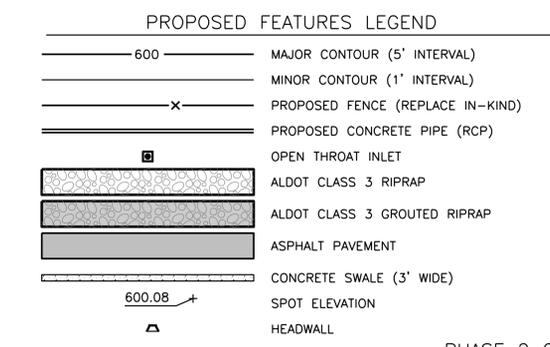
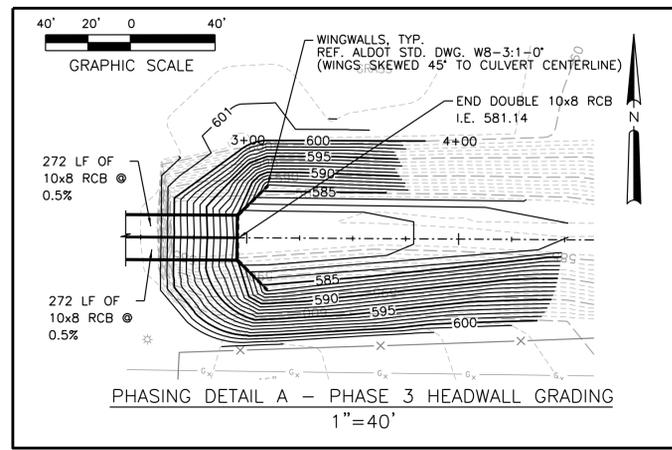
SCALE: AS SHOWN

EXISTING CONDITIONS AND DEMOLITION PLAN 2

C-1.2

DR	RES	CHK	WBH	REV	LBK

DATE: 08/26/2016  
SHEET 4 OF 16



- NOTES:
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  - EXISTING PIPES CONNECTED TO NEW STRUCTURES MAY REQUIRE REMOVING AND RE-SETTING OF EXISTING PIPES AND SHOULD BE INCLUDED IN THE COST OF THE STRUCTURE WHERE NECESSARY.
  - BOX CULVERT SHALL CONFORM TO THE FOLLOWING ALDOT STANDARD DRAWINGS:
    - CS-3-1
    - CD-108
    - CX-2-1
    - PEC-1
    - W8-3:1-0'
  - GRADES SHOWN REPRESENT FINISHED AND FINAL SURFACE ELEVATIONS.
  - THE COST OF STONE BASE COURSE, WEEP HOLES AND SIDE PENETRATIONS REQUIRED TO CONSTRUCT THE BOX CULVERT SHALL BE INCIDENTAL TO OTHER BID ITEMS.
  - REFER TO SHEET 7, CULVERT PLAN AND PROFILE, FOR CULVERT LAYOUT INFORMATION.
  - AN EQUIVALENT PRE-CAST BOX CULVERT MAY BE USED WITH OWNER APPROVAL.
  - PROVIDE ALL PIPE CONNECTIONS INTO BOX CULVERT AND INSTALL ONE SEGMENT OF PIPE AT THE PENETRATION INTO BOX CULVERT. CITY FORCES WILL CONSTRUCT ALL DRAINAGE UPSTREAM OF THE CONTRACTOR-INSTALLED PIPE SEGMENT.

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GRADING AND DRAINAGE PLAN 1  
**C-2.1**

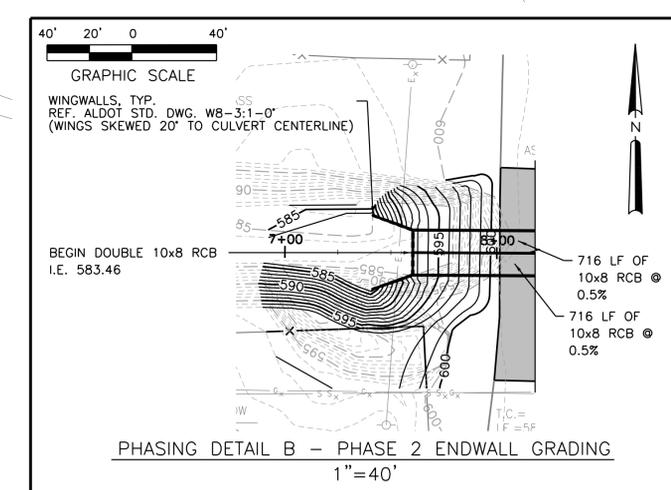
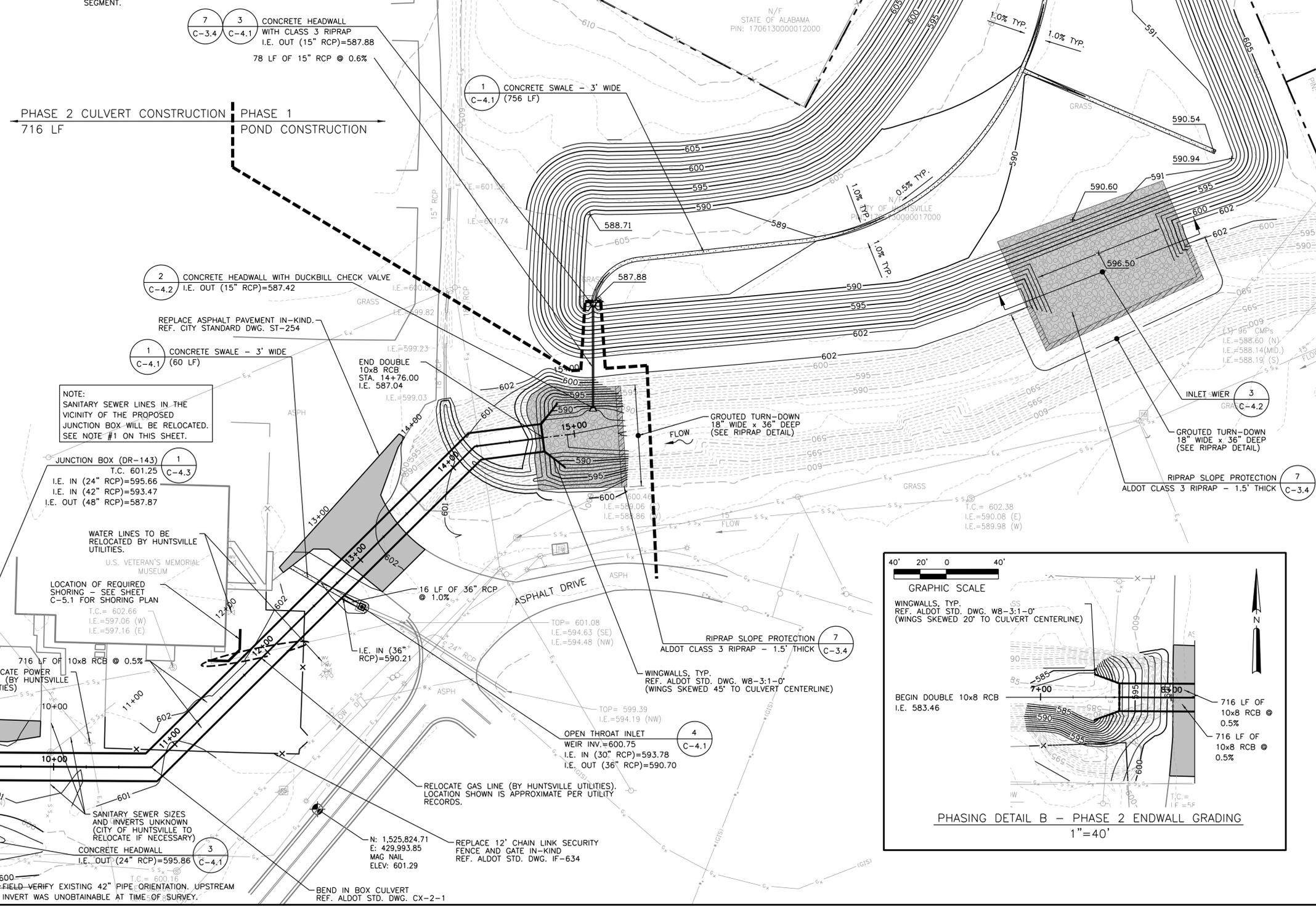
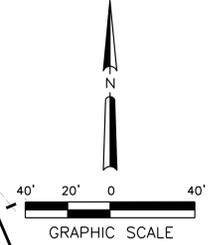
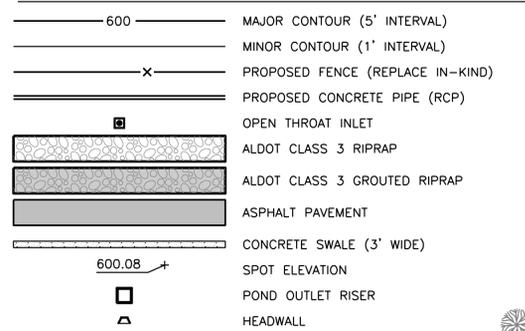
DR	RES	CHK	WBH	REV	LBK

DATE: 08/26/2016  
SHEET 5 OF 16

NOTES:

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2. EXISTING PIPES CONNECTED TO NEW STRUCTURES MAY REQUIRE REMOVING AND RE-SETTING OF EXISTING PIPES AND SHOULD BE INCLUDED IN THE COST OF THE STRUCTURE WHERE NECESSARY.
3. BOX CULVERT SHALL CONFORM TO THE FOLLOWING ALDOT STANDARD DRAWINGS:
  - a.CS-3-1
  - b.CD-108
  - c.CX-2-1
  - d.PEC-1
  - e.WB-3-1-0'
4. GRADES SHOWN REPRESENT FINISHED AND FINAL SURFACE ELEVATIONS.
5. THE COST OF STONE BASE COURSE, WEEP HOLES AND SIDE PENETRATIONS REQUIRED TO CONSTRUCT THE BOX CULVERT SHALL BE INCIDENTAL TO OTHER BID ITEMS.
6. REFER TO SHEET 7, CULVERT PLAN AND PROFILE, FOR CULVERT LAYOUT INFORMATION.
7. AN EQUIVALENT PRE-CAST BOX CULVERT MAY BE USED WITH OWNER APPROVAL.
8. PROVIDE ALL PIPE CONNECTIONS INTO BOX CULVERT AND INSTALL ONE SEGMENT OF PIPE AT THE PENETRATION INTO BOX CULVERT. CITY FORCES WILL CONSTRUCT ALL DRAINAGE UPSTREAM OF THE CONTRACTOR-INSTALLED PIPE SEGMENT.

PROPOSED FEATURES LEGEND



NOTE:  
SANITARY SEWER LINES IN THE VICINITY OF THE PROPOSED JUNCTION BOX WILL BE RELOCATED. SEE NOTE #1 ON THIS SHEET.

JUNCTION BOX (DR-143) C-4.3  
T.C. 601.25  
I.E. IN (24" RCP)=595.66  
I.E. IN (42" RCP)=593.47  
I.E. OUT (48" RCP)=587.87

WATER LINES TO BE RELOCATED BY HUNTSVILLE UTILITIES.  
U.S. VETERAN'S MEMORIAL MUSEUM  
LOCATION OF REQUIRED SHORING - SEE SHEET C-5.1 FOR SHORING PLAN  
T.C. = 602.66  
I.E. = 597.06 (W)  
I.E. = 597.16 (E)

716 LF OF 10x8 RCB @ 0.5%  
RELOCATE POWER POLE (BY HUNTSVILLE UTILITIES)

CONCRETE HEADWALL C-4.1  
I.E. OUT (24" RCP)=595.86

SANITARY SEWER SIZES AND INVERTS UNKNOWN (CITY OF HUNTSVILLE TO RELOCATE IF NECESSARY)

FIELD VERIFY EXISTING 42" PIPE ORIENTATION. UPSTREAM INVERT WAS UNOBTAINABLE AT TIME OF SURVEY.

