

CIVIL ENGINEERING SERVICES, PC

P.O. Box 1302, Fairview, TN 37062

Office (615) 533-0401

October 15, 2021

Madison County Planning and Zoning
125 West north street
Canton, MS 39046

**Re: Transportation Impact Statement
AutoZone Store Number 5607
Gluckstadt, MS
Parcel ID: 082D-20 -002/01.00**

Dear Staff:

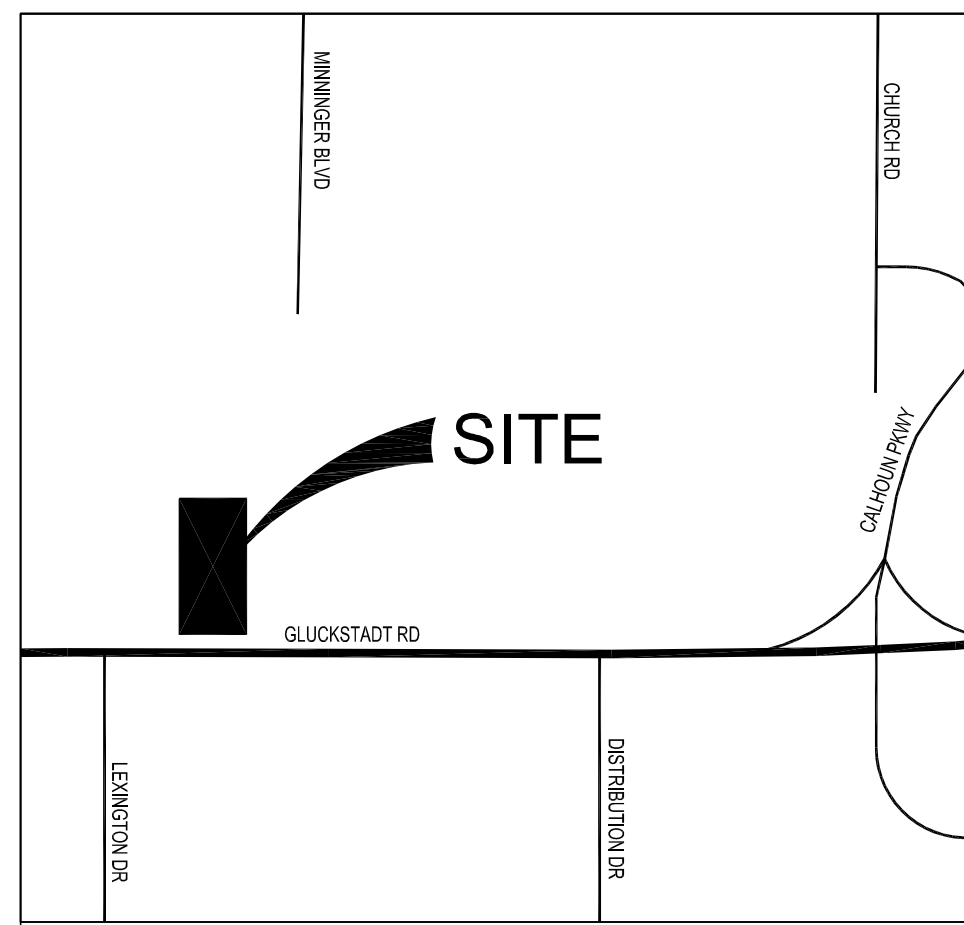
On behalf of AutoZone, we respectfully submit this Transportation Impact Statement in support of the Site Development Plans submittal.

The existing site is a vacant lot, located east of the Animal hospital at 1070 Gluckstadt Rd, Madison, MS 39110. The site is presently a grass, with some wooded area tot the north side of the property. There are no existing trips generated in relation to the existing condition. We propose to construct a new 7,381 sf AutoZone (Automotive Parts Retail). The proposed use will be retail only and will not include service of vehicles. Based on ITE 10th Edition, Code 843, the PM Peak Hour Total Trips is 36 vph, the AM Peak Hour Total Trips is 19 vph.

Thank you in advance for your time and review of the above impact statement. If you have any questions, please do not hesitate to contact me at (615) 533-0401.

Respectfully,
Ray Flake

Cc: Yuri Hawley



VICINITY MAP
(NOT TO SCALE)



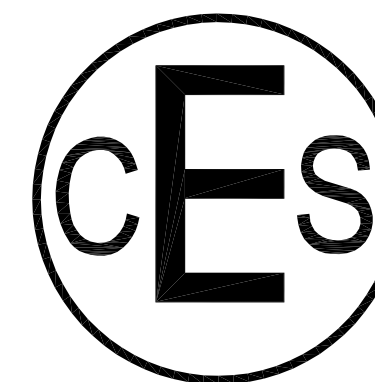
AutoZone Store Development Preliminary/Final Site Plan Submission

for:

AutoZone Store No. 0152
WEST OF 1078 GLUCKSTADT RD
GLUCKSTADT, MS
 PARCEL: 002 / 01.00

SURVEYOR:
BLEW & ASSOCIATES, PA
 3825 N. SHILOH DRIVE
 FAYETTEVILLE, AR 72703
 (479) 443-4506

OWNER:
AUTOZONE, INC.
 c/o: WADE DAVIS
 123 S. FRONT STREET, 3RD FLOOR
 MEMPHIS, TENNESSEE 38103
 (901) 495-8701



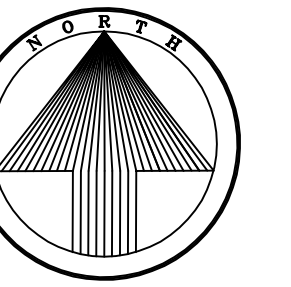
CIVIL ENGINEERING:
Civil Engineering Services
 7705 Spicer Farm Lane phone: (615) 533-0401
 Fairview, Tennessee fax: (615) 523-8865
 37062 e-mail: ray@civilengineeringservices.net
Engineering, Land Planning, and Environmental

PLAN SUBMITTAL DATE:

NOVEMBER, 2021

INDEX OF DRAWINGS

| | |
|--------|------------------------------|
| C 0.0 | COVER SHEET |
| 1 OF 1 | ALTA/ACSM LAND TITLE SURVEY |
| D1.0 | DEMOLITION PLAN |
| C1.0 | SITE PLAN |
| C2.0 | GRADING PLAN |
| C2.1 | DRAINAGE PLAN |
| C2.2 | INITIAL EROSION CONTROL PLAN |
| C2.3 | FINAL EROSION CONTROL PLAN |
| C3.0 | UTILITY PLAN |
| C4.0 | DETAIL SHEET 1 |
| C4.1 | DETAIL SHEET 2 |
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| L1.1 | LANDSCAPE PLAN |
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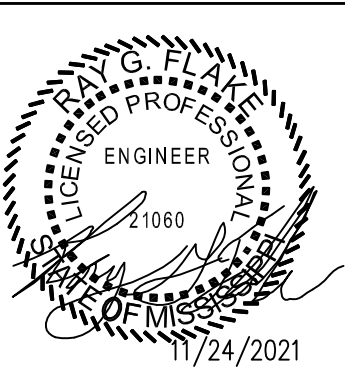
NAD83 MS STATE PLANE

| | | | |
|---|---|---|---|
| | 4 | 5 | 6 |
| 1 | | | |
| 2 | | | |
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REVISIONS

AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
COVER SHEET

Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searey@construction.com



11/22/2021

7N2

C0.0

ALTA/NSPS Land Title Survey

Title Information

First American Title Insurance Company National Commercial Services
File No: NCS-1078176-MICH
Commitment Date: July 26, 2021 at 8:00 AM

Schedule A Description

The Land referred to herein below is situated in the County of Madison, State of Mississippi, and is described as follows:

A parcel of land containing 1.16 acres, more or less, situated in the Southeast 1/4 of Section 20, Township 8 North, Range 2 East, Madison County, Mississippi and more particularly described as follows:

Begin at a found iron pin in the new Northern Right of Way line of Gluckstadt Road which is 2620.57 feet South of and 1425.29 feet East of the Northwest corner of the Southeast 1/4 of said Section 20, as shown on attached survey and run Thence South 89 Degrees 50 Minutes 58 Seconds West along said Northern Right of Way line for a distance of 160.00 feet to a found iron pin; Leaving said new Right of Way line, Run thence North 00 Degrees 19 Minutes 46 Seconds West for a distance of 349.28 feet to a found iron pin; Thence South 69 Degrees 45 Minutes 45 Seconds East for a distance of 68.24 feet; Thence South 66 Degrees 15 Minutes 08 Seconds East for a distance of 99.48 feet; Thence South 63 Degrees 08 Minutes 15 Seconds East for a distance of 5.89 feet; Thence South 00 Degrees 19 Minutes 46 Seconds East along the edge of concrete parking and a projection thereof for a distance of 281.57 feet to the Point of Beginning.

Schedule B - Section II

- 1. Right of Way Easement granted to Bear Creek Water Association, Inc. recorded in Book 161, Page 632, Mecklenburg County Registry. (Does not affect)
- 2. Right of Way and easement granted to Mississippi Power & Light Company recorded in Book 324, Page 724. (Does not affect)
- 3. Right of Way and Easement Deed for Distribution System granted to Centerpoint Energy Resources Corp., d/b/a Centerpoint Energy Mississippi Gas recorded in Book 2018, Page 53. (Does not affect)
- 4. Right of Way and easement granted to Mississippi Power & Light Company recorded in Book 235, Page 124. (Affects, approximate location shown hereon)
- 5. Terms and conditions of that certain Quitclaim and Boundary Line Agreement by and between Cliff Smith and Charlotte T. Smith, The Giles Group, LLC, and Sturdivant Empire, LLC recorded in Book 3455, Page 917. (Affects, Current Boundary as shown)

Zoning Information

| PROPERTY IS CURRENTLY ZONED | | |
|--------------------------------------|--------------------|----------|
| Zone - (C) General/Indoor Commercial | | |
| ITEM | REQUIRED | OBSERVED |
| PERMITTED USE | General Commercial | OBSERVED |
| MIN. LOT AREA | 21780 SQ FEET | OBSERVED |
| MIN. LOT WIDTH | REFER TO NOTES | OBSERVED |
| MAX. BLDG COVERAGE | NONE | OBSERVED |
| MIN. SETBACKS FRONT | 35 FEET | OBSERVED |
| MIN. SETBACKS SIDE | REFER TO NOTES | OBSERVED |
| MIN. SETBACKS REAR | REFER TO NOTES | OBSERVED |
| MAX BUILDING HEIGHT | 40 FEET | OBSERVED |
| PARKING REGULAR | REFER TO NOTES | OBSERVED |
| PARKING HANDICAP | REFER TO NOTES | OBSERVED |
| PARKING TOTAL | REFER TO NOTES | OBSERVED |

Notes:
Because there may be a need for interpretation of the applicable zoning codes, we refer you to Madison County for zoning laws and applicable codes.

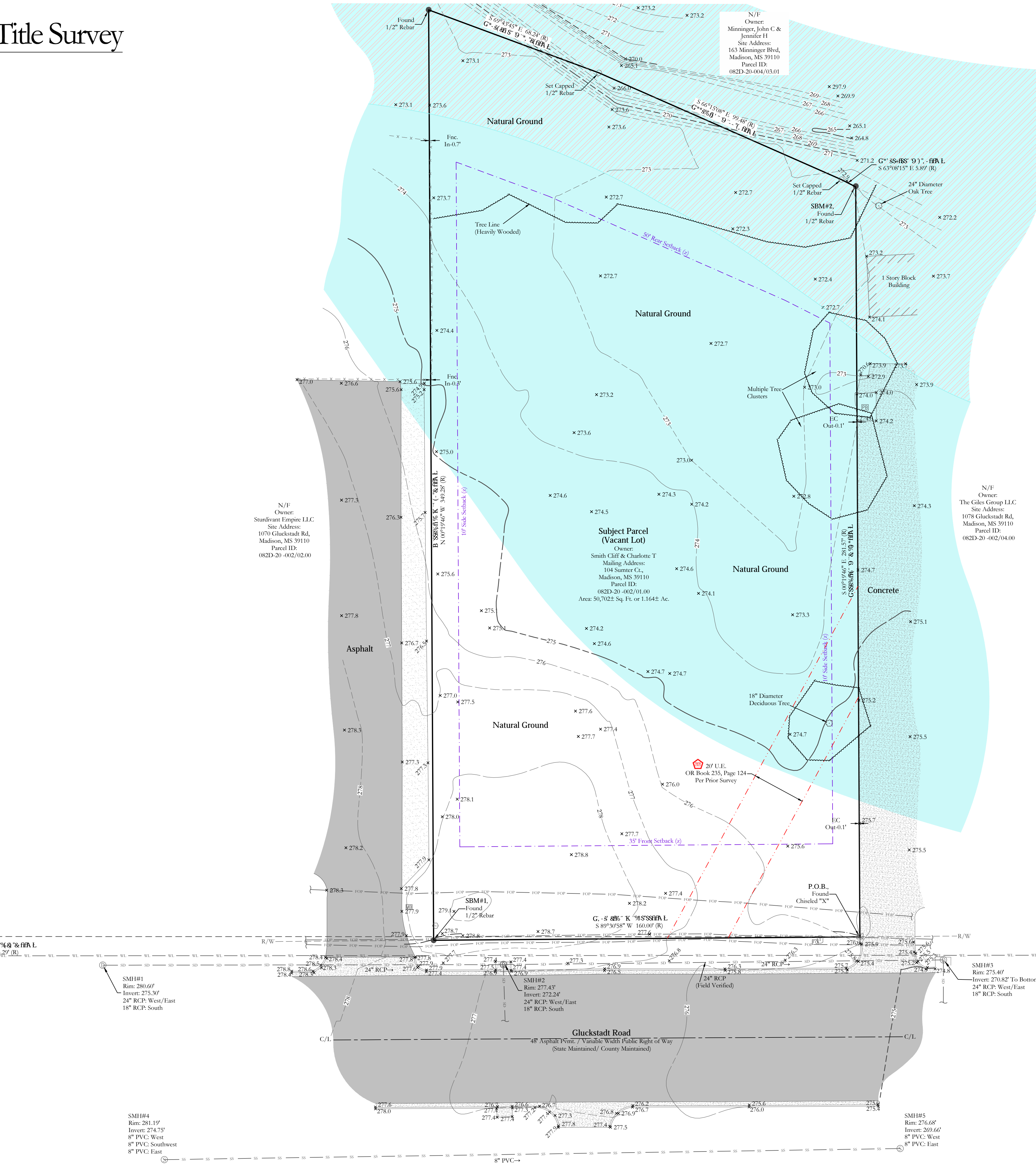
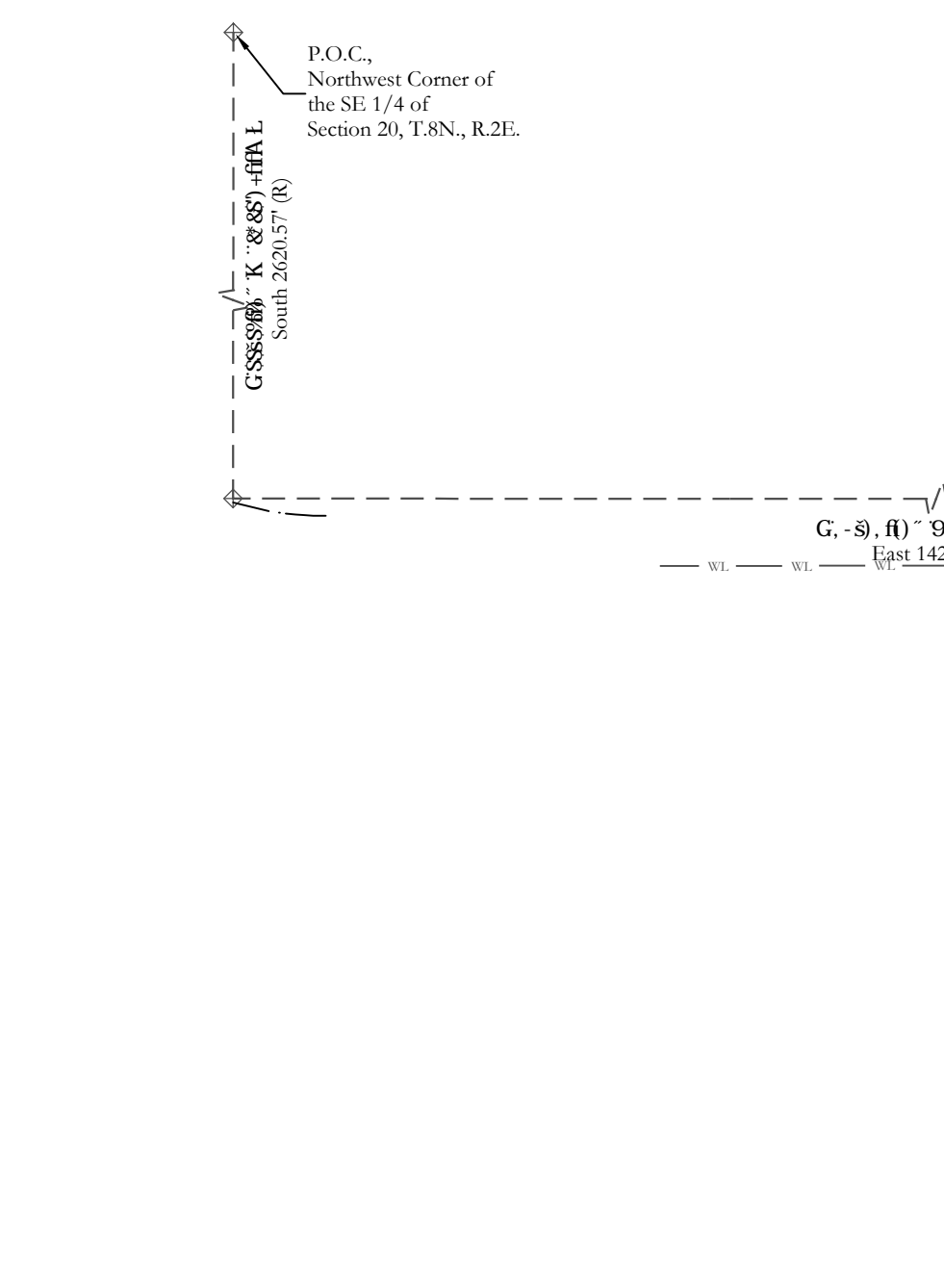
Lot Width Notes:
Shooting corners: 300 feet.

Minimum setbacks:
300 feet. For any lot having a width of less than 300 feet, there shall be no more than one access driveway per lot. For lots having a width of 300 feet or more, there shall be no more than one access driveway per lot. For lots having a width of 300 feet or more, there shall be no more than one access driveway per lot. For lots having a width of 300 feet or more, there shall be no more than one access driveway per lot. For lots having a width of 300 feet or more, there shall be no more than one access driveway per lot.

Setback Notes:
Front yard: 35 feet. The front yard setback shall be a minimum of three feet (3) feet from any existing or proposed right-of-way line of any street or road. However, the front setback (35 feet) of this setback shall be open, landscaped area, with no parking permitted in this area.

Side yards and rear yards when sharing an interior driveway or parking area:
Side yards and rear yards when sharing an interior driveway or parking area shall be landscaped and a fence along with or over such sharing such restricted driveway or residential use.

Parking Notes:
One parking space for each 225 square feet of gross floor area.



Miscellaneous Notes

- Completed field work was August 19, 2021.
- The Basis of Bearing for this survey is Grid North per GPS coordinate observations Mississippi State Plane, West Zone NAD83. Latitude = 32°31'01.52438" Longitude = -90°06'38.10102" Convergence Angle = -0°07'11.06336"
- Distances shown on plat are ground.
- Combined scale factor (ground to grid) = 0.99995539893351
- Some features on this plat may be shown out of scale for clarity.
- Dimensions on this plat are expressed in feet and decimal parts thereof unless otherwise noted. Monuments were found at points where indicated.
- Any servitudes and restrictions shown on this survey are limited to those set forth in the description furnished to surveyor, and there is no representation that all applicable servitudes and restrictions are shown hereon.
- Names and addresses of adjoining property owners were taken from Madison County tax cards and deeds.
- The nearest fire hydrant is located in the South Right of Way of Gluckstadt Road approximately 200' West of the Southwest corner of subject property.
- No surveyor or any other person other than a licensed Mississippi attorney may provide legal advice concerning the status of Title to the property described in this survey ("the subject property"). The purpose of this survey, and the comments related to the Schedule B-I exceptions, is only to show the location of boundaries and physical obstructions in relation thereto. To the extent that the survey indicates that the legal instrument "affects" the subject property, such statement is only intended to indicate that property boundaries included in such instrument include some or all of the subject property. The surveyor does not purport to describe how such instrument affects the subject property or the enforceability or legal consequences of such instrument.
- All bearings and distances shown hereon are measured dimensions unless otherwise noted hereon. Record dimensions, if differing from measured dimensions, will be followed by "RM" where the # indicates from which reference document the dimension originated.
- Contour Interval = 3 feet
- No parking spaces observed.
- Surveyor notes that the property abuts the right-of-way of Gluckstadt Road. Access to the right-of-way may be subject to other agreements or proper governmental approvals.
- There was no evidence of monitor wells, or any test borings on the subject property at the time of the survey.
- At the time of the survey, there was no observable evidence of site use as a cemetery, isolated grave site or burial grounds.
- At the time of the survey, there was no observable evidence of site use as a solid waste dump, sump, or sanitary landfill.
- Elevations established with GPS static observations utilizing online positioning user service (OPUS) for post processing. (NAVD 1988 datum)
- At the time of the survey, there were no changes in street right-of-way lines either completed or proposed, and available from controlling jurisdiction or observable evidence of recent street or sidewalk construction repairs.
- There was no observable evidence of Earth moving work, building construction or building additions within recent months.
- The nearest intersecting street is the intersection of Gluckstadt Road and Lexington Drive, which is approximately 200' from the Southwest corner of the subject property.
- Surveyor did not receive current deeds for adjoining properties from the title insurer. Surveyor obtained the deed information reflected on this survey on their own. The user of this survey should consult an attorney or title insurer to verify the current deed descriptions for adjoining properties.
- Reference documents noted hereon were obtained by the surveyor and any all representations based thereon should be reviewed by a licensed attorney or title insurer for verification.
- Surveyor did not receive any information from the title insurer regarding the current zoning classification of the property or any requirements related to the applicable zoning classification. Surveyor obtained the zoning information reflected on this survey on their own. The user of this survey should consult an attorney or title insurer to verify the zoning classification of the property as well as the applicable restrictions and requirements associated with such zoning classification.
- No Buildings observed at the time of the Survey
- Sanitary Sewer, Gas, and Water lines shown per map provided by the Bear Creek Water Association. No markings or other evidence for such utilities was observed in the field. Due to siting, standing water or other environmental considerations, invert elevations depicted herein are measured down to the bottom center of the storm structure.

Flood Note

By graphic plotting only, this property is in Zone AE of the Flood Insurance Rate Map, Community Panel No. 28089-03415-F, which bears an effective date of 03/17/2010 and is in a Special Flood Hazard Area.

Zone Definitions According to the FEMA website.

Zone "AE" - The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.

Zone "X Unshaded" - Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

Zone "Shaded X" - Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods.

Utility Notes

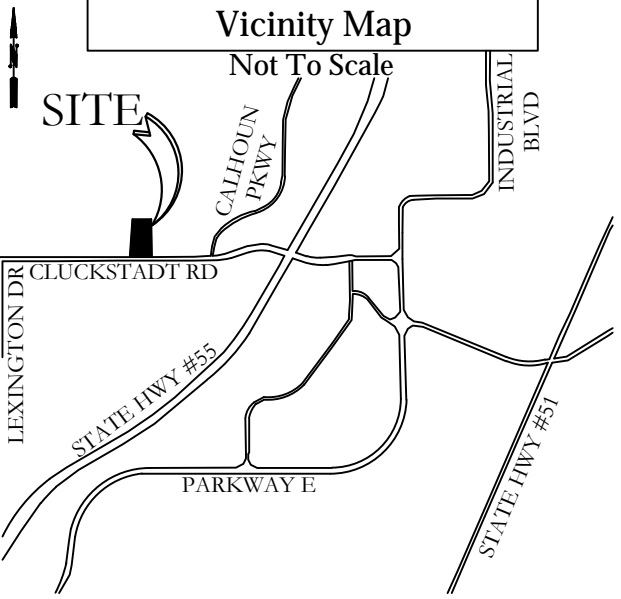
The utilities shown on this drawing hereon have been located by field measurements, utility map drawings, and one-call utility locate request. Blew & Associates makes no warranty to the exact location of any underground utilities shown or not shown on this drawing. It is the responsibility of the contractor to verify any and all utilities prior to construction. Call Mississippi one-call at 1 (800) 227-6477 for field locations (request for ground markings) of underground utility lines before digging.

Elevation Benchmarks

| Site Benchmark #1 | Site Benchmark #2 |
|------------------------|------------------------|
| Type: Found 1/2" Rebar | Type: Found 1/2" Rebar |
| Northing: 1097408.07 | Northing: 1097409.61 |
| Easting: 2365109.95 | Easting: 2365269.98 |
| Elevation: 277.93' | Elevation: 272.84' |

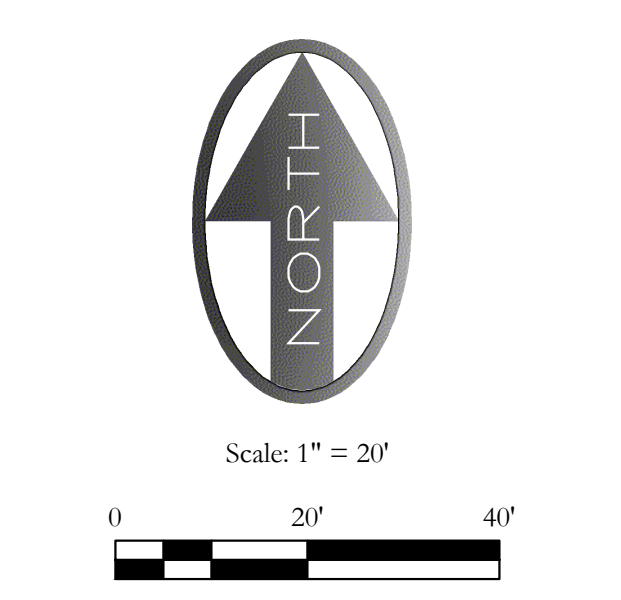
Benchmarks Northing & Eastings are applied with scale factor

| DATE | REVISION | BY |
|------|----------|----|
| | | |
| | | |
| | | |



Legend of Symbols & Abbreviations

- XXXX Spot Elevation
- Found Rebar (As Noted)
- Computed Point
- Found Chiseled "X"
- Fiber Optic Box
- Telephone Pedestal
- Fiber Optic Vault
- Mail Box
- Power Box
- Measured Dimension
- Recorded Dimension
- Zoning Requirements
- N/F: Now or Formerly
- SBM: Site Benchmark
- MH: Manhole
- CI: Curb Inlet Basin
- Inv: Invert of Pipe
- P.O.C.: Point of Commencement
- P.O.B.: Point of Beginning
- Adjoiner Property Line
- Subject Property Line
- Easement Line
- Utility Easement
- Building Setback
- Right-of-Way
- Fiber Optic Line
- Storm Sewer Line
- Burial Water Line
- Sanitary Sewer Line
- Underground Gas
- Chainlink Fence
- Contour Major
- Contour Minor
- Asphalt
- Concrete
- Gravel
- Flood Zone - AE / AO / AH
- Flood Zone - Floodway



Surveyor's Certification

To: AutoZone Parts, Inc, Cliff Smith and Charlotte T. Smith, Civil Engineering Services, PC, First American Title Insurance Company National Commercial Services.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 3, 4, 5, 7(a), 7(b), 8, 9, 11, 13, 16, 17, 18, 19, 20 & 21 of Table A thereof. The field work was completed on 08/19/2021.

Date of Plat or Map: 10/14/2021

Preliminary

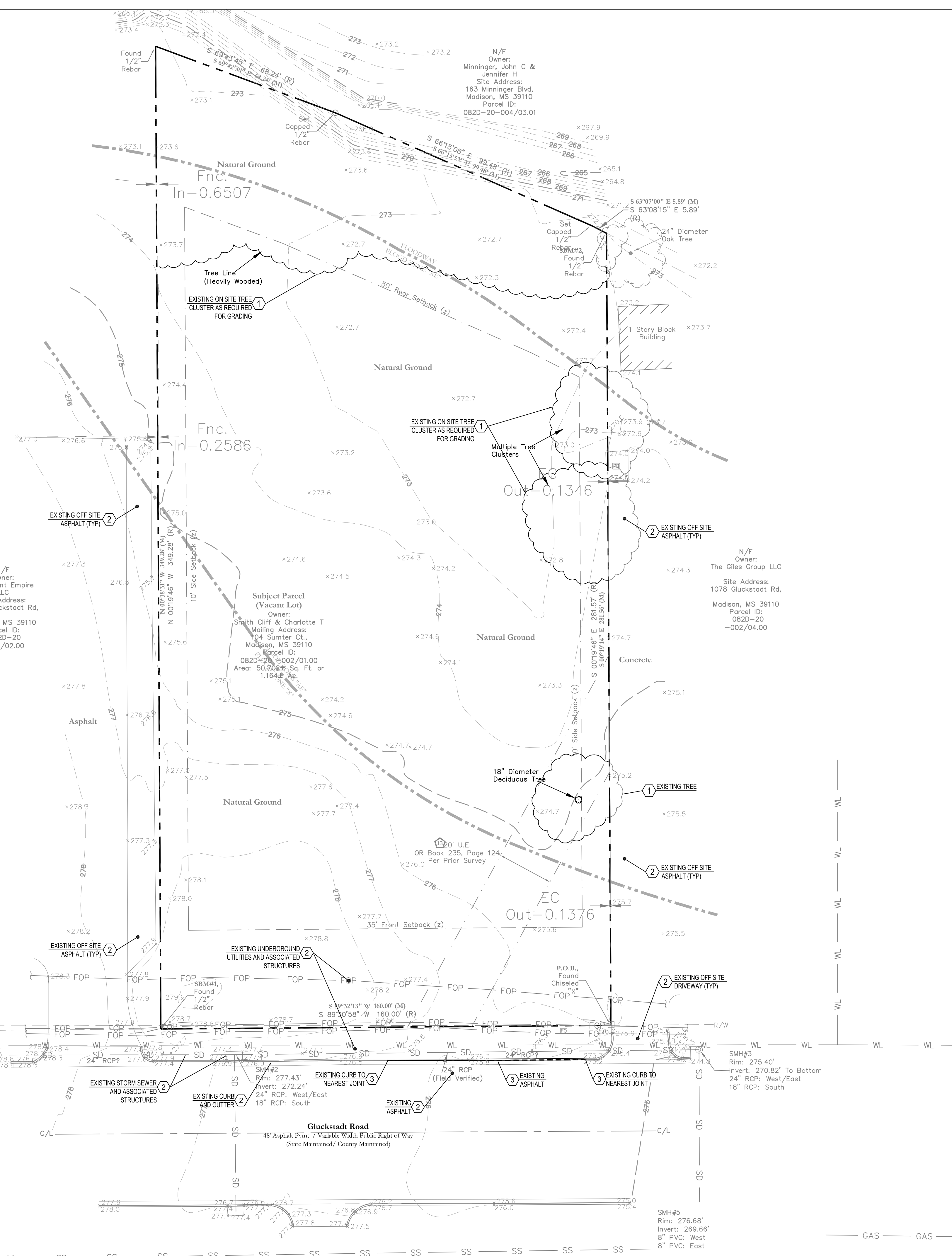
Buckle Blew
Professional Surveyor #27863
State of Mississippi

BLEW & ASSOCIATES, PA
CIVIL ENGINEERS & LAND SURVEYORS

3825 N. SHILOH DRIVE
FAYETTEVILLE, ARKANSAS 72703
OFFICE: 479.443.4506
FAX: 479.582.1883
www.BLEWINC.com

| DRAWN BY & DATE | REVIEWED BY | SURVEYED BY |
|-----------------------------|---|-------------|
| DLD/MB 10/14/2021 | GC/PRS | BJ |
| COUNTY & STATE | JOB NUMBER | |
| Madison, Mississippi | 21-6523 | |
| LOCATION | Property west of 1078 Gluckstadt Rd, Gluckstadt, MS | |
| FOR THE USE AND BENEFIT OF: | CES (AutoZone) - (MS5607) Gluckstadt, MS | |

© COPYRIGHT 2007



DEMOLITION LEGEND

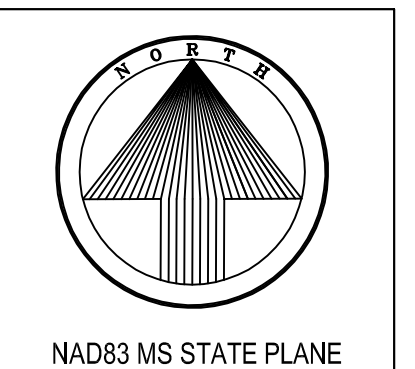
- APPROXIMATE LIMITS OF ASPHALT/CONCRETE SAWCUT
- ▨ APPROXIMATE LIMITS OF ASPHALT/CONCRETE REMOVAL

KEYNOTES

- 1 REMOVE EXISTING STRUCTURE
- 2 PROTECT EXISTING STRUCTURE
- 3 SAWCUT ASPHALT / CONCRETE
- 4 RELOCATE EXISTING SITE STRUCTURE OR UTILITY

DEMOLITION NOTES

- ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL LOCAL ORDINANCES, CITY OR STATE.
- WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE. FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
- ALL ITEMS NOTED TO BE REMOVED BY THE SELLER SHALL BE ACCOMPLISHED PRIOR TO THE CLOSING OF THE REAL ESTATE TRANSACTION. ALL OTHER ITEMS NOTED TO BE REMOVED SHALL BE DONE SO AS PART OF THE CONTRACT FOR GENERAL CONSTRUCTION.
- REMOVE AND DISPOSE OF ANY SIDEWALKS, FENCES, STAIRS, WALLS, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED OFF SITE LANDFILL.
- THE CONTRACTOR SHALL SECURE ALL PERMITS FOR HIS DEMOLITION AND DISPOSAL OF HIS DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED. BUILDING DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS AND DISPOSAL OF BUILDING DEMOLITION DEBRIS.
- THE DETAILED PLANS MAY NOT REFLECT ALL UTILITIES ON THE SITE OR SURROUNDING STREETS AND PROPERTIES. THE CONTRACTOR SHALL VERIFY LOCATIONS AND EXISTENCE OF UTILITY SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-800-344-7233, 72 HOURS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR TO REMOVE ALL UTILITIES TO EXISTING STRUCTURES WHETHER SHOWN OR NOT OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND CAP SERVICE PIPING AT THE PROPERTY LINE OR MAIN (AS REQUIRED). ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN.
- FOR ALL ITEMS NOTED TO BE REMOVED - REMOVE NOT ONLY THE ABOVE-GROUND ELEMENTS, BUT ALL UNDERGROUND ELEMENTS AS WELL INCLUDING BUT NOT NECESSARILY LIMITED TO: FOUNDATIONS, GRAVEL FILLS, TREE ROOTS, OLD PIPES, ETC.
- BACK FILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR FILL OUTLINED IN THE GEOTECHNICAL REPORT.
- THE CONTRACTOR SHALL PROTECT ALL IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING CONSTRUCTION. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPES, PAVEMENT, CURBS, SIDEWALKS OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION TO THE SATISFACTION.
- ALL BUILDINGS, FOUNDATION WALLS AND FOOTINGS INDICATED ON THIS PLAN TO BE REMOVED FROM SITE. CONTRACTOR SHALL SECURE ANY PERMITS AND PAY ALL FEES AND PERFORM CLEARING AND GRUBBING AND DEBRIS REMOVAL PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
- ASBESTOS AND ANY OTHER HAZARDOUS MATERIAL SHALL BE REMOVED BY THE CONTRACTOR USING A LICENSED HAZARDOUS MATERIAL CONTRACTOR PER ASBESTOS REPORT PREPARED BY XXXXXXXX. PRIOR TO THE START OF DEMOLITION, FEDERAL LAW REQUIRES THAT THE LOCAL EPA OFFICE TO BE NOTIFIED IN WRITING @ LEAST 10 WORKING DAYS.



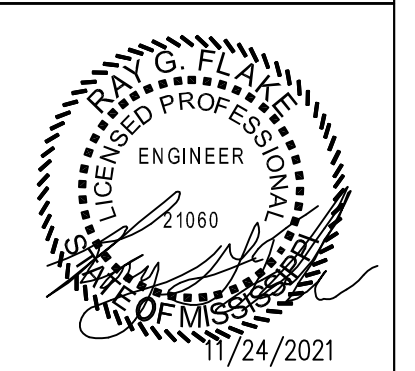
NAD83 MS STATE PLANE

REVISIONS

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|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 DEMOLITION PLAN

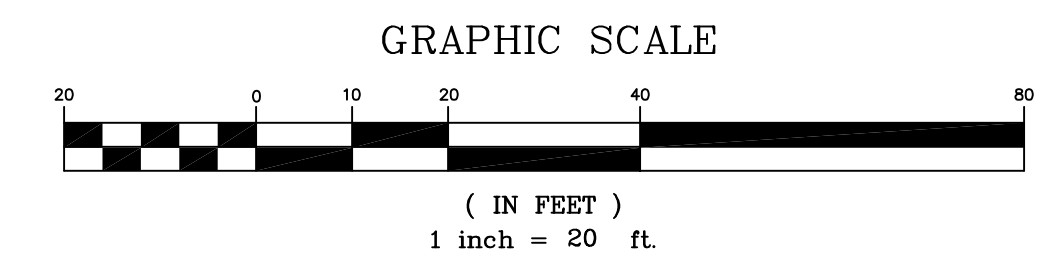
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 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com



11/22/2021

7N2

D1.0



CES Civil Engineering Services
 7705 Spicer Farm Lane
 Fairview, Tennessee 37062
 phone: (615) 533-0401
 fax: (615) 523-8865
 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning

| | | |
|--|--|--|
| BENCHMARK #1 1/2" REBAR N: 1,097,408.07 E: 2,365,109.95 ELEV= 277.93 | BENCHMARK #2 1/2" REBAR N: 1,097,409.61 E: 2,365,269.98 ELEV= 272.84 | FLOOD NOTE: FLOOD ZONE "AE" PER FEMA MAP NO. 28089-C0415-F EFFECTIVE DATE: MARCH 17, 2010 |
|--|--|--|

SMH#4
Rim: 281.19'
Invert: 274.75'
8" PVC: West
8" PVC: Southwest
8" PVC: East

SMH#5
Rim: 276.68'
Invert: 269.66'
8" PVC: West
8" PVC: East

SMH#3
Rim: 275.40'
Invert: 270.82' To Bottom
24" RCP: West/East
18" RCP: South

SMH#2
Rim: 277.43'
Invert: 272.24'
24" RCP: West/East
18" RCP: South

SMH#1
Rim: 280.60'
Invert: 275.30'
24" RCP: West/East
18" RCP: South

SMH#3
Rim: 275.40'
Invert: 270.82' To Bottom
24" RCP: West/East
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SMH#2
Rim: 277.43'
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24" RCP: West/East
18" RCP: South

SMH#1
Rim: 280.60'
Invert: 275.30'
24" RCP: West/East
18" RCP: South

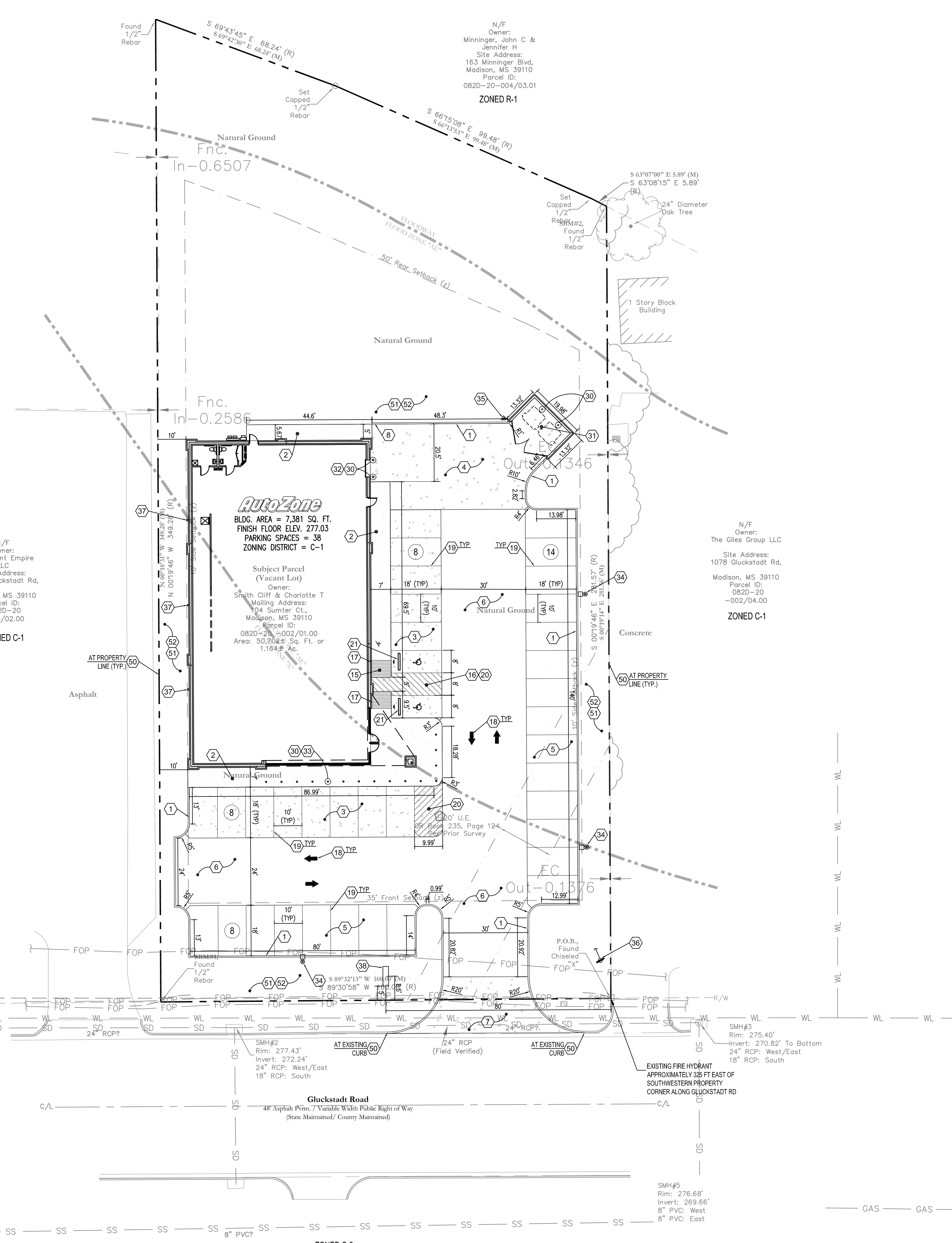
SMH#4
Rim: 281.19'
Invert: 274.75'
8" PVC: West
8" PVC: Southwest
8" PVC: East

SMH#5
Rim: 276.68'
Invert: 269.66'
8" PVC: West
8" PVC: East

SMH#3
Rim: 275.40'
Invert: 270.82' To Bottom
24" RCP: West/East
18" RCP: South

SMH#2
Rim: 277.43'
Invert: 272.24'
24" RCP: West/East
18" RCP: South

SMH#1
Rim: 280.60'
Invert: 275.30'
24" RCP: West/East
18" RCP: South



SITE LEGEND

- 10 PARKING STALL COUNT - SEE PLANS
- REGULAR ASPHALT PAVING (SEE DETAIL SHEET)
- HEAVY DUTY ASPHALT PAVING (SEE DETAIL SHEET)
- CONCRETE SIDEWALK (SEE DETAIL SHEET)
- HEAVY DUTY CONCRETE PAVING (SEE DETAIL SHEET)
- REGULAR DUTY CONCRETE PAVEMENT AT PARKING STALLS AROUND BUILDING (SEE DETAIL SHEET)

KEYNOTES

- PAVEMENT AND CURBING**
- 1 CONCRETE CURB @ CONCRETE/ASPHALT PAVING - SEE DETAIL 1 & 2 / C4.0
 - 2 CONCRETE SIDEWALK - SEE DETAIL 27/C4.0 - SEE DETAIL 22/C4.0 FOR SIDEWALKS AROUND BUILDING
 - 3 REGULAR DUTY CONCRETE PAVING - SEE DTL. 4/ C4.0. EXPANSION AND CONTROL JOINTS - SEE DTL. 23 & 24/ C4.0. MAXIMUM SPACING FOR CONTROL JOINTS PER SOILS REPORT.
 - 4 HEAVY DUTY CONCRETE PAVING - SEE DTL. 4/ C4.0. EXPANSION AND CONTROL JOINTS - SEE DTL. 23 & 24/ C4.0. MAXIMUM SPACING FOR CONTROL JOINTS PER SOILS REPORT.
 - 5 REGULAR DUTY ASPHALT PAVING - SEE DTL. 3/ C4.0. PROVIDE ALTERNATE CONCRETE BID - SEE DTL. 4/ C4.0
 - 6 HEAVY DUTY ASPHALT PAVING - SEE DTL. 3/ C4.0. PROVIDE ALTERNATE CONCRETE BID - SEE DTL. 4/ C4.0
 - 7 PROVIDE NEW CURB CUT & APPROACH PER LOCAL CODES & SPECS. - ENTRANCE TO BE HEAVY DUTY CONCRETE - SEE DTL. 3/ C4.0
 - 8 TAPER CURB HEIGHT FROM 6" TO 0" OVER TWO FEET
- PAVEMENT STRIPING / ADA FEATURES / TRAFFIC SIGNAGE**
- 15 ACCESSIBLE RAMP - SEE DETAIL 19/C4.0 - MAX. SLOPE 1:12 (8.33%) - MAX. CROSS SLOPE 1:50 (2.00%) TRUNCATED DOME TO BE A CONTRASTING COLOR.
 - 16 HANDICAP PARKING AREA - SEE THIS PLAN FOR DIMENSIONS - SEE DETAILS 6.7, AND 12/C4.0
 - 17 HANDICAP PARKING SIGN - SEE DETAIL 12/C4.0 G.C. TO PROVIDE ONE VAN ACCESSIBLE SIGN.
 - 18 ONSITE PAVEMENT MARKINGS - SEE DETAIL 25 & 26/C4.0
 - 19 4" WIDE PARKING STRIPE PAINTED YELLOW (TYP.)
 - 20 4" WIDE DIAGONAL STRIPES PAINTED YELLOW AT 2 FT. O.C.
 - 21 6'-0" LONG CONCRETE WHEEL STOP PINNED TO PAVEMENT (TYPICAL), LOCATE 3'-6" FROM FACE OF CURB OR SIDEWALK SEE DETAIL 17 / C4.0

- AUTOZONE SITE FEATURES**
- 30 PIPE GUARD - SEE DETAIL 16 / C4.0
 - 31 DUMPSTER LAYOUT - SEE DETAILS 8.9, 10, & 11/ C4.0
 - 32 SERVICE DOOR PLAN - SEE DETAIL 15/ C4.0
 - 33 BOLLARD PLAN - SEE DETAIL 14/ C4.0
 - 34 CONCRETE LIGHT POLE BASE - SEE DETAIL 13/ C4.0 AIM LIGHT FIXTURE IN DIRECTION AS INDICATED. SEE ELECTRICAL PLANS FOR ROUTING
 - 35 FREEZELESS YARD HYDRANT AT BUILDING - SEE DETAIL 6 ON SHEET M2
 - 36 APPROXIMATE LOCATION FOR POLE MOUNTED TRANSFORMER PER SERVICE PROVIDER SPECIFICATIONS - COORDINATE WITH SERVICE PROVIDER PRIOR TO CONSTRUCTION
 - 37 PROVIDE DOWNSPOUT CONNECTOR AT BUILDING DOWN SPOUT - SEE ARCHITECTURAL PLANS - SEE DETAIL 21/ C4.0 - SEE GRADING PLAN FOR INVERTS
 - 38 4'-2"x7'-0"x2'-0" MONUMENT SIGN 12'-0" OVERALL HEIGHT - SEE SIGNAGE SHEETS FOR DETAILS - FINAL LOCATION AND DESIGN TO BE DETERMINED DURING SIGN PERMIT REVIEW
- ADDITIONAL SITE FEATURES**
- 50 TIE TO EXISTING - MATCH GRADE
 - 51 GRASS AREA - PROVIDE 6" TOPSOIL & SOD COMMON TO REGION ON ALL DISTURBED AREAS NOT TO BE PAVED
 - 52 SLOPE GRADE FROM BACK OF CURB DOWN TO MATCH THE EXISTING/PROPOSED GRADE - SEE GRADING PLAN

GENERAL AZ NOTES

1. PROOF ROLL BUILDING AND ALL PARKING AREAS. NOTIFY THE ARCHITECT OF ANY UNACCEPTABLE AREAS.
2. EDGE OF NEW PAVEMENT TO BE FLUSH WITH EXISTING PAVEMENT.
3. ALL SIDEWALK CURB AND GUTTER STREET PAVING, CURB CUTS, DRIVEWAY APPROACHES, HANDICAP RAMP, ETC. CONSTRUCTED OUTSIDE THE PROPERTY LINE IN THE RIGHT-OF-WAY SHALL CONFORM TO ALL MUNICIPAL AND/OR STATE SPECIFICATIONS AND REQUIREMENTS.
4. FOR AREAS OUTSIDE THE PROPERTY LINES, REPAIR AND/OR REPLACE ALL DAMAGE DONE TO EXISTING ELEMENTS (SIDEWALKS, PAVING, LANDSCAPING, ETC.) AS REQUIRED BY OWNER AND/OR GOVERNING AUTHORITY.
5. FOR PROPOSED UTILITY LOCATIONS, SEE THE UTILITY PLAN.