1 CONCRETE SWALE - 3' WIDE C-4.1 (60 LF)

2 CONCRETE HEADWALL WITH DUCKBILL CHECK VALVE C-4.2  
I.E. OUT (15" RCP)=587.42

3 CONCRETE HEADWALL WITH CLASS 3 RIPRAP C-4.1  
I.E. OUT (15" RCP)=587.88  
78 LF OF 15" RCP @ 0.6%

END DOUBLE 10x8 RCB STA. 14+76.00  
I.E. 587.04  
I.E. = 599.03  
I.E. = 599.23

16 LF OF 36" RCP @ 1.0%  
I.E. IN (36" RCP)=590.21

OPEN THROAT INLET WEIR INV.=600.75  
I.E. IN (30" RCP)=593.78  
I.E. OUT (36" RCP)=590.70

REPLACE 12' CHAIN LINK SECURITY FENCE AND GATE IN-KIND REF. ALDOT STD. DWG. IF-634  
N: 1,525,824.71  
E: 429,993.85  
MAG NAIL  
ELEV: 601.29

MATCHLINE - SEE SHEET C-2.1

FILE: C-2.2\_PRO PLAN 2.dgn

NO.	REVISIONS:	BY	DATE
0	ISSUED FOR CONSTRUCTION	WBH	8/26/2016

JOHN HUNT PARK DRAINAGE DESIGN  
CITY OF HUNTSVILLE PROJ. NO.: 65-15-5P38  
PREPARED FOR  
CITY OF HUNTSVILLE, AL  
ENGINEERING DIVISION



amec foster wheeler  
169 DuPont Street, Suite 320  
Huntsville, AL 35894  
(256) 433-0880

SCALE: AS SHOWN

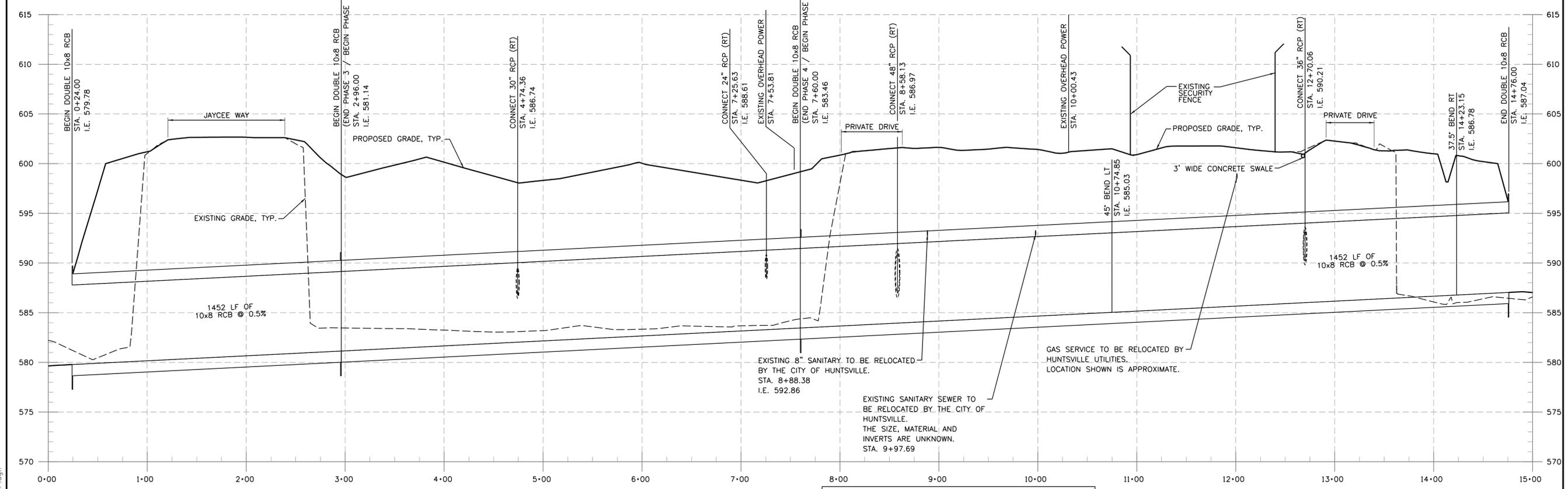
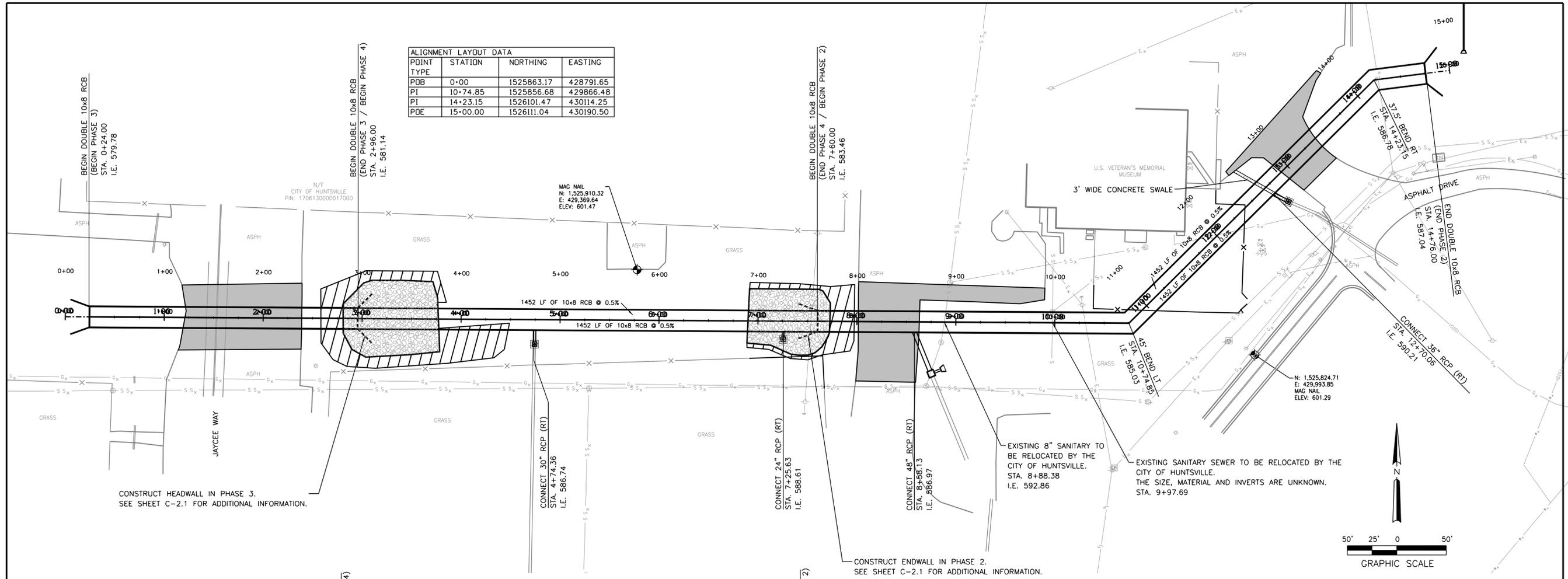
GRADING AND DRAINAGE PLAN 2

# C-2.2

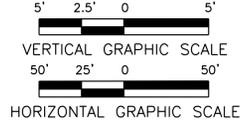
DR	RES	CHK	WBH	REV	LBK

DATE: 08/26/2016  
SHEET 6 OF 16

POINT TYPE	STATION	NORTHING	EASTING
PDB	0+00	1525863.17	428791.65
PI	10+74.85	1525856.68	429866.48
PI	14+23.15	1526101.47	430114.25
PDE	15+00.00	1526111.04	430190.50



NOTE:  
 THE DESIGN AND CONSTRUCTION OF ANY ELECTRICAL, GAS AND WATER RELOCATIONS WILL BE PERFORMED BY HUNTSVILLE UTILITIES. THE DESIGN AND CONSTRUCTION OF SANITARY SEWER RELOCATIONS WILL BE PERFORMED BY THE CITY OF HUNTSVILLE. CONTRACTOR WILL COORDINATE STORM SEWER CONSTRUCTION WITH OTHERS AS NECESSARY. KNOWN UTILITY CONFLICTS ARE IDENTIFIED HEREON FOR INFORMATIONAL PURPOSE AND ARE NOT A DESIGN OF THE RELOCATIONS.



FILE: C-2.3\_CULVERT P&P.dgn

NO.	REVISIONS:	BY	DATE
0	ISSUED FOR CONSTRUCTION	WBH	8/26/2016

JOHN HUNT PARK  
 DRAINAGE DESIGN  
 CITY OF HUNTSVILLE PROJ. NO.: 65-15-SP38  
 PREPARED FOR  
 CITY OF HUNTSVILLE, AL  
 ENGINEERING DIVISION



amec foster wheeler  
 169 Daughin St., Suite 320  
 Huntsville, AL 35892  
 (256) 433-0880

SCALE: AS SHOWN

CULVERT PLAN AND PROFILE

# C-2.3

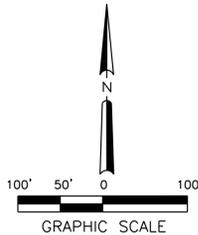
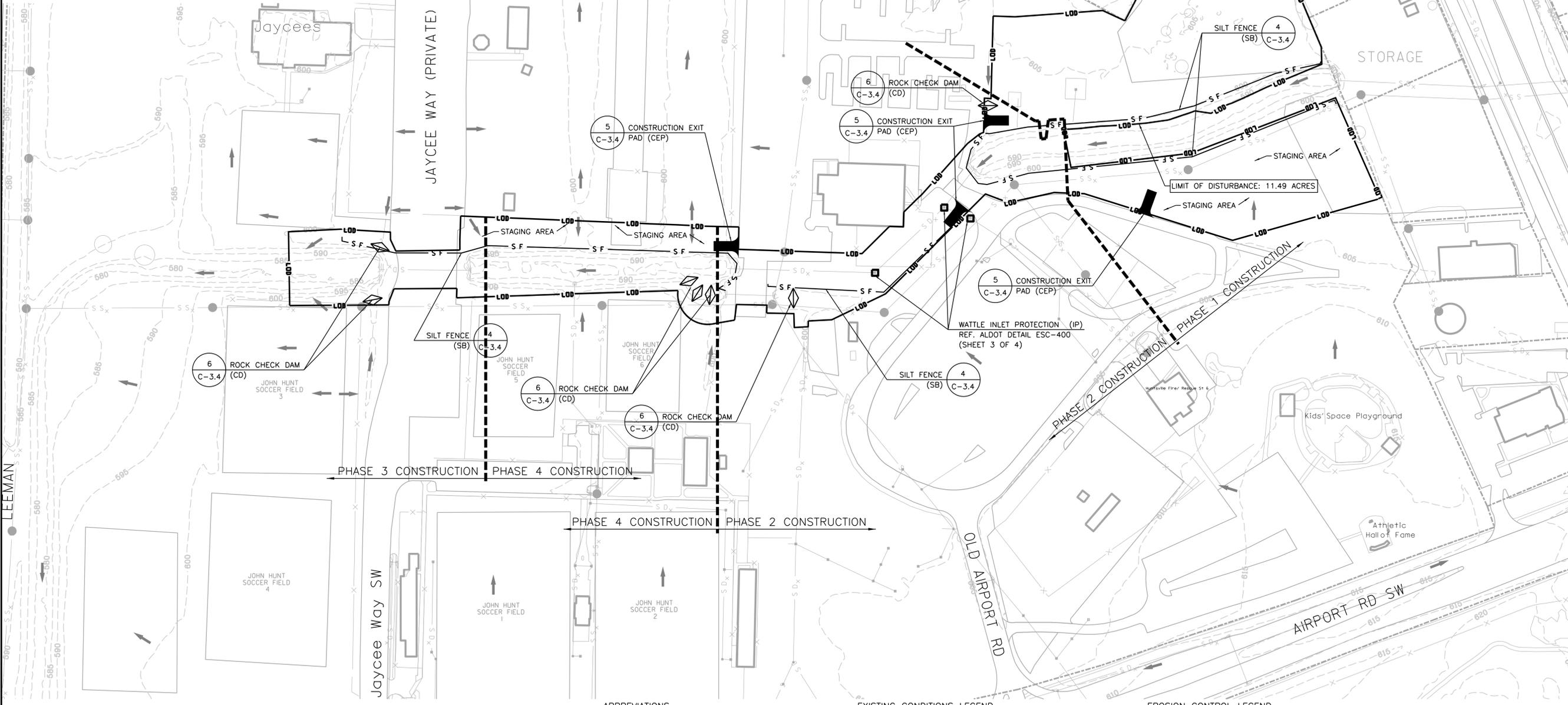
DR	CHK	REV
RES	WBH	LBK

DATE: 08/26/2016

SHEET 7 OF 16

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

1. EROSION AND SEDIMENT (E&S) CONTROL MEASURES SHALL BE INSTALLED PER GUIDELINES PUBLISHED IN THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (PUBLISHED BY THE ALABAMA SOIL AND WATER CONSERVATION COMMITTEE), LATEST EDITION.
2. SEDIMENT AND EROSION CONTROL DEVICES SHOWN SUCH AS SILT FENCE AND DITCH CHECKS ARE INTENDED TO PROVIDE A GENERAL UNDERSTANDING OF REQUIREMENTS IN THE ADEM NPDES GENERAL PERMIT AND THE CITY OF HUNTSVILLE STORMWATER MANAGEMENT MANUAL. TEMPORARY CONTROLS SHALL BE INSTALLED IN A MANNER TO PREVENT EROSION, FILTER STORM WATER AND PREVENT SUSPENDED SEDIMENT FROM FLOWING OUTSIDE OF THE CONSTRUCTION LIMITS. CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF SUCH DEVICES IN CONFORMANCE WITH THE REQUIREMENTS OF REGULATORY AGENCIES THROUGHOUT THE CONSTRUCTION PERIOD.
3. ALL TEMPORARY SEDIMENT AND EROSION CONTROLS, SUCH AS ROCK CHECK DAMS, SILT FENCE, ETC. SHALL BE REMOVED ONCE THE SITE HAS REACHED FINAL STABILIZATION. CONSTRUCTION OF BOX CULVERT SHALL BE COMPLETED IN SEGMENTS OF NO MORE THAN 500 FEET IN LENGTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER. EACH SEGMENT SHALL BE CONSTRUCTED AS SHOWN AND SPECIFIED INCLUDING PERMANENT STABILIZATION BEFORE PROCEEDING TO THE NEXT SEGMENT.
4. ROTOTILL, DISC, OR HARROW DISTURBED AREAS THAT HAVE BEEN SUBJECT TO COMPACTION BY EQUIPMENT PRIOR TO SEEDING.
5. APPLY PERMANENT SEED BEFORE INSTALLING EROSION CONTROL BLANKETS AND/OR MATTING.
6. APPLY MULCH OVER PERMANENT SEED IN ALL AREAS NOT COVERED WITH EROSION CONTROL BLANKET OR MATTING.
7. CONTRACTOR SHALL INSTALL GRANULAR TEMPORARY ACCESS ROADS UNDERLAIN BY FILTER FABRIC WHERE REQUIRED BY SITE CONDITIONS TO MINIMIZE RUTTING AND DISTURBANCE OF SOIL. UPON COMPLETION OF CONSTRUCTION, ALL TEMPORARY ACCESS ROADS SHALL BE REMOVED BY THE CONTRACTOR AND THE AREA RE-VEGETATED AS SHOWN AND SPECIFIED.
8. ONCE WORK HAS STARTED, CONTRACTOR SHALL PURSUE WORK DILIGENTLY UNTIL COMPLETE.
9. DEWATERING AND STREAM BYPASS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL NOT BE PAID FOR SEPARATELY.
10. CONTRACTOR IS RESPONSIBLE FOR CLEANING SOIL AND DEBRIS FROM ADJOINING STREETS DURING CONSTRUCTION. ANY DAMAGE TO ADJOINING STREETS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COSTS TO THE CITY OF HUNTSVILLE.
11. THESE DRAWINGS ARE HEREBY INCORPORATED INTO THE CONSTRUCTION BEST MANAGEMENT PRACTICES PLAN (CBMPP). REFER TO THE CBMPP FOR ADDITIONAL DETAILS.
12. DUST CONTROL METHODS SHALL BE IMPLEMENTED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS.
13. CONTRACTOR SHALL LOCATE AND UTILIZE A CONCRETE WASH-OUT AREA IN ACCORDANCE WITH NOTE 1 ABOVE.



FILE: C-3.1\_EPSC PH 1.dgn

ABBREVIATIONS

CEP	CONSTRUCTION EXIT PAD
SB	SEDIMENT BARRIER
CD	CHECK DAM

EXISTING CONDITIONS LEGEND

---	PROPERTY LINE
- - -	MAJOR CONTOUR (5' INTERVAL)
- - -	FENCE LINE
S S x	SANITARY SEWER LINE
S D x	STORM SEWER LINE

EROSION CONTROL LEGEND

---	LIMIT OF DISTURBANCE
S F	SILT FENCE
□	INLET PROTECTION
▭	CONSTRUCTION ENTRANCE/EXIT
◇	ROCK CHECK DAM

NO.	REVISIONS:	BY	DATE
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JOHN HUNT PARK  
DRAINAGE DESIGN  
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ENGINEERING DIVISION



amec foster wheeler  
169 Daughin Street, Suite 320  
Huntsville, AL 35892  
(256) 433-0880

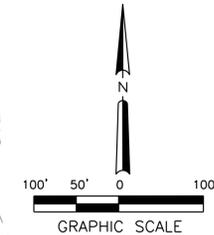
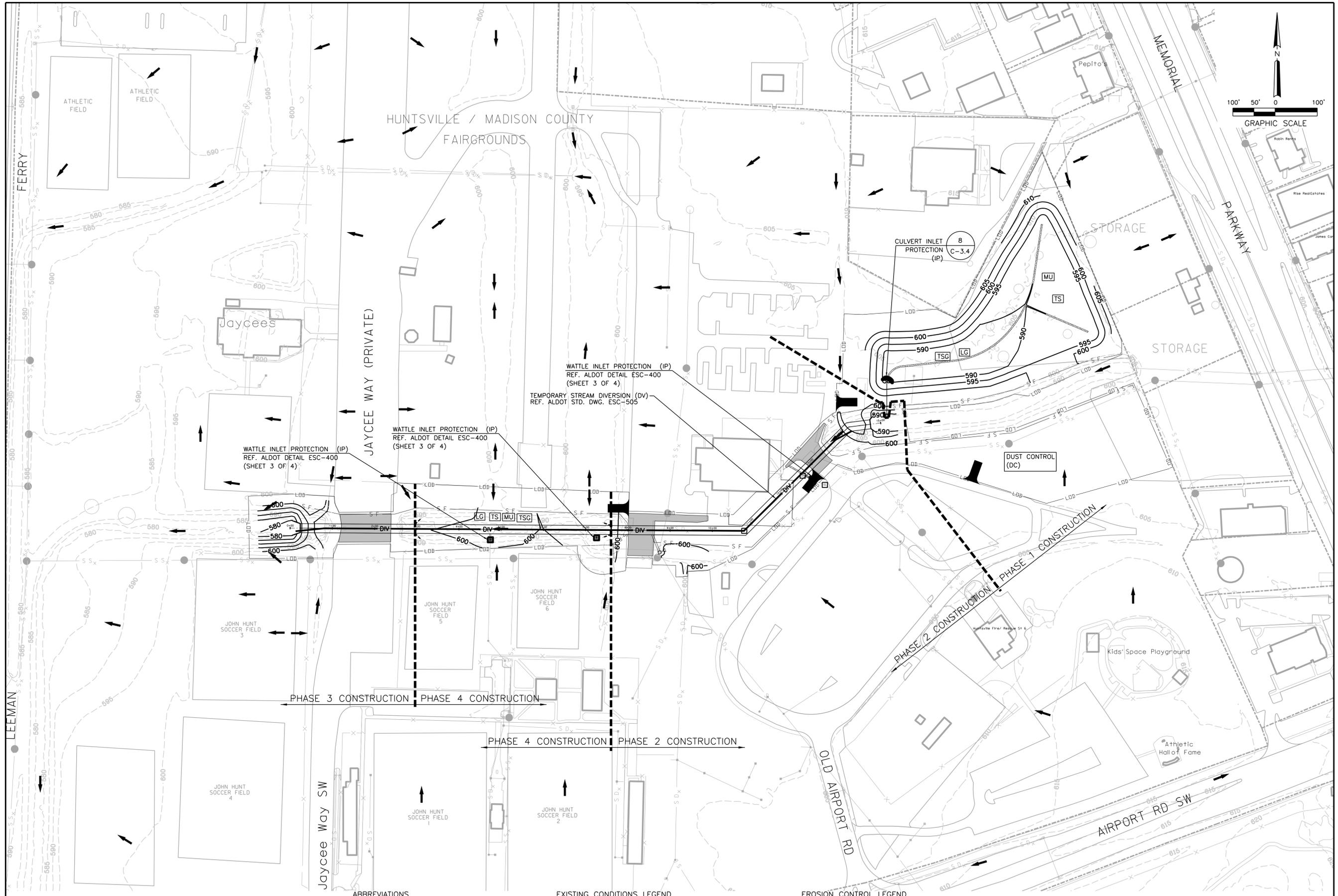
SCALE: AS SHOWN

EROSION & SEDIMENT CONTROL PLAN - PHASE 1

C-3.1

DR	RES	CHK	WBH	REV	LBK
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DATE: 08/26/2016  
SHEET 8 OF 16



ABBREVIATIONS

DC	DITCH CHECK
DV	DIVERSION
IP	INLET PROTECTION
LG	LAND GRADING
MU	MULCHING
TS	TEMPORARY SEEDING
TSG	TOPSOILING

EXISTING CONDITIONS LEGEND

---	PROPERTY LINE
- - - -	MAJOR CONTOUR (5' INTERVAL)
- x - x -	FENCE LINE
- S S x -	SANITARY SEWER LINE
- S D x -	STORM SEWER LINE

EROSION CONTROL LEGEND

---	LIMIT OF DISTURBANCE
- - - -	PROPOSED MAJOR CONTOUR (5' INTERVAL)
- S F -	SILT FENCE (PHASE 1)
- - - -	TEMPORARY IN-STREAM DIVERSION
□ / □	INLET PROTECTION (PHASE 1 / PHASE 2)
▭	CONSTRUCTION ENTRANCE/EXIT (PHASE 1)
◇	ROCK CHECK DAM (PHASE 1)

SEE SHEET C-3.1 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES

NO.	REVISIONS:	BY	DATE
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JOHN HUNT PARK  
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amec foster wheeler  
169 Ducommun Street, Suite 320  
Huntsville, AL 35892  
(256) 433-0888