SITE DATA INFORMATION

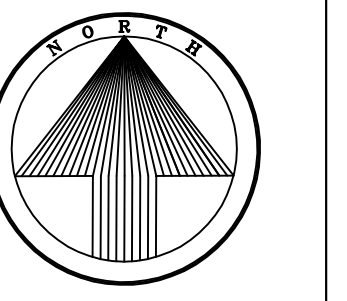
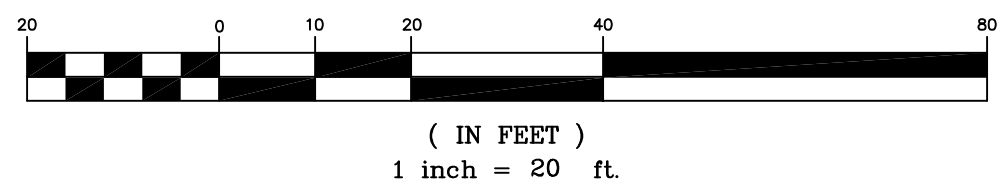
PARKING REQUIRED (1/225 SF) = 33
 EXISTING PARKING = 0
 PROPOSED PARKING = 38
 HC SPACES REQUIRED = 2
 HC SPACES PROVIDED = 2
 TOTAL PARKING = 38
 PARKING STALL SIZE = 10'X18'
 ADA PARKING STALL SIZE = 8'X18'
 LOT AREA = 50,702 SF / 1.164 AC
 NUMBER OF BUILDINGS = 1
 BUILDING AREA = 7,381 SF
 FLOOR AREA RATIO = 14.56%

ALL DISTURBED AREA SHALL BE STABILIZED WITH SOD, COMMON TO THE REGION - CONTRACTOR TO GUARANTEE AND MAINTAIN ALL NEW SODDED AREAS FOR 60 DAYS MINIMUM, AND ALL SODDED AREAS ARE STABILIZED.

PROVIDE (2) 4" PVC CONDUITS UNDER DRIVES TO ALL LANDSCAPED AREAS. PROVIDE Z COVER AND CAP OFF. MARK STUB OUT WITH FLAG/MARKER.

ALL NEW GRASS SODDED AREAS TO BE IRRIGATED - IRRIGATION PLAN TO BE DESIGN BUILD BY G.C. - COORDINATE WITH A SOUTH CAROLINA CERTIFIED IRRIGATION CONTRACTOR

GRAPHIC SCALE



NAD83 MS STATE PLANE

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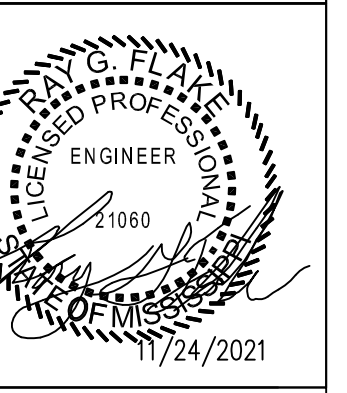
REVISIONS

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AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 SITE PLAN

Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969

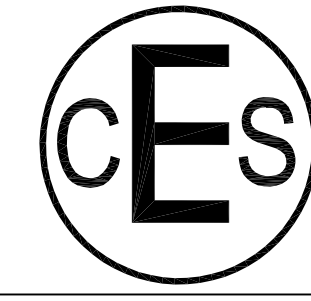
For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com



11/22/2021

7N2

C1.0



Civil Engineering Services
 7705 Spicer Farm Lane
 Fairview, Tennessee 37062
 phone: (615) 533-0401
 fax: (615) 523-8865
 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning

BENCHMARK #1
 1/2" REBAR
 N: 1,097,408.07
 E: 2,365,109.95
 ELEV=277.93

BENCHMARK #2
 1/2" REBAR
 N: 1,097,409.61
 E: 2,365,269.98
 ELEV=272.84

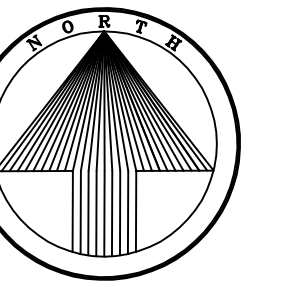
FLOOD NOTE:
 FLOOD ZONE "AE"
 PER FEMA MAP NO. 28089-C0415-F
 EFFECTIVE DATE: MARCH 17, 2010

SMH#4
 Rim: 281.19'
 Invert: 274.75'
 8" PVC: West
 8" PVC: Southwest
 8" PVC: East

SMH#5
 Rim: 276.68'
 Invert: 259.66'
 8" PVC: West
 8" PVC: East

ZONED C-2

GAS



NAD83 MS STATE PLANE

GENERAL GRADING LEGEND

- TC TOP OF CURB ELEVATION
- P BOTTOM OF CURB ELEVATION
- FG FINISHED GRADE ELEVATION
- SW SIDEWALK ELEVATION
- MG MATCH EXISTING GRADE ELEVATION
- TB TOP OF BANK GRADE ELEVATION
- RIM TOP OF RIM ELEVATION AT STRUCTURE
- HP HIGH POINT GRADE ELEVATION
- 1.00% PROPOSED GRADE SLOPE
- LIMIT OF DISTURBANCE
- PROPOSED SWALE

GRADING KEYNOTES

- ① LIMITS OF LAND DISTURBANCE
- ② PROVIDE 2.00% MAXIMUM CROSS SLOPE
- ③ PROVIDE SWALE - SEE SLOPE AND ELEVATIONS THIS SHEET
- ④ MATCH EXISTING GRADES

GRADING INFORMATION

LIMITS OF DISTURBANCE = 49,166 SF / 1.13 AC

GENERAL GRADING NOTES

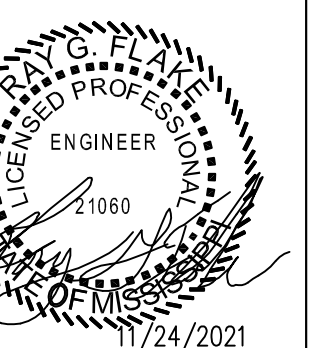
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND ELECTRICAL WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN THE CLOSE PROXIMITY OF THE ABOVE-NOTED WIRES, THE ELECTRIC COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD AND UNDERGROUND WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION.
- THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT DURING CONSTRUCTION UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATIONS OF THOSE SHOWN MAY BE DIFFERENT FROM LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS NECESSARY TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITY LINES.
- AT LOCATIONS WHERE UTILITY LINES OR SERVICES ARE UNDERNEATH PROPOSED PAVEMENT, THE TRENCH SHALL BE BACKFILLED TO SUBGRADE WITH CRUSHED STONE.
- DEVELOPER IS TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE CONTRACTOR, THE DEVELOPER'S ENGINEER, THE COUNTIES REPRESENTATIVE AND THE COUNTIES ENGINEER.
- DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
- REMOVE ALL FOUNDATIONS, UNDERGROUND TANKS, PAVING, BASE ETC. IF REMAINING, BEFORE BEGINNING CONSTRUCTION.
- FILL ALL PLANTERS/ISLANDS TO TOP OF CONCRETE CURB WITH TOPSOIL. TOPSOIL TO BE CLEAN AND FREE OF DEBRIS, ETC.
- THESE PLANS, PREPARED BY CIVIL ENGINEERING SERVICES, DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF CIVIL ENGINEERING SERVICES REGISTERED PROFESSIONAL ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
- IN THE CASE OF CONFLICT BETWEEN THIS DRAWING AND ANY OTHER DRAWING AND/OR THE SPECIFICATIONS, THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR CLARIFICATION.

REVISIONS

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AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 GRADING PLAN

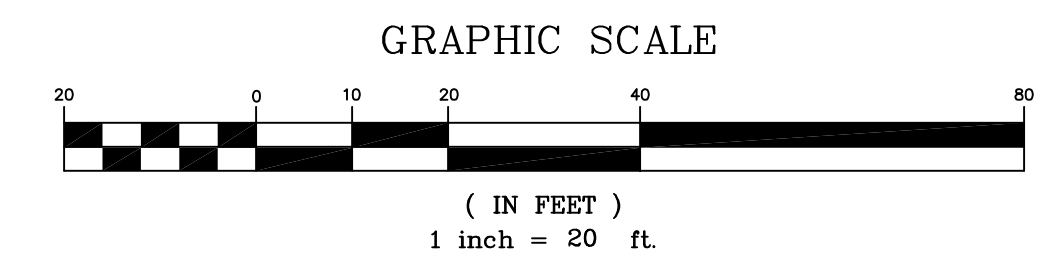
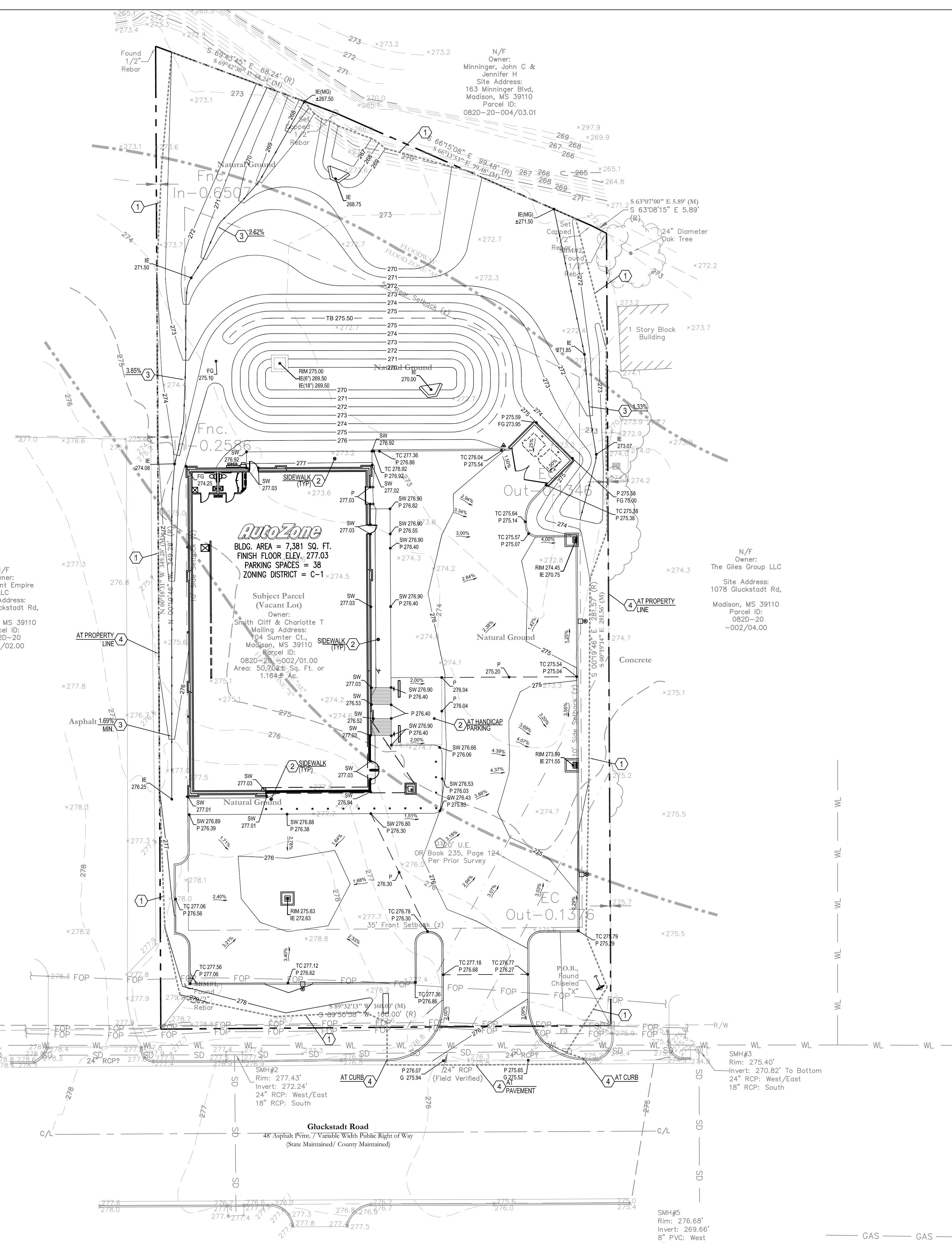
Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com



11/22/2021

7N2

C2.0



CES Civil Engineering Services
 7705 Spicer Farm Lane
 Fairview, Tennessee 37062
 phone: (615) 533-0401
 fax: (615) 523-8865
 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning

BENCHMARK #1
 1/2" REBAR
 N: 1,097,408.07
 E: 2,365,109.95
 ELEV = 277.93

BENCHMARK #2
 1/2" REBAR
 N: 1,097,409.61
 E: 2,365,269.98
 ELEV = 272.84

FLOOD NOTE:
 FLOOD ZONE "AE"
 PER FEMA MAP NO. 28089-C0415-F
 EFFECTIVE DATE: MARCH 17, 2010

SMH#4
 Rim: 281.19'
 Invert: 274.75'
 8" PVC: West
 8" PVC: Southwest
 8" PVC: East

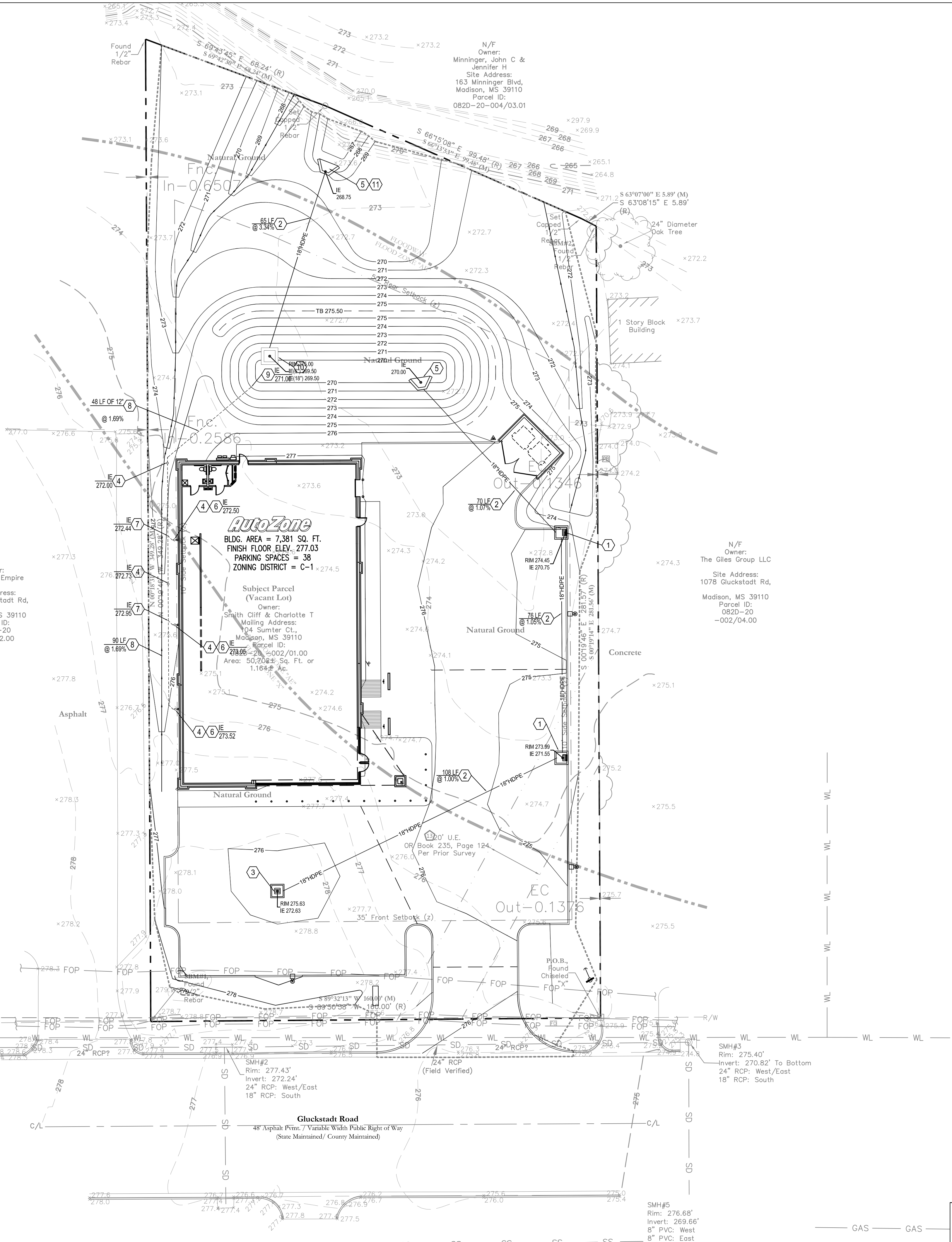
SMH#5
 Rim: 276.68'
 Invert: 269.66'
 8" PVC: West
 8" PVC: East

SMH#3
 Rim: 275.40'
 Invert: 270.82' To Bottom
 24" RCP: West/East
 18" RCP: South

SMH#2
 Rim: 277.43'
 Invert: 272.24'
 24" RCP: West/East
 18" RCP: South

SMH#1
 Rim: 280.60'
 Invert: 275.30'
 24" RCP: West/East
 18" RCP: South

GLUCKSTADT ROAD
 48' Asphalt Pvm. 7' Variable Width Public Right of Way
 (See Maintained/ County Maintained)



GENERAL GRADING LEGEND

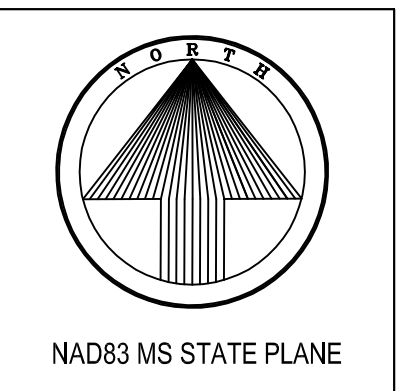
- IE TOP OF BANK GRADE ELEVATION
- RIM INVERT ELEVATION AT STRUCTURE
- CURB INLET
- HEADWALL
- AREA INLET

GRADING KEYNOTES

- 1 PROVIDE CURB INLET - SEE THIS SHEET FOR ELEVATIONS - SEE DETAIL SHEET (C4.1)
- 2 PROVIDE STORM SEWER PIPE - SEE THIS SHEET FOR ELEVATIONS - SEE DETAIL SHEET (C4.1)
- 3 PROVIDE AREA INLET - SEE THIS SHEET FOR ELEVATIONS - SEE DETAIL SHEET (C4.1)
- 4 PROVIDE STORM SEWER CLEANOUT - SEE INVERT ELEVATION THIS SHEET - SEE DETAIL SHEET (C4.1)
- 5 PROVIDE PRECAST CONCRETE HEADWALL - SEE ELEVATIONS THIS SHEET - SEE DETAIL SHEET (C4.1)
- 6 PROVIDE DOWNSPOUT COLLECTOR AT ROOF DRAIN - SEE ELEVATIONS THIS SHEET - SEE DETAIL SHEET (C4.0)
- 7 PROVIDE 8"X8" WATER TIGHT HDPE WYE PER MANUFACTURER SPECS. - SEE INVERT ELEVATION THIS SHEET
- 8 PROVIDE WATER TIGHT POLYETHYLENE PIPE FOR ROOF DRAINS - SEE THIS SHEET FOR SIZE, TYPE AND ELEVATIONS
- 9 DAYLIGHT PIPE FROM ROOF DRAIN - SEE THIS SHEET FOR ELEVATION
- 10 PROVIDE DETENTION OUTLET STRUCTURE - SEE DETAIL SHEET (C4.1)
- 11 PROVIDE RED VALVE TIDEFLEX TF-1 CHECK VALVE, OR APPROVED EQUAL

GENERAL GRADING NOTES

SEE SHEET C2.0

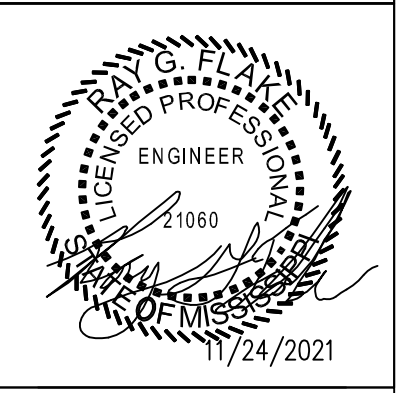


NAD83 MS STATE PLANE

| REVISIONS | | |
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| NO. | DESCRIPTION | DATE |
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AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
DRAINAGE PLAN

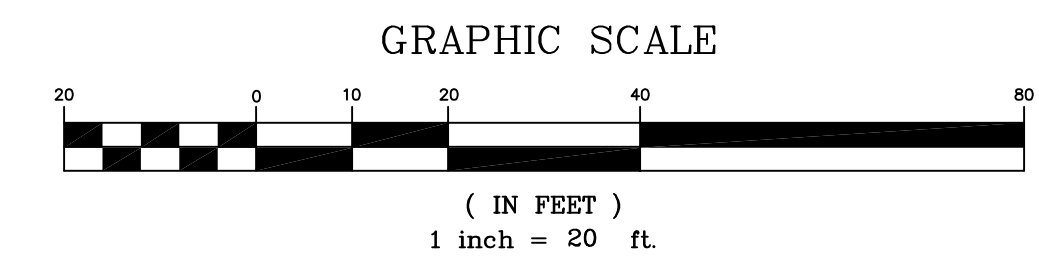
Owner / Developer: AUTOZONE STORES LLC
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 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
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11/22/2021

7N2

C2.1



CES **Civil Engineering Services**
 7705 Spicer Farm Lane phone: (615) 533-0401
 Fairview, Tennessee fax: (615) 523-8865
 37062 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning

| | |
|--|--|
| BENCHMARK #1 1/2" REBAR N: 1,097,408.07 E: 2,365,109.95 ELEV= 277.93 | BENCHMARK #2 1/2" REBAR N: 1,097,409.61 E: 2,365,269.98 ELEV= 272.84 |
|--|--|

FLOOD NOTE:
 FLOOD ZONE "AE"
 PER FEMA MAP NO. 28089-C0415-F
 EFFECTIVE DATE: MARCH 17, 2010

SMH#4
 Rim: 281.19'
 Invert: 274.75'
 8" PVC: West
 8" PVC: Southwest
 8" PVC: East

SMH#2
 Rim: 277.43'
 Invert: 272.24'
 24" RCP: West/East
 18" RCP: South

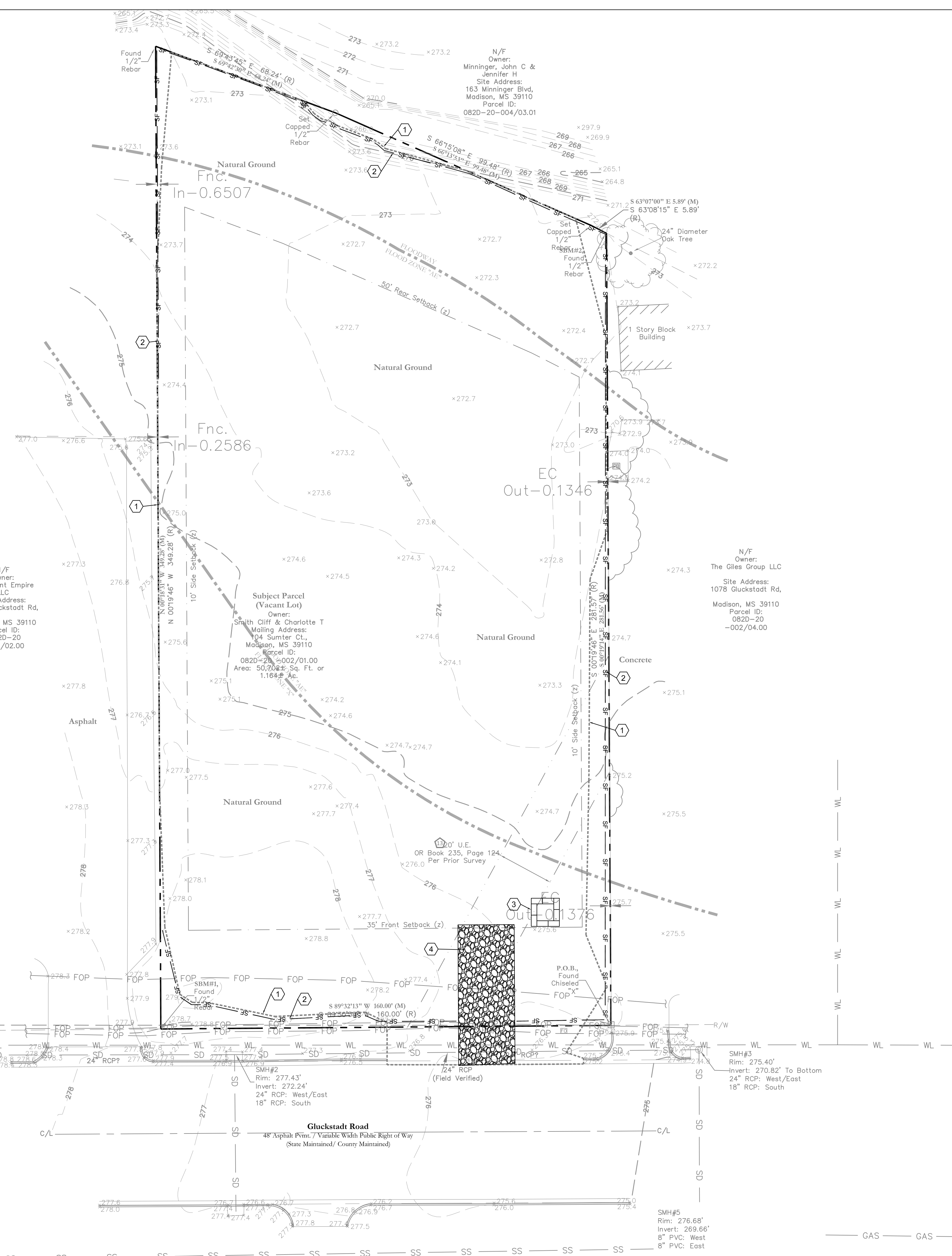
SMH#5
 Rim: 276.68'
 Invert: 269.66'
 8" PVC: West
 8" PVC: East

GAS GAS

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ESTIMATED TIMELINE FOR CONSTRUCTION ACTIVITIES

| ESTIMATED START DATE TBD | MONTH 1 | MONTH 2 | MONTH 3 | MONTH 4 | MONTH 5 | MONTH 6 |
|---------------------------|---------|---------|---------|---------|---------|---------|
| MOBILIZATION | | | | | | |
| INITIAL EROSION CONTROL | | | | | | |
| CLEARING AND GRADING | | | | | | |
| TEMP GRASS STABILIZATION | | | | | | |
| STORM SEWER AND WQ CONST. | | | | | | |
| UTILITIES | | | | | | |
| GENERAL CONSTRUCTION | | | | | | |
| GRASS SOD & LANDSCAPING | | | | | | |
| SITE CLEANING | | | | | | |
| MAINTAIN EROSION | | | | | | |



PROPOSED LEGEND

- INSTALL INLET PROTECTION (SEE DETAIL SHEET)
- INSTALL SILT FENCE (SEE DETAIL SHEET)
- TEMPORARY CONSTRUCTION EXIT
- CONCRETE WASHOUT AREA
- LIMITS OF DISTURBANCE

KEYNOTES

- LIMITS OF LAND DISTURBANCE
- INSTALL SILT FENCE AT LIMITS OF DISTURBANCE - MAINTAIN THROUGHOUT CONSTRUCTION - FIELD ADJUST AS REQUIRED - (SEE DETAIL SHEET)
- CONCRETE WASHOUT PER EPA STANDARDS - CONTRACTOR TO FIELD ADJUST LOCATION ON SITE AS NEEDED
- TEMPORARY CONSTRUCTION ENTRANCE

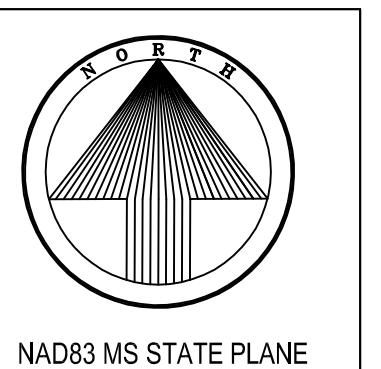
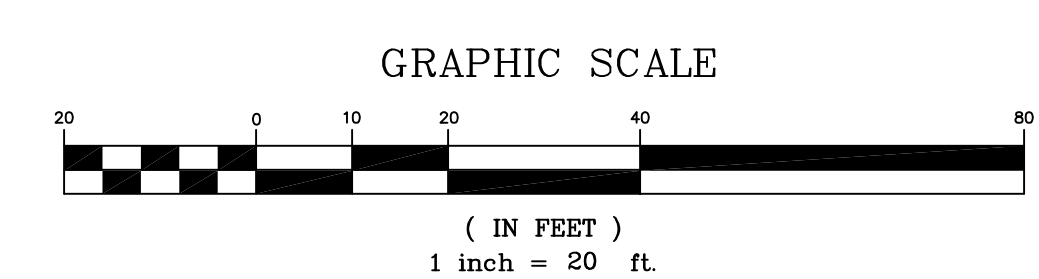
GRADING INFORMATION

LIMITS OF DISTURBANCE = 49,166 SF / 1.13 AC

EROSION CONTROL NOTES

- SEDIMENT BARRIERS SHALL BE PLACED AS INDICATED ON THE GRADING WORK. PLAN PRIOR TO ANY SITE CONSTRUCTION
- DUST CONTROL ON SITE SHALL BE KEPT WITHIN ACCEPTABLE LIMITS BY SPRINKLING WITH WATER OR OTHER ACCEPTABLE METHODS.
- MAXIMUM SLOPE CUTS SHALL NOT EXCEED 3:1 UNLESS APPROVED BY THE OWNERS REPRESENTATIVE. CUT AND FILL SLOPES 3:1 AND GREATER, SHALL BE STABILIZED BY EROSION CONTROL BLANKETS (ECB) AND SOD COMMON TO THE REGION.
- ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTORS RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- THE LOCATIONS OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
- ANY FAILURE OF ANY EROSION CONTROL DEVICE TO FUNCTION AS INTENDED FOR ANY REASON SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED PERIODS OF CONTINUOUS RAINFALL.
- EROSION CONTROL DEVICES SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE OF THE SITE IS NOT IMPEDED.
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD OF 14 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY SEEDING.
- CLEAN SILT BARRIERS WHEN THEY ARE APPROXIMATELY 33% OBSTRUCTED BY SEDIMENT OR AS DIRECTED BY THE OWNERS REPRESENTATIVE. SILT BARRIERS SHALL BE REPLACED AS EFFECTIVENESS IS SIGNIFICANTLY REDUCED.
- TOPSOIL SHALL BE RE-SPREAD A MINIMUM DEPTH OF 6" OVER ALL DISTURBED AREAS. DISTURBED AREAS SHALL HAVE PERMANENT STABILIZATION APPLIED (SOD COMMON TO THE LOCAL AREA) PERMANENT.
- AREAS THAT HAVE BEEN STRIPPED, CUT SLOPES, FILL SLOPES OR AREAS OTHER WISE DISTURBED SHALL HAVE PERMANENT STABILIZATION APPLIED WITH SOD COMMON TO THE LOCAL AREA. PERMANENT STABILIZATION SHALL BE IN PLACE PRIOR TO ACCEPTANCE OF FINAL GRADING.
- REMOVE SEDIMENT FROM ALL DRAINAGE STRUCTURES PRIOR TO ACCEPTANCE BY THE OWNER. STABILIZATION SHALL BE PLACED PRIOR TO ACCEPTANCE OF FINAL GRADING.
- STOCK PILING OF SOILS ON SITE IF REQUIRED, SHALL BE LOCATED BY CONTRACTOR AND BE PROTECTED BY PERIMETER SILT FENCE. IF LEFT EXPOSED FOR A PERIOD OF 13 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY SEEDING.

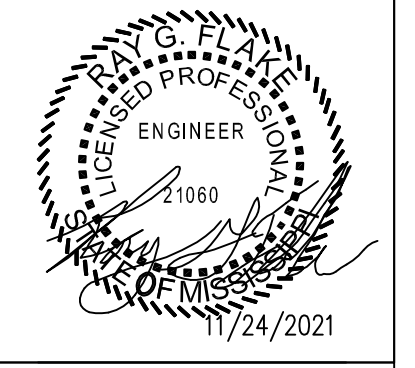
ALL DISTURBED AREA SHALL BE STABILIZED WITH SOD, COMMON TO THE REGION - SEE LANDSCAPE PLAN



| REVISIONS | 4 | 5 | 6 |
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AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 INITIAL EROSION PLAN

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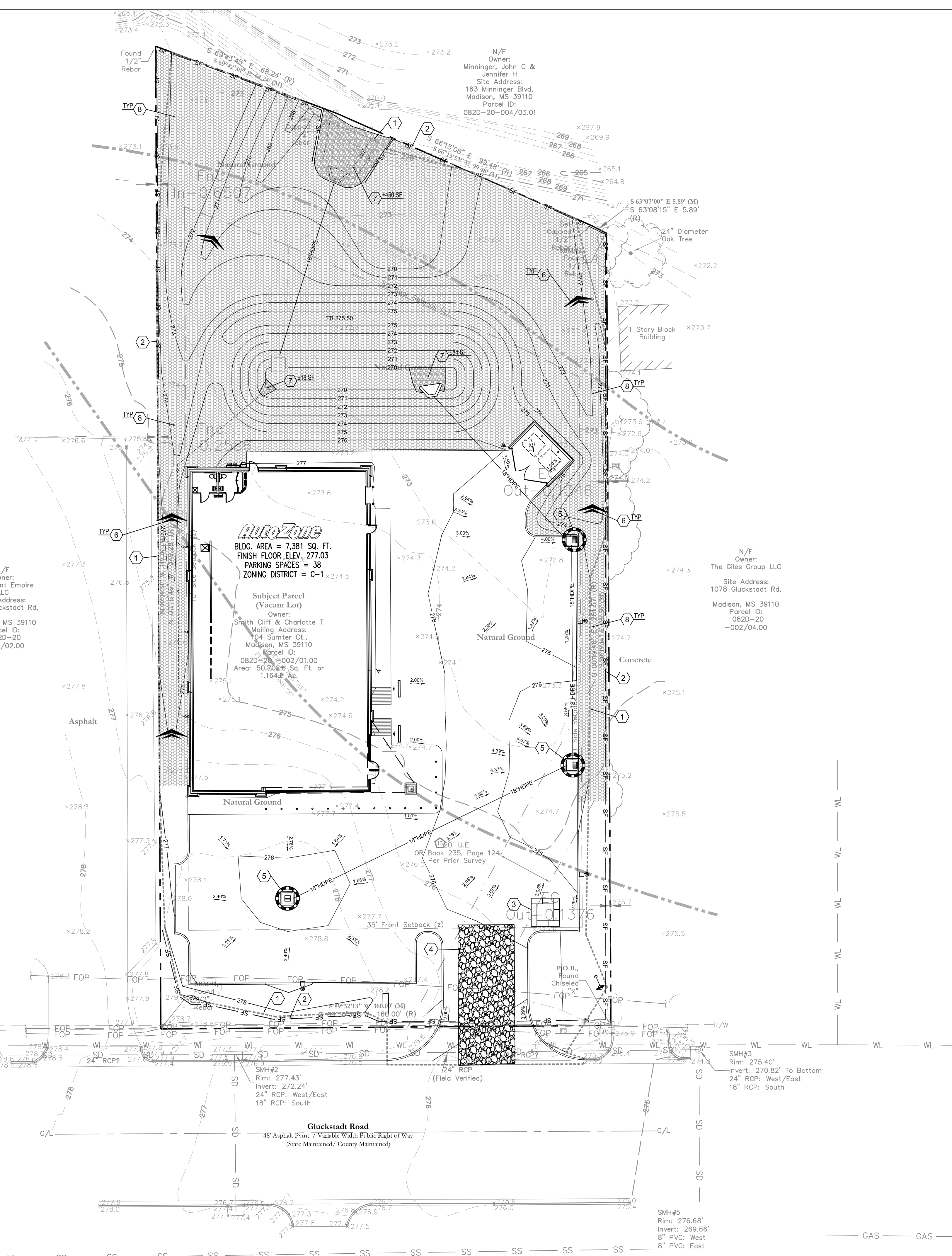
11/22/2021
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 C2.2

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 Engineering, Environmental, Land Planning

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| BENCHMARK #1 1/2" REBAR N: 1,097,408.07 E: 2,365,109.95 ELEV=277.93 | BENCHMARK #2 1/2" REBAR N: 1,097,409.61 E: 2,365,269.98 ELEV=272.84 | FLOOD NOTE: FLOOD ZONE "AE" PER FEMA MAP NO. 28089-C0415-F EFFECTIVE DATE: MARCH 17, 2010 |
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ESTIMATED TIMELINE FOR CONSTRUCTION ACTIVITIES

| ESTIMATED START DATE TBD | MONTH 1 | MONTH 2 | MONTH 3 | MONTH 4 | MONTH 5 | MONTH 6 |
|--------------------------|---------|---------|---------|---------|---------|---------|
| MOBILIZATION | | | | | | |
| INITIAL EROSION CONTROL | | | | | | |
| CLEARING AND GRADING | | | | | | |
| TEMP GRASS STABILIZATION | | | | | | |
| STORM SEWER CONST. | | | | | | |
| UTILITIES | | | | | | |
| GENERAL CONSTRUCTION | | | | | | |
| GRASS SOD & LANDSCAPING | | | | | | |
| SITE CLEANING | | | | | | |
| MAINTAIN EROSION | | | | | | |



PROPOSED LEGEND

- INSTALL INLET PROTECTION (SEE DETAIL SHEET)
- INSTALL SILT FENCE (SEE DETAIL SHEET)
- TEMPORARY CONSTRUCTION EXIT
- CONCRETE WASHOUT AREA
- LIMITS OF DISTURBANCE
- RIP-RAP
- INSTALL CHECK DAM
- EROSION CONTROL BLANKET

KEYNOTES

- 1 LIMITS OF LAND DISTURBANCE
- 2 INSTALL SILT FENCE AT LIMITS OF DISTURBANCE - MAINTAIN THROUGHOUT CONSTRUCTION - FIELD ADJUST AS REQUIRED - (SEE DETAIL SHEET)
- 3 CONCRETE WASHOUT PER EPA STANDARDS - CONTRACTOR TO FIELD ADJUST LOCATION ON SITE AS NEEDED
- 4 TEMPORARY CONSTRUCTION ENTRANCE
- 5 INSTALL INLET PROTECTION OR APPROVED EQUAL - (SEE DETAIL SHEET)
- 6 INSTALL CHECK DAM OR APPROVED EQUAL (SEE DETAIL SHEET)
- 7 RIP-RAP PROTECTION OR APPROVED EQUAL (SEE DETAIL SHEET)
- 8 INSTALL TEMPORARY / PERMANENT SOD STABILIZATION (SEE DETAIL SHEET)

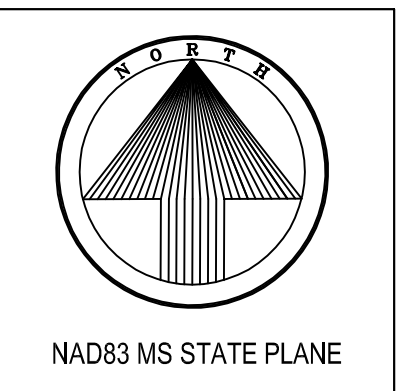
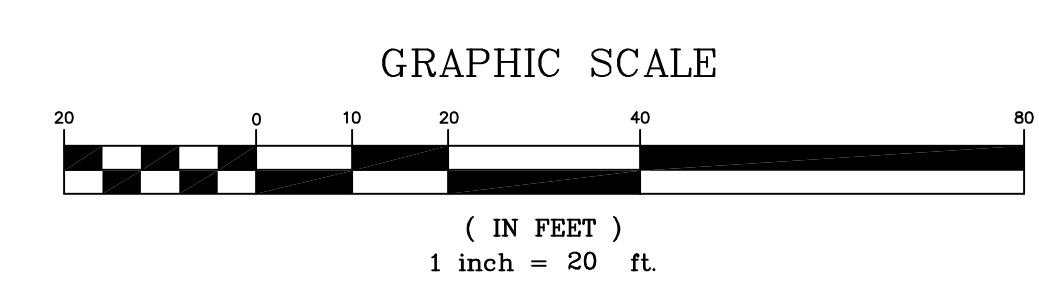
GRADING INFORMATION

LIMITS OF DISTURBANCE = 49,166 SF / 1.13 AC

EROSION CONTROL NOTES

1. SEDIMENT BARRIERS SHALL BE PLACED AS INDICATED ON THE GRADING WORK PLAN PRIOR TO ANY SITE CONSTRUCTION.
2. DUST CONTROL ON SITE SHALL BE KEPT WITHIN ACCEPTABLE LIMITS BY SPRINKLING WITH WATER OR OTHER ACCEPTABLE METHODS.
3. MAXIMUM SLOPE CUTS SHALL NOT EXCEED 3:1 UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE. CUT AND FILL SLOPES 3:1 AND GREATER, SHALL BE STABILIZED BY EROSION CONTROL BLANKETS (ECB) AND SOD COMMON TO THE REGION.
4. ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
5. THE LOCATIONS OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
6. ANY FAILURE OF ANY EROSION CONTROL DEVICE TO FUNCTION AS INTENDED FOR ANY REASON SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
7. EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED PERIODS OF CONTINUOUS RAINFALL.
8. EROSION CONTROL DEVICES SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A FUNCTIONAL EROSION CONTROL SYSTEM.
9. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE OF THE SITE IS NOT IMPEDED.
10. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD OF 14 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY SEEDING.
11. CLEAN SILT BARRIERS WHEN THEY ARE APPROXIMATELY 33% OBSTRUCTED BY SEDIMENT OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. SILT BARRIERS SHALL BE REPLACED AS EFFECTIVENESS IS SIGNIFICANTLY REDUCED.
12. TOPSOIL SHALL BE RE-SPREAD A MINIMUM DEPTH OF 6" OVER ALL DISTURBED AREAS. DISTURBED AREAS SHALL HAVE PERMANENT STABILIZATION APPLIED (SOD COMMON TO THE LOCAL AREA) PERMANENT.
13. AREAS THAT HAVE BEEN STRIPPED, CUT SLOPES, FILL SLOPES OR AREAS OTHERWISE DISTURBED SHALL HAVE PERMANENT STABILIZATION APPLIED WITH SOD COMMON TO THE LOCAL AREA. PERMANENT STABILIZATION SHALL BE IN PLACE PRIOR TO ACCEPTANCE OF FINAL GRADING.
14. REMOVE SEDIMENT FROM ALL DRAINAGE STRUCTURES PRIOR TO ACCEPTANCE BY THE OWNER. STABILIZATION SHALL BE PLACED PRIOR TO ACCEPTANCE OF FINAL GRADING.
15. STOCK PILING OF SOILS ON SITE IF REQUIRED, SHALL BE LOCATED BY CONTRACTOR AND BE PROTECTED BY PERIMETER SILT FENCE. IF LEFT EXPOSED FOR A PERIOD OF 15 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY SEEDING.