SCALE: AS SHOWN

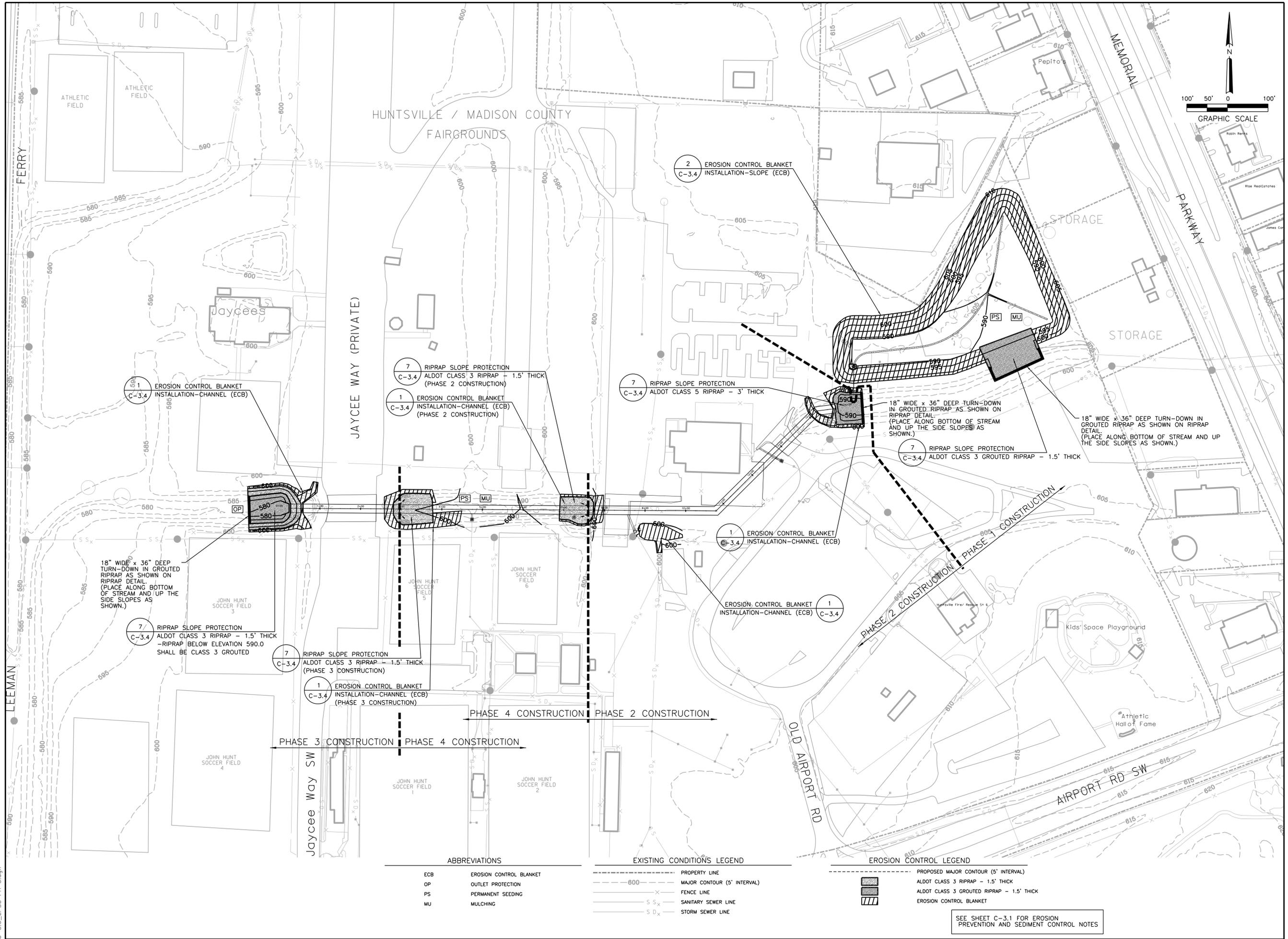
EROSION & SEDIMENT CONTROL PLAN - PHASE 2

C-3.2

DR	RES	CHK	WBH	REV	LBK
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DATE: 08/26/2016

SHEET 9 OF 16



NO.	0	ISSUED FOR CONSTRUCTION
REVISIONS:		
BY	WBH	DATE 8/26/2016

JOHN HUNT PARK  
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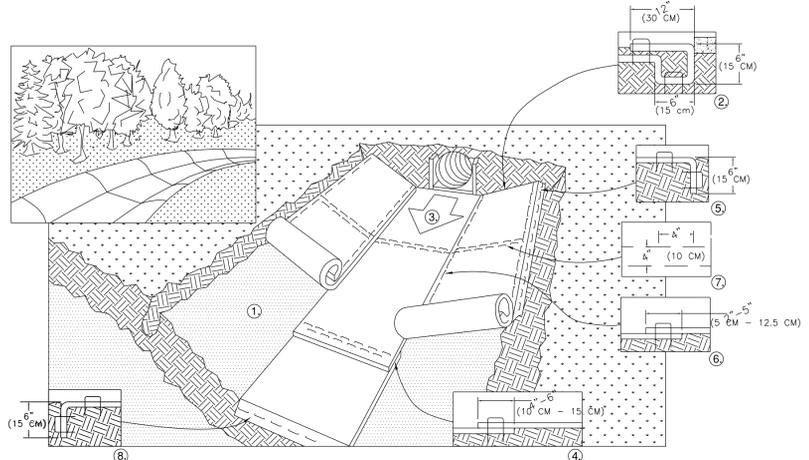
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EROSION & SEDIMENT CONTROL PLAN - PHASE 3

**C-3.3**

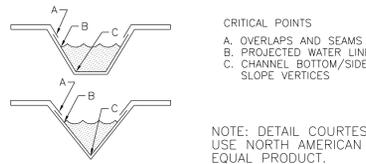
DR	RES	CHK	WBH	REV	LBK
DATE:	08/26/2016				
SHEET	10 OF 16				

SEE SHEET C-3.1 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES

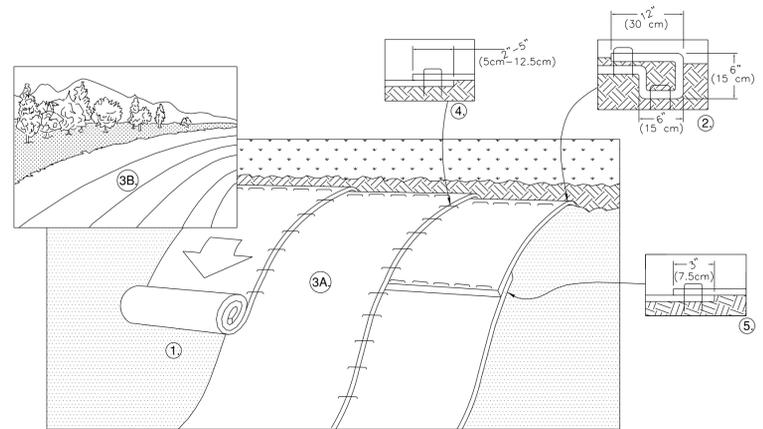


- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP'S.
- ROLL CENTER RECP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM\*, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- PLACE CONSECUTIVE RECP'S END OVER END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP'S.
- FULL LENGTH EDGE OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) (DEPENDING ON RECP'S TYPE) AND STAPLED.
- IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
- THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:  
 \* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP'S.  
 \*\* DETAIL COURTESY OF NORTH AMERICAN GREEN. \*\*



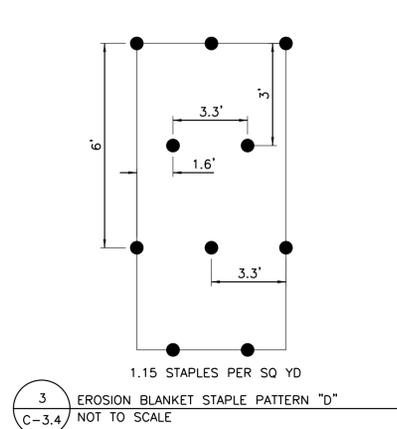
1 EROSION CONTROL BLANKET INSTALLATION - CHANNEL  
 C-3.4 NOT TO SCALE



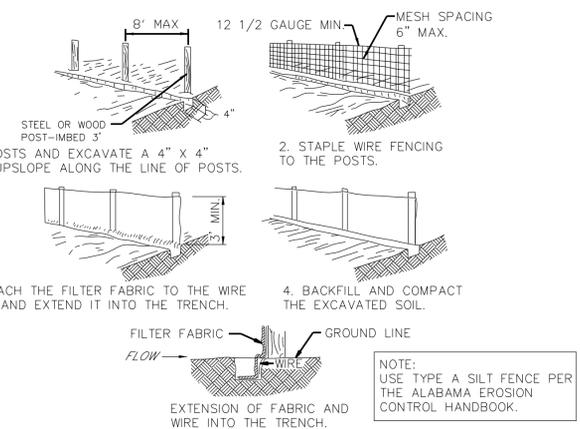
- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP'S.
- ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM\*, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
- CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.
- SEE DETAIL 3, THIS SHEET FOR STAPLE PATTERN

NOTE:  
 \* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.  
 \*\* DETAIL COURTESY OF NORTH AMERICAN GREEN. USE NORTH AMERICAN GREEN'S S150, STAPLE PATTERN B, OR APPROVED EQUAL PRODUCT.

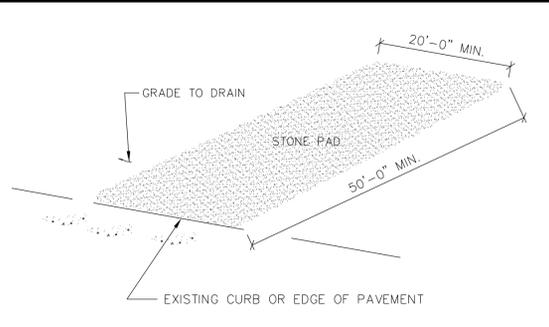
2 EROSION CONTROL BLANKET INSTALLATION - SLOPE  
 C-3.4 NOT TO SCALE



3 EROSION BLANKET STAPLE PATTERN "D"  
 C-3.4 NOT TO SCALE

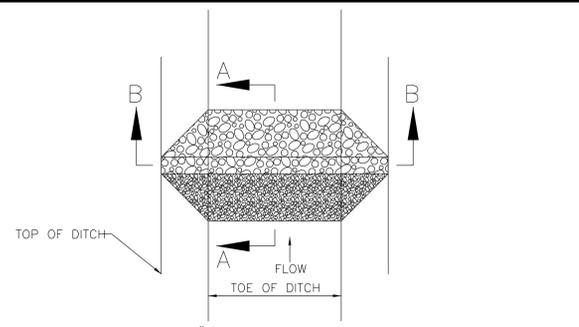


4 SILT FENCE  
 C-3.4 NOT TO SCALE

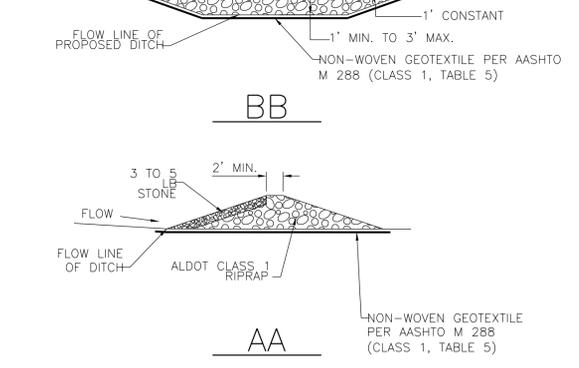


5 CONSTRUCTION ENTRANCE  
 C-3.4 NOT TO SCALE

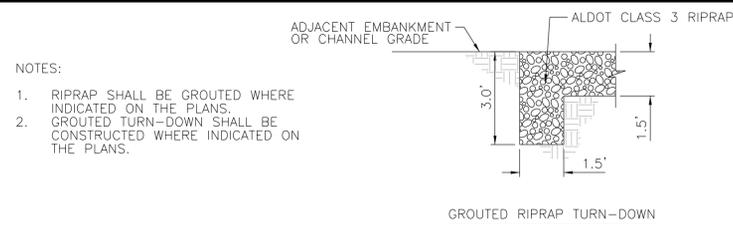
- NOTE:
- STONE TO BE ALDOT #1.
  - STONE PAD THICKNESS 6" MIN.
  - PROVIDE PERIODIC TOP DRESSING WITH 4" OF ADDITIONAL STONE.
  - MAINTAIN TO PREVENT MUD AND DEBRIS FROM TRACKING ONTO PUBLIC STREETS.
  - INCLUDE TRUCK WASHING CAPABILITIES.
  - CONSTRUCTION ENTRANCE MUST BE INSTALLED AT ALL POINTS OF INGRESS/EGRESS TO THE CONSTRUCTION SITE.
  - CONTRACTOR IS RESPONSIBLE FOR ASSURING NO SEDIMENT IS TRACKED OFF SITE, TO INCLUDE UTILIZING THESE POINTS AS WASH AREAS AS NEEDED.
  - WHEN USING THE CONSTRUCTION ENTRANCE FOR WASH THE SEDIMENT WASH MUST BE DIRECTED TO A PROPER SEDIMENT BASIN OR TRAP.



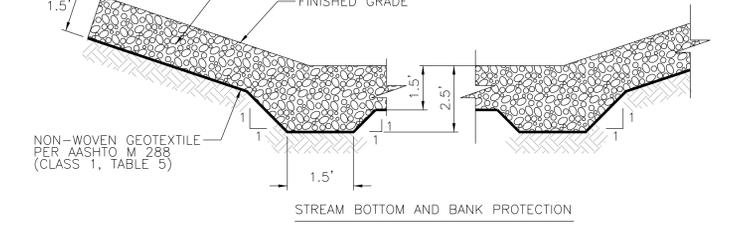
6 ROCK CHECK DAM  
 C-3.4 NOT TO SCALE



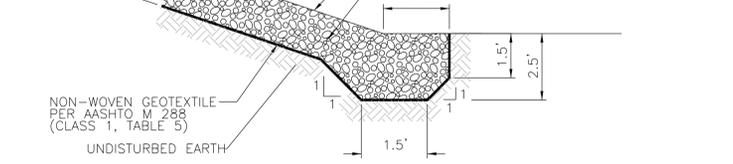
7 RIPRAP SLOPE PROTECTION  
 C-3.4 NOT TO SCALE



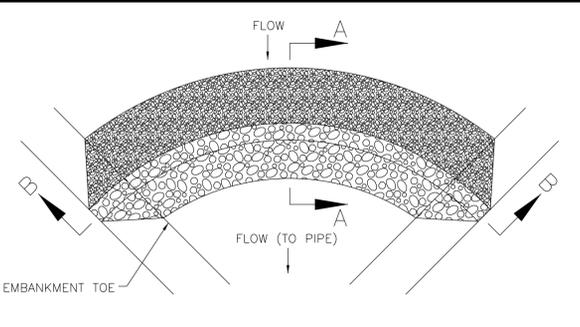
8 CULVERT INLET PROTECTION  
 C-3.4 NOT TO SCALE



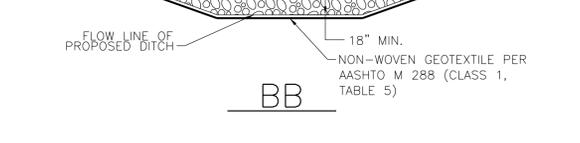
9 STREAM BOTTOM AND BANK PROTECTION  
 C-3.4 NOT TO SCALE



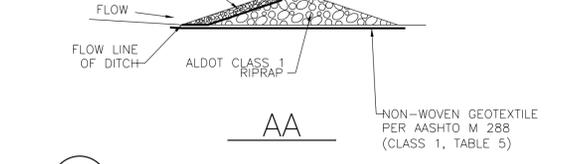
10 SLOPE PROTECTION ONLY  
 C-3.4 NOT TO SCALE



11 EMBANKMENT TOE PROTECTION  
 C-3.4 NOT TO SCALE

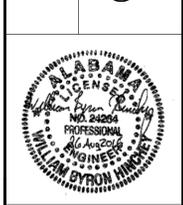


12 CULVERT INLET PROTECTION  
 C-3.4 NOT TO SCALE



13 SLOPE PROTECTION ONLY  
 C-3.4 NOT TO SCALE

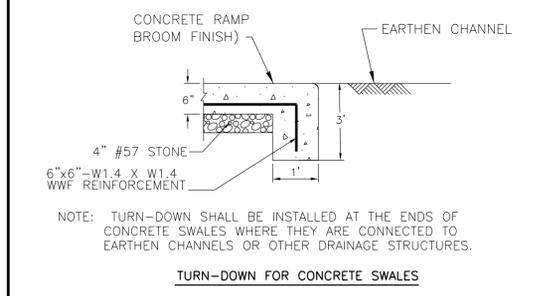
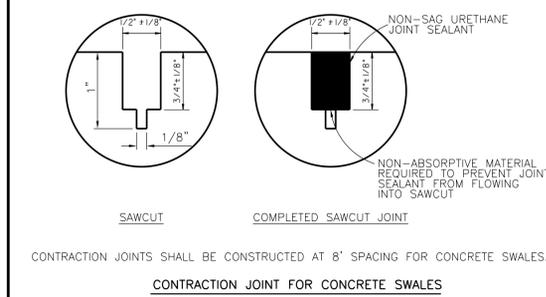
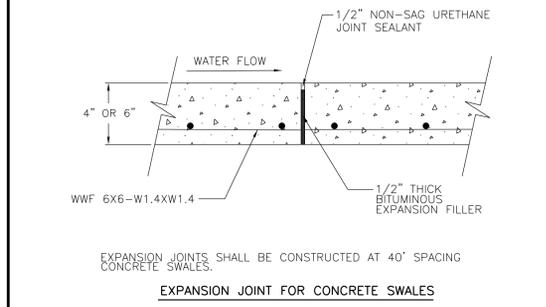
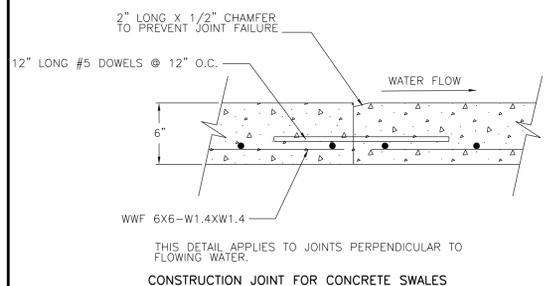
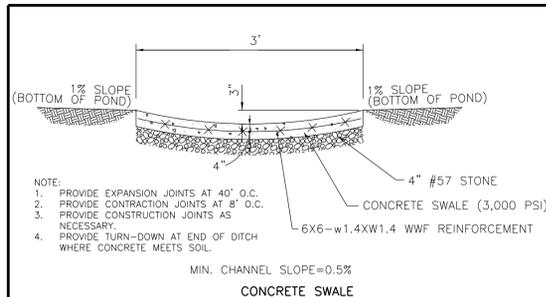
NO.	0	ISSUED FOR CONSTRUCTION
BY	WBH	DATE
REVISIONS:		8/26/2016
PREPARED FOR		
CITY OF HUNTSVILLE PROJ. NO.: 65-15-SP8		
CITY OF HUNTSVILLE, AL		
ENGINEERING DIVISION		



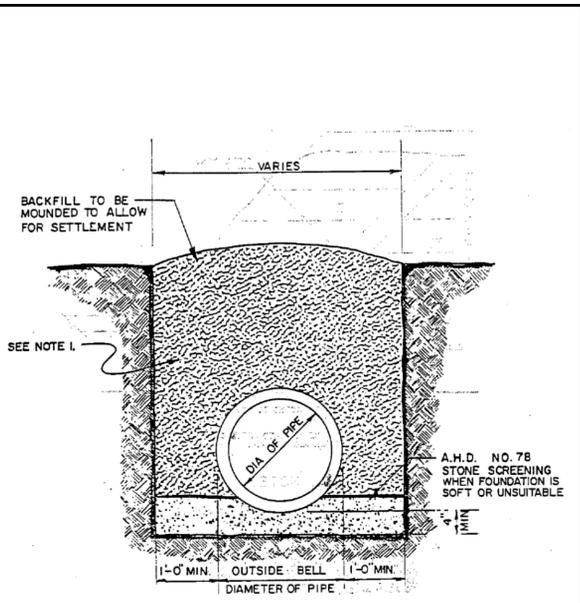
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SCALE:	AS SHOWN	
EROSION AND SEDIMENT CONTROL DETAILS		
<b>C-3.4</b>		
DR RES	CHK WBH	REV LBK
DATE:	08/26/2016	
SHEET	11 OF 16	

FILE: C-3.4\_EC\_DETAILS.dgn

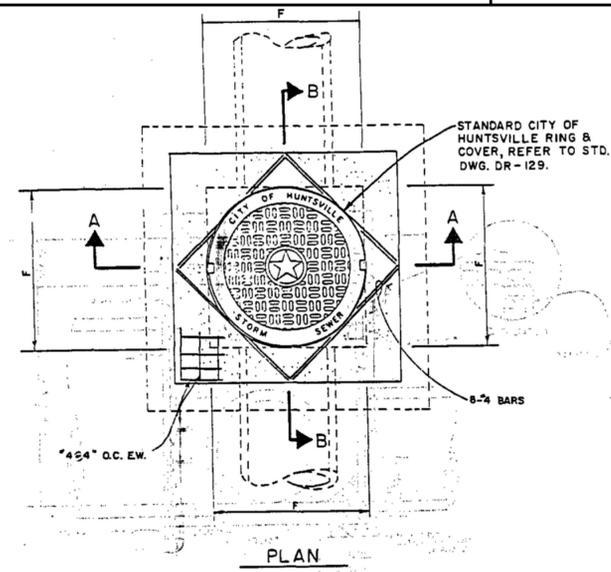


1 CONCRETE SWALE - 3' WIDE  
 C-4.1 NOT TO SCALE



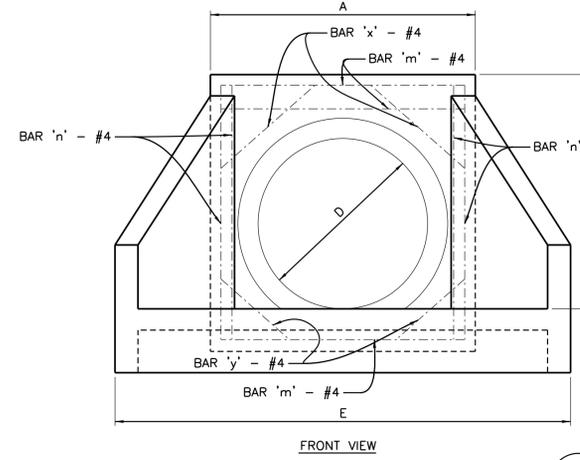
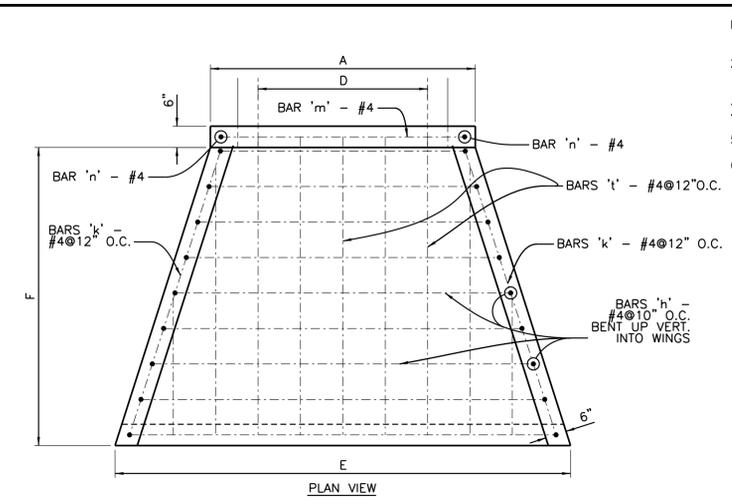
NOTE:  
 1. IN TRAFFIC AREAS USE CRUSHED STONE, DENSE GRADED, BASE OR APPROVED CLASS 1 BACKFILL COMPACTED IN 6" LAYERS TO 95% STANDARD PROCTOR DENSITY UP TO WHERE STREET SUBGRADE REQUIREMENTS DICTATE.

2 STORM SEWER PIPE BEDDING (DR-166)  
 C-4.1 NOT TO SCALE



- NOTES:
- DIMENSION "A" IS DETERMINED BY THE LARGEST DIAMETER PIPE ENTERING THE OPEN THROAT INLET.
  - STEPS ARE REQUIRED ON ALL INLETS WHEN DIMENSION FROM BOTTOM SLAB FLOW LINE TO TOP OF TOP SLAB IS GREATER THAN 4'-0".
  - ALL CONCRETE SHALL BE CLASS "A" AND SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.
  - REINFORCING SHALL BE INTERMEDIATE GRADE DEFORMED BARS AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL CONCRETE REINFORCEMENT BARS, ASTM A-15 AND DEFORMATIONS CONFORMING TO ASTM A-305.
  - WHEN BRICK CONSTRUCTION IS USED, WALLS WILL BE 8" BRICK WHEN "H" IS LESS THAN 5'-0". USE 12" BRICK WHEN "H" IS MORE THAN 5'-0". 1/2" THICK MORTAR ON BOTH SIDES.
  - PROVIDE CONCRETE APRON AT THROAT OPENINGS.