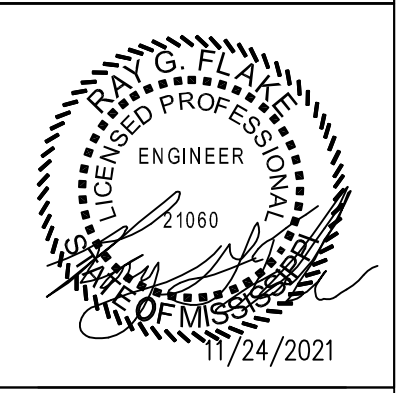
ALL DISTURBED AREA SHALL BE STABILIZED WITH SOD COMMON TO THE REGION - SEE LANDSCAPE PLAN



| REVISIONS | 4 | 5 | 6 |
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AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
FINAL EROSION PLAN

Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com



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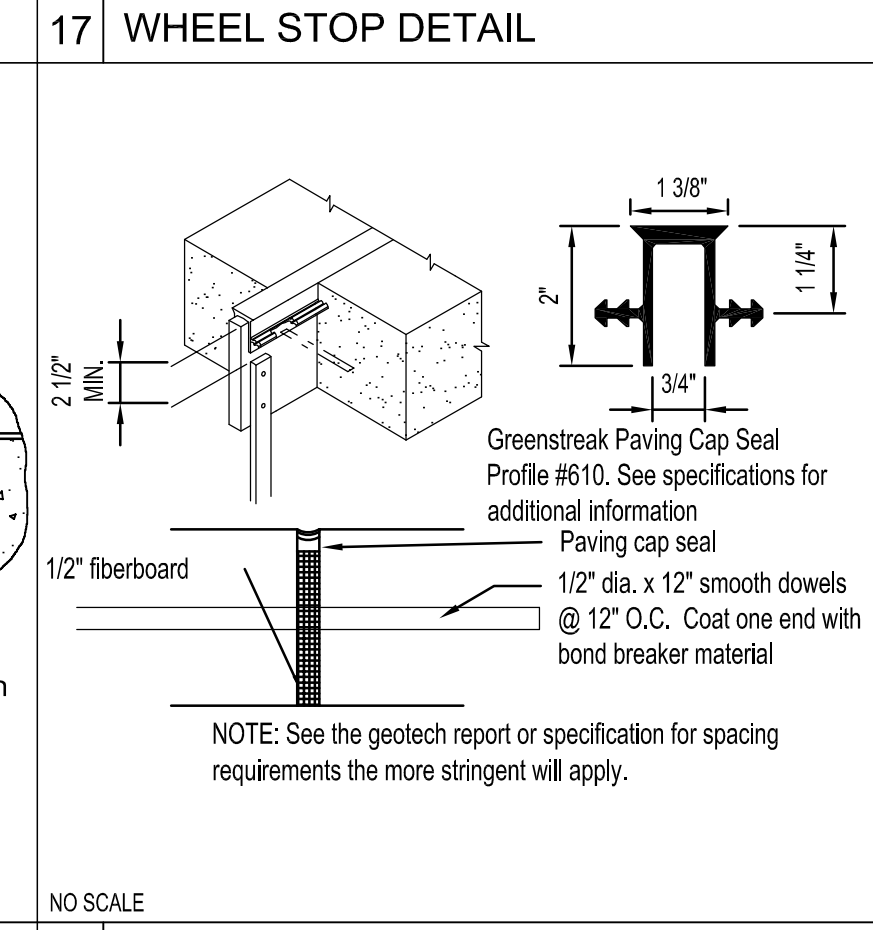
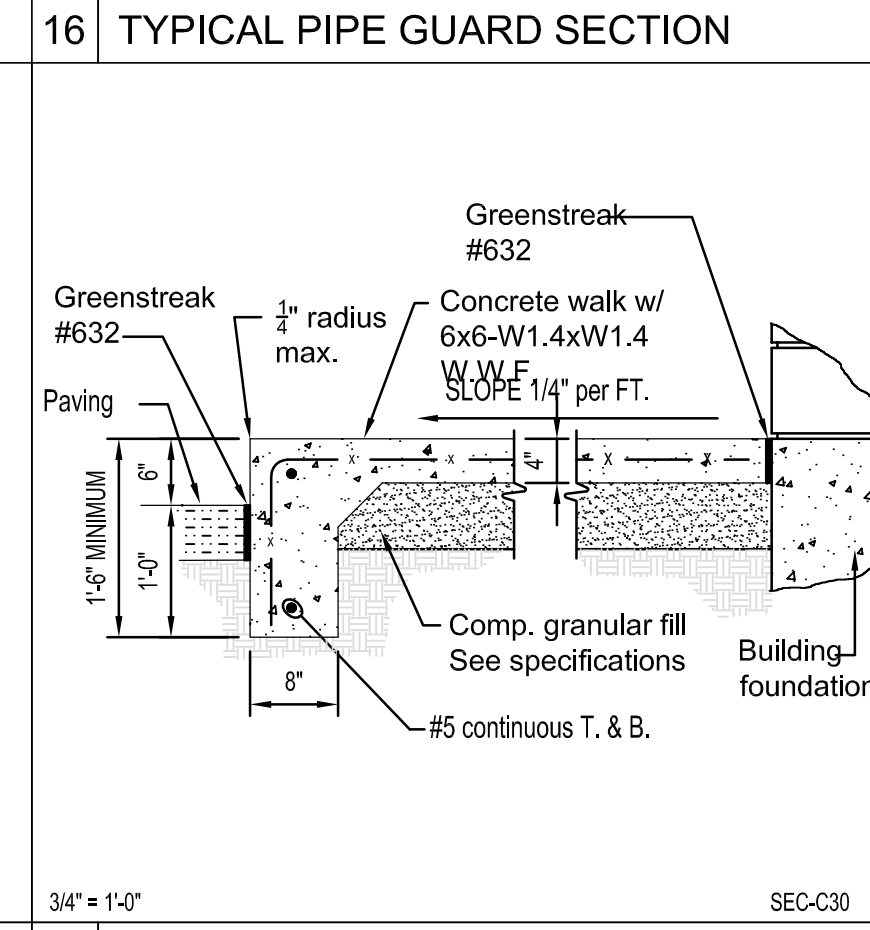
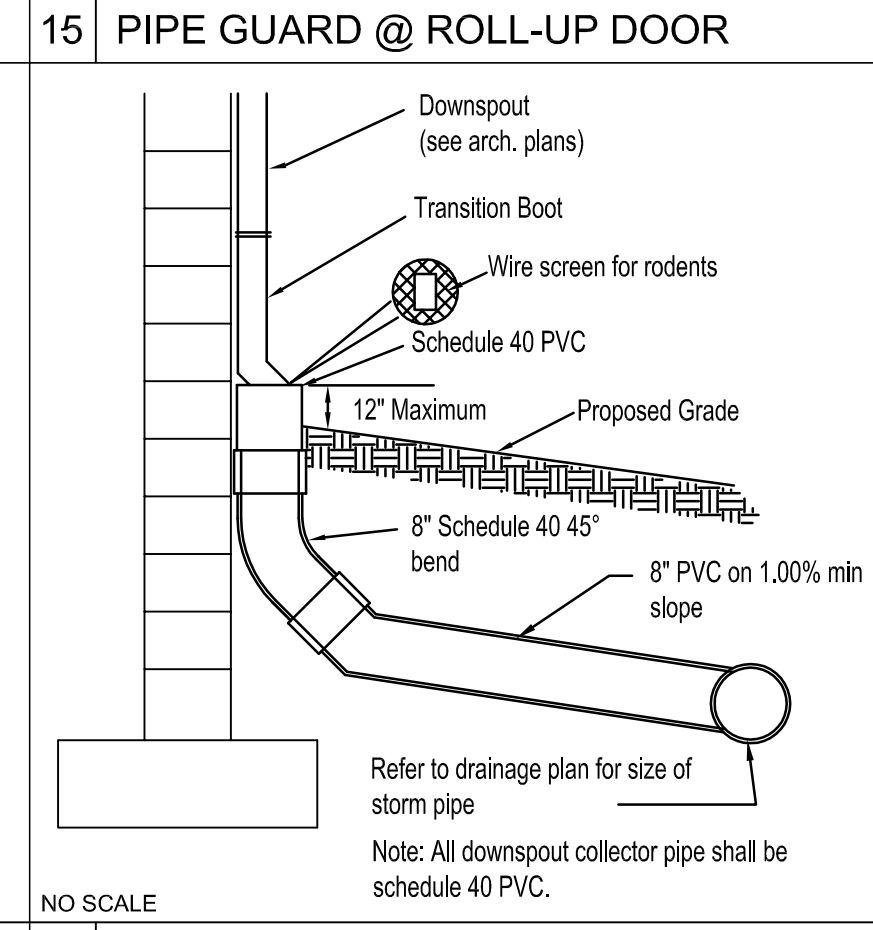
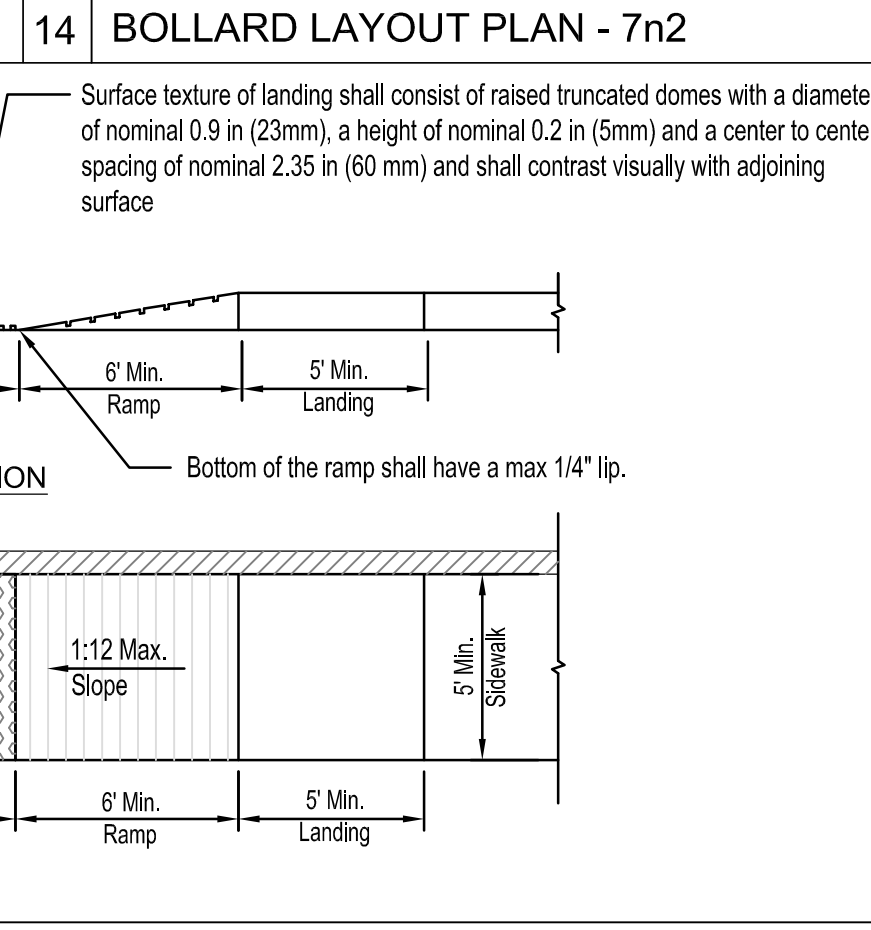
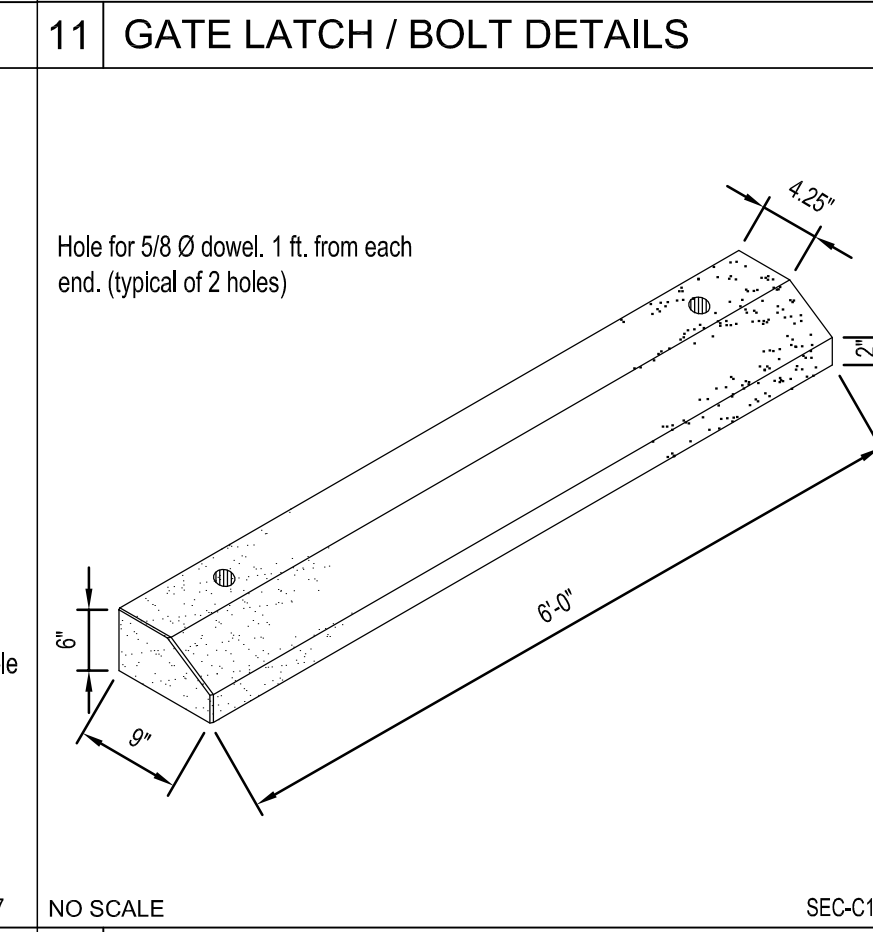
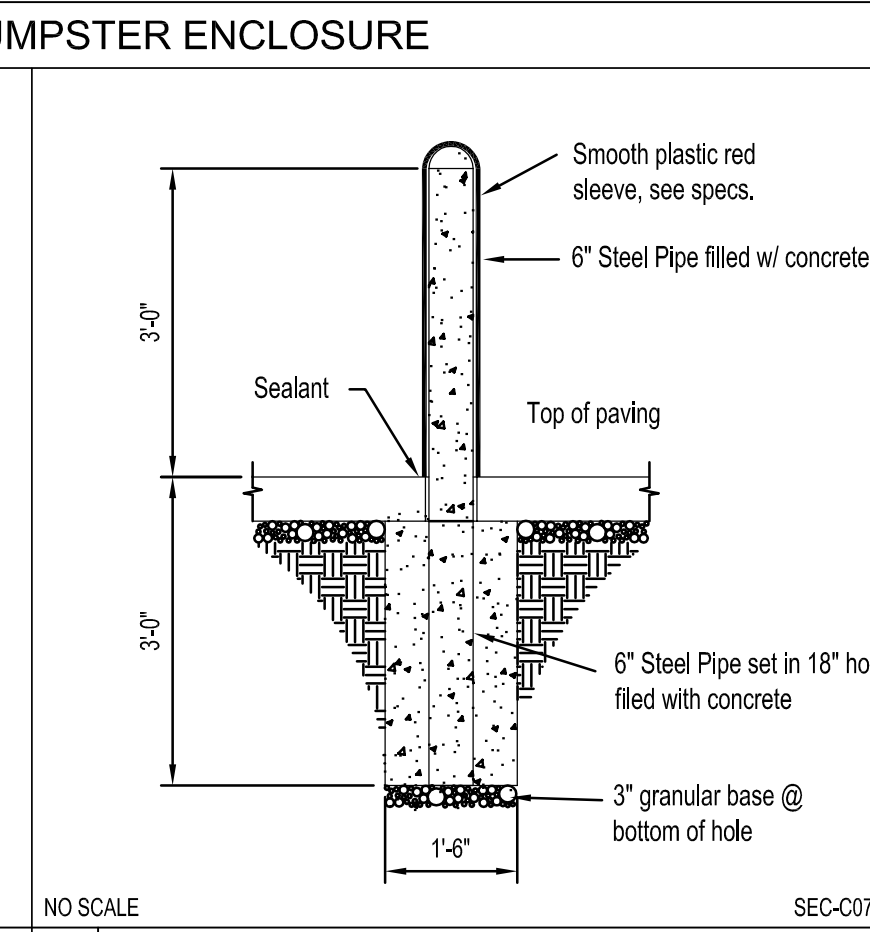
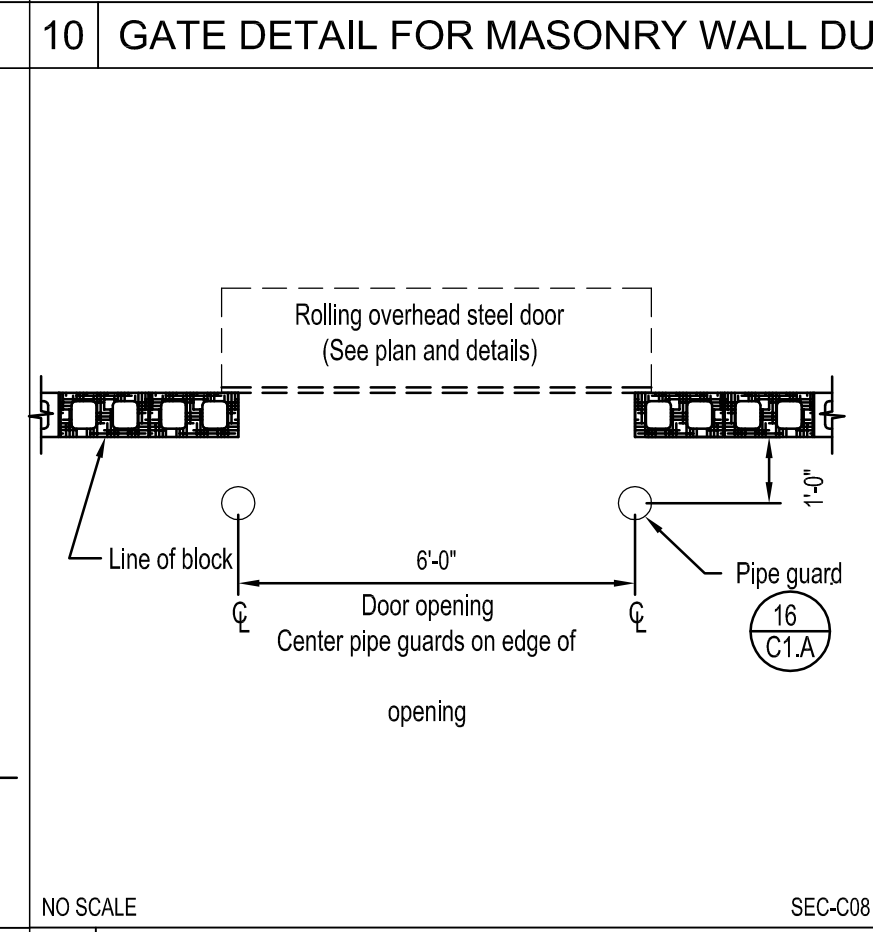
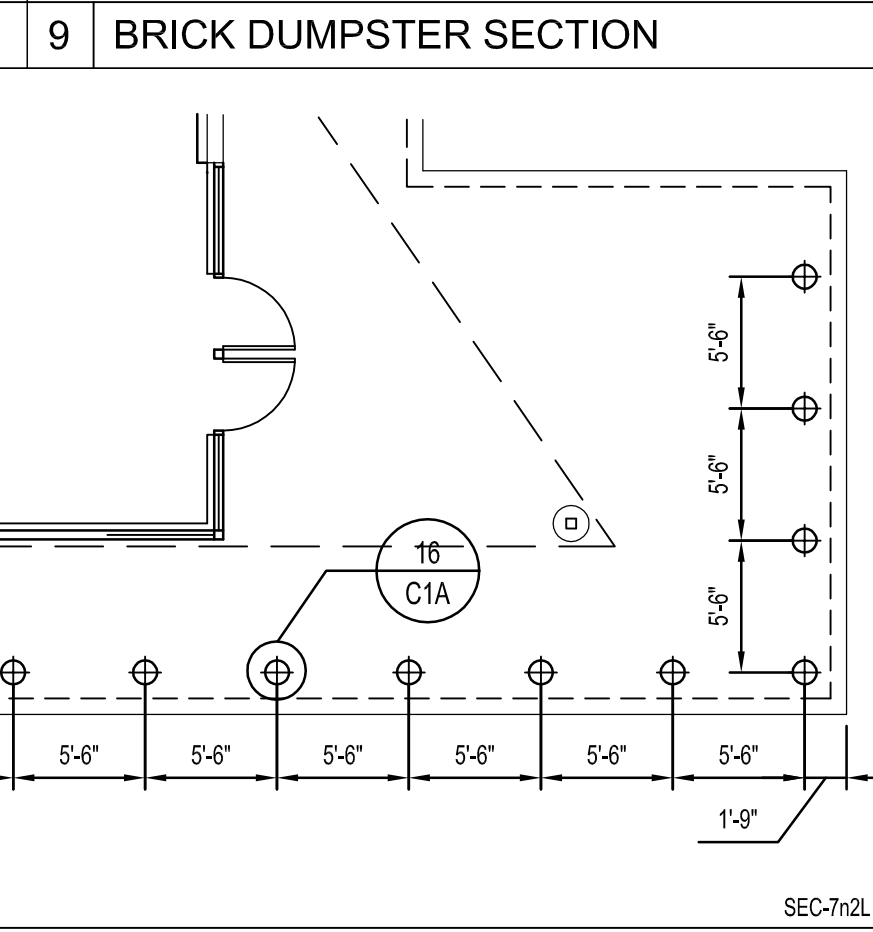
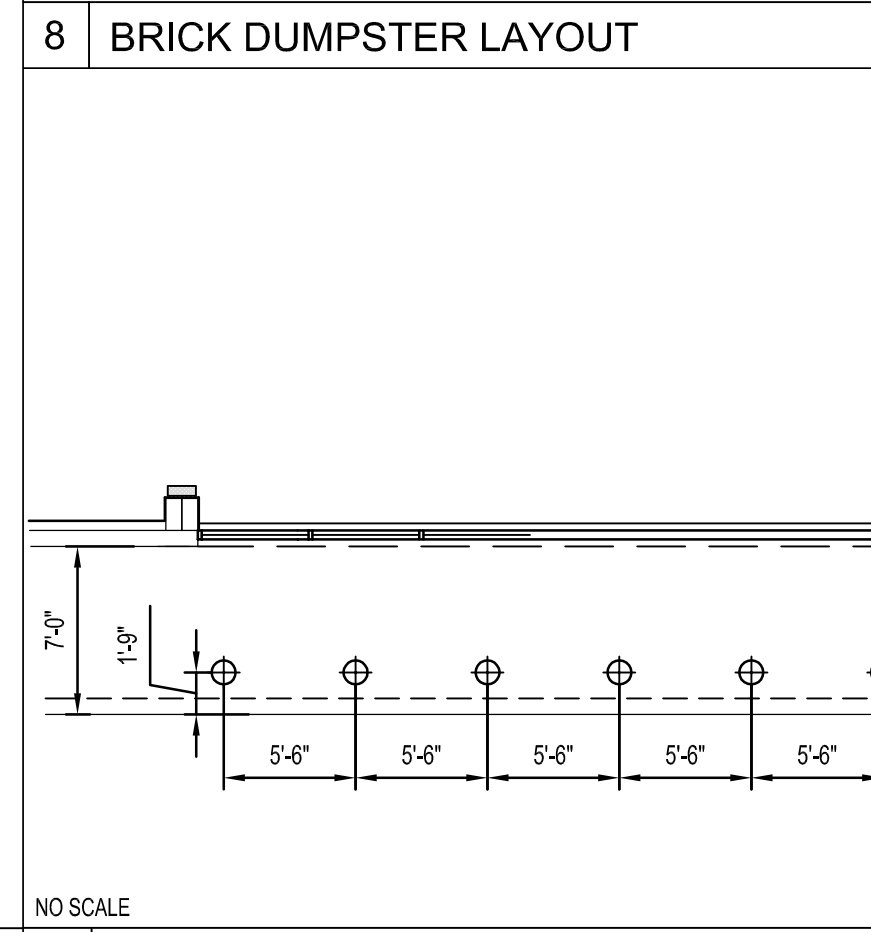
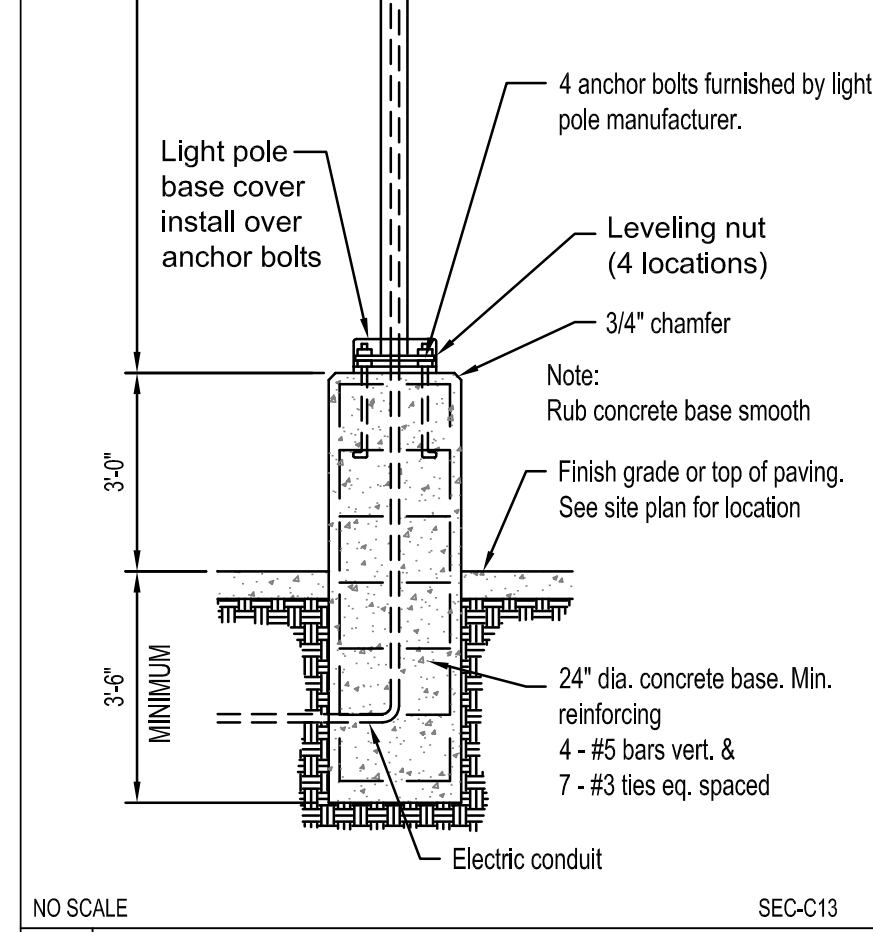
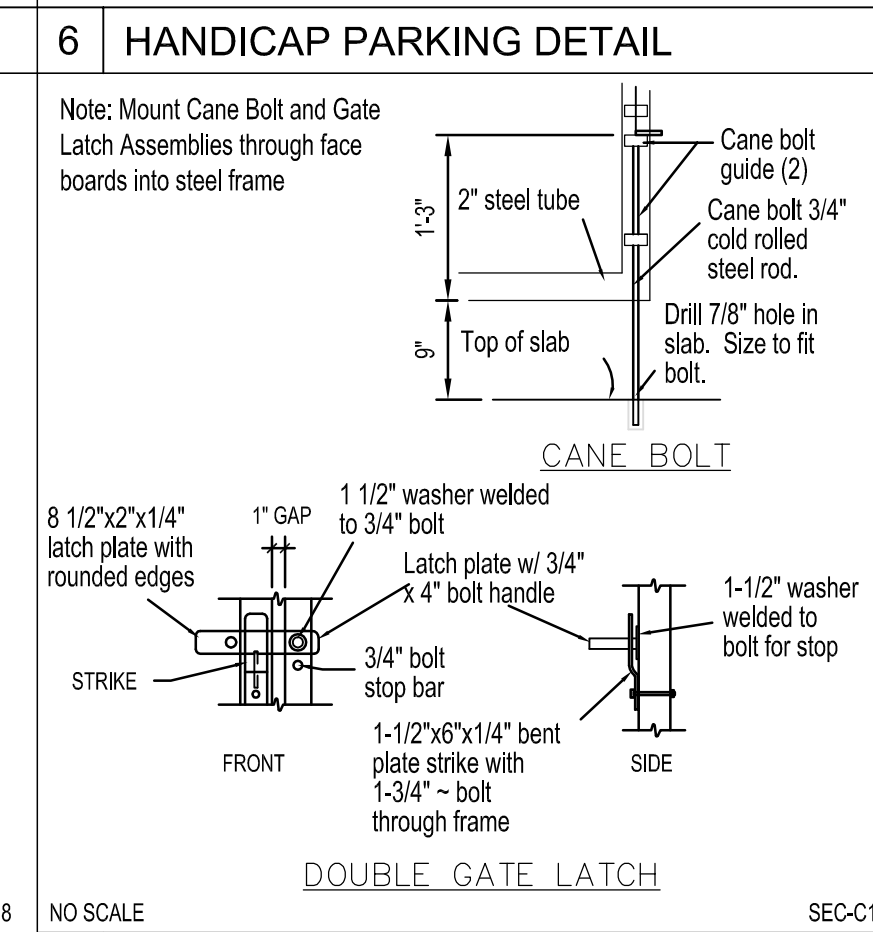
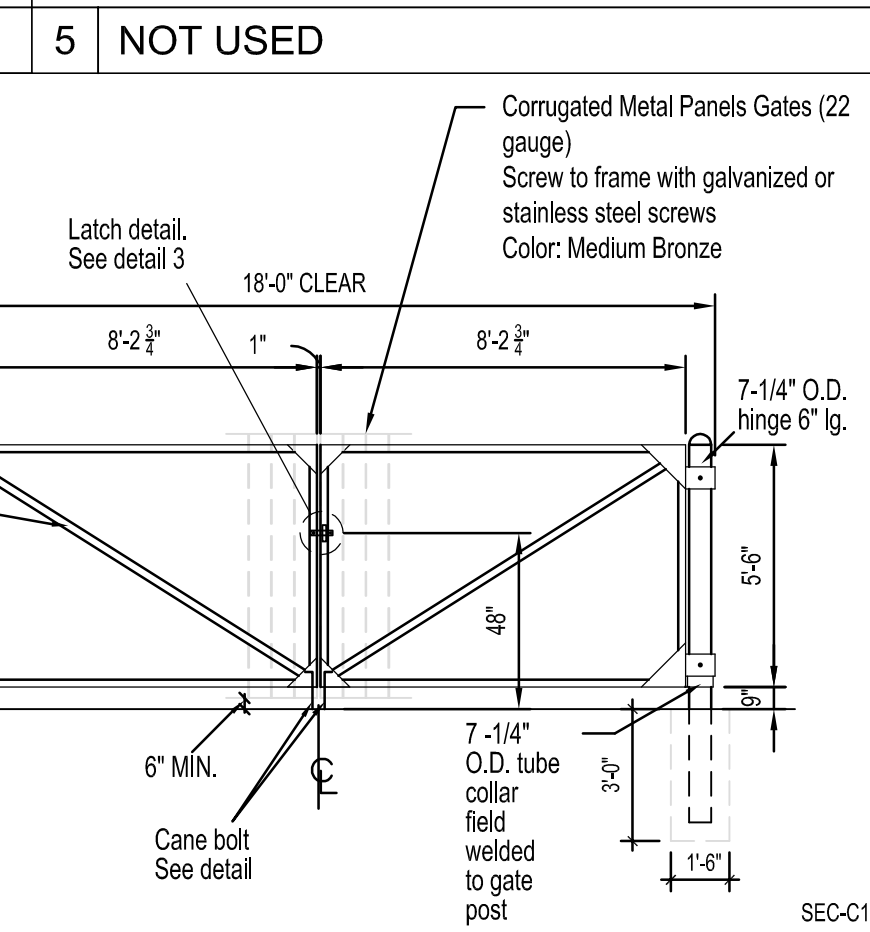
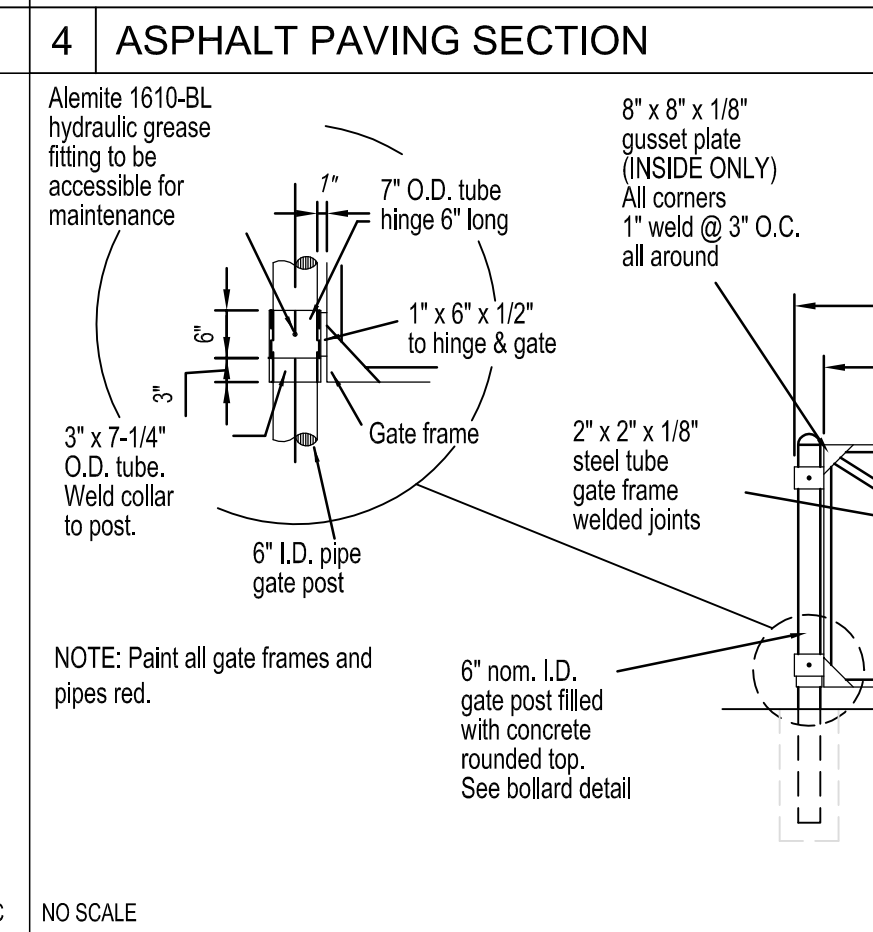
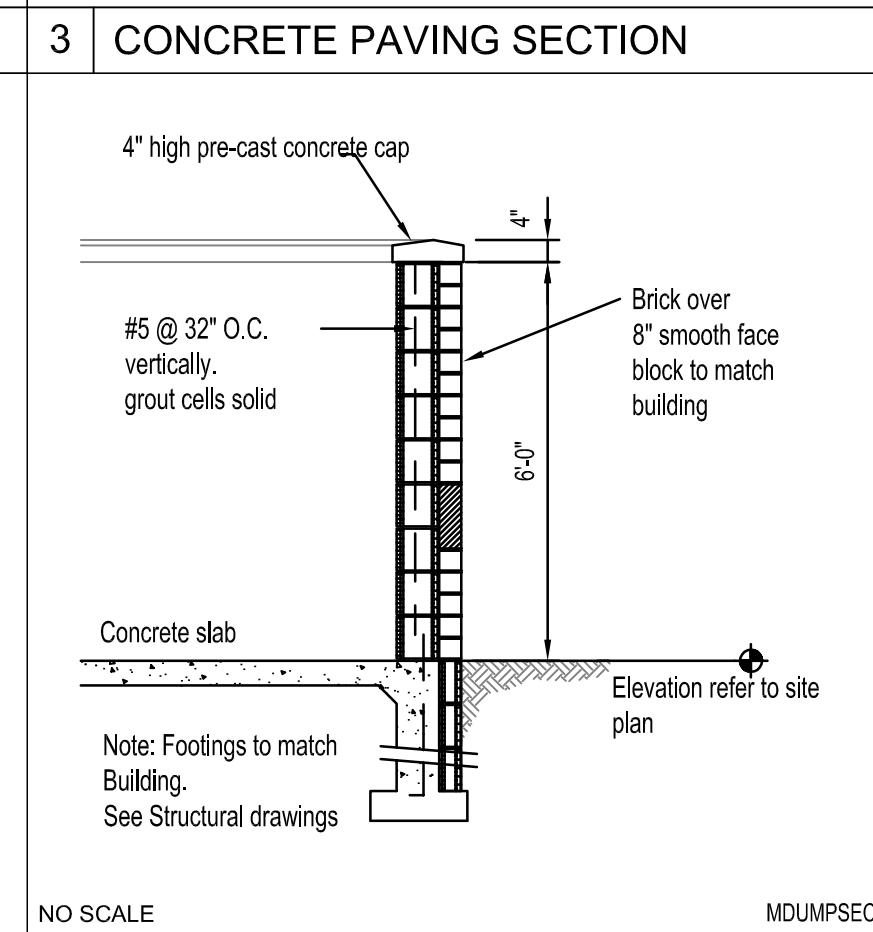
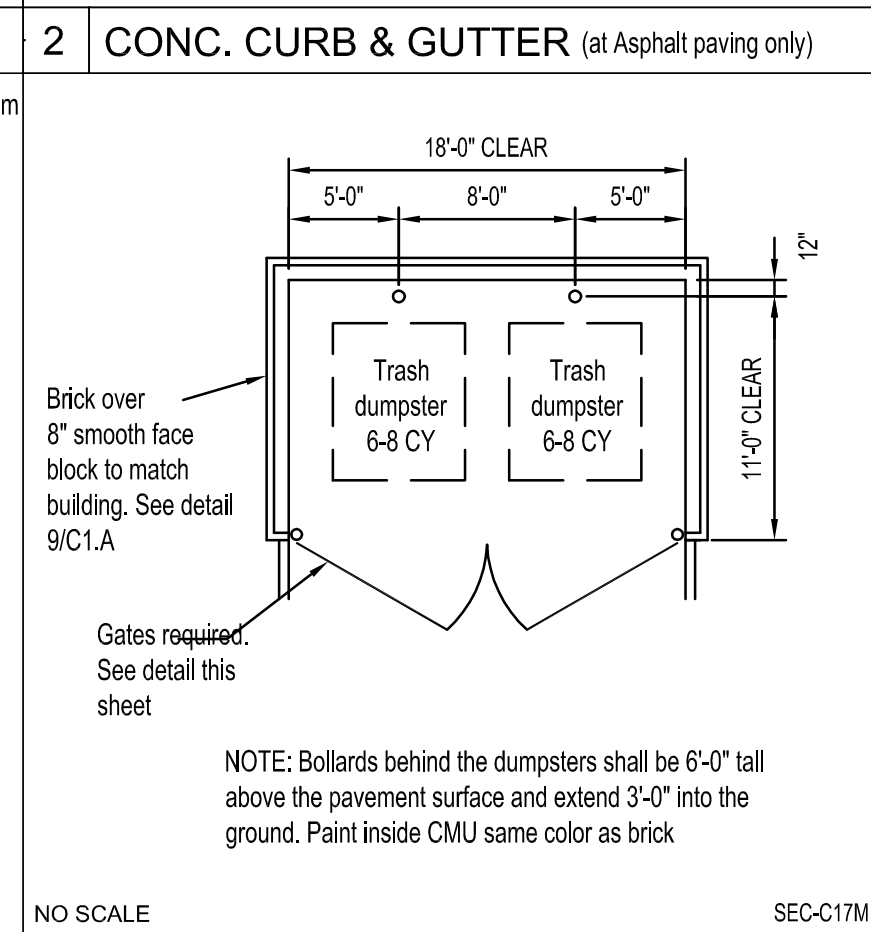
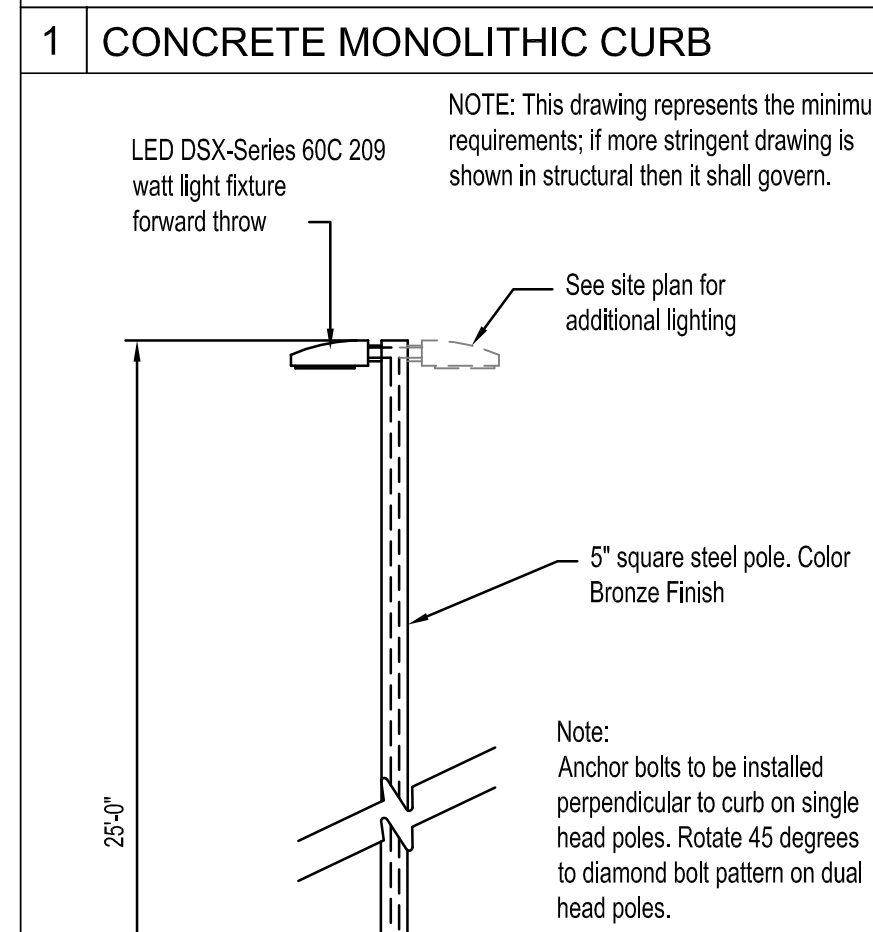
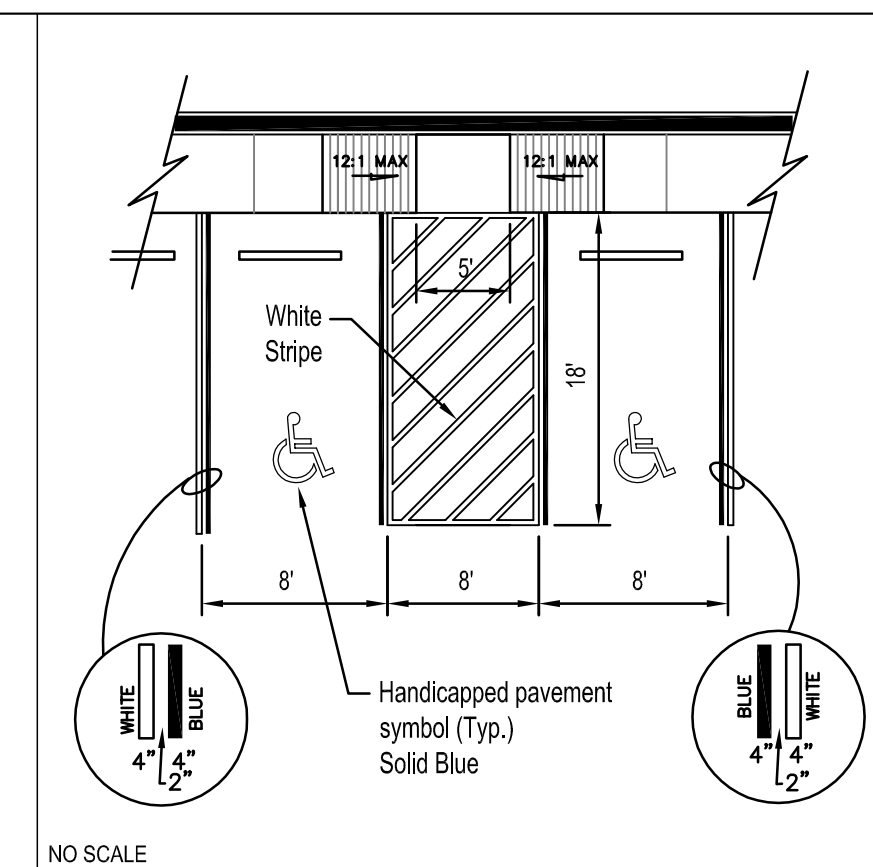
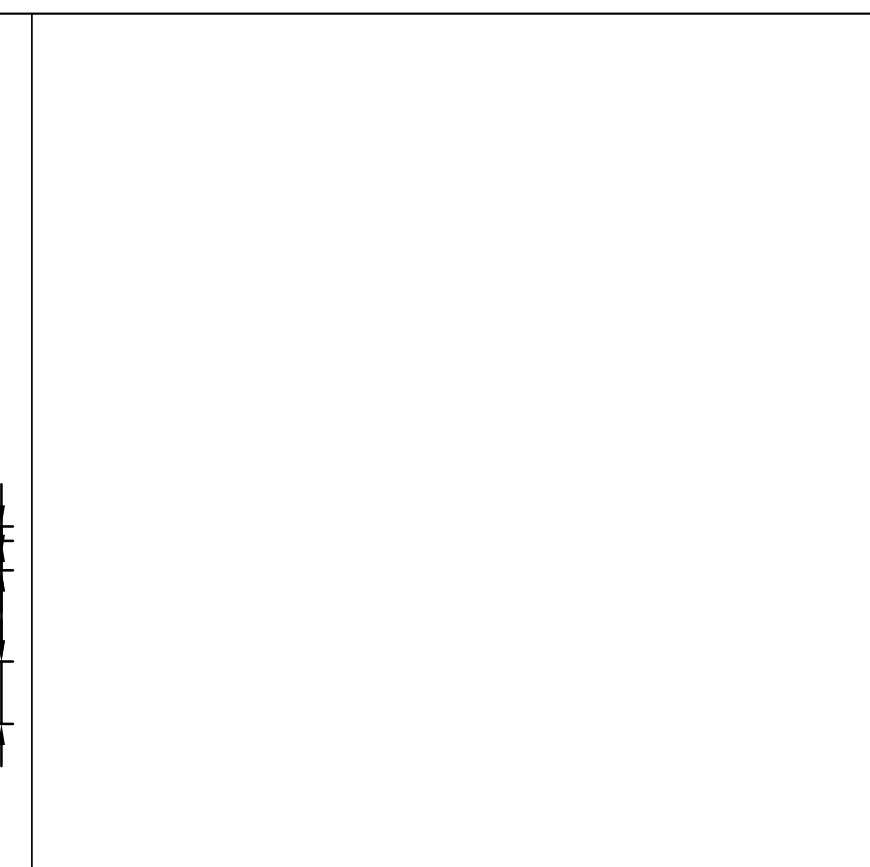
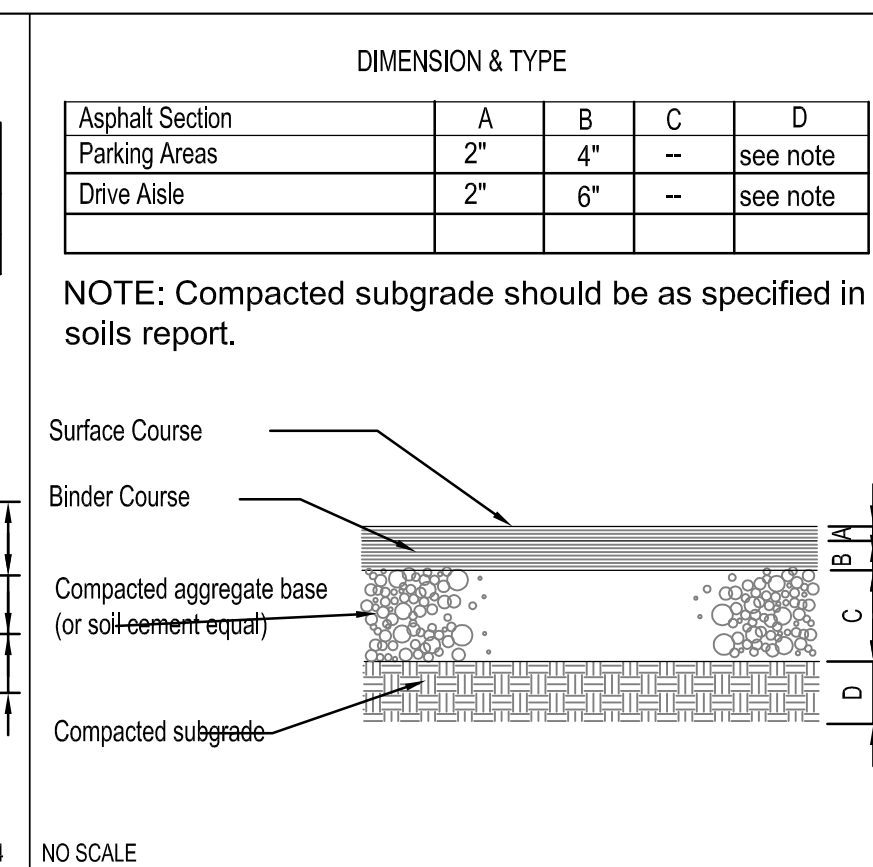
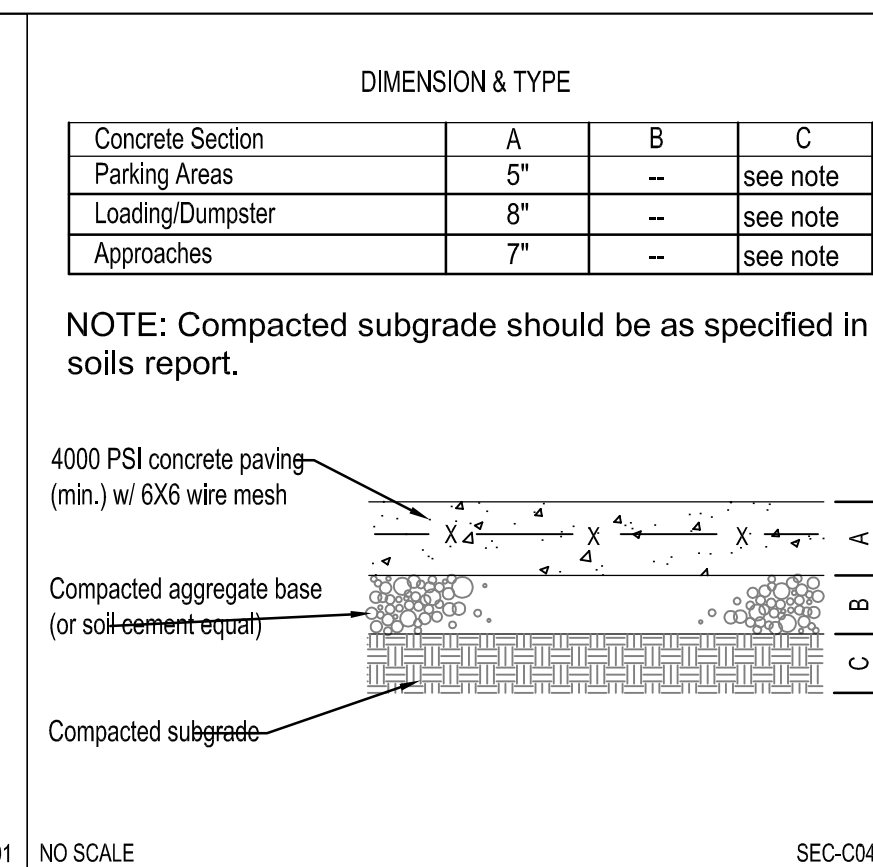
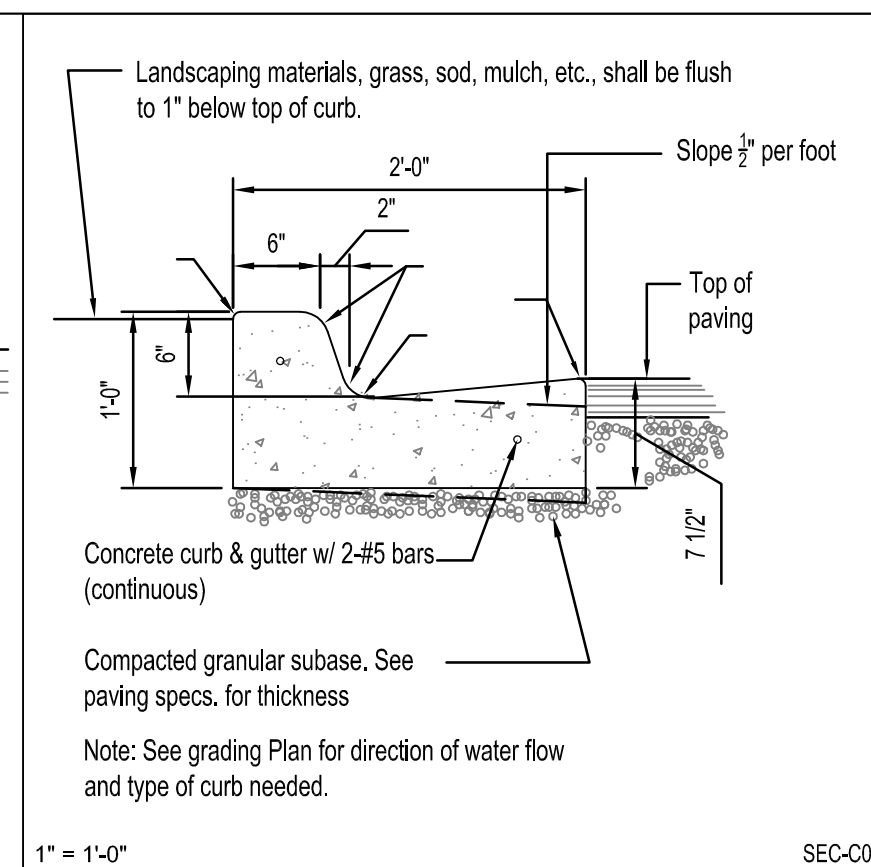
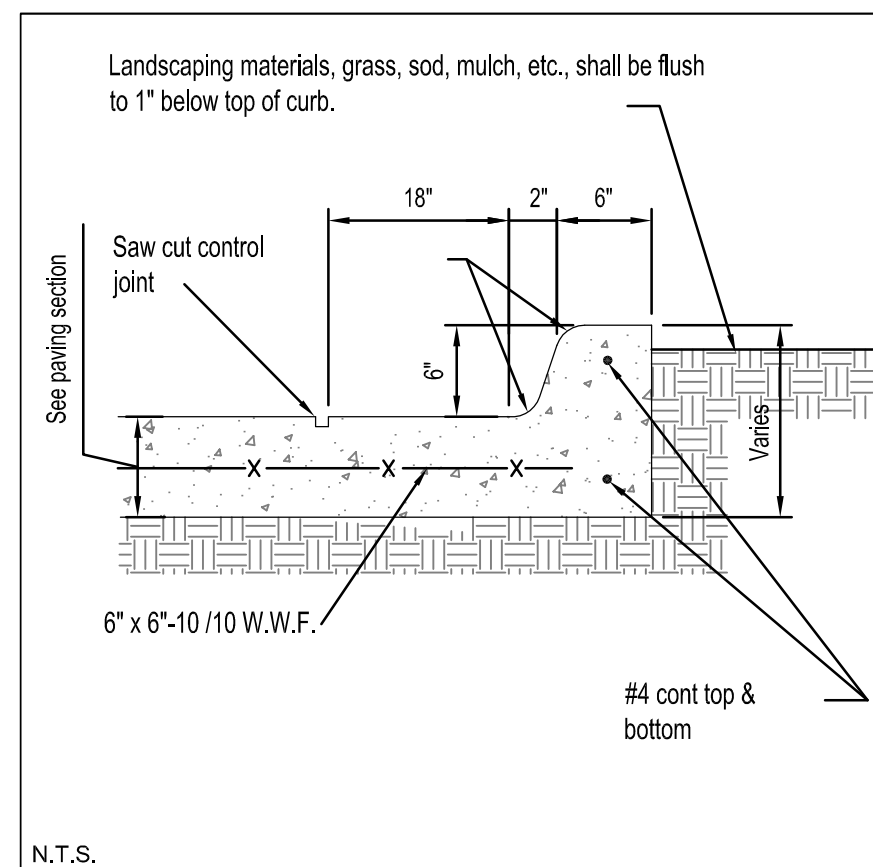
CES **Civil Engineering Services**
 7705 Spicer Farm Lane phone: (615) 533-0401
 Fairview, Tennessee fax: (615) 523-8865
 37062 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning

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BENCHMARK #1
 1/2" REBAR
 N: 1,097,408.07
 E: 2,365,109.95
 ELEV=277.93

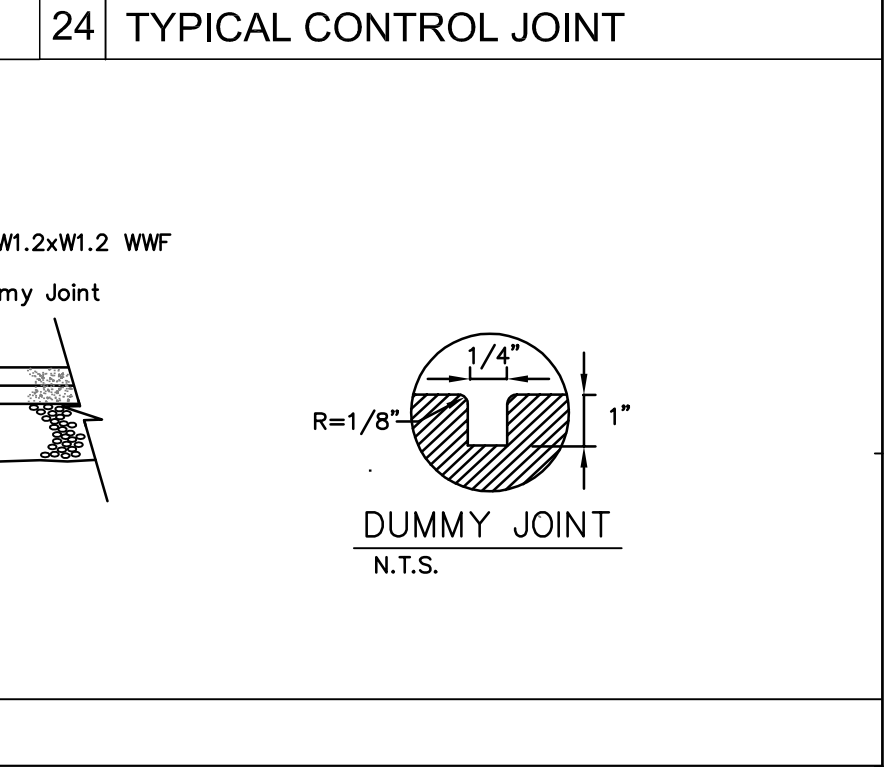
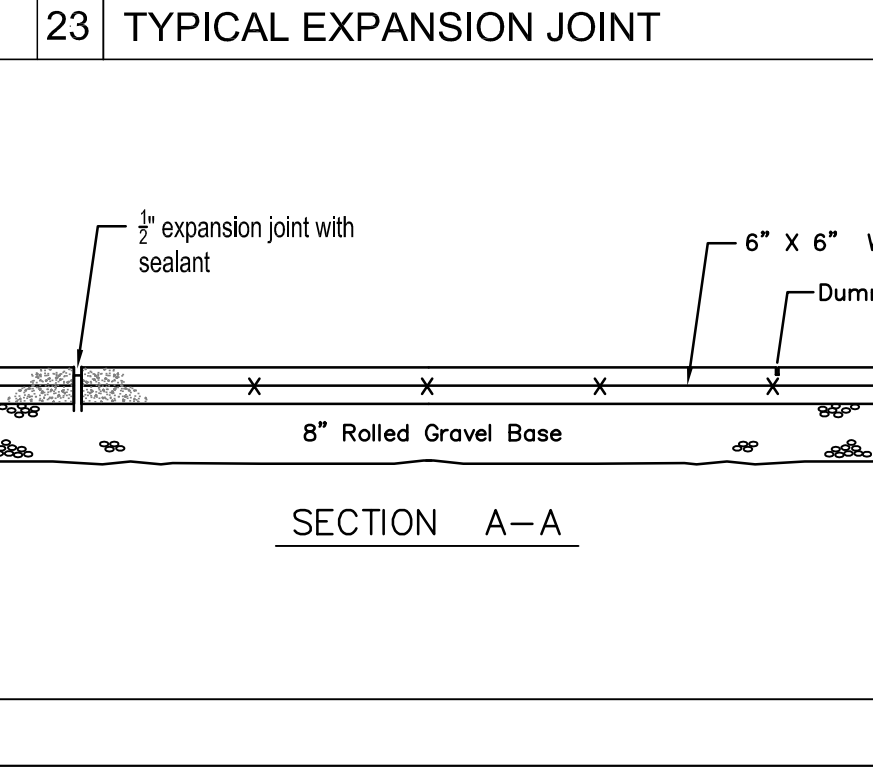
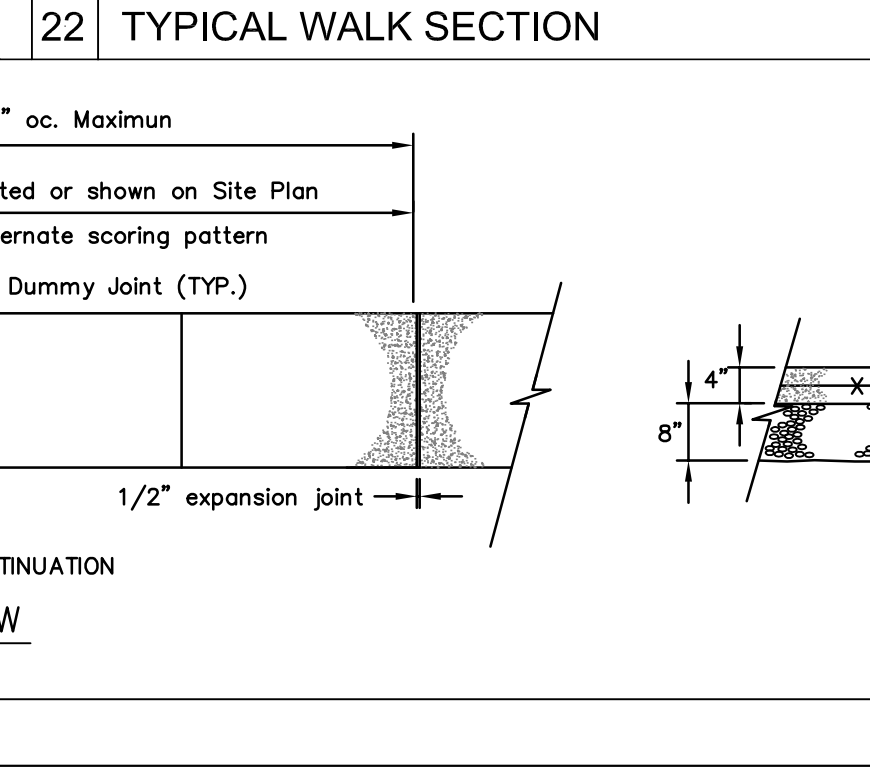
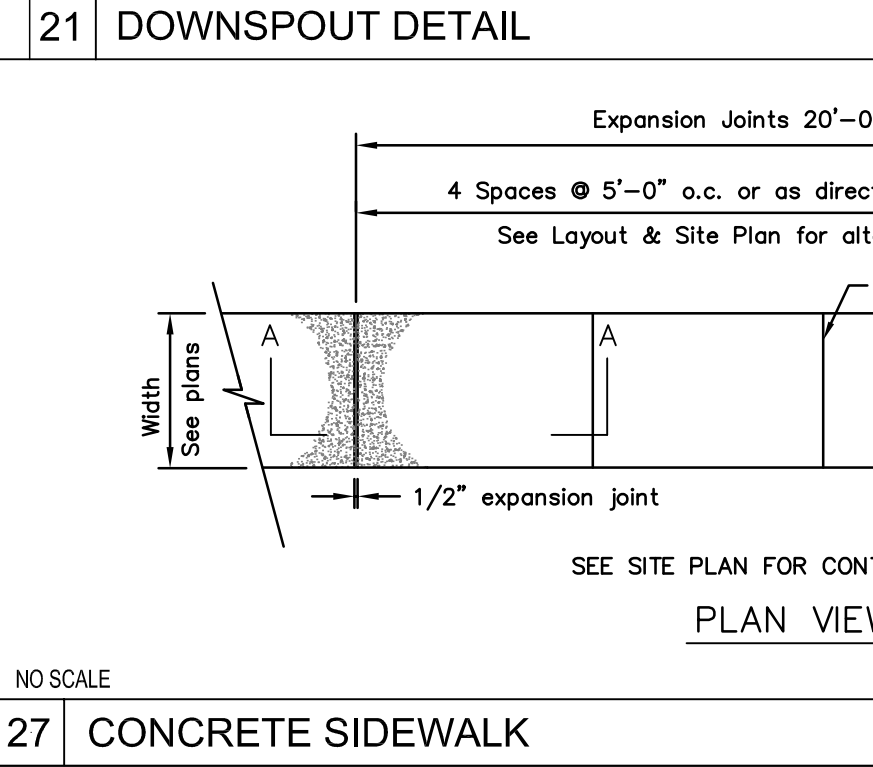
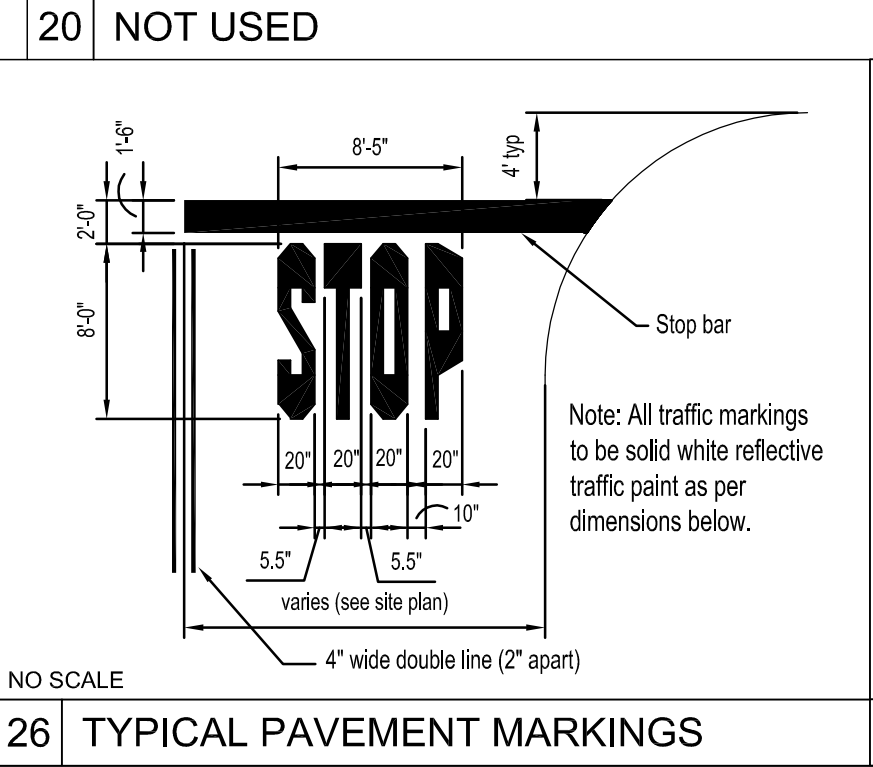
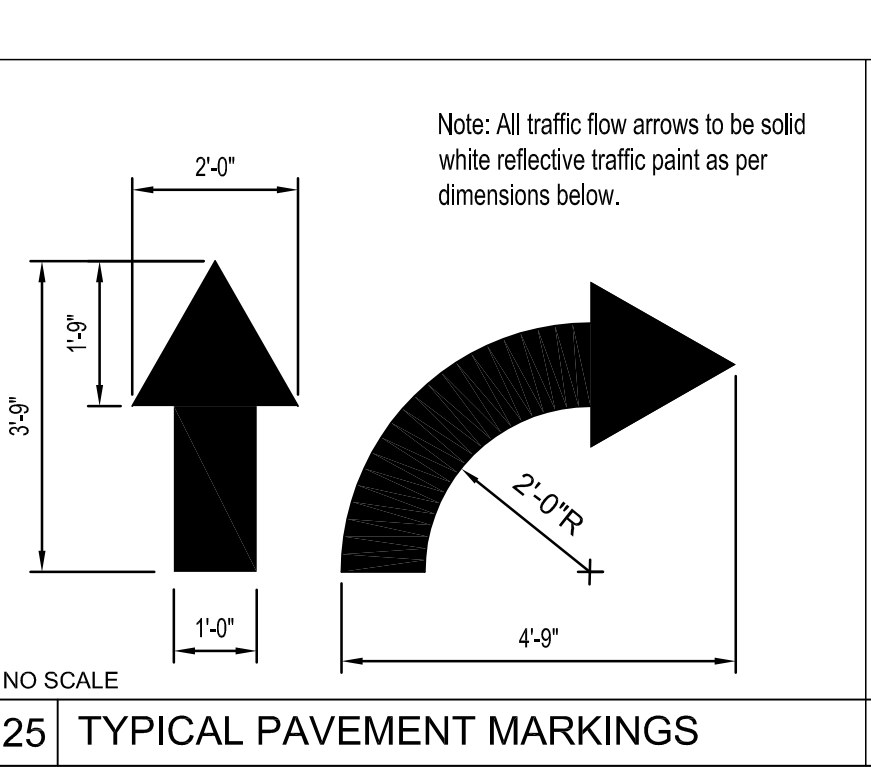
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 1/2" REBAR
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 E: 2,365,269.98
 ELEV=272.84

FLOOD NOTE:
 FLOOD ZONE "AE"
 PER FEMA MAP NO. 28089-C0415-F
 EFFECTIVE DATE: MARCH 17, 2010



For all details on this sheet which call for a minimum depth of concrete, that depth shall be adjusted to the deeper of that called for in the detail or the frost depth shown in the Geotechnical Report.