4 OPEN THROAT INLET (DR-127)  
 C-4.1 NOT TO SCALE

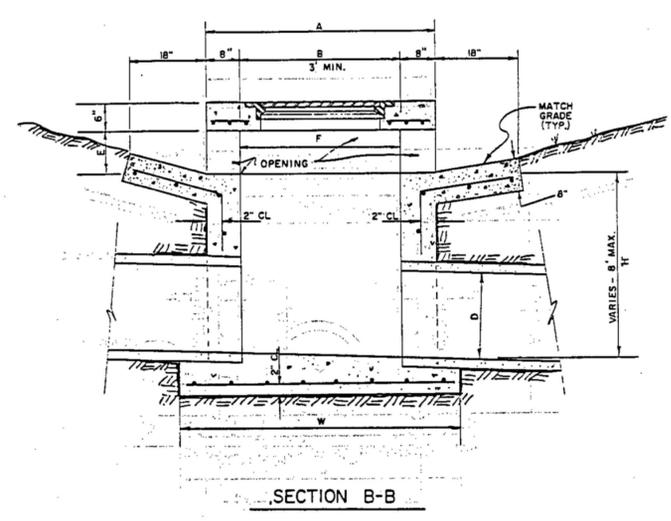
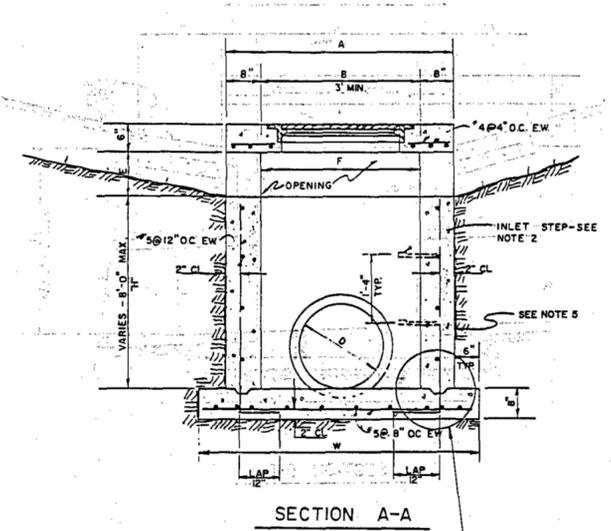
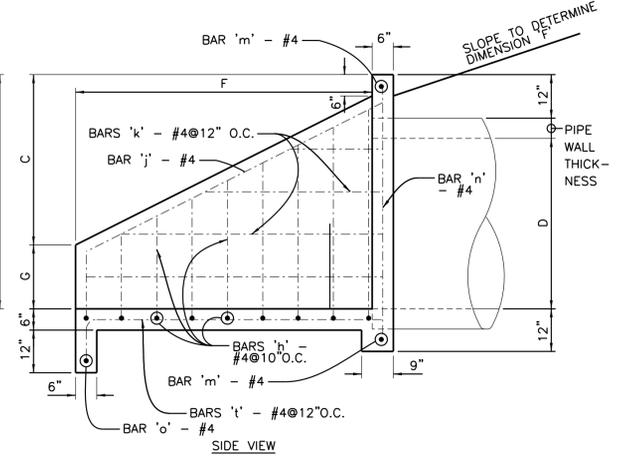


3 CONCRETE HEADWALL  
 C-4.1 NOT TO SCALE

- NOTES:
- CONCRETE SHALL BE ALDOT CLASS B (4,000 PSI AT 28 DAYS).
  - WING WALLS, SLAB AND HEADWALL MUST ALL BE TIED TOGETHER BY #4 BARS WITH A MINIMUM EMBEDMENT LENGTH OF 8-INCHES AND A MAXIMUM SPACING OF 12-INCHES.
  - ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.
  - ALL REBAR SHALL BE 3" CLEAR FROM THE EDGE THAT WILL BE AGAINST THE EARTH.
  - ALL REBAR SHALL BE 2" CLEAR FROM THE EDGE THAT IS EXPOSED TO THE ATMOSPHERE.
  - HEADWALL SLAB SHALL BE PLACED ON 4" OF ALDOT #57 STONE.

SINGLE HEADWALL DIMENSIONS

D	A	B	C	E	F	G
15" / 12"	3'-0"	2'-6"	2'-0"	5'-0"	3'-11"	0'-6"
18"	3'-4"	2'-9"	2'-0"	5'-4"	4'-5"	0'-9"
24"	4'-0"	3'-3"	2'-3"	7'-0"	5'-6"	1'-0"
30"	4'-6"	3'-10"	2'-10"	8'-0"	6'-9"	1'-0"
36"	5'-3"	4'-5"	3'-5"	8'-9"	7'-10"	1'-0"
42"	5'-9"	4'-11"	3'-5"	9'-9"	8'-10"	1'-6"
48"	6'-3"	5'-5"	4'-0"	10'-9"	10'-0"	1'-6"



INLET DIMENSIONS

PIPE SIZE	A	B	F	D	E	W
12"	4'-4"	3'	12"	8"	5'-4"	
15"	4'-4"	3'	15"	8"	5'-4"	
18"	4'-4"	3'	18"	8"	5'-4"	
21"	4'-6"	3'-2"	21"	8"	5'-6"	
24"	4'-9"	3'-5"	24"	8"	5'-9"	
30"	5'-4"	4'	30"	8"	6'-4"	
36"	5'-10"	4'-6"	36"	8"	6'-10"	

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JOHN HUNT PARK  
 DRAINAGE DESIGN  
 CITY OF HUNTSVILLE PROJ. NO.: 65-15-SP38  
 PREPARED FOR  
**CITY OF HUNTSVILLE, AL**  
 ENGINEERING DIVISION



amec foster wheeler  
 169 Daughin Court, Suite 320  
 Huntsville, AL 35892  
 (256) 433-0880

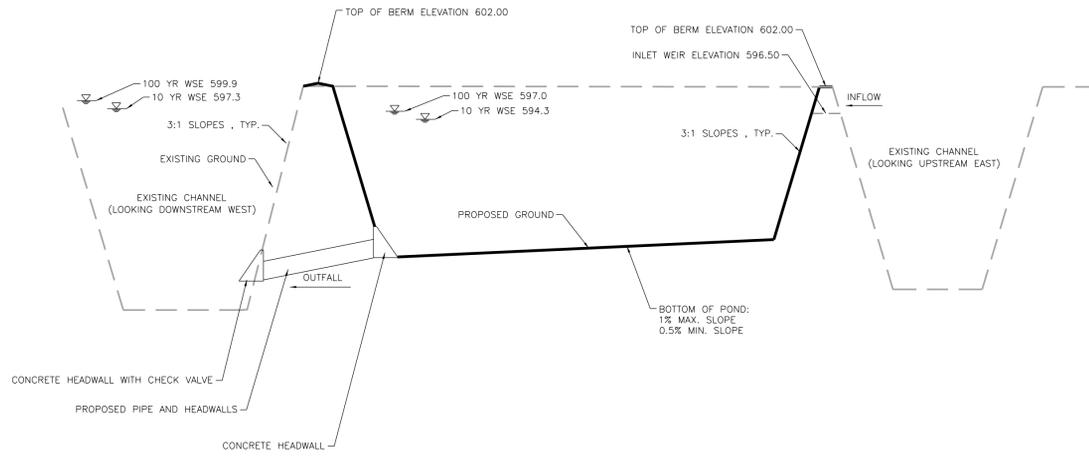
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DETAILS 1

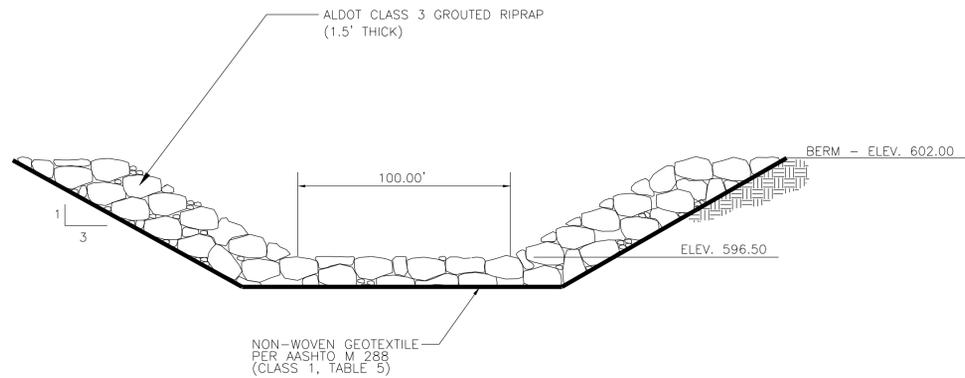
**C-4.1**

DR	RES	CHK	WBH	REV	LBK

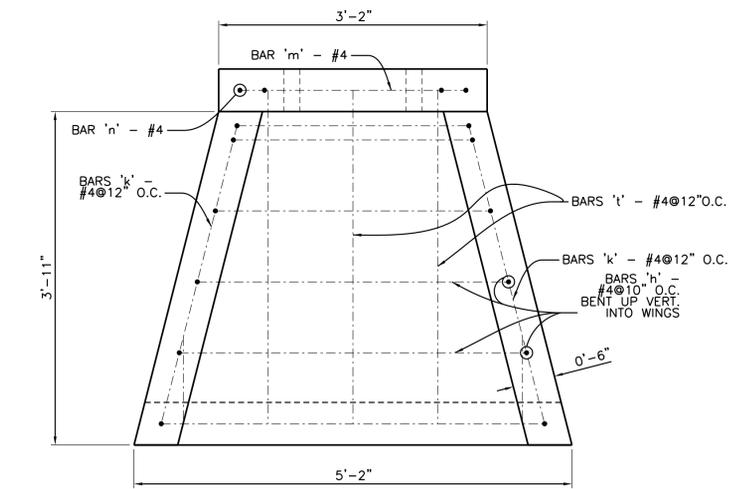
DATE: 08/26/2016  
 SHEET 12 OF 16



1 SCHEMATIC POND SECTION  
C-4.2 NOT TO SCALE

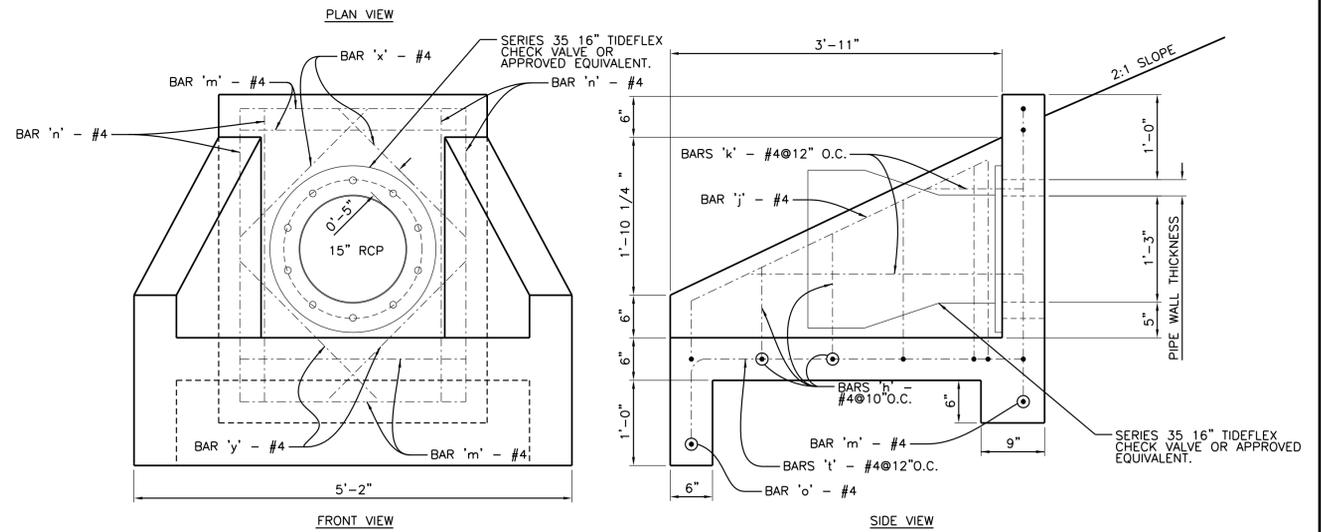


3 INLET WEIR  
C-4.2 NOT TO SCALE



NOTES:

1. CONCRETE SHALL BE ALDOT CLASS B (4,000 PSI AT 28 DAYS).
2. WING WALLS, SLAB AND HEADWALL MUST ALL BE TIED TOGETHER BY #4 BARS WITH A MINIMUM EMBEDMENT LENGTH OF 8-INCHES AND A MAXIMUM SPACING OF 12-INCHES.
3. ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.
4. ALL REBAR SHALL BE 3" CLEAR FROM THE EDGE THAT WILL BE AGAINST THE EARTH.
5. ALL REBAR SHALL BE 2" CLEAR FROM THE EDGE THAT IS EXPOSED TO THE ATMOSPHERE.
6. HEADWALL SLAB SHALL BE PLACED ON 4" OF ALDOT #57 STONE.



2 CONCRETE HEADWALL WITH DUCKBILL CHECK VALVE  
C-4.2 NOT TO SCALE

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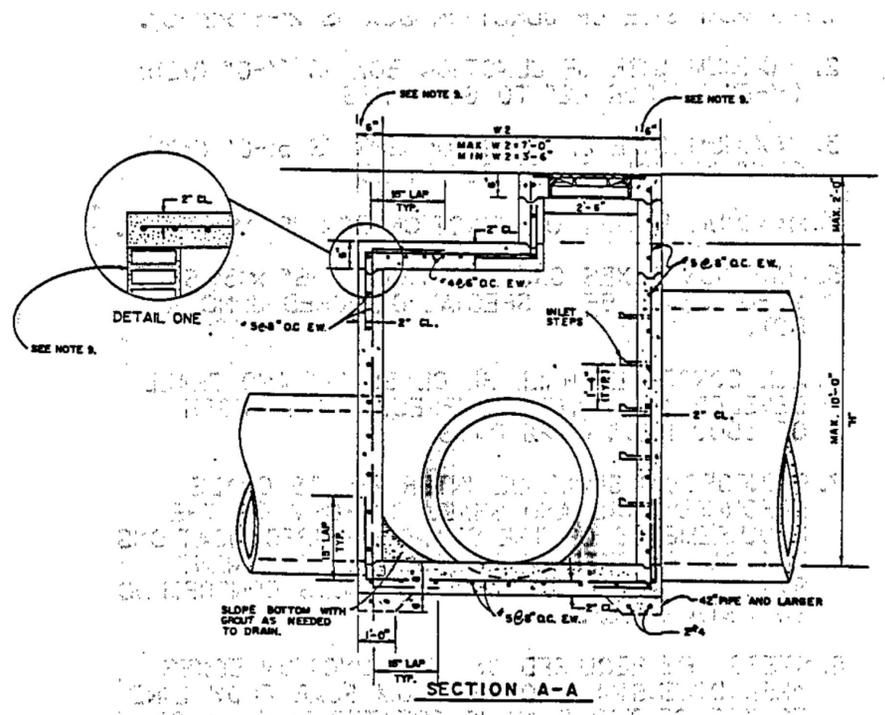
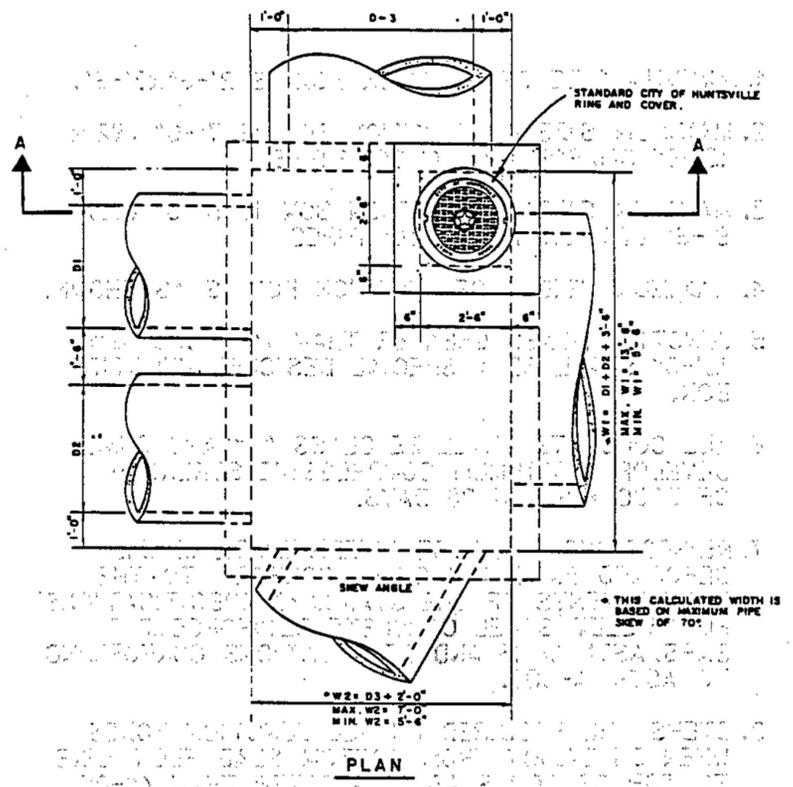
DETAILS 2

C-4.2

DR	RES	CHK	WBH	REV	LBK

DATE: 08/26/2016

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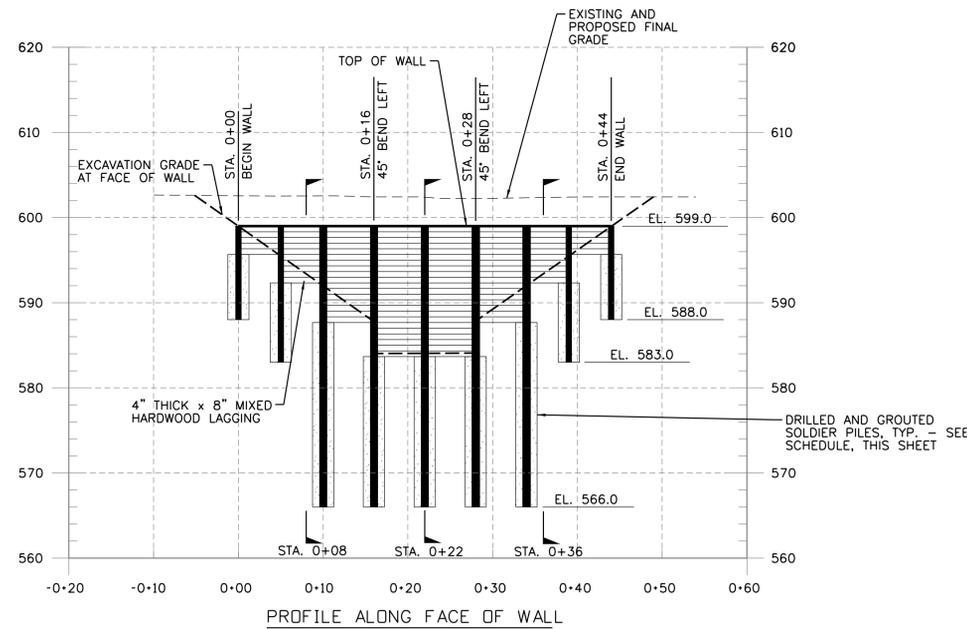
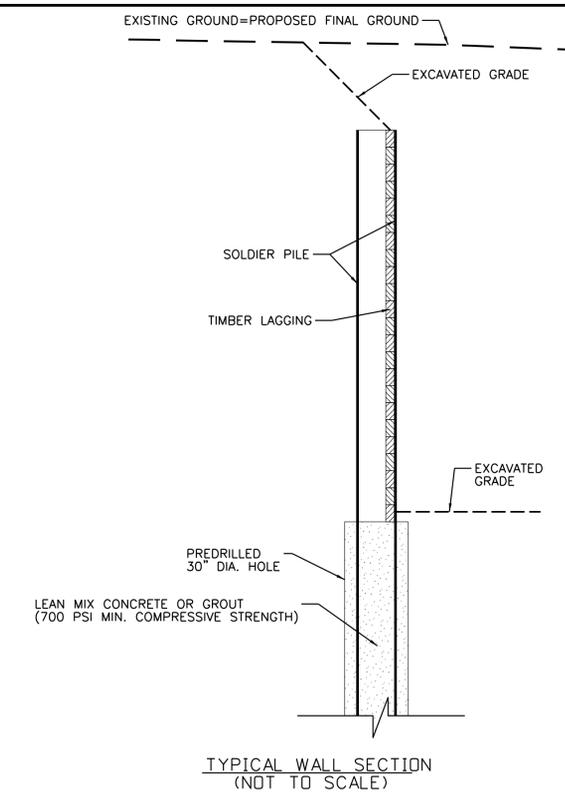
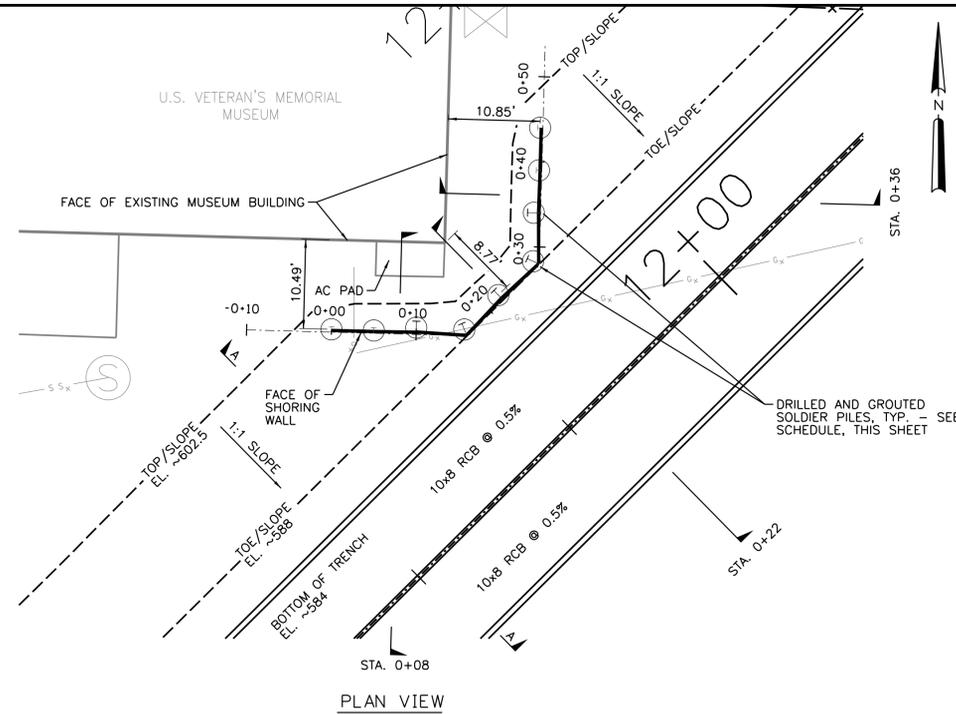
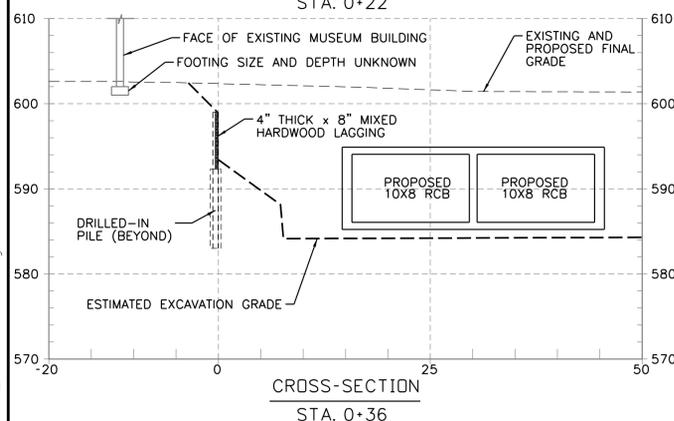
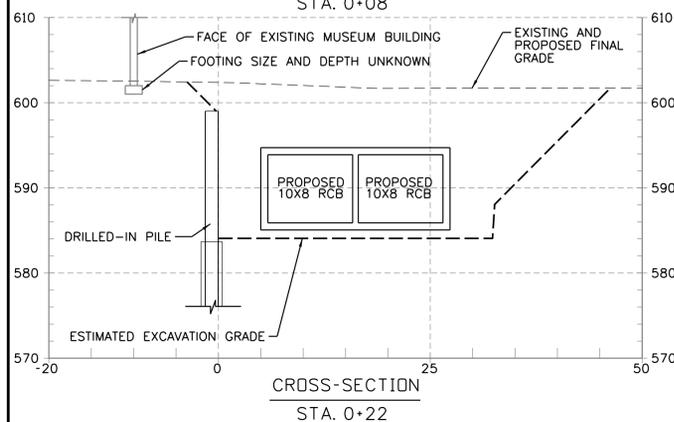
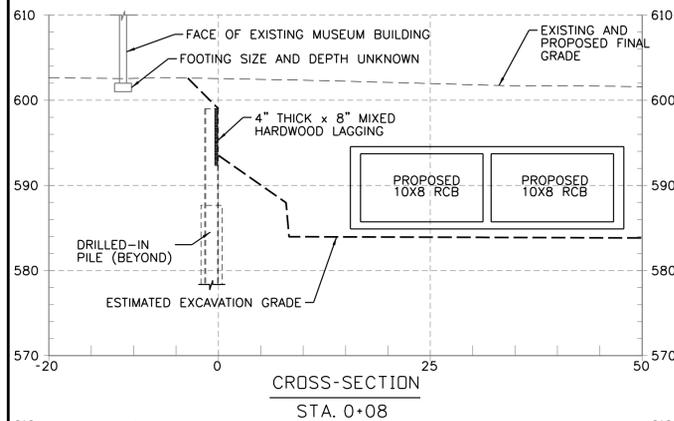
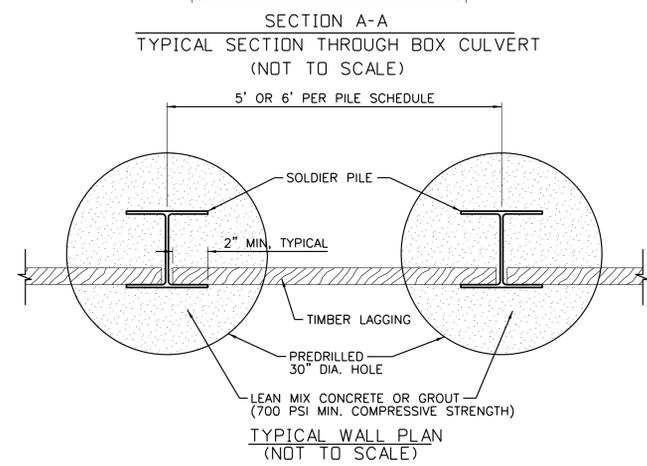
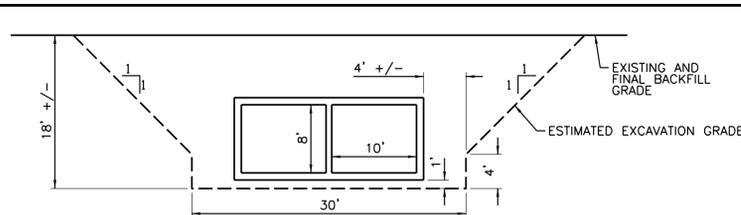
1 JUNCTION BOX (DR-143)  
C-4.3 NOT TO SCALE