NO SCALE



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NAD83 MS STATE PLANE

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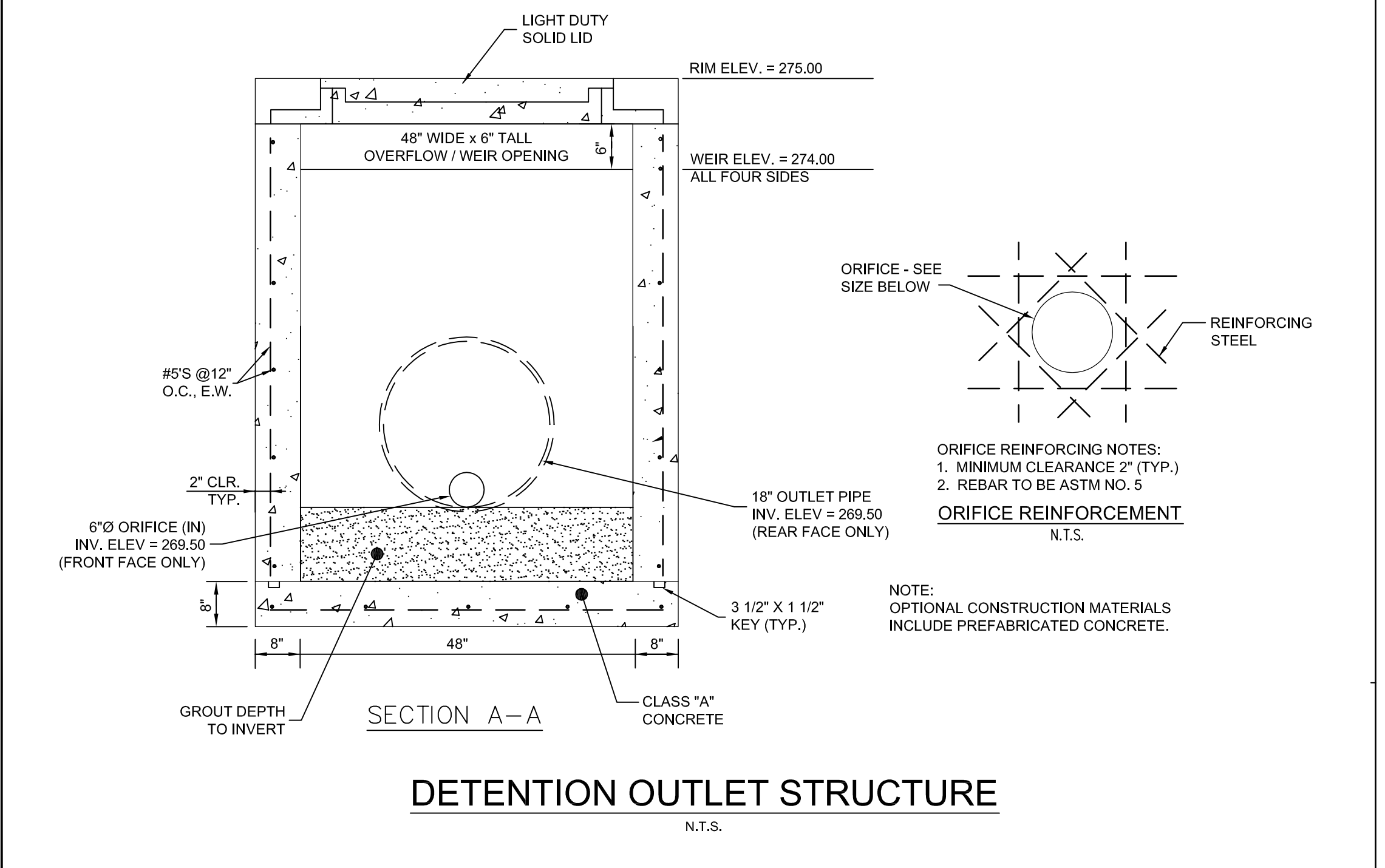
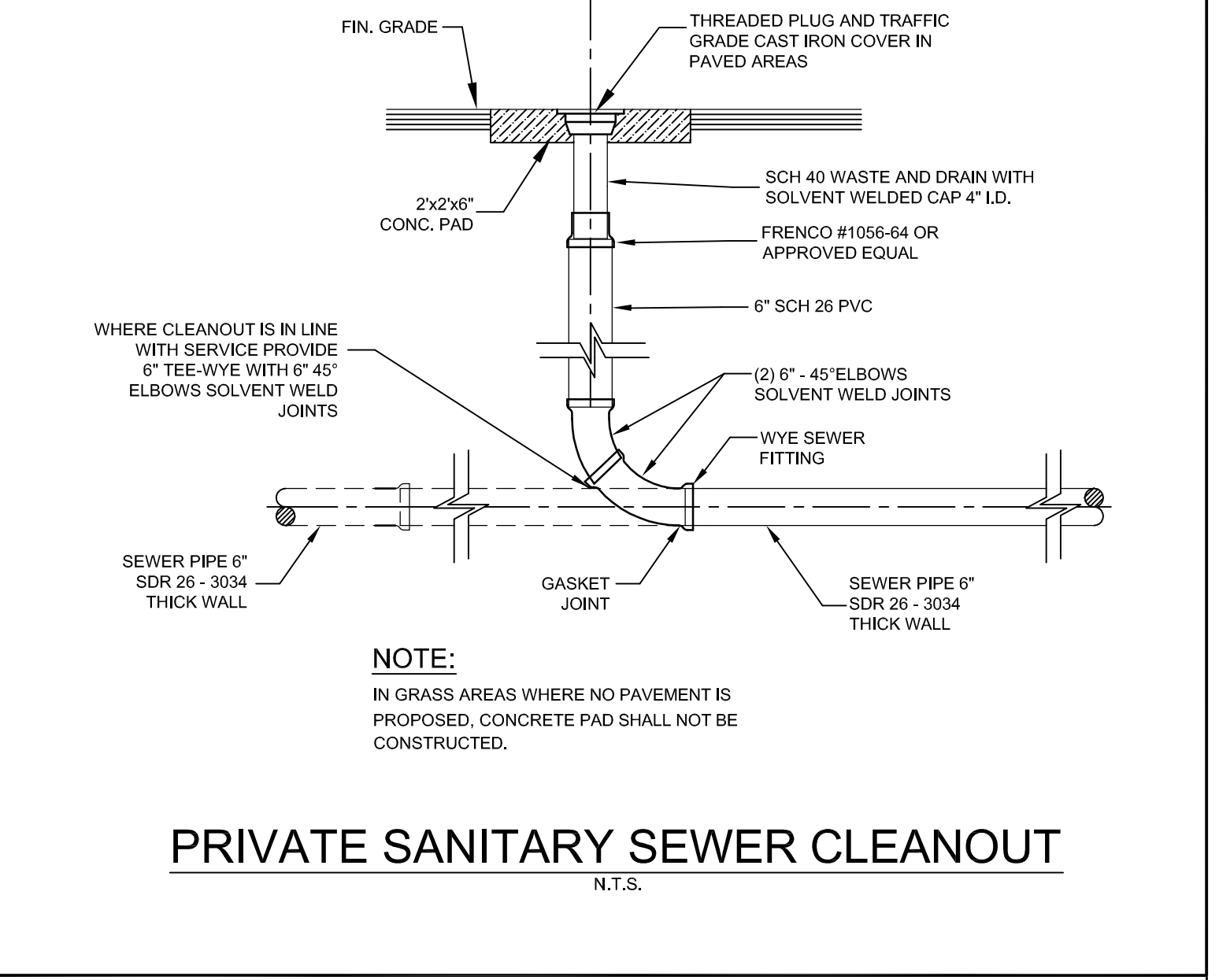
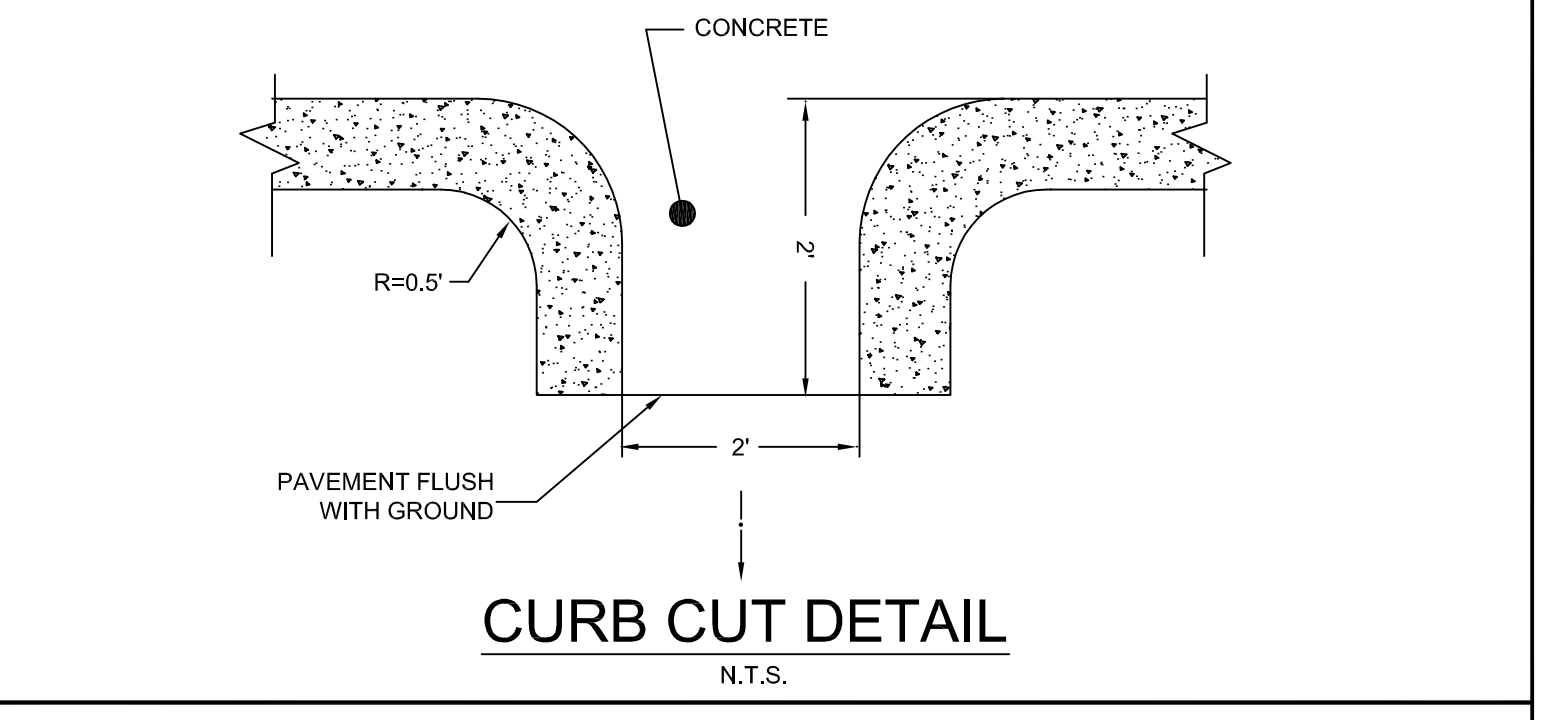
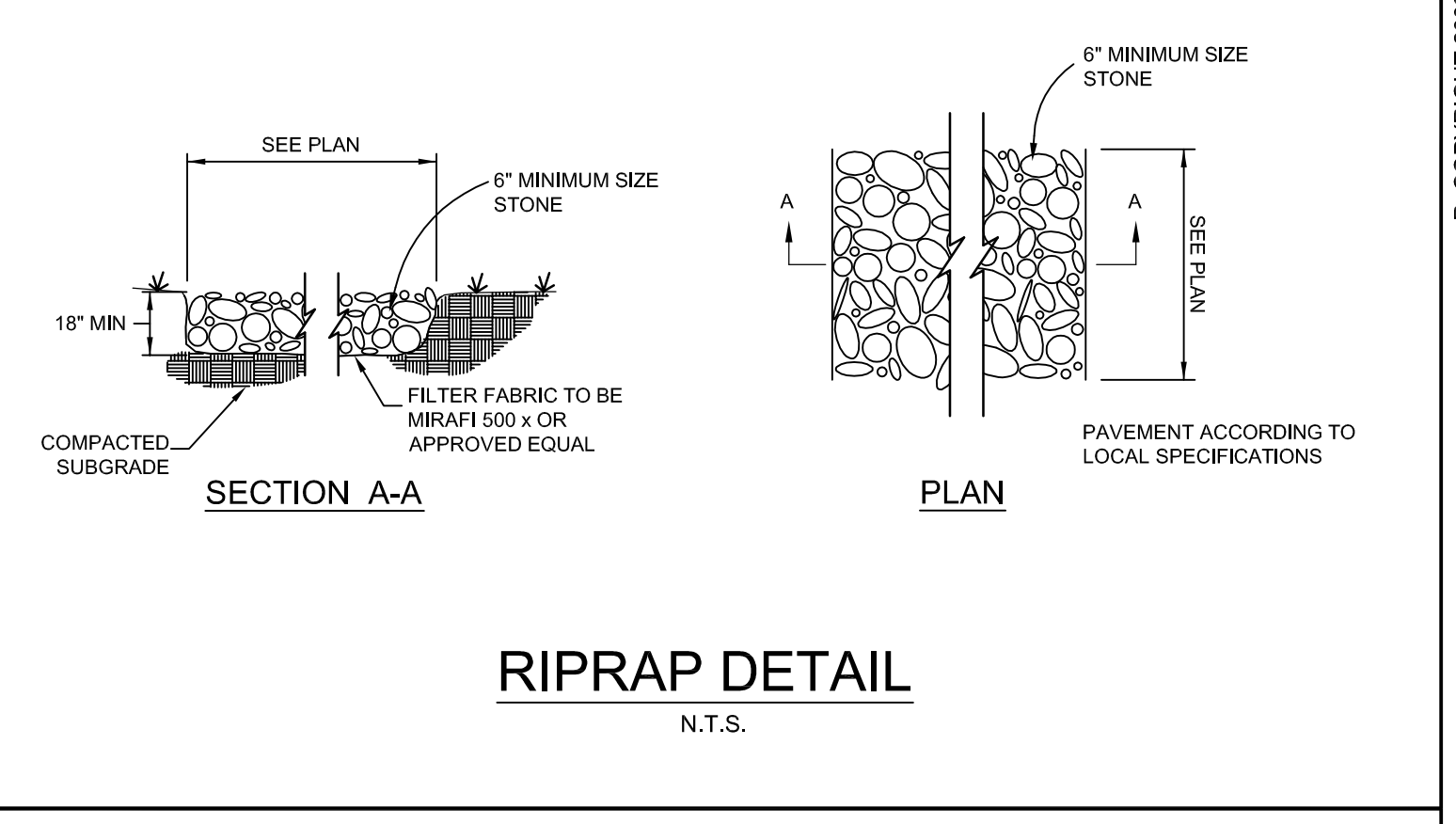
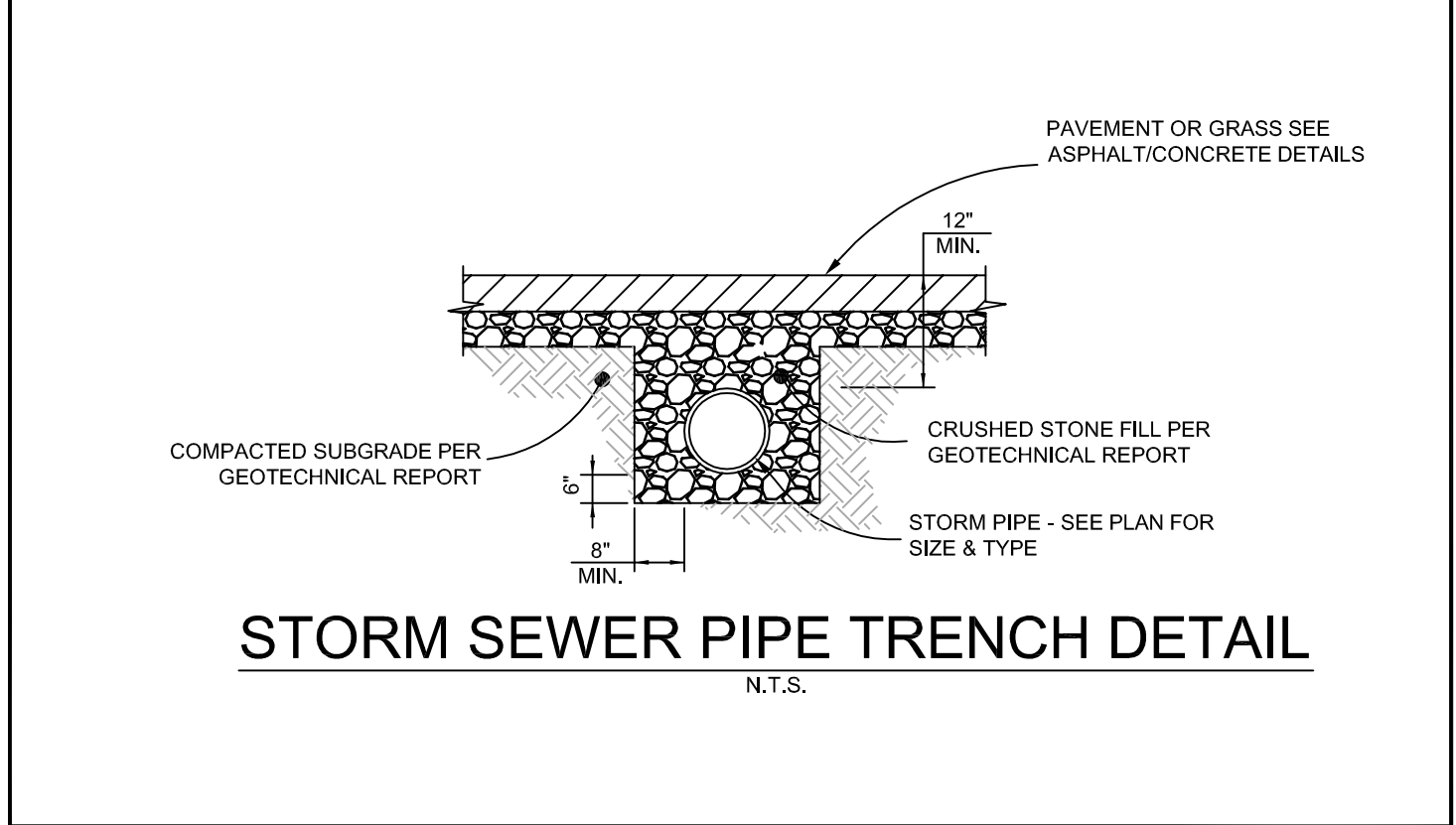
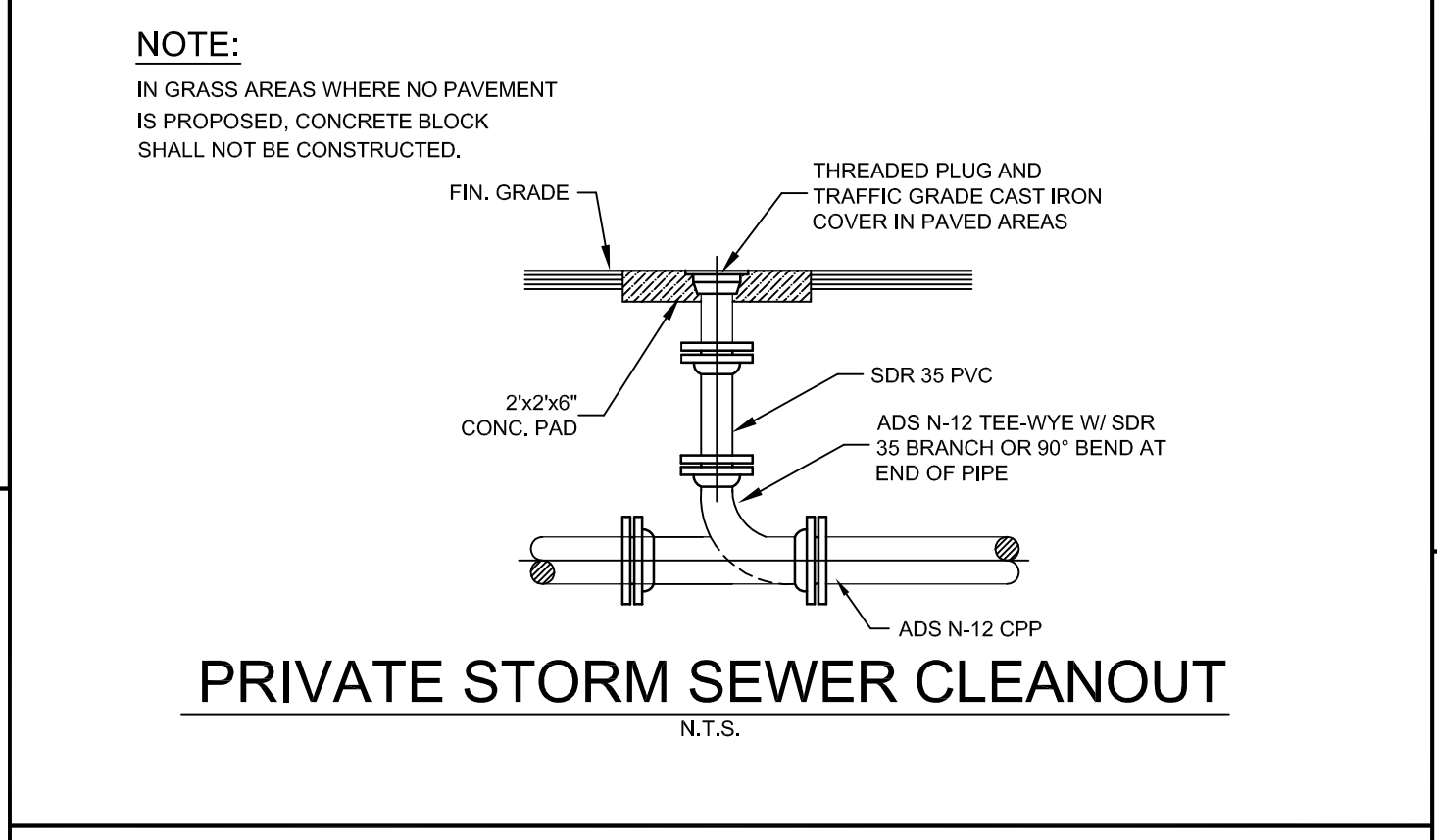
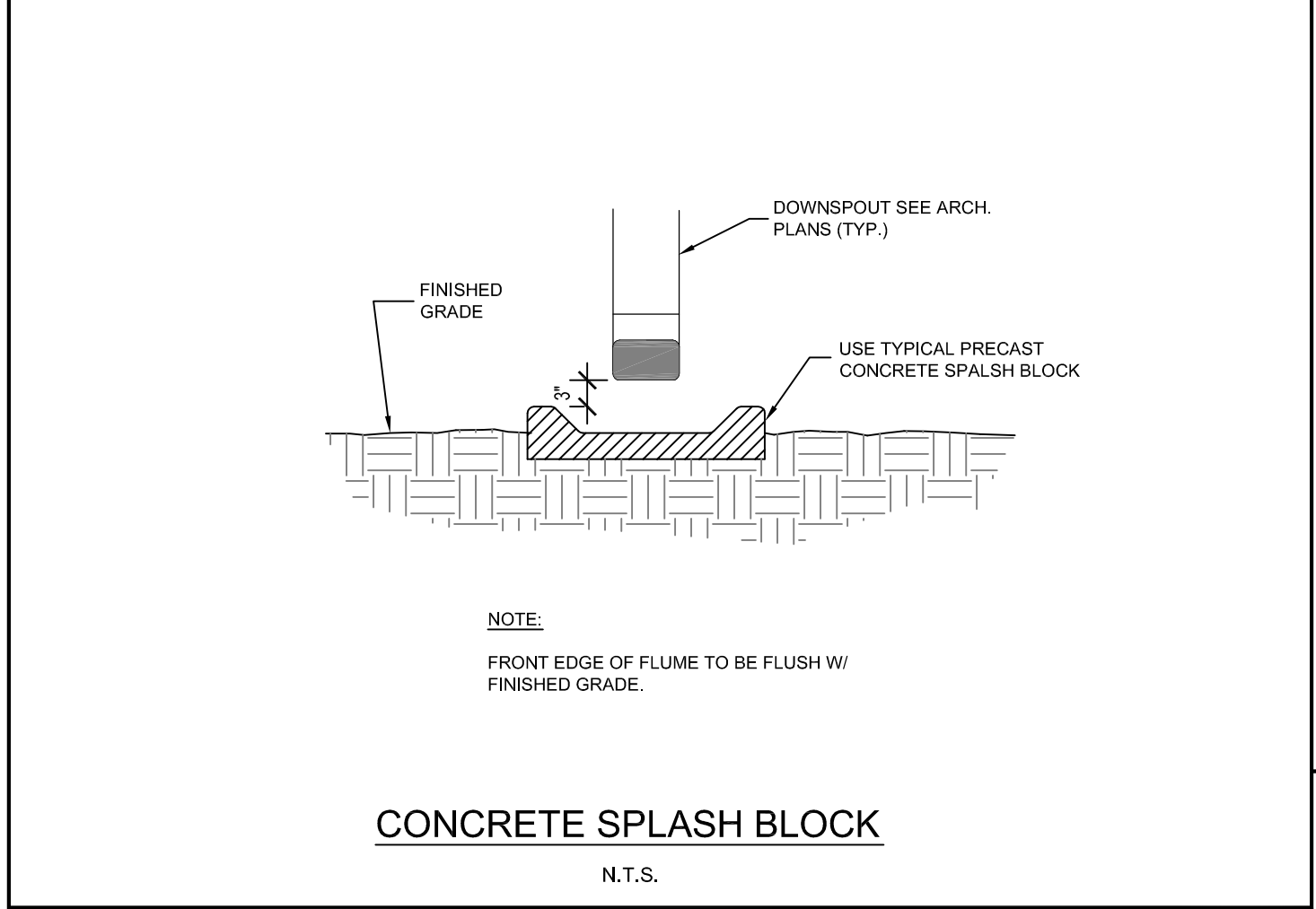
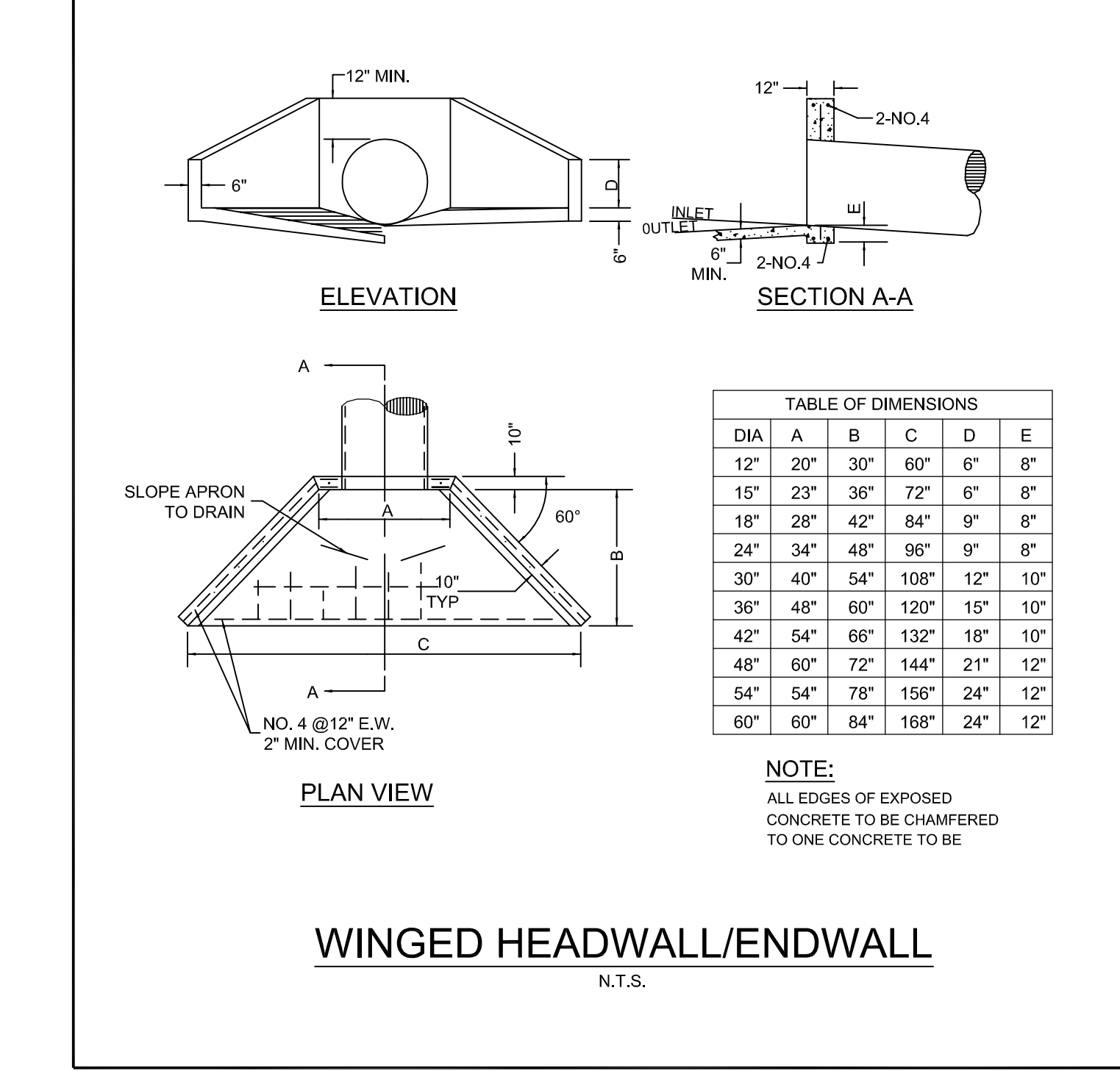
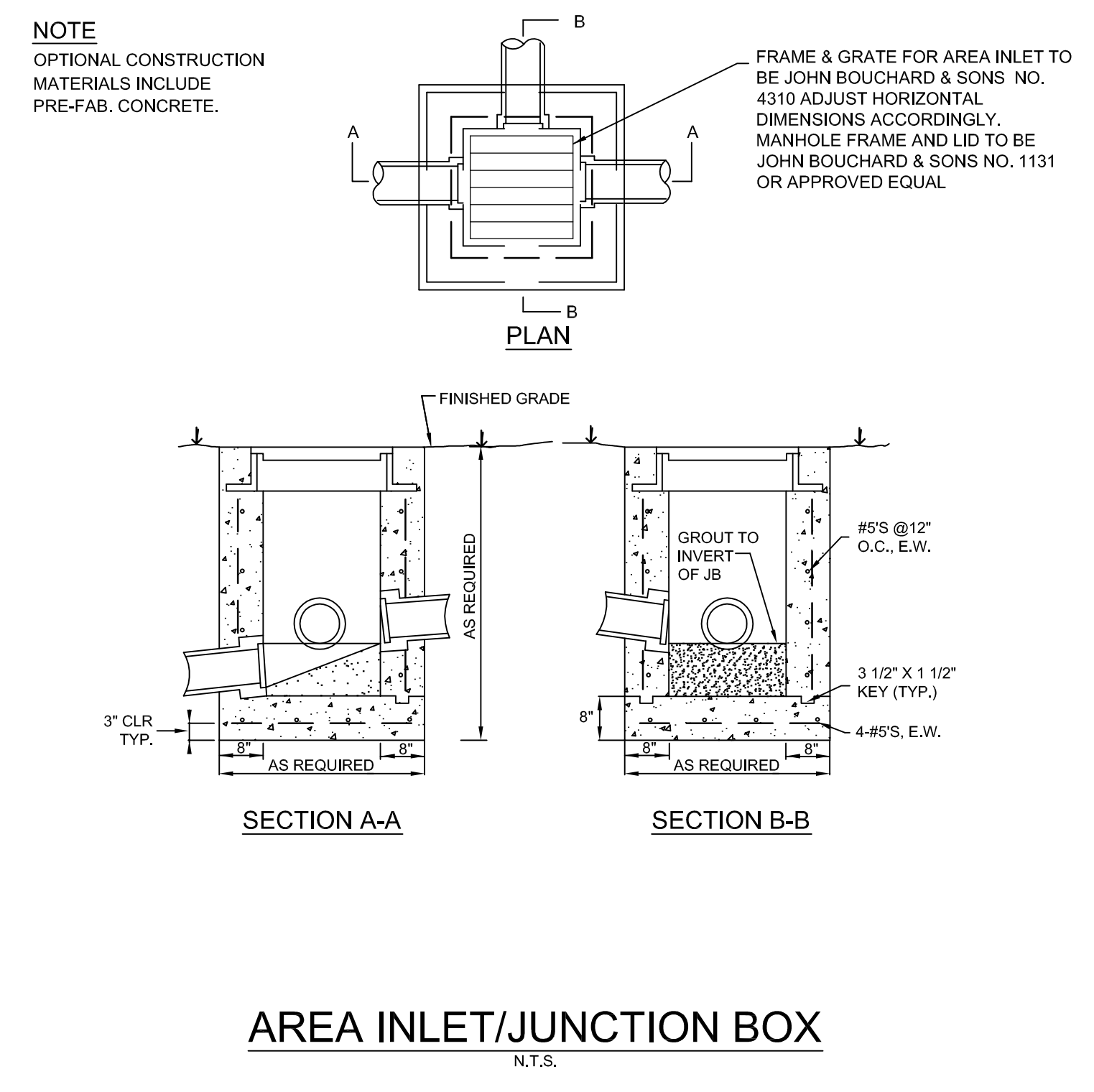
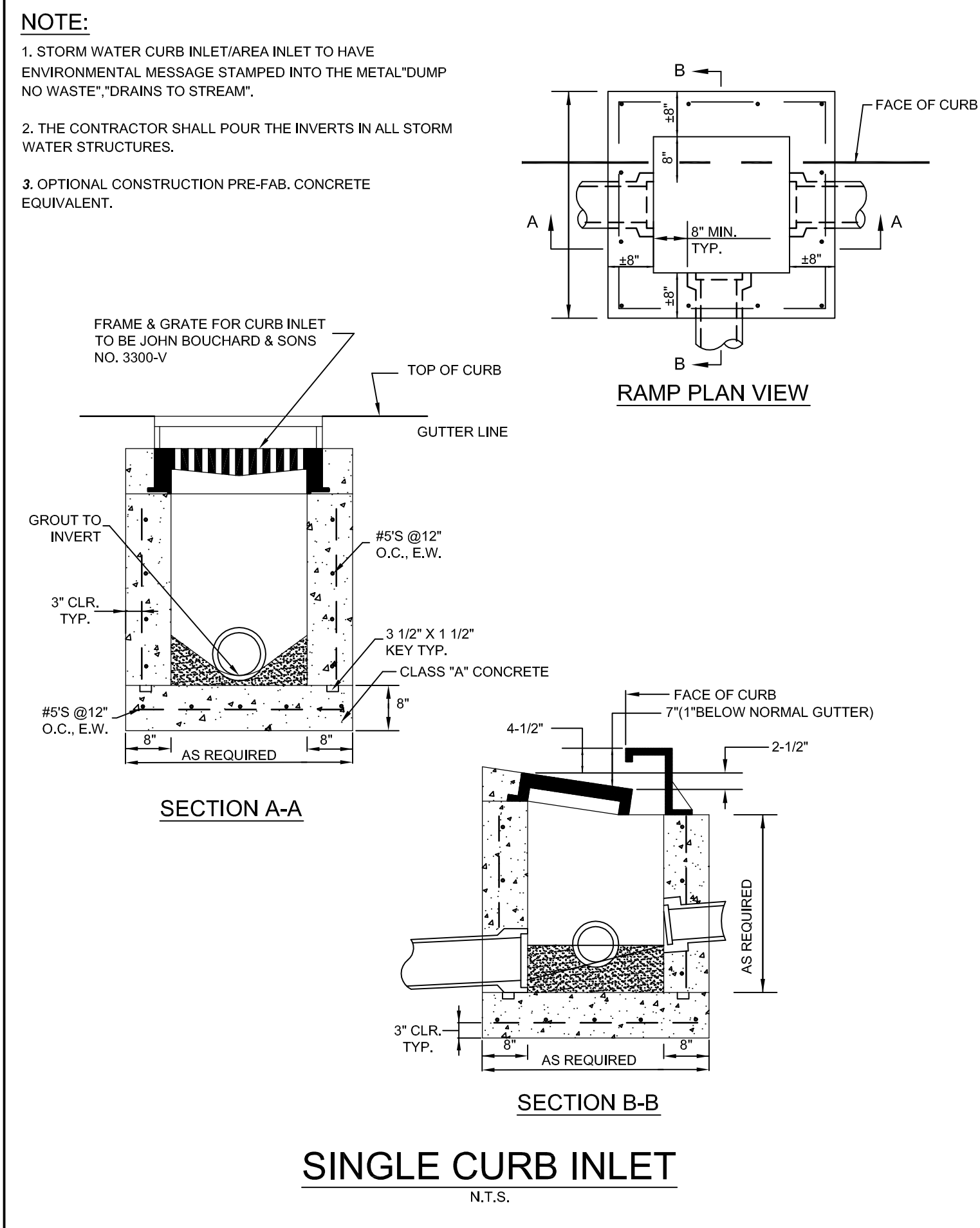
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AutoZone Store No. 0152
WEST OF 1078 GLUCKSTADT RD
GLUCKSTADT MS 39110
DETAIL SHEET 1

Owner / Developer: AUTOZONE STORES LLC
123 South Front Street, 3rd Floor
Memphis, Tennessee 38103
TEL: (901) 495-8994 FAX: (901) 495-8969
For Bidding & Contractor Information Contact:
Dodge Data & Analytics, Tel. 413-930-4215
Cindy.searcy@construction.com

11/24/2021

11/22/2021
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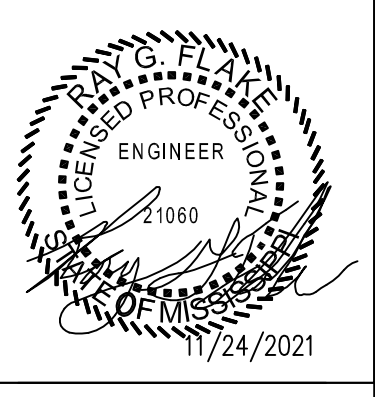


REVISIONS

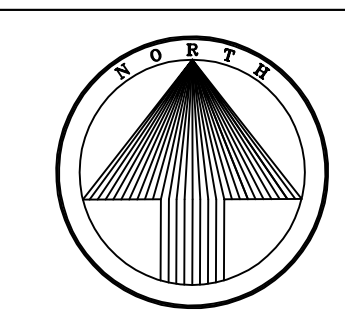
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AutoZone Store No. 0152
WEST OF 1078 GLUCKSTADT RD
GLUCKSTADT MS 39110
DETAIL SHEET 2

Owner / Developer: AUTOZONE STORES LLC
123 South Front Street, 3rd Floor
Memphis, Tennessee 38103
TEL: (901) 495-8994 FAX: (901) 495-8969
For Bidding & Contractor Information Contact:
Dodge Data & Analytics, Tel. 413-930-4215
Cindy.searcy@construction.com



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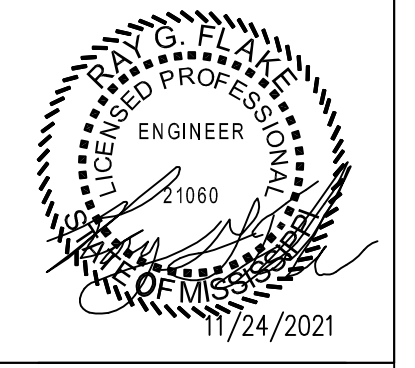


NAD83 MS STATE PLANE

REVISIONS

AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 DETAIL SHEET 3

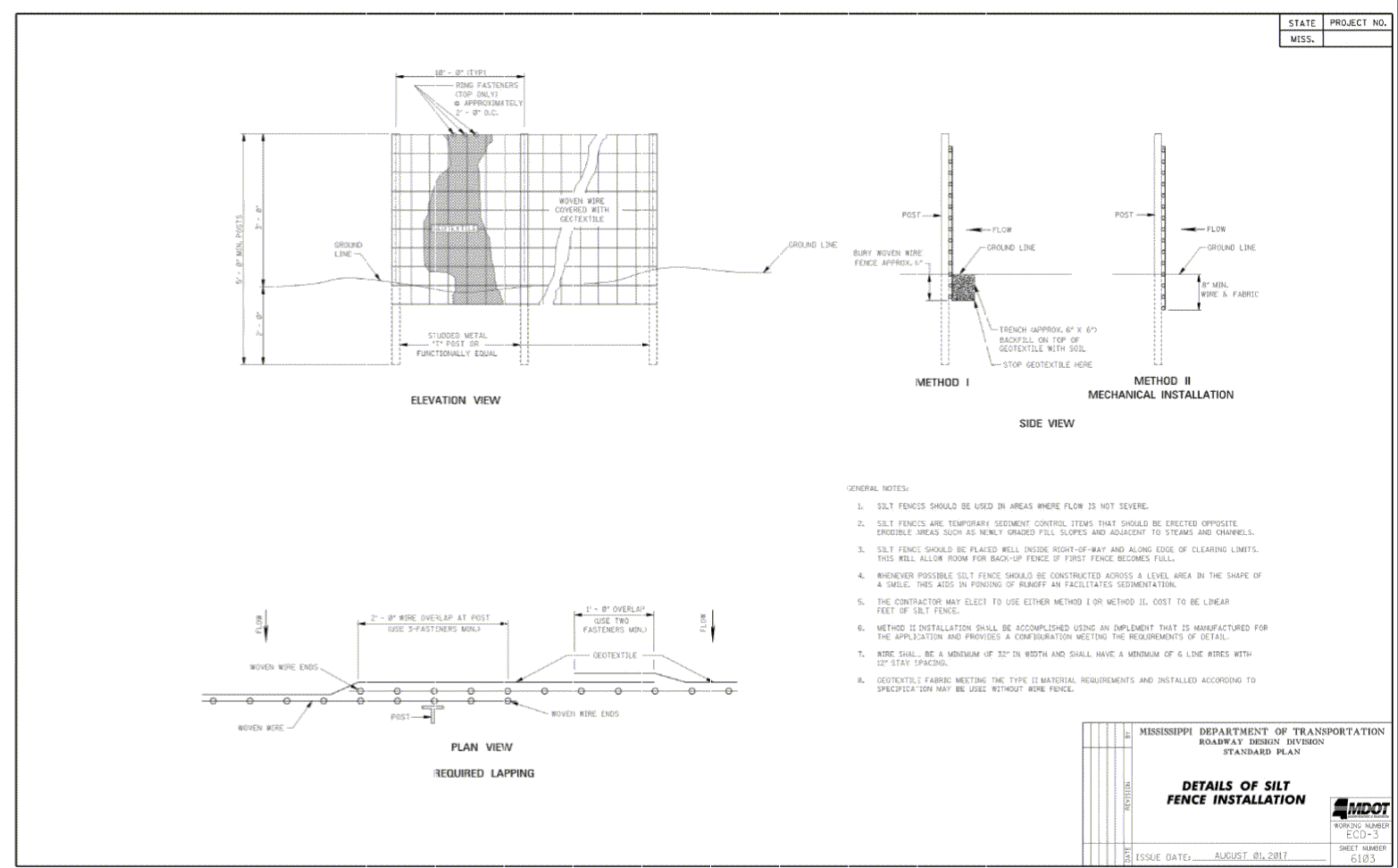
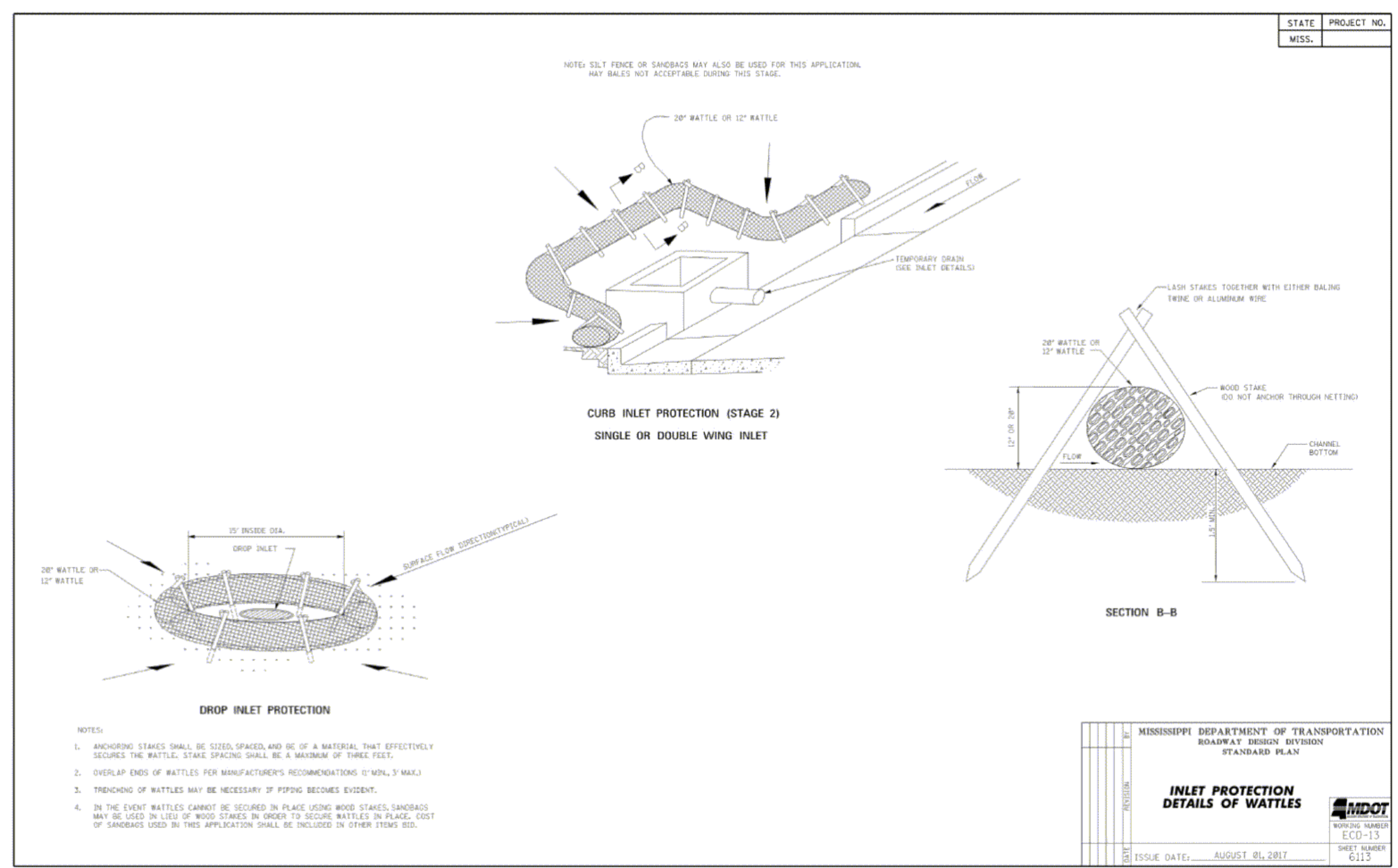
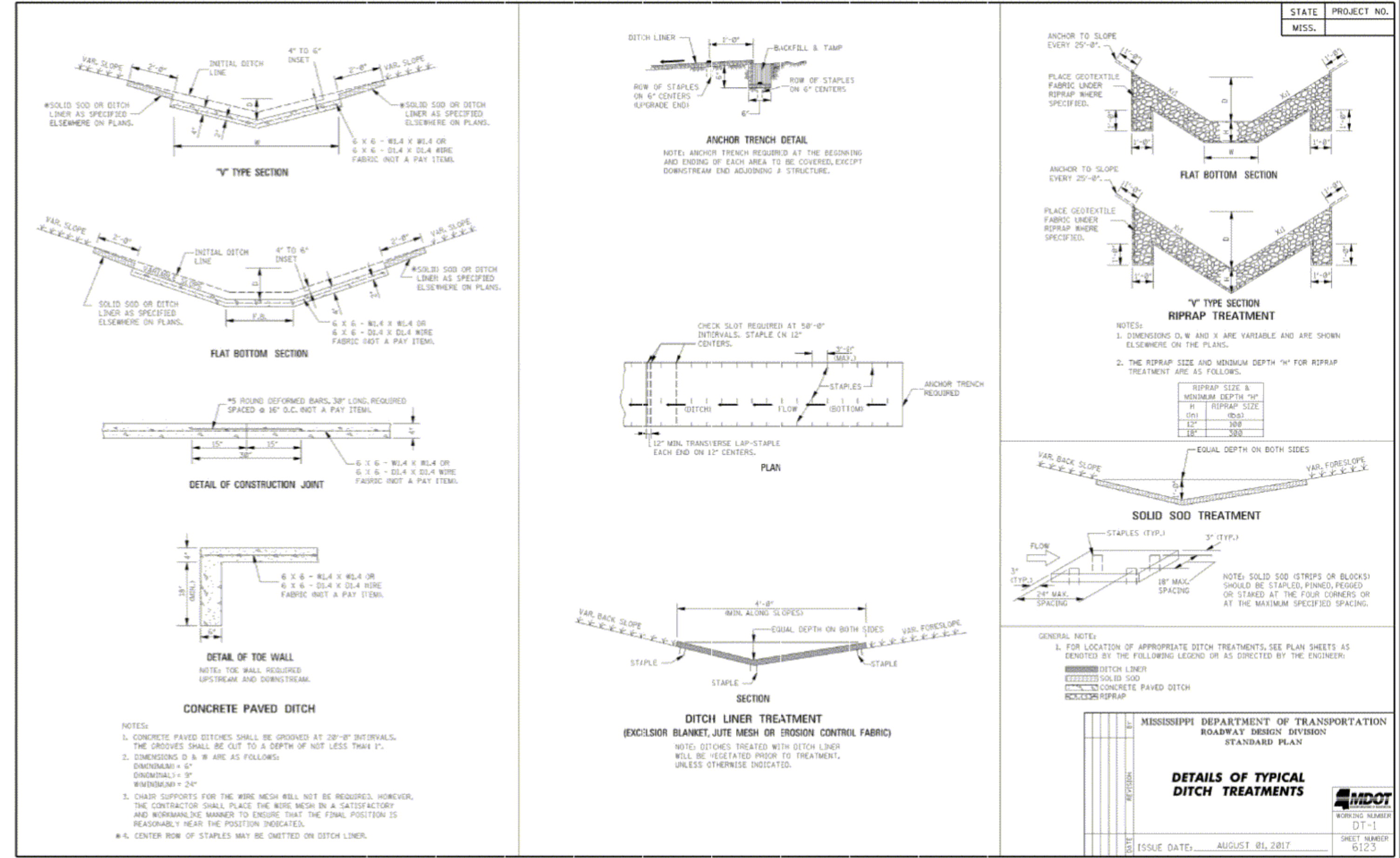
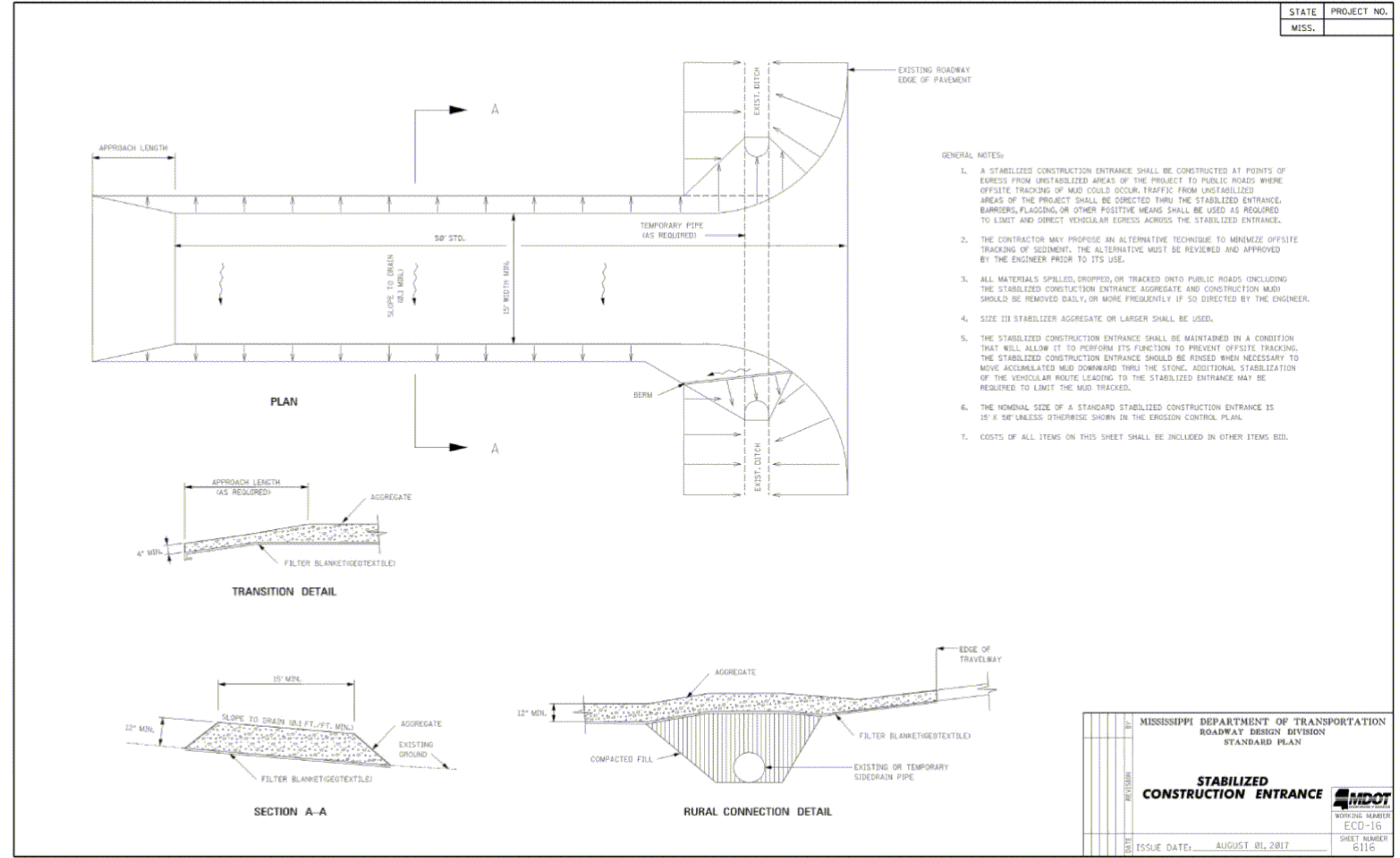
Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
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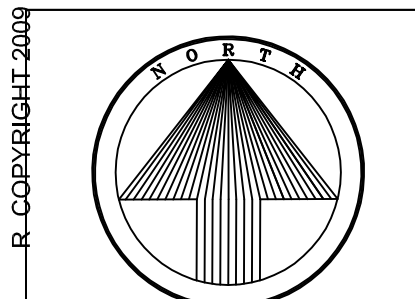


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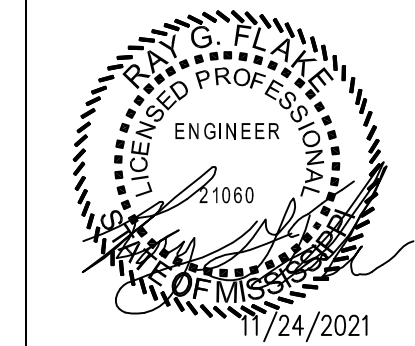
NAD83 MS STATE PLANE

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AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 DETAIL SHEET 4

Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com



11/22/2021

7N2

C4.3

DITCH CHECK SPACING

EXAMPLE HEIGHT OF STRUCTURE 1.5' GRADE IS EXTEND VERTICALLY FROM 1.5' HEIGHT TO INTERSECT 5 + 1.0% GRADE (EXTEND 50' TO THE LEFT TO DETERMINE SPACING USE)

GENERAL NOTES:

1. THE DITCH CHECK PERSPECTIVE ILLUSTRATES A TOOL BOX OF TEMPORARY PRACTICES THAT MAY BE USED. DITCH CHECKS ARE INSTALLED TO CONTROL RUNOFF VELOCITY AND THUS REDUCE EROSION AND PROVIDE FOR TRAPPING OF SEDIMENTS.
2. SELECTION OF THE APPROPRIATE DITCH CHECK SHOULD BE A FUNCTION OF CONSTRUCTION PHASE, DRAINAGE AREA, DITCH GRADE, SOIL TYPE, ECONOMY AND SAFETY.
3. DITCH CHECKS CAN BE REMOVED FOR MAINTENANCE AND/OR REPLACEMENT BUT MUST REMAIN IN PLACE UNTIL UPLAND AREAS HAVE BEEN PERMANENTLY STABILIZED. MAINTENANCE INCLUDES REMOVAL OF SEDIMENT BEGINNING WHEN SEDIMENT ACCUMULATION REACHES TO THE CAPACITY OR HEIGHT OF THE STRUCTURE AND NEVER ALLOWING FOR SEDIMENT TO ACCUMULATE MORE THAN 1/2 THE VOLUME OR HEIGHT OF THE DITCH CHECK STRUCTURE.
4. HAY BALES SHOULD BE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADE DITCHES.
5. SILT FENCE DITCH CHECKS SHOULD BE USED WHERE IT HAS BEEN DETERMINED THAT HAY BALE CHECKS ARE INADEQUATE. SILT FENCE DITCH CHECKS SHOULD BE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADE DITCHES.
6. SANDBAG DITCH CHECKS SHOULD BE USED FOR VELOCITY REDUCTION AND MINIMAL SEDIMENT TRAPPING IN CONCRETE PAVED DITCHES OR IN DITCHES THAT HAVE ROCK BOTTOMS.
7. WATTLE DITCH CHECKS CAN BE USED FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.
8. SILT DIVES CAN BE USED IN DITCHES WITH CONCENTRATED FLOWS WITHIN THE CLEAR ZONE WHERE RIPRAP CAN NOT BE USED AS CONSTRUCTION PROGRESSES.
9. ROCK DITCH CHECKS WITH SUMP EXCAVATION CAN BE PLACED IN DITCHES TO ASSURE ON-SITE SEDIMENT TRAPPING REQUIREMENTS ARE MET. DITCH CHECK WITH SUMP EXCAVATION IS USED WHEN DITCHES RECEIVE ORGANICS FROM CUT OR FILL SLOPES OR OTHER CRITICAL AREAS WHERE SOIL DEGRADATION IS EXPECTED. DRAINAGE AREA FOR A TEMPORARY SEDIMENT TRAP SHOULD BE LIMITED TO 3 ACRES. THEY CAN BE USED IN SERIES TO INCREASE ON-SITE SEDIMENT TRAPPING EFFICIENCY.
10. DITCH CHECKS, IN NO CASE, SHALL BE PLACED IN LIVE STREAMS.
11. CONFIGURATION AND SPACING MAY BE ADJUSTED IF APPROVED BY THE ENGINEER TO ACCOMMODATE TRAVELWAY SAFETY, WATER FLOW, OR SOIL AND INSTALLATION CHALLENGES.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
 ROADWAY DESIGN DIVISION
 STANDARD PLAN
DITCH CHECK STRUCTURES, TYPICAL APPLICATIONS AND DETAILS
 ISSUE DATE: AUGUST 01, 2017
 SHEET NUMBER 6124

DETAIL (DITCH CHECK)

ELEVATION DETAIL

SECTION A-A

NOTES:

1. WATTLE DITCH CHECKS CAN BE USED FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.
2. THE PLACEMENT INTERVAL BETWEEN WATTLE DITCH CHECKS SHALL BE UNLESS SHOWN OTHERWISE ON THE PLAN OR EROSION CONTROL PLAN APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON MDOT ECC-4.
3. ANCHORING WOOD STAKES SHALL BE SIZED, SPACED, DRIVEN, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE CHECK. STAKE SPACING SHALL BE A MAXIMUM OF THREE FEET. ALL NON-DECOMPOSABLE MATERIALS SHALL BE REMOVED WHEN NO LONGER NEEDED.
4. TRENCHING OF WATTLES MAY BE NECESSARY IF PILING BECOMES EVIDENT.
5. WATTLES SHOULD NOT BE USED IN HARD BOTTOM CHANNELS.
6. IN THE EVENT WATTLES CANNOT BE SECURED IN PLACE USING WOOD STAKES, SAND BAGS MAY BE USED IN LIEU OF WOOD STAKES IN ORDER TO SECURE THE WATTLES IN PLACE. IF SAND BAGS ARE USED IN THIS APPLICATION THEY WILL NOT BE A SEPARATE PAY ITEM.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
 ROADWAY DESIGN DIVISION
 STANDARD PLAN
DETAILS OF EROSION CONTROL WATTLE DITCH CHECK
 ISSUE DATE: AUGUST 01, 2017
 SHEET NUMBER 6106

TYPICAL DITCH SECTION

25' FOOT INTERVAL TRANSVERSE CHECK SLOT (FOR INDIVIDUAL ROLLS)

END INSTALLATION AT UPSTREAM TERMINAL

DETAIL OF TOP TRENCH

DETAIL OF INTERMEDIATE TRENCH

DETAIL OF BOTTOM TRENCH

DETAIL OF TRANSVERSE OVERLAP

DETAIL OF LONGITUDINAL OVERLAP

DETAIL OF EROSION CONTROL BLANKET

SEQUENTIAL ROLL RUN OUT IN DITCH WITH STAKING DETAIL

MULTI-WIDTH WELDED SEAM MAT RUN OUT IN DITCH WITH STAKING DETAIL

GENERAL INSTRUCTIONS:

1. BEGIN INSTALLATION AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS LAPPED FROM DITCH BOTTOM TO BACKSLOPE. USE MAT PLACEMENT TABLE UNDER MODERATE TENSION TEMPORARILY STAKED TO MAINTAIN PROPER DESIGN COVERAGE ALIGNMENT.
3. WORKING OUTWARD FROM DITCH BOTTOM TO EDEGE, SUBSEQUENT ADJACENT ROLLS FOLLOW IN STAGGERED SEQUENCE UNDER MODERATE TENSION.
4. OVERLAP MAT SEAMS 6 INCHES AND STAKE AT 5-FT. INTERVALS WITH STAKES ALIGNED LONGITUDINALLY TO DITCH AND DIAGONAL. EDGE OF STAKE TO THE UPSTREAM. OUTER EDGES PERPENDICULAR TO DITCH AND DIAGONAL. EDGE OF STAKE TO THE UPSTREAM. OUTER EDGES PERPENDICULAR TO DITCH AND DIAGONAL.
5. STAKE THE CENTER OF EACH MAT STOP AND WHEN REQUIRED ALONG THE DITCH BOTTOM AT 4-FT. INTERVALS STAGGERED BETWEEN THE 3-FT. SPACING OF OVERLAP AND OUTER EDGE STAKES WITH THE BROADSIDE TO THE FLOW DIRECTION AND DIAGONAL EDGE TOWARD THE SLOPE.
6. USE 3-FT. OVERLAP AT END OF MAT ROLL SPLICES WITH UPSTREAM STOP ON TOP, STAKED IN TWO ROWS 36 INCHES APART AND STAKES TO BROADSIDE FULL WIDTH.
7. TRANSVERSE CHECK SLOTS 6 INCHES WIDE BY 9 INCHES DEEP ARE EXCAVATED AT 25-FT. INTERVALS WITH STAKES 12 INCHES APART FULL WIDTH OF TRENCH. WELDED SEAM MULTI-WIDTH MAT WILL HAVE SIMILAR TRANSVERSE CHECKS MEETING EXCAVATED SLOTS ONLY.
8. END INSTALLATION AT UPSTREAM TERMINAL. TEMPORARY STAKES MAY BE PLACED TO BECOME PART OF PERMANENT STAKING PATTERN.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
 ROADWAY DESIGN DIVISION
 STANDARD PLAN
DITCH TREATMENT INSTALLATION DETAIL FOR SOIL REINFORCING MAT
 ISSUE DATE: AUGUST 01, 2017
 SHEET NUMBER 6124

DETAIL OF TOP TRENCH

DETAIL OF INTERMEDIATE TRENCH

DETAIL OF BOTTOM TRENCH

DETAIL OF TRANSVERSE OVERLAP

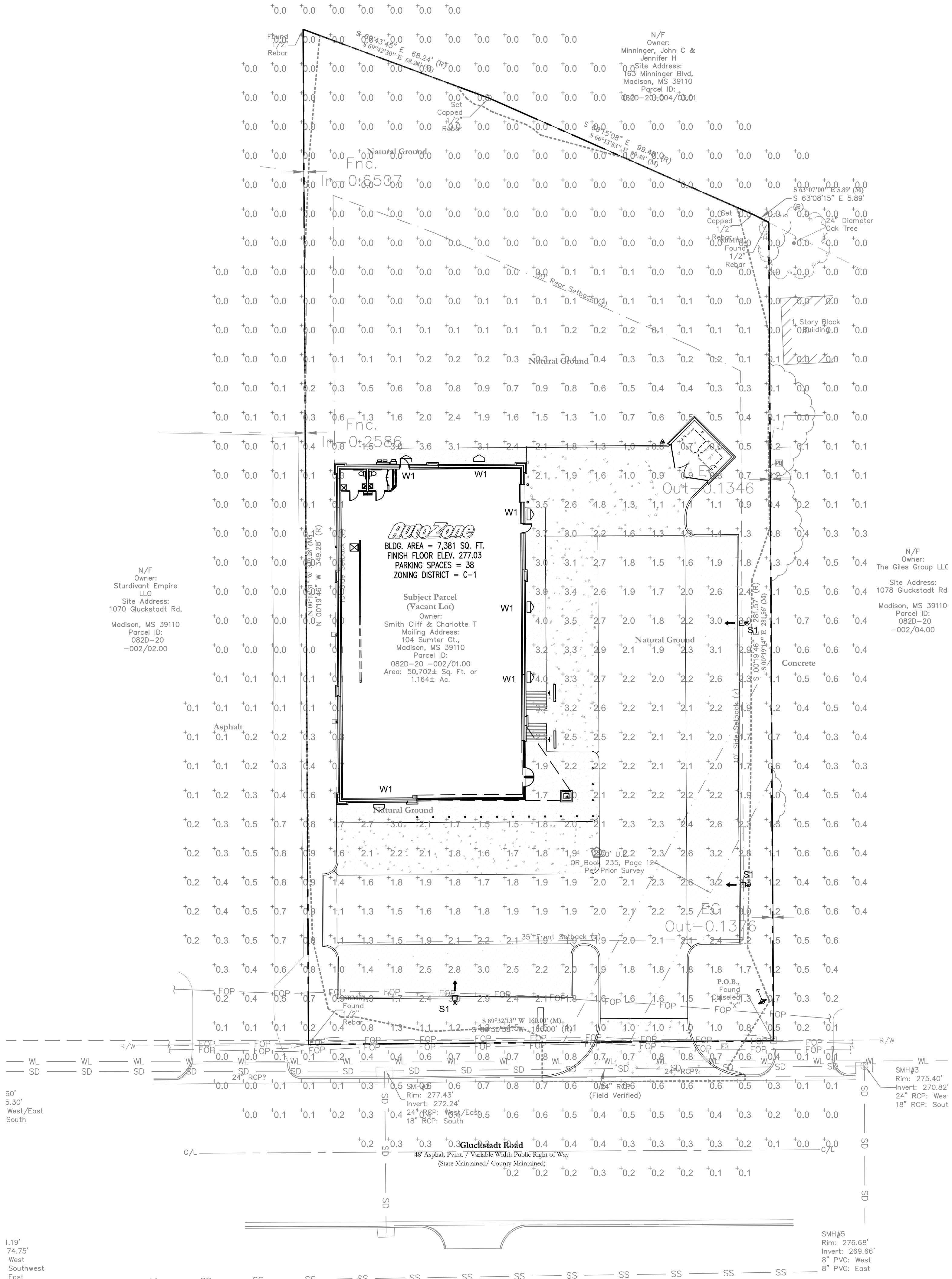
DETAIL OF LONGITUDINAL OVERLAP

DETAIL OF EROSION CONTROL BLANKET

GENERAL NOTES:

1. WHEN METAL PING WITH WAGERS ARE PERMITTED IN PLACE OF WOOD STAKES, THE METAL PING ARE DRIVEN TO ASSURE THAT THE WAGERS WITH MAT UNDERNEATH ARE FLUSH WITH THE GROUND LEAVING NO PROJECTION OF THE PING ABOVE THE GROUND LINE.
2. SOIL REINFORCING MAT SHALL BE USED WHERE SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
 ROADWAY DESIGN DIVISION
 STANDARD PLAN
EROSION CONTROL BLANKET
 ISSUE DATE: AUGUST 01, 2017
 SHEET NUMBER 6131



| LUMINAIRE SCHEDULE | | | | | | |
|--------------------|--------|--|-----------------|----------|------|-----|
| TYP | SYMBOL | DESCRIPTION | LAMP | LUMENS | LLF | QTY |
| S1 | | LITHONIA - DSX1 LED 60C IES FULL CUTOFF DISTRIBUTION MOUNTED 0° DOWN POSITION MOUNTED HEIGHT = 28'-0" | LED - 209 WATTS | ABSOLUTE | 0.95 | 3 |
| W1 | | LITHONIA - DSW1 LED 10C IESNA FULL CUTOFF DISTRIBUTION MOUNTED 0° DOWN POSITION MOUNTED HEIGHT = 12'-0" | LED - 40 WATTS | ABSOLUTE | 0.95 | 6 |

| STATISTICS | | | | | | |
|-------------|--------|--------|--------|--------|---------|---------|
| Description | Symbol | Avg | Max | Min | Max/Min | Avg/Min |
| Calc Zone | + | 1.0 fc | 4.0 fc | 0.0 fc | N/A | N/A |

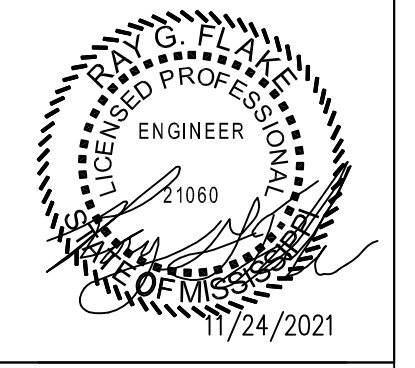
- LIGHTING NOTES:**
1. TIME CONTROLS: ALL SITE LIGHTING IS CONTROLLED AND MONITORED BY AN ENERGY MANAGEMENT SYSTEM CALLED VENSTAR WHICH IS CONTROLLED AT AUTOZONE CORPORATE OFFICES. ALL SITE LIGHTING IS PROGRAMMED TO AUTOMATICALLY TURN ON AT DUSK AND TURN OFF 30 MINUTES AFTER THE CLOSE OF BUSINESS.
 2. ALL FIXTURES ARE FULL CUTOFF DISTRIBUTION AND MOUNTED @ 0° DOWN POSITION.
 3. NO FLOODLIGHTS ARE PROPOSED.
 4. THE LIGHTING PLAN COMPLIES WITH THE PROVISIONS OF SECTION 1907 - LANDSCAPING AND LIGHTING FOR COMMERCIAL DEVELOPMENT IN MLHP OVERLAY DISTRICT LIGHTING STANDARDS AND GUIDELINES.



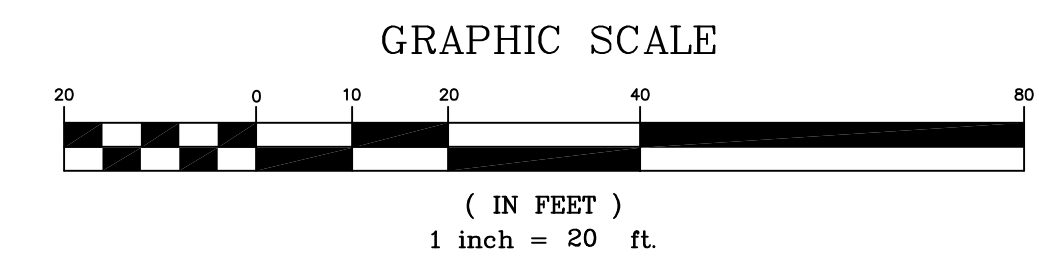
| REVISIONS | | |
|-----------|------|-------------|
| NO. | DATE | DESCRIPTION |
| 4 | | |
| 5 | | |
| 6 | | |

AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 PHOTOMETRIC PLAN

Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searay@construction.com



11/22/2021
 7N2
 PH 5.0



CES Civil Engineering Services
 7705 Spicer Farm Lane
 Fairview, Tennessee 37062
 phone: (615) 533-0401
 fax: (615) 523-8865
 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning

BENCHMARK #1
 1/2" REBAR
 N: 1,097,408.07
 E: 2,365,109.95
 ELEV=277.93

BENCHMARK #2
 1/2" REBAR
 N: 1,097,409.61
 E: 2,365,269.98
 ELEV=272.84

FLOOD NOTE:
 FLOOD ZONE "AE"
 PER FEMA MAP NO. 28089-C0415-F
 EFFECTIVE DATE: MARCH 17, 2010

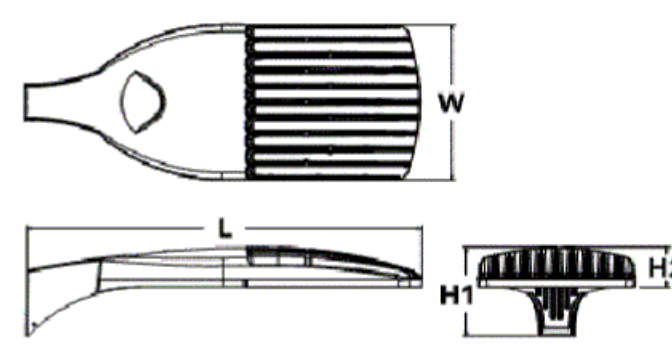
1.19'
 74.75'
 West
 Southwest
 East

SMH#5
 Rim: 276.66'
 Invert: 259.66'
 8" PVC: West
 8" PVC: East



D-Series Size 1 LED Area Luminaire

Specifications
 EPA: 1.01 ft² (0.09 m²)
 Length: 33" (83.8 cm)
 Width: 13" (33.0 cm)
 Height H1: 7-1/2" (19.0 cm)
 Height H2: 3-1/2" (9.1 cm)
 Weight (max): 27 lbs (12.3 kg)



| | |
|----------------|--|
| Catalog Number | |
| Notes | |
| Type | |

Introduction
 The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAR2 PIRHN DDBXD

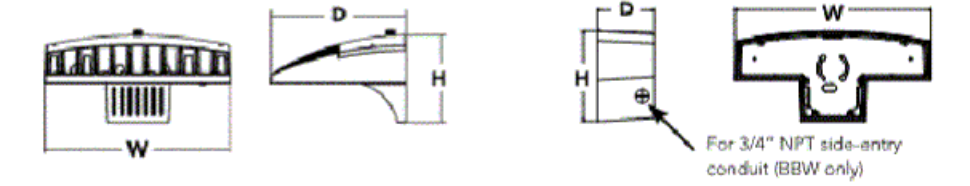
| Series | LEDs | Color temperature | Distribution | Voltage | Mounting |
|----------|------------------------------------|-------------------|-------------------------------|--------------------|--|
| DSX1 LED | Forward optics | 30K 3000K | T1S Type I short (Automotive) | MVOLT ¹ | Shipped included |
| | Rotated optics | 40K 4000K | T2S Type II short | 120 ² | SPA Square pole mounting |
| | P1 P4 ¹ P7 ¹ | 50K 5000K | T2M Type II medium | 208 ³ | RPA Round pole mounting ⁴ |
| | P3 P6 ¹ P9 ¹ | | T3S Type III short | 240 ⁴ | WBA Wall bracket ¹ |
| | | | T3M Type III medium | 277 ⁵ | SPUMBA Square pole universal mounting adaptor ⁴ |
| | | | T4M Type IV medium | 347 ⁶ | RPUMBA Round pole universal mounting adaptor ⁴ |
| | P11 ² P12 ² | | T4M Type IV medium | 480 ⁷ | Shipped separately |
| | P13 ¹² | | TFIM Forward throw medium | | XMAS DDBXD U Most arm mounting bracket adaptor (specify finish) ⁸ |

| Control options | Other options | Finish (optional) |
|---|---|----------------------------------|
| Shipped installed | Shipped installed | DDBXD Dark bronze |
| NLTAR2 0-10v dimming generation 2 enabled ¹⁰ | HS House-side shield ¹¹ | DDBXD Black |
| PIRHN Network, high/low motion/ambient sensor ¹¹ | SF Single fuse (120, 277, 347V) ¹² | DNAXD Natural aluminum |
| PIRHNEMA Network, high/low motion/ambient sensor ¹¹ | DF Double fuse (208, 240, 480V) ¹² | DWAHD White |
| PIRHS Five-pin receptacle only (controls ordered separately) ^{10,11} | L90 Left rotated optics ¹ | DDBTXD Textured dark bronze |
| PIRHT Seven-pin receptacle only (controls ordered separately) ^{10,11} | R90 Right rotated optics ¹ | DDBLXD Textured black |
| DIMG 0-10v dimming wires pulled outside fixture (for use with external control, ordered separately) ¹⁰ | HA 50°C ambient operation ¹ | DNAHXD Textured natural aluminum |
| DS Dual switching ^{9,10,11} | EGS External glare shield | DWHGDD Textured white |



D-Series Size 1 LED Wall Luminaire

Specifications Luminaire
 Width: 13-3/4" (34.9 cm) Weight: 12 lbs (5.4 kg)
 Depth: 10" (25.4 cm)
 Height: 6-3/8" (16.2 cm)



Back Box (BBW, ELCW)
 Width: 13-3/4" (34.9 cm) BBW Weight: 5 lbs (2.3 kg)
 Depth: 4" (10.2 cm) ELCW Weight: 10 lbs (4.5 kg)
 Height: 6-3/8" (16.2 cm)

| | |
|----------------|--|
| Catalog Number | |
| Notes | |
| Type | |

Introduction
 The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance. With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

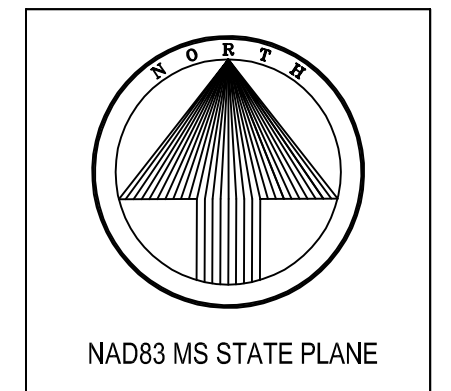
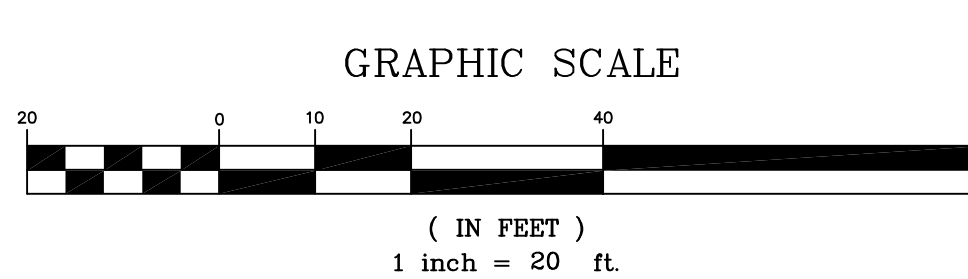
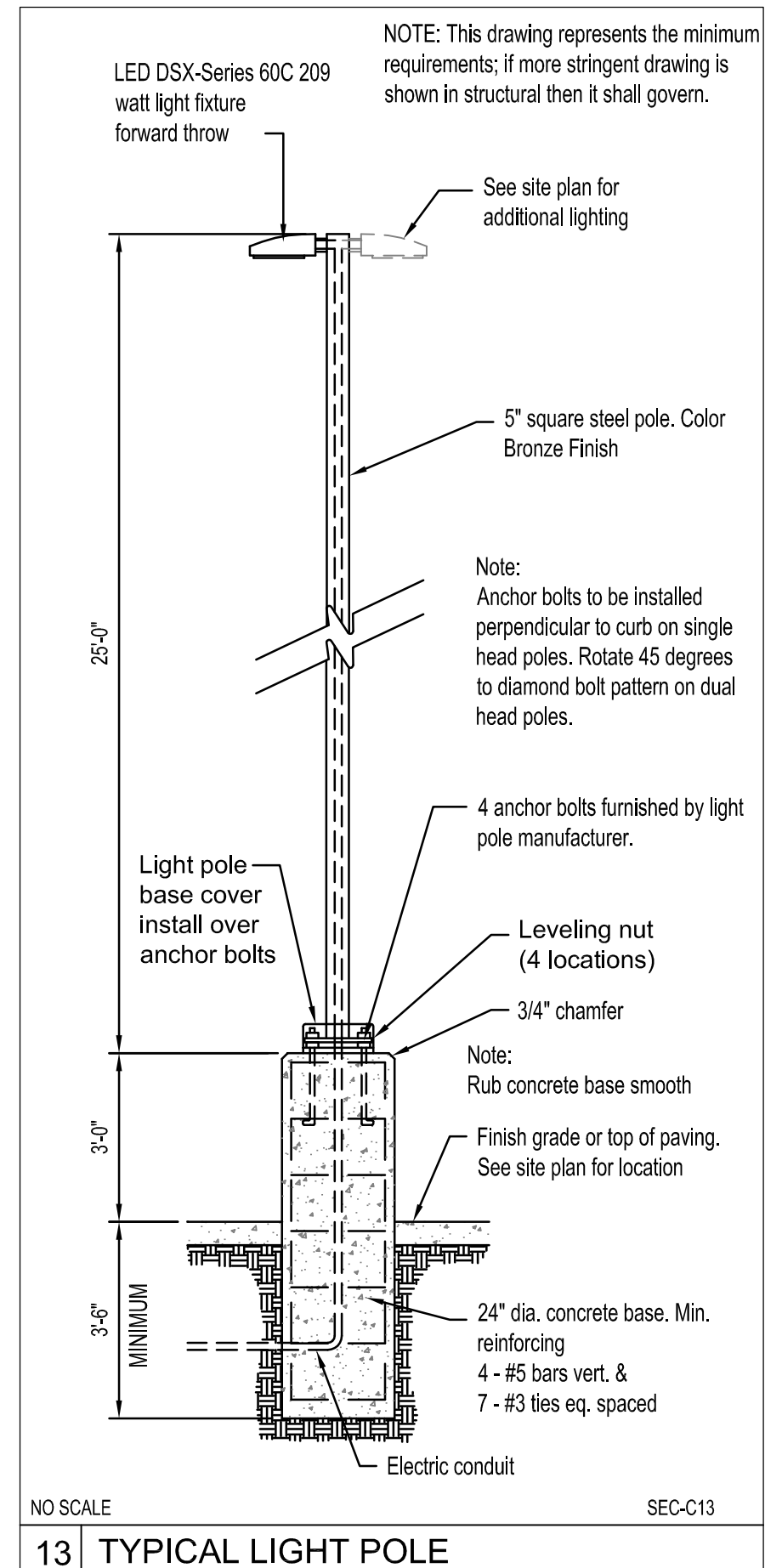
EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

| Series | LEDs | Drive Current | Color temperature | Distribution | Voltage | Mounting | Control Options |
|-----------|---|--------------------------------|---------------------------------|---------------------------|--------------------|--|---|
| DSXW1 LED | 10C 10 LEDs (one engine) | 350 350mA | 30K 3000K | T2S Type II Short | MVOLT ¹ | Shipped included | Shipped installed |
| | 20C 20 LEDs (two engines) ¹ | 530 530mA | 40K 4000K | T2M Type II Medium | 120 ² | (blank) Surface mounting bracket | PE Photoelectric cell, button type ⁴ |
| | | 700 700mA | 50K 5000K | T3S Type III Short | 208 ³ | BBW Surface-mounted back box (for conduit entry) | DIMG 0-10v dimming wires pulled outside fixture (for use with external control, ordered separately) ¹⁰ |
| | | 1000 1000mA (1 A) ¹ | AMBSP Amber glowlight converted | T3M Type III Medium | 240 ⁴ | | PIRHN 180° motion/ambient light sensor, <15' range ft. ¹¹ |
| | | | | T4M Type IV Medium | 277 ⁵ | | PIRHNFCW Motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 16" ¹¹ |
| | | | | TFIM Forward Throw Medium | 347 ⁶ | | PIRHNFCW Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 16" ¹¹ |
| | | | | | 480 ⁷ | | ELCW Emergency battery backup (includes external component enclosure, CA Title 20 Noncompliant ¹²) |

| Other Options | Finish (optional) |
|---|---|
| Shipped installed | Shipped separately ¹¹ |
| SF Single fuse (120, 277 or 347V) ¹² | DDBXD Dark bronze |
| DF Double fuse (208, 240 or 480V) ¹² | DDBXD Black |
| HS House-side shield ¹¹ | DNAXD Natural aluminum |
| SPO Separate surge protection ¹² | DWAHD White |
| | DDBTXD Textured dark bronze |
| | DDBLXD Textured black |
| | DNAHXD Textured natural aluminum |
| | DWHGDD Textured white |

Accessories
 Ordered and shipped separately.
 DSXW1G House-side shield (see per light type)
 DSXW1WV Bid detector spikes
 DSXW1GK Integral glare assembly

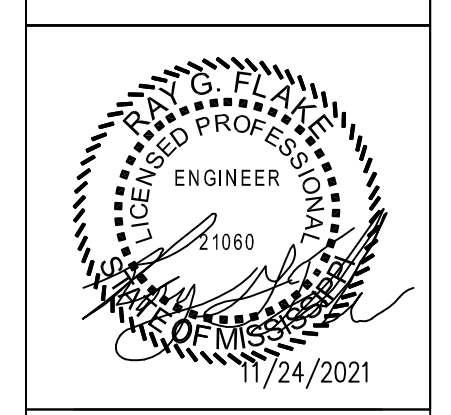
NOTES
 1 20C, 1000 is not available with PIR, PIRHN, PIRHNFCW or PIRHNFCV.
 2 MVOLT driver operates on any line voltage from 120-277V (50/60Hz).
 3 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
 4 Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRHN.
 5 Back box ships installed or future. Cannot be field installed. Cannot be ordered as an accessory.
 6 Photocell (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRHN).
 7 Reference Motion Sensor table on page 3.
 8 Cold weather (20°C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency inside ES files located on product page at www.lithonia.com.
 9 Not available with SPO.
 10 Not available with ELCW.
 11 Also available as a separate accessory; see Accessories information.
 12 Not available with ELCW.



| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
PHOTOMETRIC DETAILS

Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com



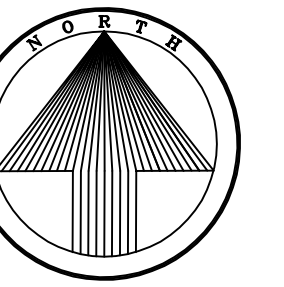
11/22/2021
 7N2
PH 5.1

CEs Civil Engineering Services
 7705 Spicer Farm Lane phone: (615) 533-0401
 Fairview, Tennessee fax: (615) 523-8865
 37062 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning

BENCHMARK #1
 1/2" REBAR
 N: 1,097,408.07
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BENCHMARK #2
 1/2" REBAR
 N: 1,097,409.61
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 ELEV= 272.84

FLOOD NOTE:
 FLOOD ZONE "AE"
 PER FEMA MAP NO. 28089-C0415-F
 EFFECTIVE DATE: MARCH 17, 2010



NAD83 MS STATE PLANE

REVISIONS

AutoZone Store No. 0152
WEST OF 1078 GLUCKSTADT RD

GLUCKSTADT MS 39110
SITE PLAN

Owner / Developer: AUTOZONE STORES LLC
123 South Front Street, 3rd Floor
Memphis, Tennessee 38103
TEL: (901) 495-8994 FAX: (901) 495-8969

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Cindy.searcy@construction.com

10/08/2021

7N2

C1.0

SITE LEGEND

- 10 PARKING STALL COUNT - SEE PLANS
- REGULAR ASPHALT PAVING (SEE DETAIL SHEET)
- HEAVY DUTY ASPHALT PAVING (SEE DETAIL SHEET)
- CONCRETE SIDEWALK (SEE DETAIL SHEET)
- HEAVY DUTY CONCRETE PAVING (SEE DETAIL SHEET)
- REGULAR DUTY CONCRETE PAVEMENT AT PARKING STALLS AROUND BUILDING (SEE DETAIL SHEET)

KEYNOTES

- PAVEMENT AND CURBING**
- 1 CONCRETE CURB @ CONCRETE/ASPHALT PAVING - SEE DETAIL 1 & 2 / C4.0
 - 2 CONCRETE SIDEWALK - SEE DETAIL 27/C4.0 - SEE DETAIL 22/C4.0 FOR SIDEWALKS AROUND BUILDING
 - 3 REGULAR DUTY CONCRETE PAVING - SEE DTL. 4/ C4.0. EXPANSION AND CONTROL JOINTS - SEE DTL. 23 & 24/ C4.0. MAXIMUM SPACING FOR CONTROL JOINTS PER SOILS REPORT.
 - 4 HEAVY DUTY CONCRETE PAVING - SEE DTL. 4/ C4.0. EXPANSION AND CONTROL JOINTS - SEE DTL. 23 & 24/ C4.0. MAXIMUM SPACING FOR CONTROL JOINTS PER SOILS REPORT.
 - 5 REGULAR DUTY ASPHALT PAVING - SEE DTL. 3/ C4.0. PROVIDE ALTERNATE CONCRETE BID - SEE DTL. 4/ C4.0
 - 6 HEAVY DUTY ASPHALT PAVING - SEE DTL. 3/ C4.0. PROVIDE ALTERNATE CONCRETE BID - SEE DTL. 4/ C4.0
 - 7 PROVIDE NEW CURB CUT & APPROACH PER LOCAL CODES & SPECS. - ENTRANCE TO BE HEAVY DUTY CONCRETE - SEE DTL. 3/ C4.0
- PAVEMENT STRIPING / ADA FEATURES / TRAFFIC SIGNAGE**
- 15 ACCESSIBLE RAMP - SEE DETAIL 19/C4.0 - MAX. SLOPE 1:12 (8.33%). MAX. CROSS SLOPE 1:50 (2.00%) TRUNCATED DOME TO BE A CONTRASTING COLOR.
 - 16 HANDICAP PARKING AREA - SEE THIS PLAN FOR DIMENSIONS - SEE DETAILS 5/7, AND 12/C4.0
 - 17 HANDICAP PARKING SIGN - SEE DETAIL 12/C4.0 G.C. TO PROVIDE ONE VAN ACCESSIBLE SIGN
 - 18 ONSITE PAVEMENT MARKINGS - SEE DETAIL 25 & 28/C4.0
 - 19 4" WIDE PARKING STRIPE PAINTED YELLOW (TYP.)
 - 20 4" WIDE DIAGONAL STRIPES PAINTED YELLOW AT 2 FT. O.C.
 - 21 6'-0" LONG CONCRETE WHEEL STOP PINNED TO PAVEMENT (TYPICAL). LOCATE 3'-0" FROM FACE OF CURB OR SIDEWALK SEE DETAIL 17 / C4.0
- AUTOZONE SITE FEATURES**
- 30 PIPE GUARD - SEE DETAIL 16 / C4.0
 - 31 DUMPSTER LAYOUT - SEE DETAILS 8,9,10, & 11/ C4.0
 - 32 SERVICE DOOR PLAN - SEE DETAIL 15/ C4.0
 - 33 BOLLARD PLAN - SEE DETAIL 14/ C4.0
 - 34 CONCRETE LIGHT POLE BASE - SEE DETAIL 13/ C4.0 AIM LIGHT FIXTURE IN DIRECTION AS INDICATED. SEE ELECTRICAL PLANS FOR ROUTING
 - 35 FREEZELESS YARD HYDRANT AT BUILDING - SEE DETAIL 6 ON SHEET M2
 - 36 APPROXIMATE LOCATION FOR POLE MOUNTED TRANSFORMER PER SERVICE PROVIDER SPECIFICATIONS - COORDINATE WITH SERVICE PROVIDER PRIOR TO CONSTRUCTION
 - 37 PROVIDE DOWNSPOUT CONNECTOR AT BUILDING DOWN SPOUT - SEE ARCHITECTURAL PLANS - SEE DETAIL 21/ C4.0 - SEE GRADING PLAN FOR INVERTS
 - 38 4'-2 1/2" X 2'-0" MONUMENT SIGN 12'-0" OVERALL HEIGHT - SEE SIGNAGE SHEETS FOR DETAILS - FINAL LOCATION AND DESIGN TO BE DETERMINED DURING SIGN PERMIT REVIEW
- ADDITIONAL SITE FEATURES**
- 50 TIE TO EXISTING - MATCH GRADE
 - 51 GRASS AREA - PROVIDE 6" TOPSOIL & SOD COMMON TO REGION ON ALL DISTURBED AREAS NOT TO BE PAVED
 - 52 SLOPE GRADE FROM BACK OF CURB DOWN TO MATCH THE EXISTING/PROPOSED GRADE - SEE GRADING PLAN

GENERAL AZ NOTES

1. PROOF ROLL BUILDING AND ALL PARKING AREAS. NOTIFY THE ARCHITECT OF ANY UNACCEPTABLE AREAS.
2. EDGE OF NEW PAVEMENT TO BE FLUSH WITH EXISTING PAVEMENT.
3. ALL SIDEWALK CURB AND GUTTER STREET PAVING, CURB CUTS, DRIVEWAY APPROACHES, HANDICAP RAMP, ETC. CONSTRUCTED OUTSIDE THE PROPERTY LINE IN THE RIGHT-OF-WAY SHALL CONFORM TO ALL MUNICIPAL AND/OR STATE SPECIFICATIONS AND REQUIREMENTS.
4. FOR AREAS OUTSIDE THE PROPERTY LINES, REPAIR AND/OR REPLACE ALL DAMAGE DONE TO EXISTING ELEMENTS (SIDEWALKS, PAVING, LANDSCAPING, ETC.) AS REQUIRED BY OWNER AND/OR GOVERNING AUTHORITY.
5. FOR PROPOSED UTILITY LOCATIONS, SEE THE UTILITY PLAN.

SITE DATA INFORMATION

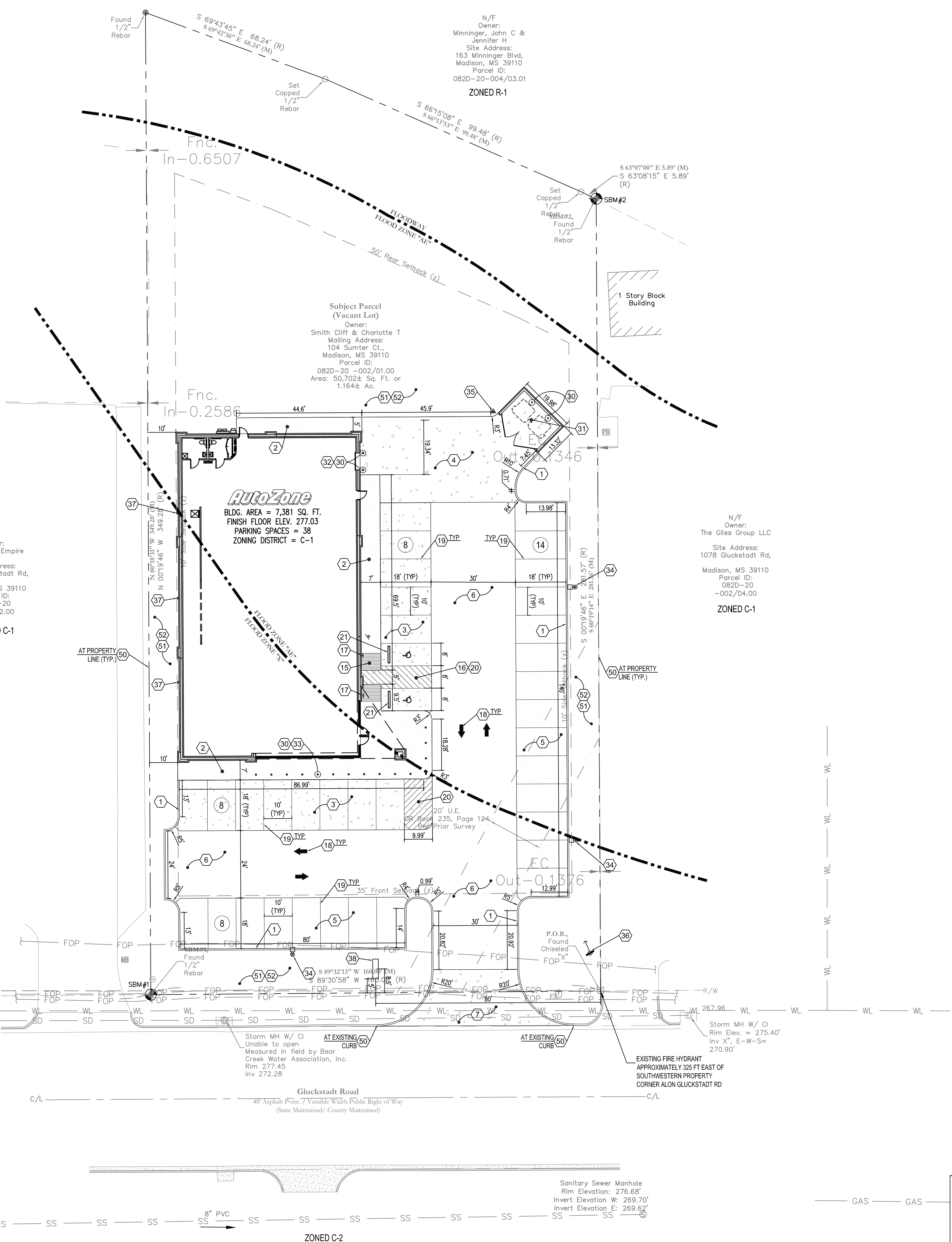
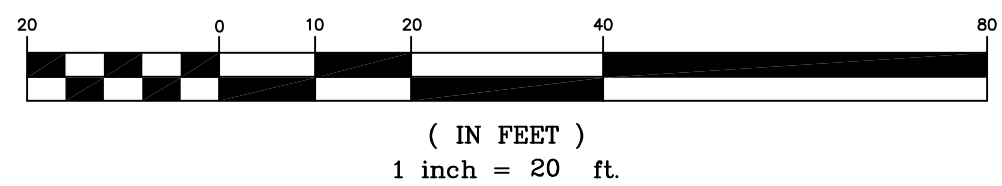
PARKING REQUIRED (1225 SF) = 33
 EXISTING PARKING = 0
 PROPOSED PARKING = 36
 HC SPACES REQUIRED = 2
 HC SPACES PROVIDED = 2
 TOTAL PARKING = 38
 PARKING STALL SIZE = 10'X18'
 ADA PARKING STALL SIZE = 8'X18'
 LOT AREA = 50,702 SF / 1.164 AC
 NUMBER OF BUILDINGS = 1
 BUILDING AREA = 7,381 SF
 FLOOR AREA RATIO = 14.56%

ALL DISTURBED AREA SHALL BE STABILIZED WITH SOD, COMMON TO THE REGION - CONTRACTOR TO GUARANTEE AND MAINTAIN ALL NEW SODDED AREAS FOR 60 DAYS MINIMUM, AND ALL SODDED AREAS ARE STABILIZED.

PROVIDE (2) 4" PVC CONDUITS UNDER DRIVES TO ALL LANDSCAPED AREAS. PROVIDE 2 COVER AND CAP OFF. MARK STUB OUT WITH FLAG/MARKER.

ALL NEW GRASS SODDED AREAS TO BE IRRIGATED - IRRIGATION PLAN TO BE DESIGN BUILD BY G.C. - COORDINATE WITH A SOUTH CAROLINA CERTIFIED IRRIGATION CONTRACTOR

GRAPHIC SCALE



N/F
 Owner:
 Munninger, John C &
 Jennifer H
 Site Address:
 163 Munninger Blvd,
 Madison, MS 39110
 Parcel ID:
 082D-20-004/03.01
 ZONED R-1

Subject Parcel
 (Vacant Lot)
 Owner:
 Smith, Cliff & Charlotte T
 Mailing Address:
 104 Sumter Ct.,
 Madison, MS 39110
 Parcel ID:
 082D-20-002/01.00
 Area: 50,702± Sq. Ft. or
 1.164± Ac.

N/F
 Owner:
 The Giles Group LLC
 Site Address:
 1078 Gluckstadt Rd,
 Madison, MS 39110
 Parcel ID:
 082D-20-002/04.00
 ZONED C-1

N/F
 Owner:
 Sturdivant, Empire
 LLC
 Site Address:
 1070 Gluckstadt Rd,
 Madison, MS 39110
 Parcel ID:
 082D-20-002/02.00
 ZONED C-1

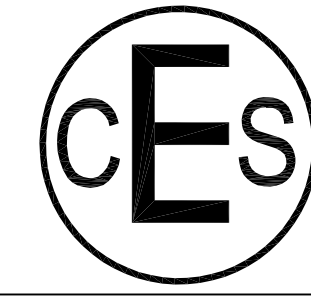
Sanitary Sewer Manhole
 Rim Elevation: 281.19'
 Invert Elevation W: 274.81'
 Invert Elevation S: 274.77'
 Invert Elevation E: 274.67'

Sanitary Sewer Manhole
 Rim Elevation: 276.68'
 Invert Elevation W: 269.70'
 Invert Elevation E: 269.62'

FLOOD NOTE:
 FLOOD ZONE "AE"
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 Engineering, Environmental, Land Planning

GENERAL UTILITY NOTES

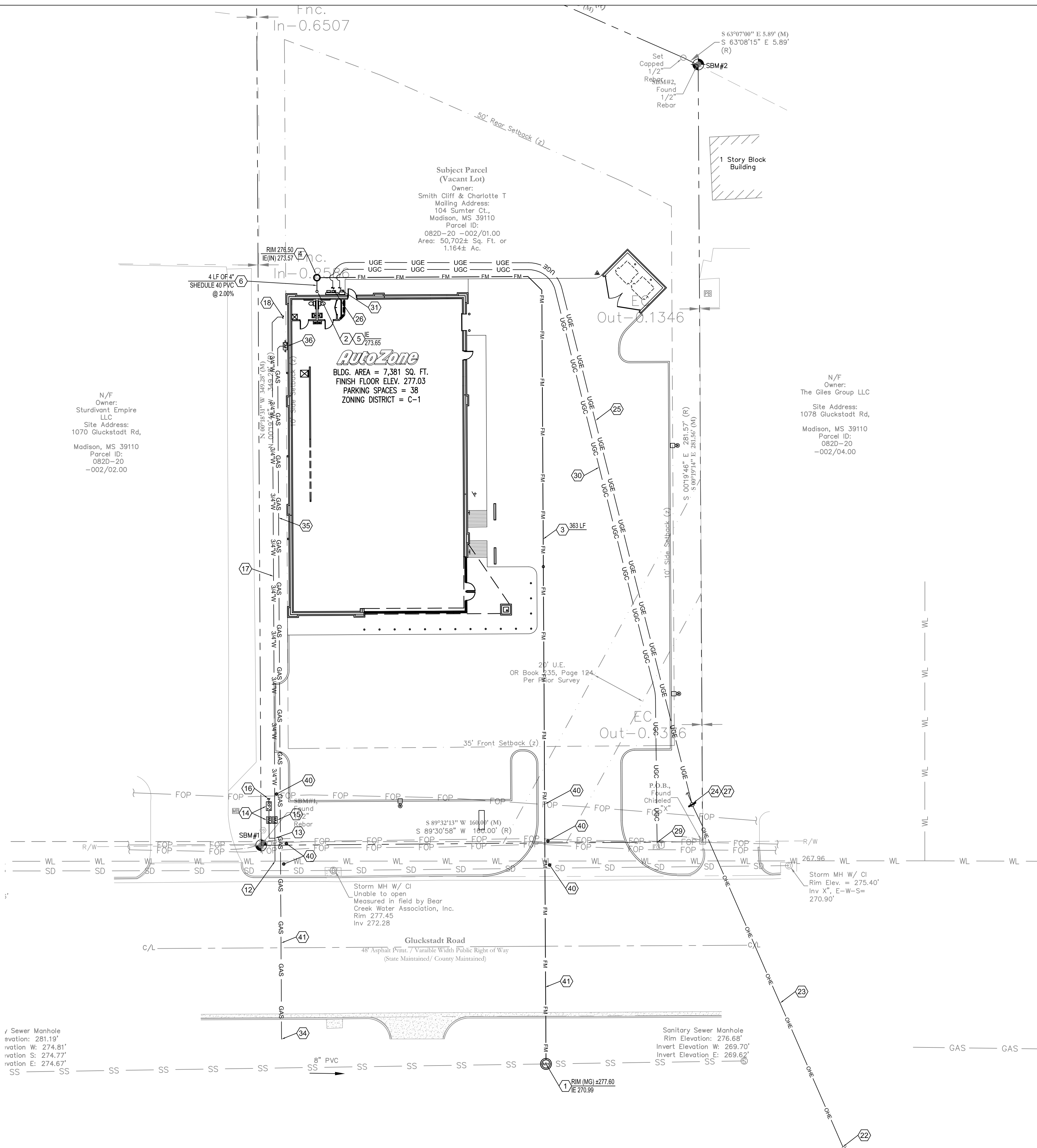
- ALL UTILITIES SHOWN ARE APPROXIMATE LOCATIONS ONLY AND HAVE BEEN COMPILED FROM THE LATEST AVAILABLE MAPPING. THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
- GENERAL CONTRACTOR TO COORDINATE WITH THE LOCAL UTILITY COMPANIES FOR ALL LOCATIONS AND CONNECTIONS. A PRECONSTRUCTION MEETING WITH THE VARIOUS UTILITY COMPANIES, IS REQUIRED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE SEWERS CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT AUTOZONE IN THE EVENT OF ANY UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
- THE CONTRACTOR SHALL INSURE THAT ALL UTILITY COMPANIES AND CITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL PERFORM PROPER COORDINATION WITH THE RESPECTIVE UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY COMPANIES AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTION, RELOCATIONS, INSPECTIONS, AND DEMOLITION. (AUTOZONE TO REIMBURSE GENERAL CONTRACTOR FOR ALL SANITARY SEWER AND WATER TAP FEES).
- ALL VALVE BOXES AND CURB BOXES SHALL BE ADJUSTED TO THE FINAL GRADES. ALL CURB BOXES SHALL BE LOCATED IN GRASSED AREAS UNLESS INDICATED OTHERWISE ON THE PLANS.
- SANITARY LATERAL SHALL MAINTAIN (10' MIN. HORIZONTAL 1.5' VERTICAL MIN.) SEPARATION DISTANCE FROM WATER LINES UNLESS OTHERWISE SHOWN, OR ADDITIONAL PROTECTION MEASURES WILL BE REQUIRED. WHERE WATER LINE CROSSES ABOVE SANITARY LATERAL BY LESS THAN 2' VERTICAL, A CONCRETE ENCASMENT SHALL BE INSTALLED. CONTRACTOR SHALL CENTER ONE JOINT OF PIPE AT CROSSING.
- THIS PLAN DETAILS PIPES UP TO 5' FROM THE BUILDING FACE. REFER TO THE BUILDING DRAWINGS FOR BUILDING CONNECTIONS, SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY.
- ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT AND REPLACED IN ACCORDANCE WITH THE PAVEMENT REPAIR REQUIREMENTS OF THE GOVERNING AUTHORITY.
- WATER PIPE SHALL BE PEX (HDPE) TUBING.
- ALL SANITARY SEWER MAIN LINES SHALL BE SCHEDULE 40 PVC PIPE (EXCEPT AS NOTED ON PLANS). ALL PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURE.