NOTE:  
BRICK IS NOT PERMITTED ON THIS PROJECT.

1. MINIMUM SIZE OF JUNCTION BOX IS 2'-6"x2'-6".
2. MAXIMUM SIZE OF JUNCTION BOX IS 7'-0" (W2)x 13'-6" (W1) FOR 42" TO 60" PIPES
3. MAXIMUM SIZE OF JUNCTION BOX IS 5'-0" (W2)x 9'-6" (W1) FOR 15" TO 36" PIPES
4. MAXIMUM HEIGHT OF JUNCTION BOX IS AS SHOWN.
5. JUNCTION BOXES GREATER THAN 7'-6" x13'-6" x 12'-0" SHALL BE A SPECIAL DESIGNED JUNCTION BOX.
6. ALL CONCRETE SHALL BE CLASS "A" AND SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3500 P.S.I. IN 28 DAYS.
7. REINFORCING SHALL BE INTERMEDIATE GRADE DEFORMED BARS AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL CONCRETE REINFORCEMENT BARS, ASTM A-15 AND DEFORMATIONS CONFORMING TO ASTM A-305.
8. STEPS ARE REQUIRED ON ALL JUNCTION BOXES WHEN DIMENSION FROM BOTTOM SLAB FLOW LINE TO TOP OF TOP SLAB IS GREATER THAN 4'-0".
9. BRICK CONSTRUCTION - WALL THICKNESS WILL BE 8" BRICK WHEN "H" IS LESS THAN 5'-0" AND 12" BRICK WHEN "H" IS MORE THAN 5'-0". 1/2" MORTAR ON BOTH SIDES.

FILE: C-4\_3\_DETAILS.dgn

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169 Daughin St., Suite 320 Huntsville, AL 35892 (256) 433-0880					
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DETAILS 3					
C-4.3					
DR	RES	CHK	WBH	REV	LBK
DATE: 08/26/2016					
SHEET 14 OF 16					



PILE SCHEDULE					
PILE STATION	NORTHING (CENTER/PILE)	EASTING (CENTER/PILE)	PILE DESIGNATION	PILE LENGTH	TOP OF GROUT COLUMN ELEV.
0+00	1525938.59	429909.62	HP8x36	11'	588.00
0+05	1525938.45	429914.62	HP8x36	16'	583.00
0+10	1525938.79	429919.63	W18x130	33'	566.00
0+16	1525938.56	429925.3	W18x130	33'	566.00
0+22	1525942.61	429929.31	W18x130	33'	566.00
0+28	1525946.57	429933.41	W18x130	33'	566.00
0+34	1525952.28	429933.5	W18x130	33'	566.00
0+39	1525957.26	429934.11	HP8x36	16'	583.00
0+44	1525962.26	429934.24	HP8x36	11'	588.00

- NOTES:
- ALL PILES SHALL BE SET IN GROUT OR CLSM WITHIN MINIMUM 30" DIAMETER DRILL HOLES.
  - AFTER CULVERT BACKFILL HAS BEEN PLACED, PILES AND LAGGING SHALL BE REMOVED (OR CONFIRMED) TO A DEPTH OF 3- FEET BELOW FINAL BACKFILL GRADE. IT IS ANTICIPATED THAT GAS AND WATER SERVICE LINES TO THE MUSEUM BUILDING WILL BE RELOCATED BY THE UTILITY OWNERS FOR CONSTRUCTION OF THIS PROJECT. COORDINATE WORK WITH LOCAL UTILITY REPRESENTATIVE.
  - EXCAVATION SURFACES ARE ESTIMATED FOR SHORING DESIGN AND ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR SAFE EXCAVATION PRACTICES.



**SOLDIER PILE RETAINING WALL SPECIFICATIONS:**

**DESCRIPTION:**

THIS WORK SHALL CONSIST OF PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO FABRICATE, FURNISH, AND DRILL THE SOLDIER PILES INTO POSITION TO THE SPECIFIED ELEVATIONS. ALSO INCLUDED IN THIS WORK IS THE FURNISHING AND INSTALLATION OF LAGGING. ALL WORK SHALL BE ACCORDING TO THE DETAILS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

**MATERIALS:**

THE MATERIALS USED FOR THE SOLDIER PILES AND LAGGING SHALL SATISFY THE FOLLOWING REQUIREMENTS:

- THE STRUCTURAL STEEL COMPONENTS FOR THE SOLDIER PILES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A252, GR50, UNLESS OTHERWISE DESIGNATED ON THE PLANS.
- THE CONTROLLED LOW-STRENGTH MATERIAL (CLSM), USED FOR BACKFILLING SHAFT EXCAVATIONS TO THE EXISTING GROUND SURFACE, SHALL BE ACCORDING TO ACI 229-99 (REAPPROVED 2005).
- TIMBER LAGGING. THE MINIMUM TABULATED UNIT STRESS IN BENDING (FB), USED FOR THE DESIGN OF THE TIMBER LAGGING, SHALL BE 1000 PSI (6.9 MPa) UNLESS OTHERWISE SPECIFIED ON THE PLANS.

**CONSTRUCTION REQUIREMENTS:**

THE CONTRACTOR SHALL SATISFY THE FOLLOWING REQUIREMENTS:

- SOLDIER PILE FABRICATION AND PLACEMENT.** THE SOLDIER PILE IS DEFINED AS THE STRUCTURAL STEEL SECTION(S) SHOWN ON THE PLANS AS WELL AS ANY CONNECTING PLATES USED TO JOIN MULTIPLE SECTIONS. THE TYPES OF SOLDIER PILES SHALL BE DEFINED AS HP, W SECTIONS, OR BUILT-UP SECTIONS.
  - THE CENTER OF THE SOLDIER PILE SHALL BE WITHIN 3 INCHES OF PLAN LOCATION IN ANY DIRECTION AT THE TOP OF THE PILE.
  - THE OUT OF VERTICAL PLUMBNESS OF THE SOLDIER PILE SHALL NOT EXCEED 1/8 IN./FT.
  - THE TOP OF THE SOLDIER PILE SHALL BE WITHIN ±1 IN. OF THE PLAN ELEVATION.
- TIMBER LAGGING.** TIMBER LAGGING, INSTALLED BELOW THE ORIGINAL GROUND SURFACE, SHALL BE PLACED FROM THE TOP DOWN AS THE EXCAVATION PROCEEDS. OVER-EXCAVATION REQUIRED TO PLACE THE TIMBER LAGGING BEHIND THE FLANGES OF THE SOLDIER PILES SHALL BE THE MINIMUM NECESSARY TO INSTALL THE LAGGING. ANY VOIDS PRODUCED BEHIND THE LAGGING SHALL BE FILLED WITH POROUS GRANULAR EMBANKMENT AT THE CONTRACTOR'S EXPENSE. THE NOMINAL THICKNESS OF THE LAGGING SHALL NOT BE LESS THAN 4 IN. (100 MM) AND SHALL SATISFY THE MINIMUM TABULATED UNIT STRESS IN BENDING (FB) STATED ELSEWHERE IN THIS SPECIAL PROVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUCCESSFUL PERFORMANCE OF THE LAGGING SYSTEM. WHEN THE NOMINAL TIMBER LAGGING THICKNESS(S) AND ALLOWABLE STRESS ARE SPECIFIED ON THE PLANS, THE TIMBER SHALL BE ROUGH CUT.

**METHOD OF MEASUREMENT:**

THE WALL WILL BE MEASURED AS SQUARE YARDS OF EXPOSED WALL FACE.

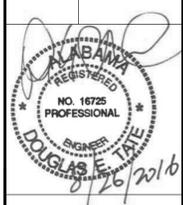
**BASIS OF PAYMENT:**

THE WALL WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD OF EXPOSED WALL FACE.

FILE: C-5.1\_SHORING DETAILS.dgn

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SHORING PLAN AND DETAILS

**C-5.1**

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SHEET 15 OF 16