AUTOZONE WATER NOTES:

ALL WATER INFRASTRUCTURE CONSTRUCTION TO BE COORDINATED WITH THE LOCAL UTILITY SERVICE DEPARTMENT.
 AUTOZONE TO REIMBURSE GENERAL CONTRACTOR FOR ALL SANITARY SEWER, GAS, AND WATER TAP FEES.

UTILITY CONTACTS

- WATER DEPARTMENT**
 MADISONVILLE WATER
 400 COLLEGE STREET N
 MADISONVILLE, TN 37354
 FRED CAGLE - COMMISSIONER
 (423)572-0554
- SANITARY SEWER DEPARTMENT**
 MADISONVILLE SANITATION
 400 COLLEGE STREET N
 MADISONVILLE, TN 37354
 CHARLIE McDONALD - COMMISSIONER
 (423)572-0554
- ELECTRIC DEPARTMENT**
 FORT LOUDOUN ELECTRIC COOPERATIVE
 116 TELLICO PORT RD
 VONORE, TN 37885
 (877)353-2874
- GAS DEPARTMENT**
 MADISONVILLE WATER
 400 COLLEGE STREET N
 MADISONVILLE, TN 37354
 FRED CAGLE - COMMISSIONER
 (423)572-0554
- COMMUNICATIONS**



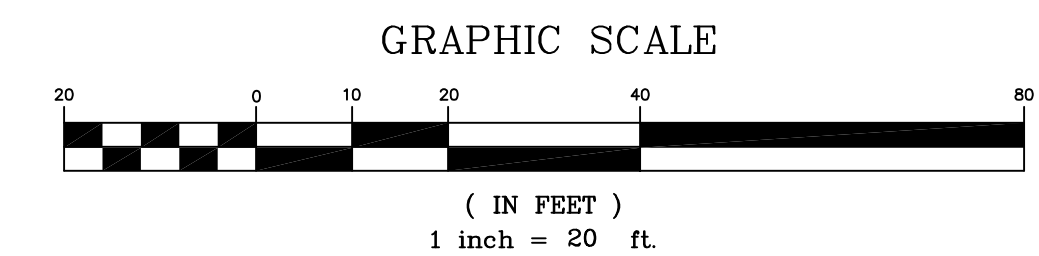
PROPOSED UTILITY LEGEND

- FM LOW PRESSURE FORCE MAIN FOR SANITARY SEWER SERVICE PER LOCAL SERVICE PROVIDER SPECS.
- W WATER LINE PER LOCAL UTILITY CO SPECS.
- GAS GAS LINE PER LOCAL UTILITY CO SPECS.
- UGE UNDERGROUND ELECTRIC SERVICE PER LOCAL UTILITY CO SPECS.
- UGC UNDERGROUND TELEPHONE AND COMMUNICATIONS SERVICE PER LOCAL UTILITY CO SPECS.
- RFBP BACK FLOW PREVENTER PER LOCAL UTILITY CO SPECS.
- WM WATER METER PER LOCAL UTILITY CO SPECS.

PROPOSED UTILITY BLOCK NOTES

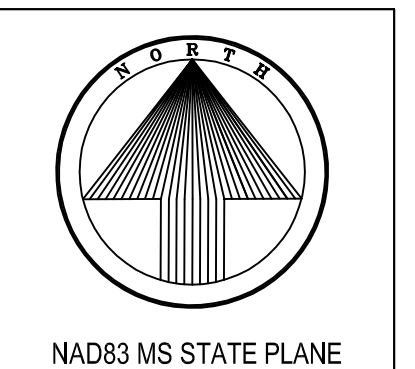
- SANITARY SEWER SERVICE:**
- TIE TO EXISTING MAIN WITH PRECAST CONCRETE MANHOLE PER SERVICE PROVIDER SPECS - COORDINATE WITH SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - SANITARY SEWER ENTRY TO BUILDING - SEE ELEVATION THIS SHEET - SEE PLUMBING PLANS FOR CONTINUATION AND POINT OF ENTRY
 - INSTALL SCHEDULE 40 PVC LOW PRESSURE FORCE MAIN FOR SANITARY SEWER SERVICE PER LOCAL SERVICE PROVIDER SPECS.
 - INSTALL 2HP SIMPLEX GRINDER PUMP STATION WITH 24"X22" TANK WITH HEAVY DUTY TRAFFIC RATED LID - RINGS AND LIDS MUST BE WILCAN 1384
 - INSTALL SANITARY SEWER CLEANOUT PER LOCAL SERVICE PROVIDER SPECS. - SEE SIZE, TYPE AND SLOPE THIS SHEET - SEE DETAIL SHEET
 - INSTALL SCHEDULE 40 PVC SANITARY SEWER LINE PER LOCAL SERVICE PROVIDER SPECS. - SEE SIZE AND SLOPE THIS SHEET
- WATER SERVICE:**
- CONNECT TO EXISTING WATER MAIN WITH 1.5" TAPPING SLEEVE AND VALVE PER LOCAL SERVICE PROVIDER SPECS - COORDINATE WITH SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - PROVIDE 1.5" WATERLINE AND 1.5" TEE WITH 3/4" REDUCER FOR DOMESTIC SERVICE AND 1" REDUCER FOR IRRIGATION SERVICE - PER SERVICE PROVIDER SPECS.
 - PROVIDE 1" METER AND VALVE WITH ABOVE GROUND RFBP AND ENCLOSURE FOR IRRIGATION SERVICE PER LOCAL SERVICE PROVIDER SPECS. - COORDINATE WITH SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - PROVIDE 3/4" METER AND VALVE FOR DOMESTIC WATER SERVICE PER LOCAL SERVICE PROVIDER SPECS. - COORDINATE WITH SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - STUB OUT 1" SCH 40 PVC LINE FOR IRRIGATION
 - PROVIDE DOMESTIC WATER SERVICE LINE - INSTALL 1" CLASS 200, DR9 HDPE PIPE (POLYPIPE PWA-PE348/PE388 OR APPROVED EQUAL) - COORDINATE WITH SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - DOMESTIC WATER SERVICE ENTRY WITH INTERNAL 1" RFBP PER CITY SPECS. - SEE PLUMBING PLANS
- ELECTRIC SERVICE:**
- CONNECTION TO EXISTING ELECTRICAL SERVICE PER LOCAL SERVICE PROVIDER SPECS. - G.C. TO COORDINATE WITH LOCAL SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - PROVIDE PRIMARY OVERHEAD ELECTRICAL PER LOCAL SERVICE PROVIDER SPECS. - COORDINATE WITH LOCAL SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - PROVIDE POLE MOUNTED TRANSFORMER - COORDINATE WITH LOCAL SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - PROVIDE SECONDARY UNDERGROUND ELECTRIC PER LOCAL SERVICE PROVIDER SPECS. - COORDINATE WITH LOCAL SERVICE PROVIDER PRIOR TO ANY WORK DONE - SEE ELECTRICAL PLANS FOR CONDUIT SIZE AND CONNECTION POINT INTO THE BUILDING.
 - ELECTRIC SERVICE POINT OF ENTRY INTO BUILDING - SEE ELECTRICAL PLANS FOR CONDUIT SIZE AND CONNECTION POINT INTO THE BUILDING
 - PROVIDE SERVICE POLE WITH GUY WIRE(S) PER LOCAL SERVICE PROVIDER SPECS. - COORDINATE WITH LOCAL SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - POINT OF CONNECTION FOR TELEPHONE / COMMUNICATIONS SERVICE PER SERVICE PROVIDER SPECS. - COORDINATE WITH SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - PROVIDE UNDERGROUND TELEPHONE / COMMUNICATIONS PER LOCAL SERVICE PROVIDER REQUIREMENTS COORDINATE WITH LOCAL SERVICE PROVIDERS PRIOR TO ANY WORK DONE - SEE M.E.P. PLANS FOR DEMANDS, SIZE, AND CONNECTION POINT INTO THE BUILDING.
 - UNDERGROUND TELEPHONE / COMMUNICATIONS POINT INTO THE BUILDING - COORDINATE WITH ELECTRIC SERVICE PROVIDER PRIOR TO ANY WORK DONE - SEE M.E.P. PLANS FOR DEMANDS, SIZE, AND CONNECTION POINT INTO THE BUILDING - PROVIDE BOLLARD SEE PLAN - SEE DETAIL
- GAS SERVICE:**
- SERVICE PROVIDER TO TIE TO EXISTING GAS LINE PER LOCAL SERVICE PROVIDER REQUIREMENTS - COORDINATE WITH LOCAL SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - GAS SERVICE PER LOCAL SERVICE PROVIDER SPECS. - COORDINATE WITH SERVICE PROVIDER PRIOR TO ANY WORK DONE
 - GAS METER AND SERVICE POINT INTO THE BUILDING - COORDINATE WITH ELECTRIC SERVICE PROVIDER PRIOR TO ANY WORK DONE - SEE M.E.P. PLANS FOR DEMANDS, SIZE, AND CONNECTION POINT INTO THE BUILDING
- ADDITIONAL KEY NOTES:**
- UTILITY CROSSING PER SERVICE PROVIDER SPECS. - COORDINATE WITH SERVICE PROVIDERS PRIOR TO ANY WORK DONE
 - SERVICE LINE TO BE BROUGHT TO PROPERTY UNDER EXISTING ROAD BY DIRECTIONAL DRILLING - COORDINATE WITH LOCAL SERVICE PROVIDER PRIOR TO ANY WORK DONE - FIELD VERIFY FOR EXISTING UTILITIES PRIOR TO ANY WORK DONE

NOTE:
 PROVIDE (2) 4" PVC CONDUITS UNDER DRIVES TO ALL LANDSCAPED AREAS. PROVIDE 2 COVER AND CAP OFF. MARK STUB OUT WITH FLAG/MARKER.
 ALL LANDSCAPED AREAS TO BE IRRIGATED (IRRIGATION PLAN TO BE SUBBED OUT THRU G.C.) - SEE LANDSCAPE DRAWINGS FOR PLANTINGS AND DETAILS
 SEE M.E.P. PLANS FOR ALL UTILITY SERVICE ENTRIES. LOCATIONS SHOW ARE APPROXIMATE.



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| | | |
|--|--|---|
| BENCHMARK #1 1/2" REBAR N: 1,097,408.07 E: 2,365,109.98 ELEV=277.93 | BENCHMARK #2 1/2" REBAR N: 1,097,409.61 E: 2,365,269.98 ELEV=272.84 | FLOOD NOTE: FLOOD ZONE "AE" PER FEMA MAP NO. 28089-C0415-F EFFECTIVE DATE: MARCH 17, 2010 |
|--|--|---|



| | | | |
|-----------|---|---|---|
| REVISIONS | 4 | 5 | 6 |
| | 1 | 2 | 3 |
| | | | |

AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
 UTILITY PLAN

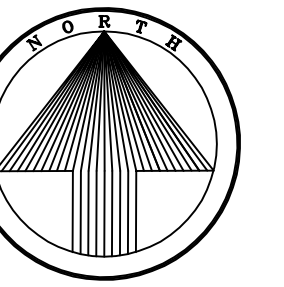
Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com

Civil Engineering Services

7705 Spicer Farm Lane
 Fairview, Tennessee 37062
 phone: (615) 533-0401
 fax: (615) 523-8865
 e-mail: ray@civilengineeringservices.net

Engineering, Environmental, Land Planning

10/08/2021
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NAD83 MS STATE PLANE

REVISIONS

AutoZone Store No. 0152
WEST OF 1078 GLUCKSTADT RD

GLUCKSTADT MS 39110
PHOTOMETRIC PLAN

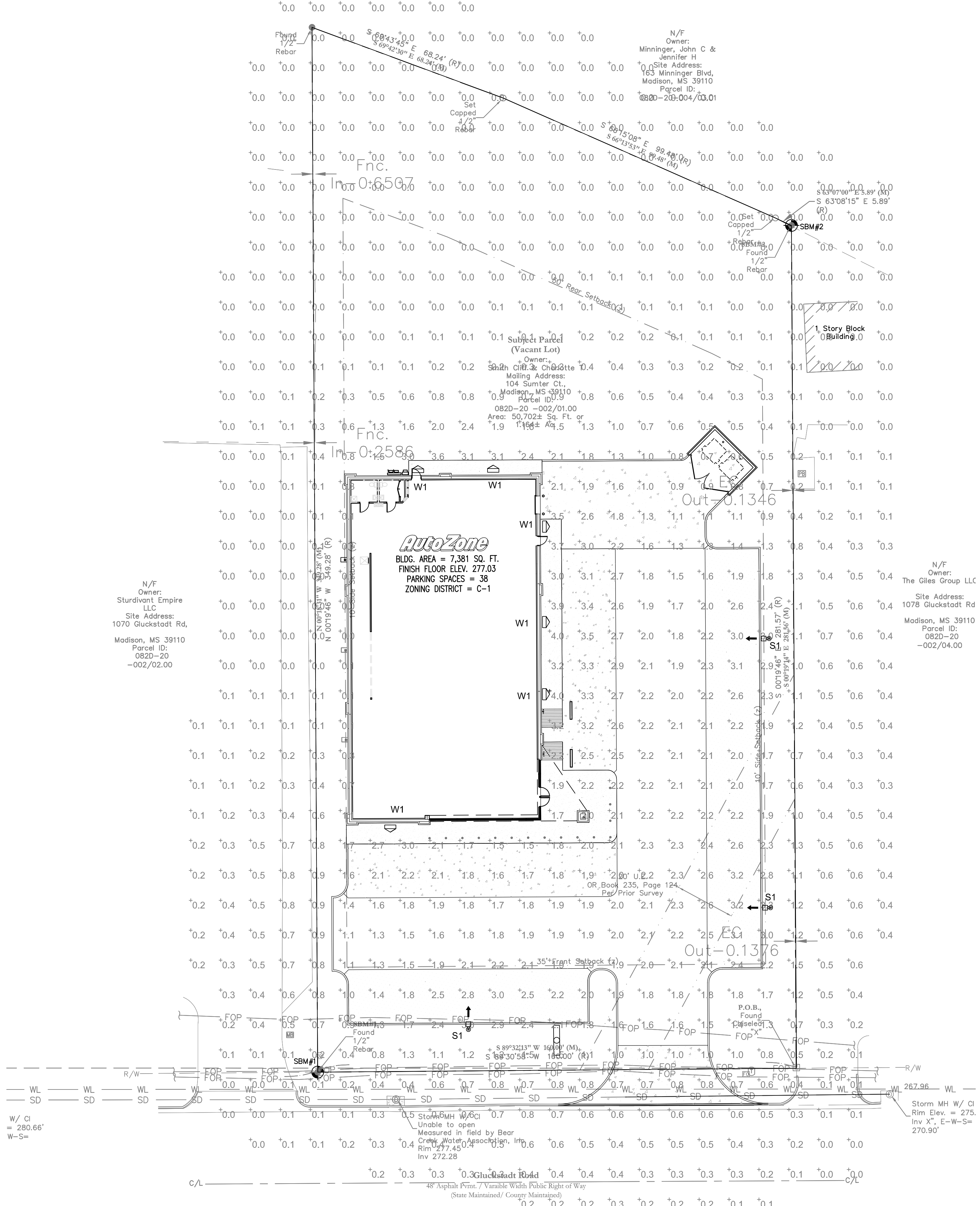
Owner / Developer: AUTOZONE STORES LLC
123 South Front Street, 3rd Floor
Memphis, Tennessee 38103
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Cindy.searcy@construction.com

10/08/2021

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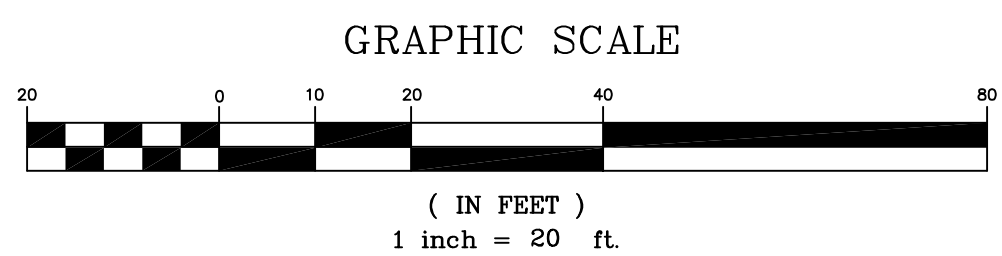
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| LUMINAIRE SCHEDULE | | | | | | |
|--------------------|--------|--|-----------------|----------|------|-----|
| TYP | SYMBOL | DESCRIPTION | LAMP | LUMENS | LLF | QTY |
| S1 | | LITHONIA - DSX1 LED 60C IES FULL CUTOFF DISTRIBUTION MOUNTED 0° DOWN POSITION MOUNTED HEIGHT = 28'-0" | LED - 209 WATTS | ABSOLUTE | 0.95 | 3 |
| W1 | | LITHONIA - DSW1 LED 10C IESNA FULL CUTOFF DISTRIBUTION MOUNTED 0° DOWN POSITION MOUNTED HEIGHT = 12'-0" | LED - 40 WATTS | ABSOLUTE | 0.95 | 6 |

| STATISTICS | | | | | | |
|-------------|--------|--------|--------|--------|---------|---------|
| Description | Symbol | Avg | Max | Min | Max/Min | Avg/Min |
| Calc Zone | + | 1.0 fc | 4.0 fc | 0.0 fc | N/A | N/A |

- LIGHTING NOTES:
1. TIME CONTROLS: ALL SITE LIGHTING IS CONTROLLED AND MONITORED BY AN ENERGY MANAGEMENT SYSTEM CALLED VENSTAR WHICH IS CONTROLLED AT AUTOZONE CORPORATE OFFICES. ALL SITE LIGHTING IS PROGRAMMED TO AUTOMATICALLY TURN ON AT DUSK AND TURN OFF 30 MINUTES AFTER THE CLOSE OF BUSINESS.
 2. ALL FIXTURES ARE FULL CUTOFF DISTRIBUTION AND MOUNTED @ 0° DOWN POSITION.
 3. NO FLOODLIGHTS ARE PROPOSED.
 4. THE LIGHTING PLAN COMPLIES WITH THE PROVISIONS OF SECTION 1907 - LANDSCAPING AND LIGHTING FOR COMMERCIAL DEVELOPMENT IN MLHP OVERLAY DISTRICT LIGHTING STANDARDS AND GUIDELINES.



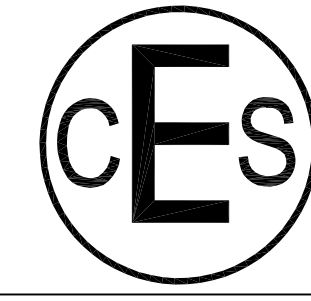
Sanitary Sewer Manhole
Rim Elevation: 281.19'
Invert Elevation W: 274.81'
Invert Elevation S: 274.77'
Invert Elevation E: 274.67'

Sanitary Sewer Manhole
Rim Elevation: 276.68'
Invert Elevation W: 269.70'
Invert Elevation E: 269.62'

BENCHMARK #1
1/2" REBAR
N: 1,097,408.07
E: 2,365,109.95
ELEV=277.93

BENCHMARK #2
1/2" REBAR
N: 1,097,409.61
E: 2,365,269.98
ELEV=272.84

FLOOD NOTE:
FLOOD ZONE "AE"
PER FEMA MAP NO. 28089-C0415-F
EFFECTIVE DATE: MARCH 17, 2010



Civil Engineering Services
7705 Spicer Farm Lane
Fairview, Tennessee 37062
phone: (615) 533-0401
fax: (615) 523-8865
e-mail: ray@civilengineering-services.net
Engineering, Environmental, Land Planning

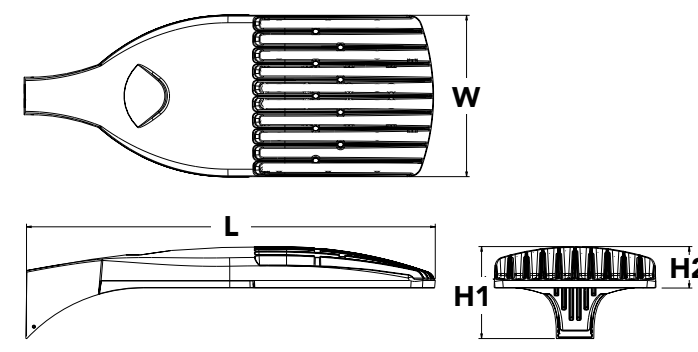


D-Series Size 1 LED Area Luminaire



Specifications

EPA: 1.01 ft² (0.09 m²)
Length: 33" (83.8 cm)
Width: 13" (33.0 cm)
Height H1: 7-1/2" (19.0 cm)
Height H2: 3-1/2" (8.9 cm)
Weight (max): 27 lbs (12.2 kg)



Catalog Number _____
 Notes _____
 Type _____

Hit the Tab key or mouse over the page to see all interactive elements.

Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

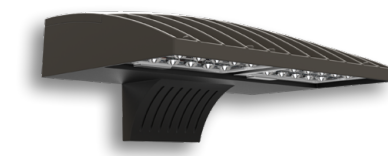
| DSX1 LED Series | LEDs | Color temperature | Distribution | Voltage | Mounting |
|-----------------|------------------------------------|-------------------|-------------------------------|---------------------------------------|---|
| DSX1 LED | Forward optics | | T1S Type I short (Automotive) | T5VS Type V very short ¹ | MVOLT ² |
| | P1 P4 ³ P7 ⁴ | 30K 4000K | T2S Type II short | T5M Type V medium ⁵ | SPA Square pole mounting |
| | P2 P5 ³ P8 | 40K 4000K | T3M Type II medium | T5W Type V wide ⁵ | RPA Round pole mounting ⁶ |
| Rotated optics | P3 P6 ³ P9 ³ | 50K 5000K | T3S Type III short | BLC Backlight control ⁷ | WBA Wall bracket ⁸ |
| | PI10 ⁹ PI2 ⁹ | | T3M Type III medium | LCCO Left corner cutoff ⁸ | SPUMBA Square pole universal mounting adaptor ⁸ |
| | PI1 ⁹ PI3 ¹⁰ | | T4M Type IV medium | RCCO Right corner cutoff ⁸ | RPUMBA Round pole universal mounting adaptor ⁸ |
| | | | TFTM Forward throw medium | | Shipped separately KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁹ |

| Control options | Other options | Finish (required) |
|---|---|----------------------------------|
| Shipped installed | Shipped installed | Shipped installed |
| NLTAIR2 nLight AIR generation 2 enabled ¹¹ | HS House-side shield ¹¹ | DBRDX Dark bronze |
| PIRHN Network, high/low motion/ambient sensor ¹¹ | SF Single fuse (120, 277, 347V) ¹¹ | DBLXD Black |
| PER NEMA twist-lock receptacle only (controls ordered separate) ^{12,13} | DF Double fuse (208, 240, 480V) ¹¹ | DNAXD Natural aluminum |
| PER5 Five-pin receptacle only (controls ordered separate) ^{12,13} | L90 Left rotated optics ¹ | DWHXD White |
| PER7 Seven-pin receptacle only (controls ordered separate) ^{12,13} | R90 Right rotated optics ¹ | DOBKDX Textured dark bronze |
| DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) ¹⁴ | HA 50°C ambient operations ¹ | DBLBDX Textured black |
| DS Dual switching ^{15,16} | Shipped separately | DNATXD Textured natural aluminum |
| | BS Bird spikes ¹⁷ | DWHGDX Textured white |
| | EGS External glare shield | |



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DSX1 LED
 Rev. 07/20/20
 Page 1 of 8



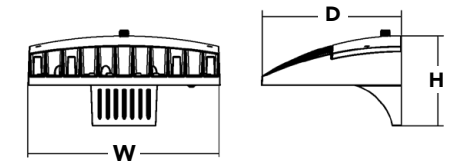
D-Series Size 1 LED Wall Luminaire



d-series

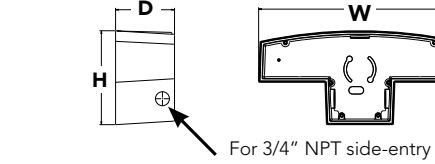
Specifications Luminaire

Width: 13-3/4" (34.9 cm)
Depth: 10" (25.4 cm)
Height: 6-3/8" (16.2 cm)



Back Box (BBW, ELCW)

Width: 13-3/4" (34.9 cm)
Depth: 4" (10.2 cm)
Height: 6-3/8" (16.2 cm)



Catalog Number _____
 Notes _____
 Type _____

Hit the Tab key or mouse over the page to see all interactive elements.

Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

| DSXW1 LED Series | LEDs | Drive Current | Color temperature | Distribution | Voltage | Mounting | Control Options |
|------------------|--|---------------|--------------------------------|---------------------------|--------------------|---|---|
| DSXW1 LED | 10C 10 LEDs (one engine) | | 30K 3000K | T2S Type II Short | MVOLT ¹ | Shipped included (blank) Surface mounting bracket | Shipped installed PE Photoelectric cell, button type ¹ DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) PIR 180° motion/ambient light sensor, <15 mg/ft ² PIRHN 180° motion/ambient light sensor, 15-30 mg/ft ² PIRHNFCV Motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1c ¹¹ PIRHNFCV Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1c ¹¹ ELCW Emergency battery backup (includes external component enclosure), CA Title 20 Noncompliant ¹² |
| | 530 530 mA | | 40K 4000K | T2M Type II Medium | 120 ¹ | | |
| | 700 700 mA | | 50K 5000K | T3S Type III Short | 208 ² | | |
| | 20C 20 LEDs (two engines) ¹ | | AMBCP Amber phosphor converted | T3M Type III Medium | 240 ² | BBW Surface-mounted back box (for conduit entry) | |
| | 1000 1000 mA (1 A) ¹ | | | T4M Type IV Medium | 277 ^{3,4} | | |
| | | | | TFTM Forward Throw Medium | 347 ^{4,4} | | |
| | | | | | 480 ^{4,4} | | |

| Other Options | Shipped separately ¹³ | Finish (required) |
|---|--|----------------------------------|
| Shipped installed | Shipped separately¹³ | Shipped installed |
| SF Single fuse (120, 277 or 347V) ¹⁴ | BSW Bird-deterrent spikes | DBRDX Dark bronze |
| DF Double fuse (208, 240 or 480V) ¹⁴ | VG Vandal guard | DBLXD Black |
| HS House-side shield ¹⁴ | DDL Diffused drop lens | DNAXD Natural aluminum |
| SPD Separate surge protection ¹⁵ | | DBLBDX Textured black |
| | | DNATXD Textured natural aluminum |

Accessories

Ordered and shipped separately.

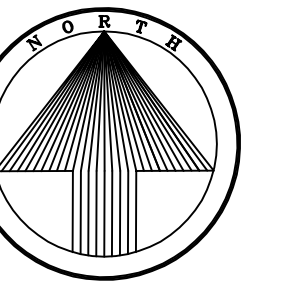
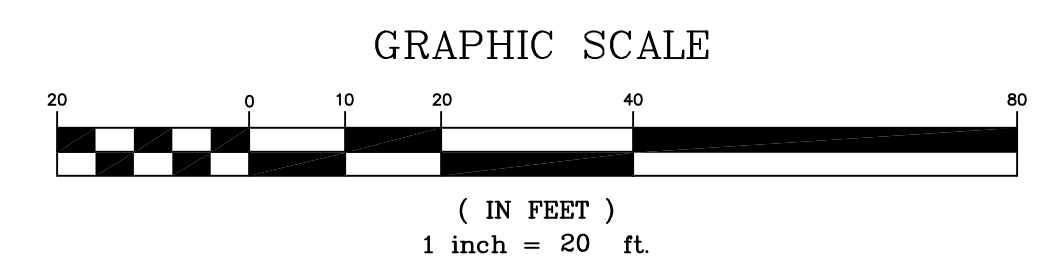
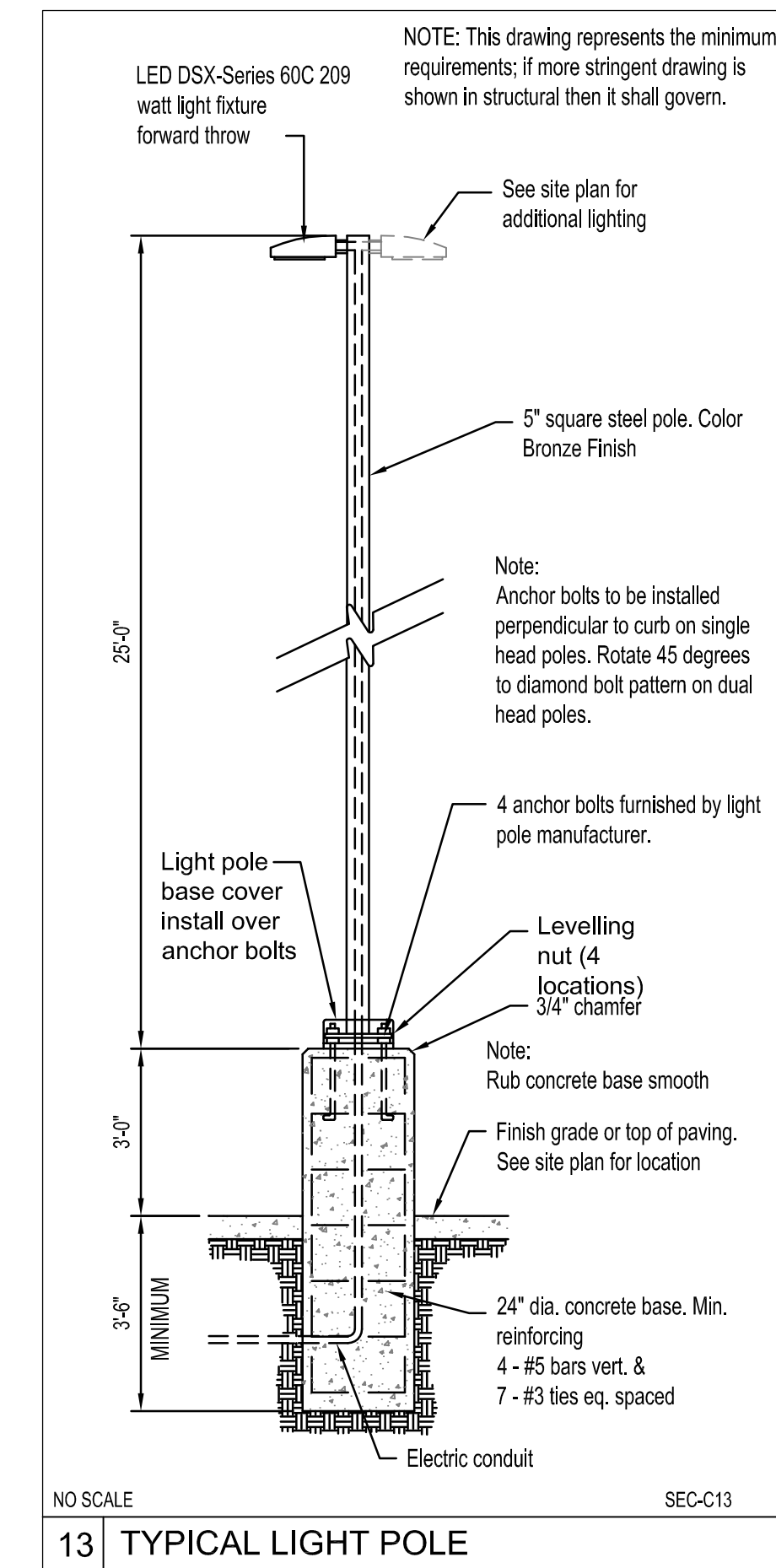
DSXWSU House-side shield (one per light engine)
 DSXWSWU Bird-deterrent spikes
 DSXWVGU Vandal guard accessory

- NOTES
 1. 20C, 1000 is not available with PIR, PIRH, PIRHFCV or PIRHNFCV.
 2. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
 3. Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
 4. Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
 5. Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
 6. Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
 7. Reference Motion Sensor table on page 3.
 8. Cold weather (20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
 9. Not available with SPD.
 10. Not available with ELCW.
 11. Also available as a separate accessory; see Accessories information.
 12. Not available with ELCW.



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DSXW1 LED
 Rev. 2/05/20



NAD83 MS STATE PLANE

REVISIONS

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| | | | | | |

AutoZone Store No. 0152
 WEST OF 1078 GLUCKSTADT RD
 GLUCKSTADT MS 39110
PHOTOMETRIC DETAILS

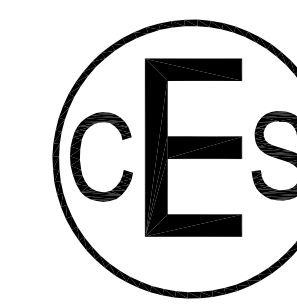
Owner / Developer: AUTOZONE STORES LLC
 123 South Front Street, 3rd Floor
 Memphis, Tennessee 38103
 TEL: (901) 495-8994 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 Dodge Data & Analytics, Tel. 413-930-4215
 Cindy.searcy@construction.com

10/08/2021

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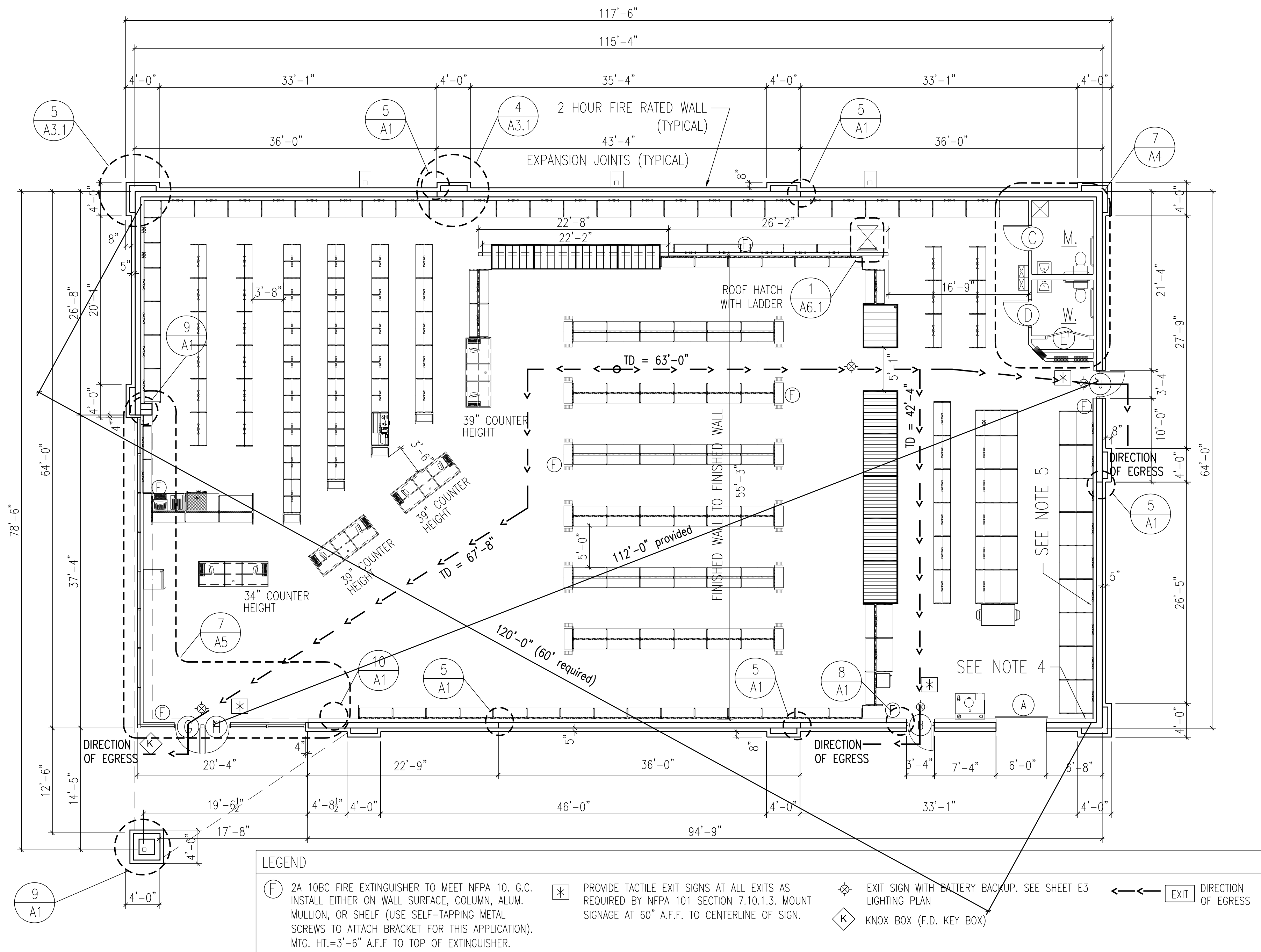
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| | | |
|--|--|--|
| BENCHMARK #1 1/2" REBAR N: 1,097,408.07 E: 2,365,109.95 ELEV= 277.93 | BENCHMARK #2 1/2" REBAR N: 1,097,409.61 E: 2,365,269.98 ELEV= 272.84 | FLOOD NOTE: FLOOD ZONE "AE" PER FEMA MAP NO. 28089-C0415-F EFFECTIVE DATE: MARCH 17, 2010 |
|--|--|--|



Civil Engineering Services

7705 Spicer Farm Lane
 Fairview, Tennessee 37062
 phone: (615) 533-0401
 fax: (615) 523-8865
 e-mail: ray@civilengineeringservices.net
 Engineering, Environmental, Land Planning



LEGEND

(F) 2A 10BC FIRE EXTINGUISHER TO MEET NFPA 10. G.C. INSTALL EITHER ON WALL SURFACE, COLUMN, ALUM. MULLION, OR SHELF (USE SELF-TAPPING METAL SCREWS TO ATTACH BRACKET FOR THIS APPLICATION). MTG. HT.=3'-6" A.F.F TO TOP OF EXTINGUISHER.

(*) PROVIDE TACTILE EXIT SIGNS AT ALL EXITS AS REQUIRED BY NFPA 101 SECTION 7.10.1.3. MOUNT SIGNAGE AT 60" A.F.F. TO CENTERLINE OF SIGN.

(K) EXIT SIGN WITH BATTERY BACKUP. SEE SHEET E3

(X) EXIT SIGN WITH LIGHTING PLAN

(K) KNOX BOX (F.D. KEY BOX)

EXIT DIRECTION OF EGRESS

1/8" = 1'-0"

FLOOR PLAN

- REFER TO STRUCTURAL DRAWINGS FOR ALL DETAILS AND REQUIREMENTS REGARDING FOUNDATIONS, WALL REINFORCING, BOND BEAMS, LINTELS, AND ROOF FRAMING.
- REFER TO CIVIL DRAWINGS FOR LOCATIONS AND DETAILS OF SIDEWALKS, PIPE GUARDS, ETC., AS WELL AS FINISH FLOOR ELEVATION AND EXTERIOR FINISHED GRADES AROUND THE BUILDING.
- INSTALL 6" WIDE, 20 GAUGE GALVANIZED SHEET METAL STRIP BETWEEN THE BACK OF THE GYPSUM BOARD AND THE FACE OF THE METAL STUD AROUND THE ENTIRE PERIMETER OF THE BUILDING, AS WELL AS BOTH SIDES OF THE CURTAIN WALL. TOP OF STRIP TO BE 93" ABOVE FINISHED FLOOR. REFER TO SHEET A-4 FOR DETAILS OF CURTAIN WALL.
- SEE SHEET M-2 FOR LOCATION OF NON FREEZE YARD HYDRANT AND INSTALLATION REQUIREMENTS.
- INSTALL 1/2" X 4'-0" X 8'-0" AC PLYWOOD HORIZONTALLY WITH THE LONG EDGE ON THE FLOOR AND THE END JOINT CENTERING ON A STUD. APPLY PLYWOOD TO THE FACE OF GYPSUM BOARD WITH SCREWS TO FACILITATE FUTURE REPLACEMENT. SEE INTERIOR ELEVATIONS SEE 3/44 DETAIL.

1/8" = 1'-0"

AFND01

2 FLOOR PLAN NOTES

| LOCATION | FLOOR | BASE | WALLS | CLG. | REM. |
|------------|-----------------|------------|--------------|-------------------------|------------|
| | SEALED CONCRETE | VINYL TILE | VINYL | QUARRY TILE | |
| | | | GYPSUM BOARD | FIBER REINFORCED PANELS | METAL DECK |
| | | | | GYPSUM BOARD | |
| SALES AREA | ● | ● | ● | ● | |
| REST ROOMS | ● | ● | ● | ● | |

3/16" = 1'-0"

AFCD01

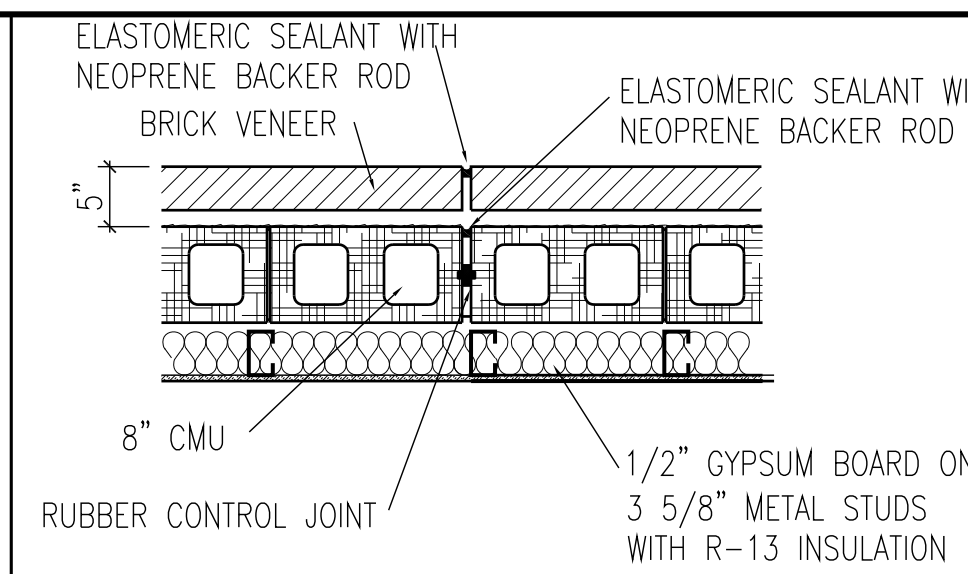
3 ROOM FINISH SCHEDULE

| MK | SIZE | TYPE | FRAME | JAMB DETAIL | HEAD DETAIL | ADA / EXIT HARDWARE | SEE SECTION 08700 OF THE SPECIFICATIONS |
|----|------------------------|----------------------------------|--------------|-------------|----------------------------------|---|---|
| A | 6'-0" x 8'-0" | STEEL OVERHEAD ROLL-UP | STEEL ANGLE | 6;7&8/A1 | 6&7/A1 | | |
| B | 3'-0" x 7'-0" x 1-3/4" | HOLLOW METAL | HOLLOW METAL | 8/A1 | 8/A1 | PUSH BAR EXIT DEVICE WILL HAVE AN INTEGRAL SOUNDER | |
| C | 3'-0" x 6'-8" x 1-3/4" | SOLID CORE WOOD UNDERCUT DOOR 1" | HOLLOW METAL | 8/A1 | 8/A1 | LEVER HANDLE PRIVACY SETS, CLOSER: LCN #P4041, PLATED FINISH US 260, CLOSER IS PARALLEL ARM AND MOUNTS ON PUSH SIDE OF DOOR | |
| D | 3'-0" x 6'-8" x 1-3/4" | SOLID CORE WOOD UNDERCUT DOOR 1" | HOLLOW METAL | 8/A1 | 8/A1 | LEVER HANDLE PRIVACY SETS, CLOSER: LCN #P4041, PLATED FINISH US 260, CLOSER IS PARALLEL ARM AND MOUNTS ON PUSH SIDE OF DOOR | |
| E | 2'-6" x 6'-8" x 1-3/4" | SOLID CORE WOOD PAIR REQUIRED | HOLLOW METAL | 8/A1 | 8/A1 | UNDERCUT DOOR 1" (PAIR REQUIRED) | |
| G | 3'-0" x 7'-0" x 1-3/4" | GLASS & ALUMINUM SEE SHEET A-5 | ALUMINUM | | SEE MANUFACTURER'S SHOP DRAWINGS | SELF CLOSERS MOUNTED ON THE INSIDE OF BUILDING, CYLINDER LOCKS (KEY OPERATION EXTERIOR AND THUMB TURN INTERIOR), PUSH BARS AND PULLS, SIGN OVER EACH EXIT DOOR TO READ AS FOLLOWS "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED" 1" HIGH WHITE LETTERS. | |
| H | 3'-0" x 7'-0" x 1-3/4" | GLASS & ALUMINUM SEE SHEET A-5 | ALUMINUM | | SEE MANUFACTURER'S SHOP DRAWINGS | | |
| J | 3'-0" x 7'-0" x 1-3/4" | HOLLOW METAL | HOLLOW METAL | 8/A1 | 8/A1 | PUSH BAR EXIT DEVICE | |

3/32" = 1'-0"

ADCC01

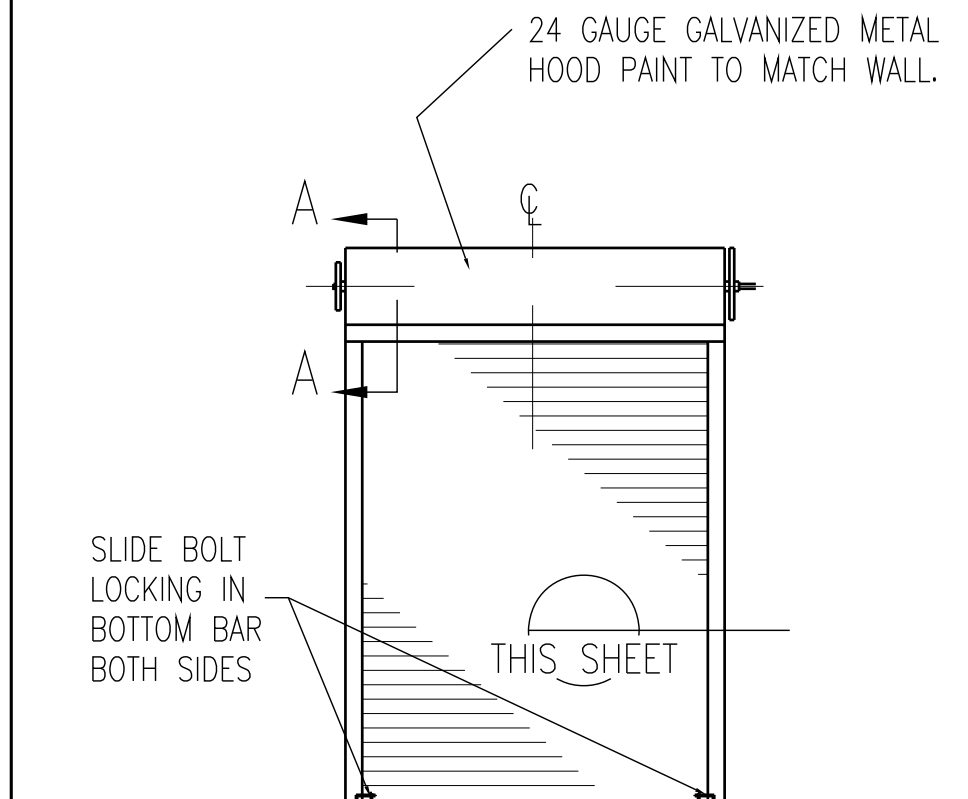
4 DOOR SCHEDULE - HOLLOW METAL DOORS & FRAMES



NOTE: SEE STRUCTURAL DRAWINGS FOR REINFORCING REQUIREMENTS

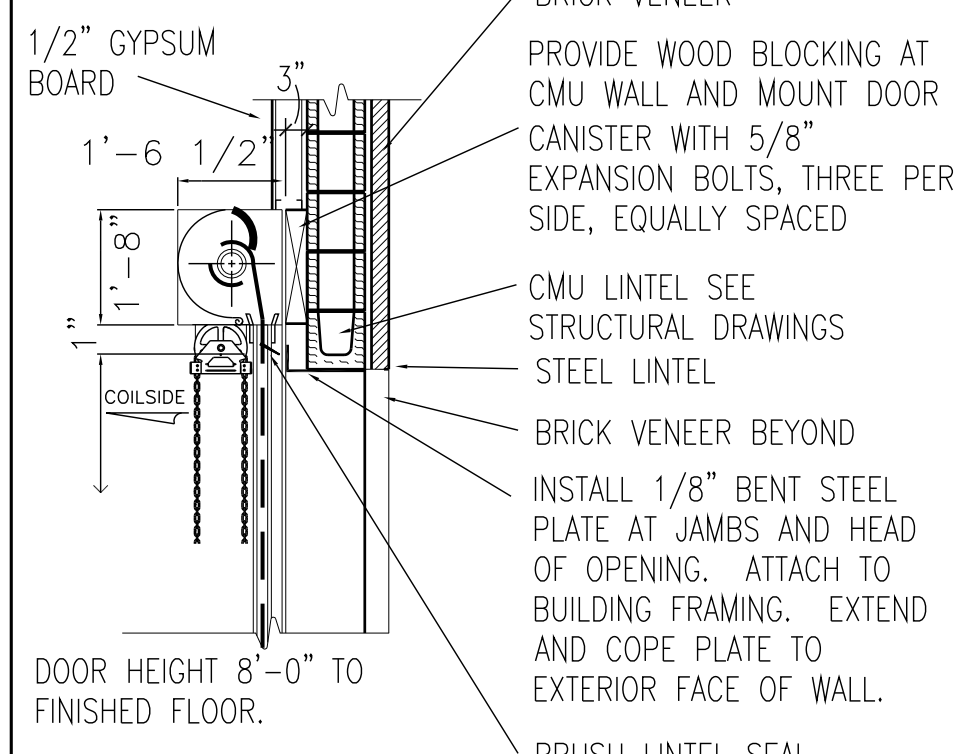
5 EXPANSION JOINT DETAIL

CHAIN OPERATED INSULATED DOOR SURFACE MOUNTED

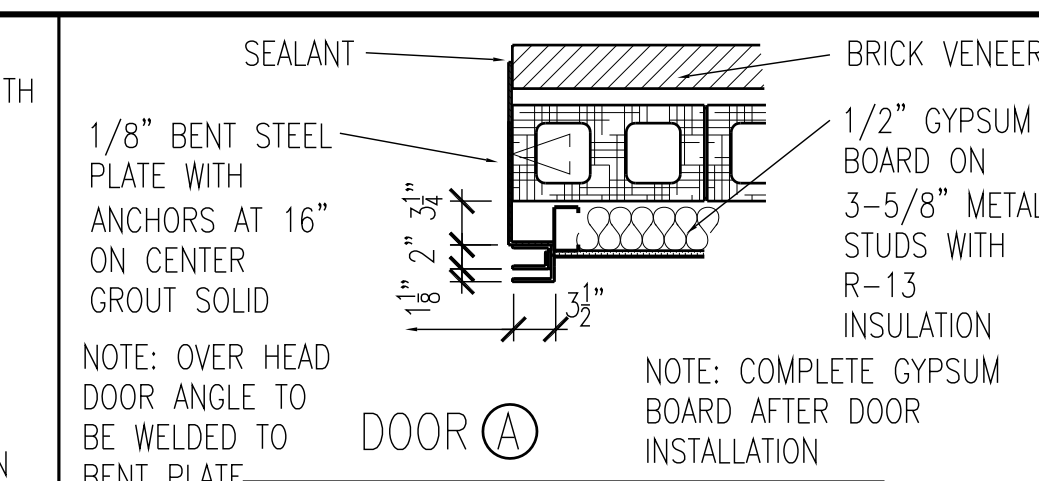


6 OVERHEAD DOOR ELEVATION

NOTE: GENERAL CONTRACTOR TO INSTALL 6" X 8'-0" ALUMINUM CHAIN GUARD ON WALL AT OPERATING SIDE



7 OVERHEAD DELIVERY DOOR @



8 JAMB DETAILS

NOTE: COMPLETE GYPSUM BOARD AFTER DOOR INSTALLATION

3" X 3" ALUMINUM CORNER GUARD WITH MITERED CORNERS AT JAMB AND HEAD

1/2" GYPSUM BOARD

METAL STUDS

HOLLOW METAL FRAME AND ANCHORS

3/4" = 1'-0"

8 JAMB DETAILS

8" C.M.U. BLOCK

8" C.M.U. BLOCK

JOIST AND BEARING PLATE

BRICK VENEER

1/2" COMPRESSIBLE FILLER

STUCCO FINISH SYSTEM ON 1/2" PLYWOOD OVER 6" 16 GA. METAL STUDS

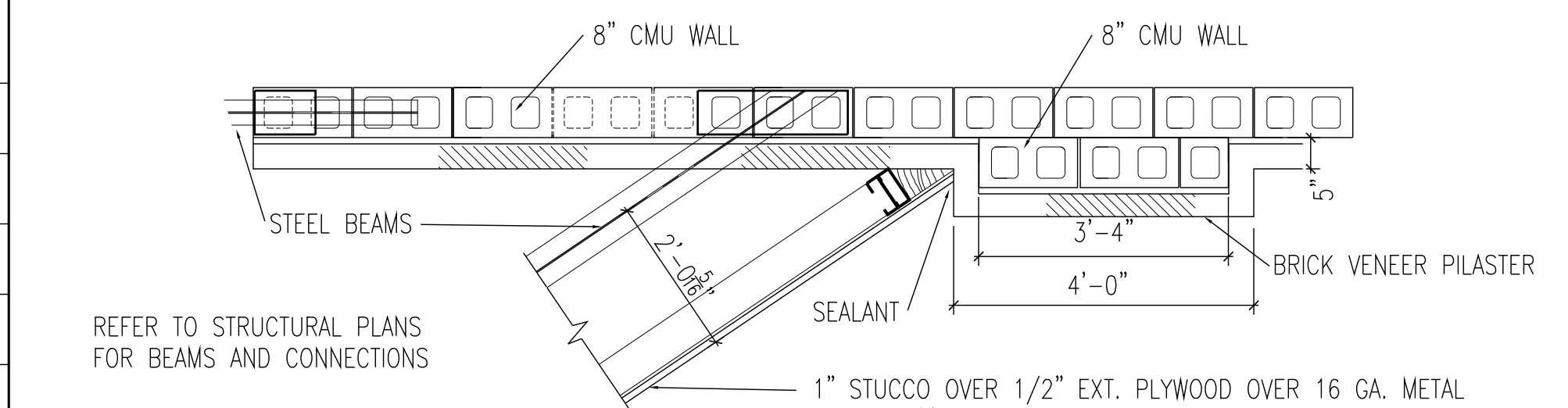
REFER TO STRUCTURAL PLANS FOR BEAMS AND CONNECTIONS

6 X 6 BLOCKING

16" X 16" CMU PILASTER REFER TO STRUCTURAL DETAILS

4'-0"

9 SECTION AT CANOPY



10 SECTION AT CANOPY

REFER TO STRUCTURAL PLANS FOR BEAMS AND CONNECTIONS

1/2" = 1'-0"

| REVISIONS | 1 | 2 | 3 | 4 | 5 | 6 |
|-----------|---|---|---|---|---|---|
| | | | | | | |

AutoZone Store No. 5607
 GLUCKSTADT ROAD
 GLUCKSTADT MS 39110

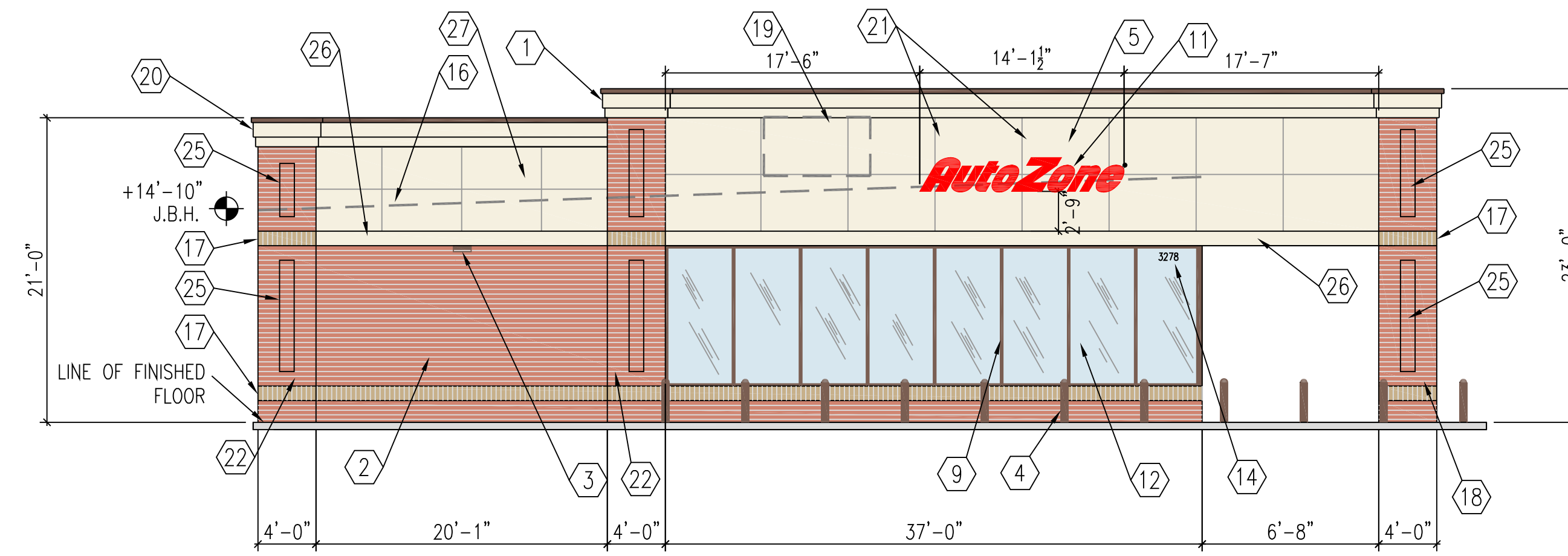
Architect: George Callow
 123 South Front Street
 Memphis, Tennessee 38103
 TEL: 901-495-8701 FAX: (901) 495-8969
 For Bidding & Contractor Information Contact:
 McGraw-Hill Construction Tel. 615-884-1017
 www.construction.com



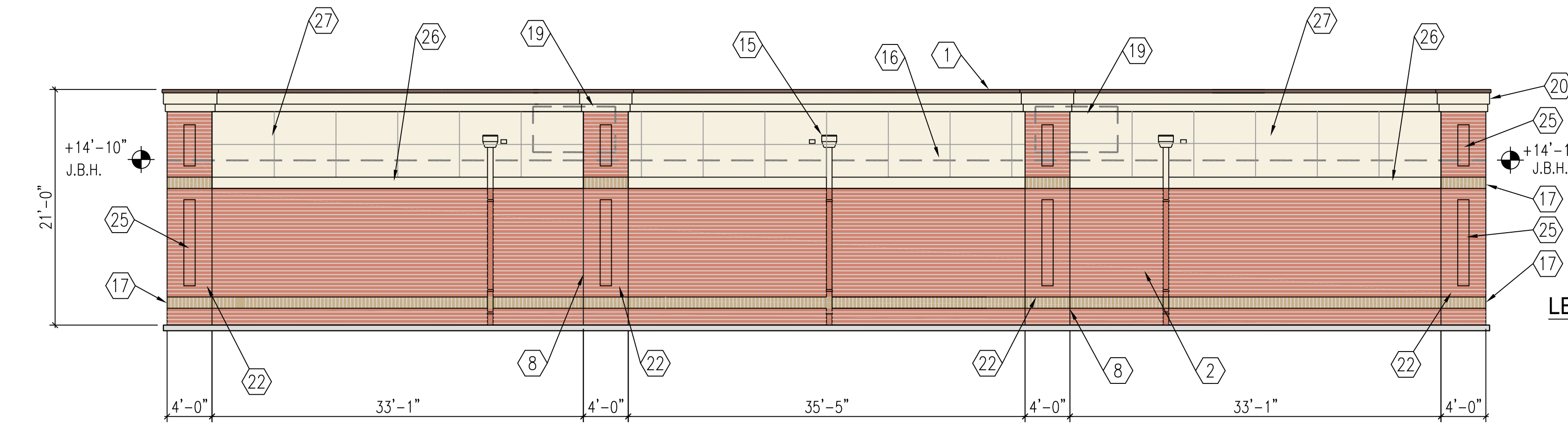
10/12/21

7N2-L

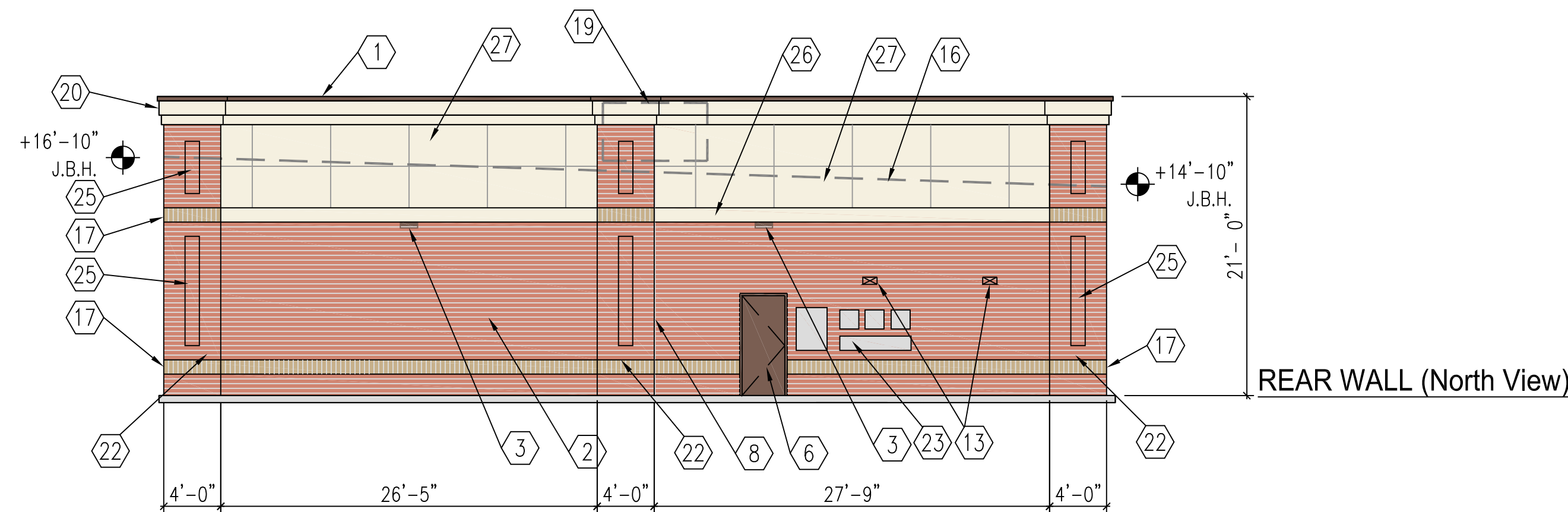
A-1



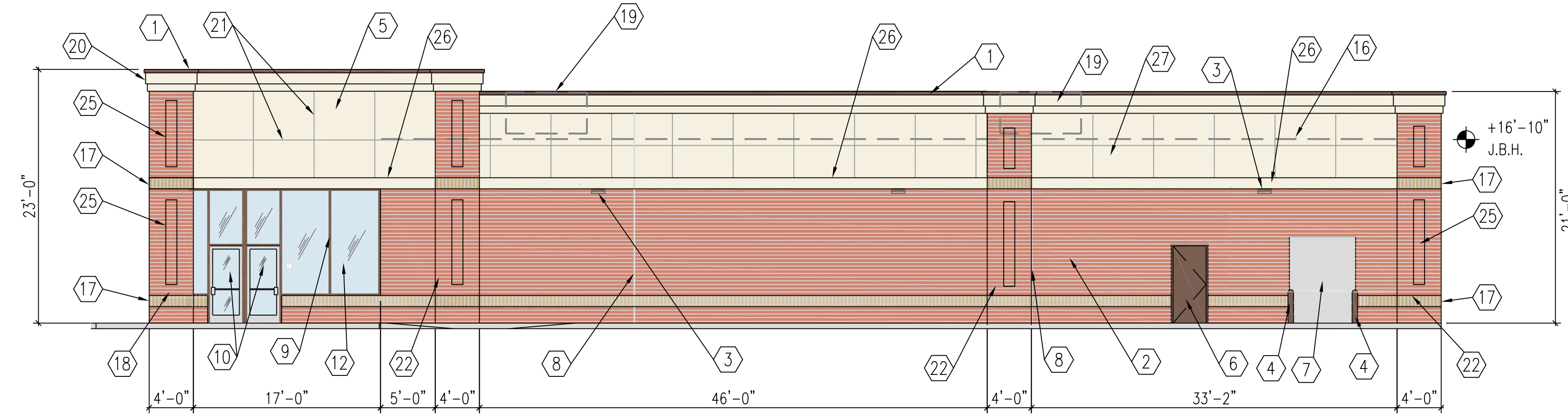
FRONT WALL (South View)
Gluckstadt Road



LEFT SIDE WALL (West View)



REAR WALL (North View)



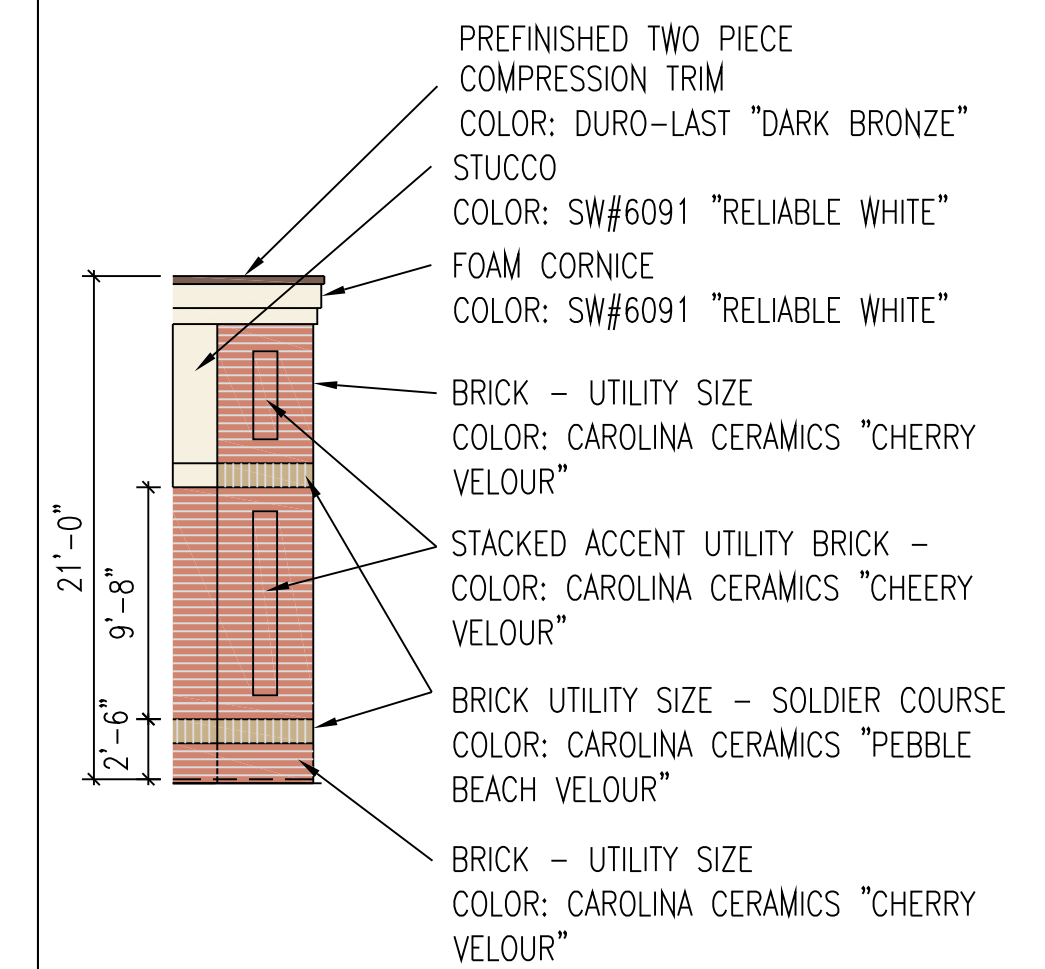
LEFT SIDE WALL (South View)



BRICK COLORS:
FIELD BRICK RUNNING BOND - UTILITY SIZE
COLOR: CAROLINA CERAMICS "CHERRY VELOUR"
STACKED BRICK - UTILITY SIZE
COLOR: CAROLINA CERAMICS "CHERRY VELOUR"
SOLDIER COURSE BRICK - UTILITY SIZE
COLOR: CAROLINA CERAMICS "PEBBLE BEACH VELOUR"

- 1 PREFINISHED TWO PIECE COMPRESSION TRIM
COLOR: DURO-LAST "DARK BRONZE"
- 2 BRICK UTILITY SIZE - RUNNING BOND
COLOR: CAROLINA CERAMICS "CHERRY VELOUR"
- 3 WALL MOUNTED LIGHT FIXTURE - DARK BRONZE FINISH
- 4 PIPE GUARD WITH ARCHITECTURAL BROWN SLEEVE
- 5 STUCCO FINISH
COLOR: SW#6091 RELIABLE WHITE
- 6 PAINT MAN DOOR & METAL FRAMES DARK BRONZE
- 7 PAINT OVERHEAD DOOR & ANGLES DARK BRONZE
- 8 EXPANSION JOINT
- 9 ALUMINUM STOREFRONT - DARK BRONZE FINISH
- 10 GLASS AND ALUMINUM DOORS - CLEAR ANODIZED FINISH
- 11 FRONT WALL SIGN - 28" RED CHANNEL LETTERS
- 12 ALUMINUM STOREFRONT - DARK BRONZE FACTORY FINISH WITH TINTED GRAY GLASS
- 13 TOILET WALL VENTS PAINT TO MATCH WALL
- 14 STORE ADDRESS - 6" WHITE REFLECTIVE NUMBERS
- 15 SCUPPERS AND DOWNSPOUTS, PAINTED TO MATCH BACKGROUND WALL COLOR, ADJACENT 4" H. X 6" W. OVERFLOW SCUPPER, FLOWLINE 2" ABOVE ROOF.
- 16 BOND BEAM AT ROOF LINE
- 17 BRICK UTILITY SIZE - SOLDIER COURSE
COLOR: CAROLINA CERAMICS "PEBBLE BEACH VELOUR"
- 18 4'-0" SQUARE BRICK COLUMN
- 19 HVAC UNITS SCREENED BEHIND PARAPET WALL
- 20 FOAM CORNICE
COLOR: SW#6091 "RELIABLE WHITE"
- 21 1" VERTICAL AND HORIZONTAL V-GROVE SCORED JOINTS (TYP.)
- 22 4'-0" WIDE BRICK PILASTER (8" PROJECTION)
- 23 ELECTRICAL EQUIPMENT
- 24 NOT USED
- 25 STACKED ACCENT UTILITY BRICK - (3/8" RECESSED)
COLOR: CAROLINA CERAMICS "CHERRY VELOUR"
- 26 12" HIGH X 1" DEPTH FOAM BOARD TRIM W/ E.F.S.
COLOR: SW #6091 "RELIABLE WHITE"
- 27 STUCCO FINISH
COLOR: SW #6091 "RELIABLE WHITE"

2 ELEVATION KEYNOTES



FIELD BRICK RUNNING BOND - UTILITY SIZE
COLOR: CAROLINA CERAMICS "CHERRY VELOUR"
STACKED BRICK - UTILITY SIZE
COLOR: CAROLINA CERAMICS "CHERRY VELOUR"
SOLDIER COURSE BRICK - UTILITY SIZE
COLOR: CAROLINA CERAMICS "PEBBLE BEACH VELOUR"
BRICK MORTAR COLOR: BEIGE
CONTACT: JEAN BREKLICH 803-788-1917

SCALE: 3/8" = 1'-0"

AUTOZONE INC.

Architect: Lew Ellis
123 South Front Street, 3rd Floor
Memphis, Tennessee 38103
TEL: (901) 495-8707 FAX: (901) 495-8969
Email Address: george.callow@autozone.com

Prepared For: **AutoZone** STORE DEVELOPMENT
Store No. 5607
GLUCKSTADT ROAD
GLUCKSTADT, MS 39110

REVISIONS

1.
2.
3.
4.



DATE
10/12/21

PROTOTYPE SIZE
7N2L

CE

COLOR ELEVATIONS
SCALE: 1/8" = 1'-0"

CIVIL ENGINEERING SERVICES

P.O. Box 1302, Fairview, TN 37062

Office: (615) 533-0401

November 18, 2021

Attn: Tim Bryan

Madison County Road Department

3137 South Liberty Street

P.O. Box 608

Canton, MS 39046

(601) 855-5670

**RE: Drainage / Stormwater Design Report
AutoZone retail store (Store #0152)
West of 1078 Gluckstadt Road
Gluckstadt, Madison County, Mississippi 39110**

Mr. Bryan:

Below and enclosed is our submittal of the stormwater design letter report for the site of the proposed AutoZone retail store located at the address referenced above (see Enclosure 1 for site location map). Please include this report in your review of the proposed site development plans.

Existing Site Conditions:

The subject property is currently undeveloped and is situated between 1070 and 1078 Gluckstadt Road. The site is bordered to the east by an office building, now or formerly The Giles Group, LLC. To the west, the site is bordered by the Gluckstadt Animal Hospital. The site is bordered to the north by a heavily wooded drainage channel (referred to as Stream O in the FEMA FIS), and to the south by Gluckstadt Road.

The existing project site generally drains southwest to northeast. There is an existing storm sewer, along with two storm sewer inlets, on Gluckstadt Road. The size and depth of this storm sewer is unknown, as the inlets were not accessible at the time of the survey. There are two outfall points for the existing site. Outfall #1 is the existing storm sewer inlet, located just east of this site. Only a small portion of the site and adjacent right-of-way drain to Gluckstadt Road, and to this existing inlet. Outfall #2 is at the northern property line where runoff from this site drains into Stream O.

Proposed Site Conditions:

The proposed project is to construct an AutoZone retail store with a detention pond, drainage system, drive aisle, and parking spaces, and to bring all utilities to the building envelopes. Proposed site drainage

patterns have been designed to limit the amount of sheet flow to Outfall #1 and to drain the majority of the proposed site to the proposed detention pond and ultimately to Outfall #2 (at Stream O).

The onsite drainage system, which includes an above ground detention pond, was designed to meet Madison County stormwater regulations. More specifically, it is required that the proposed site and stormwater system limit site runoff to pre-development levels. Also, the proposed detention pond has been designed to safely pass the 100-year, 24-hour design storm.

Flood Plain Information:

This site lies in Special Flood Hazard Areas Zone AE with Base Flood Elevation (BFE) determined, according to FEMA FIRM Map Number 28089C0415F with an effective date of March 17, 2010. The base flood elevation of Stream O at this site is approximately 275.00 for the 100-year storm event, and approximately 274.50 for the 10-year storm event. These elevations have been interpolated from the Flood Insurance Study (FIS) flood profiles, for the approximate site location. The FEMA Firmette and FIS are included with this report in Enclosure 2.

To raise the proposed building above the 100-year flood elevation, fill will be placed on the site within the flood plain. The finish floor elevation of the proposed building has been set at 277.03, and a minimum elevation of 275.50 has been established for the top of berm around the detention pond. Approximately 600 cubic yards (net) of fill material (including pavement) will be required to achieve proposed finish grades, within the flood plain. However, only 2 cubic yards of fill material will be placed within the floodway, at the northeast corner of the detention pond. The remainder of the proposed grading within the floodway will be approximately 405 cubic yards of excavation.

Methods:

Since this is a small site and the storm water runoff is directed to the proposed storm drainage system, only one drainage area encompassing the entire site was used for the pre-development and post-development conditions (see Enclosure 3). The time of concentration and the SCS Curve number (CN) for each sub-drainage area were estimated based on the soil type and development conditions, and then the Rational Method was utilized to calculate runoff peak flows. Rainfall intensity data obtained from the NOAA Atlas 14, Volume 2, Version 3 (see Enclosure 5) were used along with a SCS Type III 24-hr storm to generate runoff hydrographs.

The NRCS's Soil Survey was reviewed for Hydrologic Soil type. The soils report, included as Enclosure 4, shows the entire site to be in a B soil classification. Due to small size of the site, the time of concentration was assumed to be 10 minutes for both pre-developed and post-developed conditions.

To perform the calculations described above, Autodesk Storm & Sanitary Analysis modeling software was used. The Rational Method runoff calculations for the existing and proposed conditions are included as Enclosure 7, as well as the detention calculations. Enclosure 8 includes the pipe capacity calculations.

Remainder of page intentionally blank

Results:

The proposed site decreases peak discharges resulting from the 2, 10, 25, 50 and 100-yr design storms. The results, including peak pond elevations, are included in the table below:

| Storm Event | Existing Conditions Q (cfs) | Proposed Conditions | | | |
|---------------|-----------------------------|---------------------------|------------------------------|------------------------------|----------------------------|
| | | Q _{inflow} (cfs) | Peak Storage Volume (cu.ft.) | Peak Storage Elevation (ft.) | Q _{outfall} (cfs) |
| 2-yr | 0.95 | 3.45 | 1,393 | 271.43 | 0.88 |
| 10-yr | 1.29 | 4.69 | 2,033 | 271.90 | 0.99 |
| 25-yr | 1.50 | 5.48 | 2,454 | 272.17 | 1.05 |
| 50-yr | 1.67 | 6.11 | 2,787 | 272.36 | 1.09 |
| 100-yr | 1.84 | 6.73 | 3,124 | 272.55 | 1.13 |

If you have any questions or need further information during your review of this site, please do not hesitate to call me at (615) 533-0401 to discuss.

Respectfully,

Ray G. Flake, PE_(MS)

- Enc. Enclosure 1 – Site Location Map
- Enclosure 2 – FEMA Flood Map
- Enclosure 3 – Drainage Area Maps
- Enclosure 4 – NRCS Soils Report
- Enclosure 5 – Rainfall and Curve Number Reference Information
- Enclosure 6 – Curve Number Calculations
- Enclosure 7 – Rational Method Runoff & Detention Calculations
- Enclosure 8 – Pipe Capacity Calculations

Enclosure 1

Site Location Map

Gluckstadt, MS

AutoZone, store #0152



Steak Escape Madison
Gluckstadt Rd

Domino's Pizza

Allied Auto Body

The Station

The Range By Jimmy Primos

Levi S

Vertex Aerospace



1000 ft

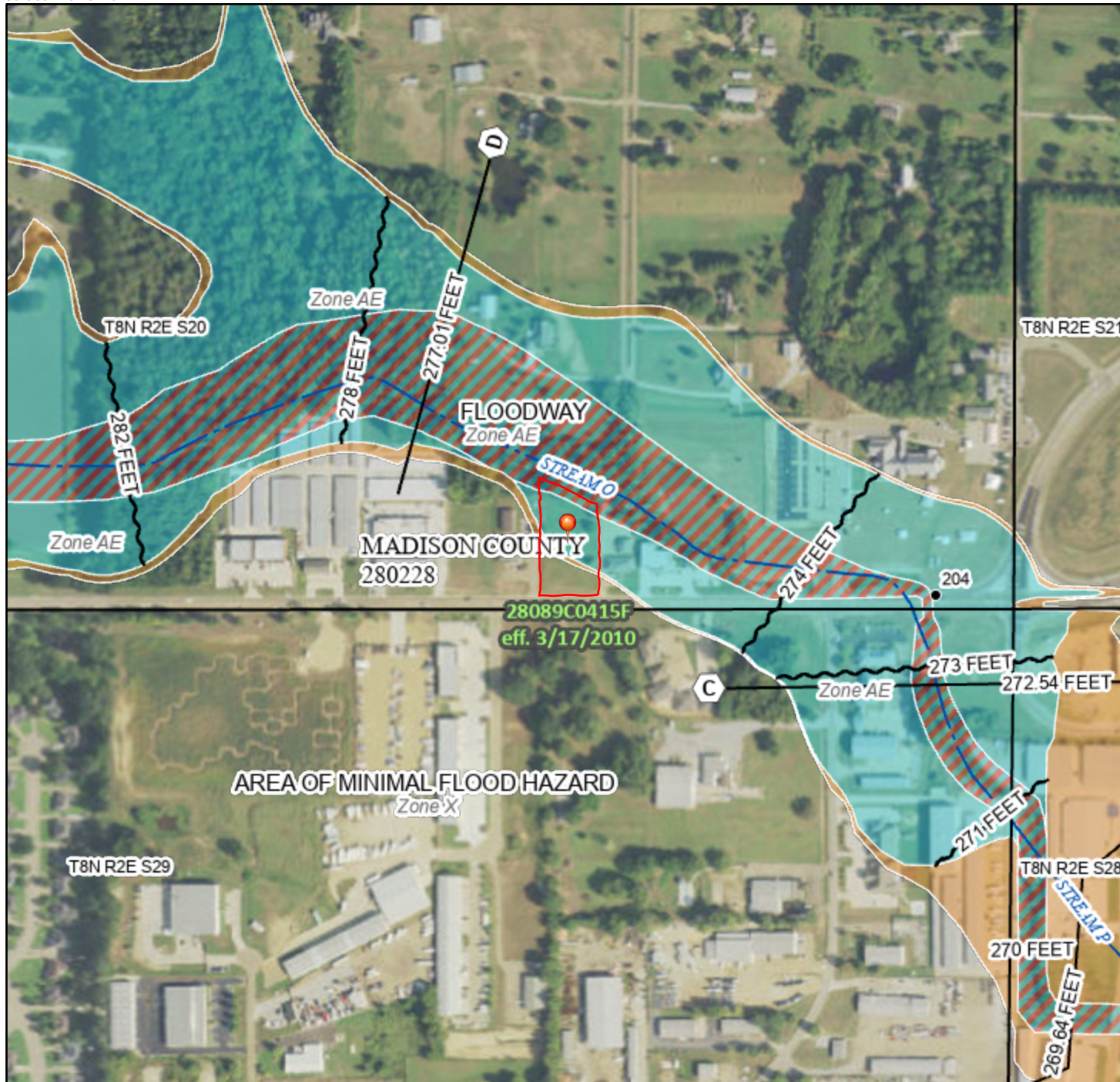
Enclosure 2

FEMA Flood Map

National Flood Hazard Layer FIRMMette



90°6'56"W 32°31'18"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

| | | |
|----------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE) Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |

| | | |
|-----------------------------|--|---|
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X |
| | | Future Conditions 1% Annual Chance Flood Hazard Zone X |
| | | Area with Reduced Flood Risk due to Levee. See Notes. Zone X |
| | | Area with Flood Risk due to Levee Zone D |

| | | |
|--------------------|--|---|
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |

| | | |
|-------------|--|--|
| OTHER AREAS | | Area of Undetermined Flood Hazard Zone D |
|-------------|--|--|

| | | |
|----------------|--|---|
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| OTHER FEATURES | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |

| | | |
|------------|--|---------------------------|
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |

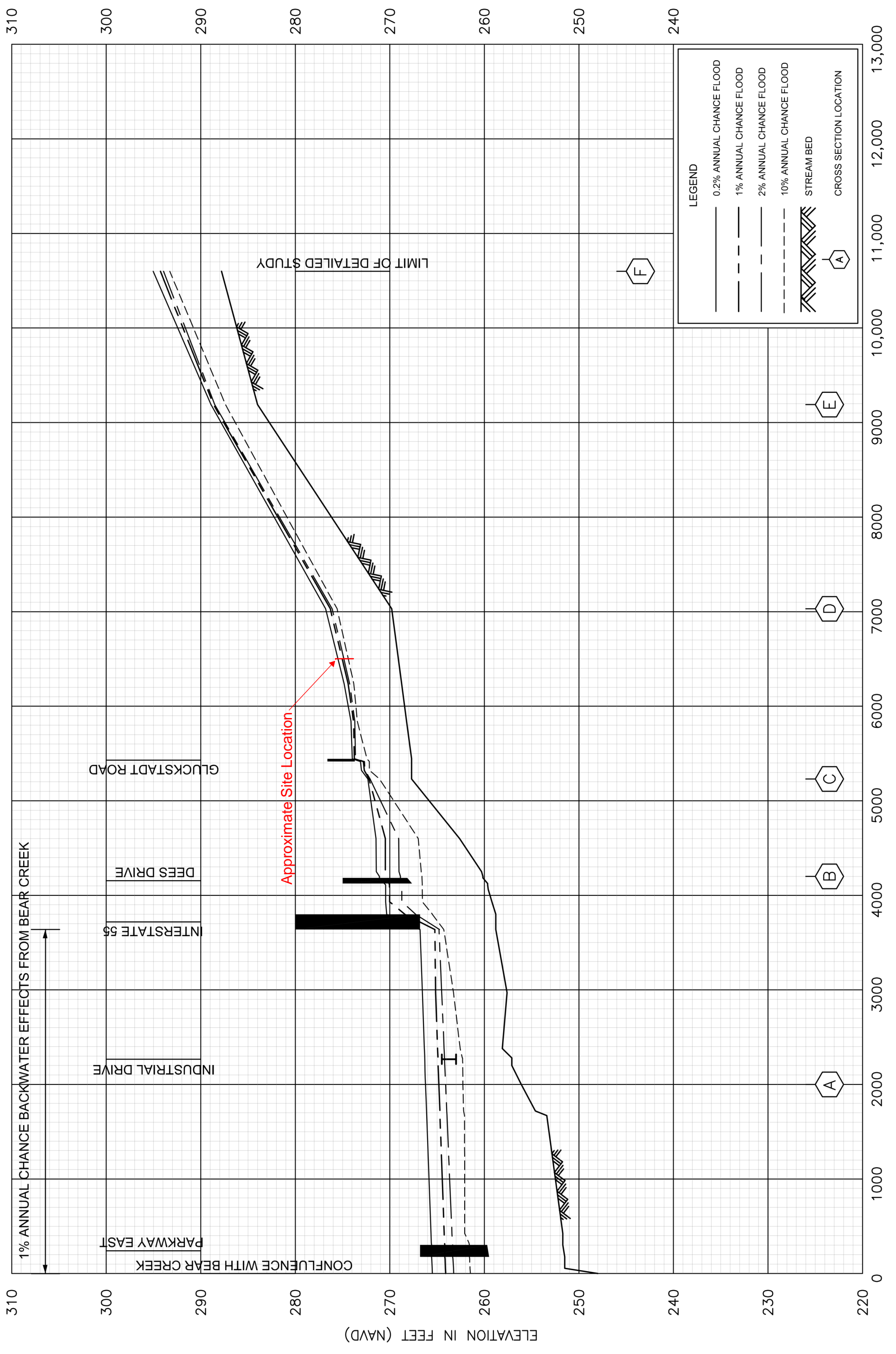
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/8/2021 at 9:42 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FLOOD PROFILES
STREAM O



LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- - - 2% ANNUAL CHANCE FLOOD
- - - 10% ANNUAL CHANCE FLOOD
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH BEAR CREEK

ELEVATION IN FEET (NAVD)

310
300
290
280
270
260
250
240
230
220

0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 11,000 12,000 13,000

1% ANNUAL CHANCE BACKWATER EFFECTS FROM BEAR CREEK

CONFLUENCE WITH BEAR CREEK
PARKWAY EAST

INDUSTRIAL DRIVE

INTERSTATE 55

DEES DRIVE

GLUCKSTADT ROAD

LIMIT OF DETAILED STUDY

Approximate Site Location

A

B

C

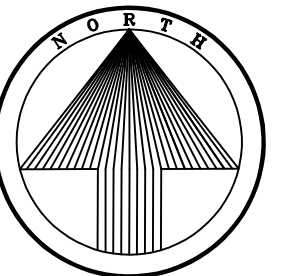
D

E

F

Enclosure 3

Drainage Area Maps



NAD83 MS STATE PLANE

GENERAL GRADING LEGEND

- TC TOP OF CURB ELEVATION
- P BOTTOM OF CURB ELEVATION
- FG FINISHED GRADE ELEVATION
- SW SIDEWALK ELEVATION
- MG MATCH EXISTING GRADE ELEVATION
- TB TOP OF BANK GRADE ELEVATION
- RM TOP OF RIM ELEVATION AT STRUCTURE
- HP HIGH POINT GRADE ELEVATION
- 1.08% PROPOSED GRADE SLOPE
- LIMIT OF DISTURBANCE
- PROPOSED SWALE

GRADING KEYNOTES

- ① LIMITS OF LAND DISTURBANCE
- ② PROVIDE 2.00% MAXIMUM CROSS SLOPE
- ③ PROVIDE SWALE - SEE SLOPE AND ELEVATIONS THIS SHEET
- ④ MATCH EXISTING GRADES

GRADING INFORMATION

LIMITS OF DISTURBANCE = 49,010 SF / 1.13 AC

GENERAL GRADING NOTES

1. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND ELECTRICAL WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN THE CLOSE PROXIMITY OF THE ABOVE-NOTED WIRES, THE ELECTRIC COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD AND UNDERGROUND WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION.
2. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATIONS OF THOSE SHOWN MAY BE DIFFERENT FROM LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS NECESSARY TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITY LINES.
3. AT LOCATIONS WHERE UTILITY LINES OR SERVICES ARE UNDERNEATH PROPOSED PAVEMENT, THE TRENCH SHALL BE BACKFILLED TO SUBGRADE WITH CRUSHED STONE.
4. DEVELOPER IS TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE CONTRACTOR, THE DEVELOPER'S ENGINEER, THE COUNTIES REPRESENTATIVE AND THE COUNTIES ENGINEER.
5. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
6. REMOVE ALL FOUNDATIONS, UNDERGROUND TANKS, PAVING, BASE ETC, IF REMAINING, BEFORE BEGINNING CONSTRUCTION.
7. FILL ALL PLANTERS/ISLANDS TO TOP OF CONCRETE CURB WITH TOPSOIL. TOPSOIL TO BE CLEAN AND FREE OF DEBRIS, ETC.
8. THESE PLANS, PREPARED BY CIVIL ENGINEERING SERVICES, DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF CIVIL ENGINEERING SERVICES REGISTERED PROFESSIONAL ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
9. IN THE CASE OF CONFLICT BETWEEN THIS DRAWING AND ANY OTHER DRAWING AND/OR THE SPECIFICATIONS, THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR CLARIFICATION.

REVISIONS

| | | | |
|---|---|---|---|
| 1 | 4 | 5 | 6 |
| 2 | | | |
| 3 | | | |

AutoZone Store No. 0152
WEST OF 1078 GLUCKSTADT RD

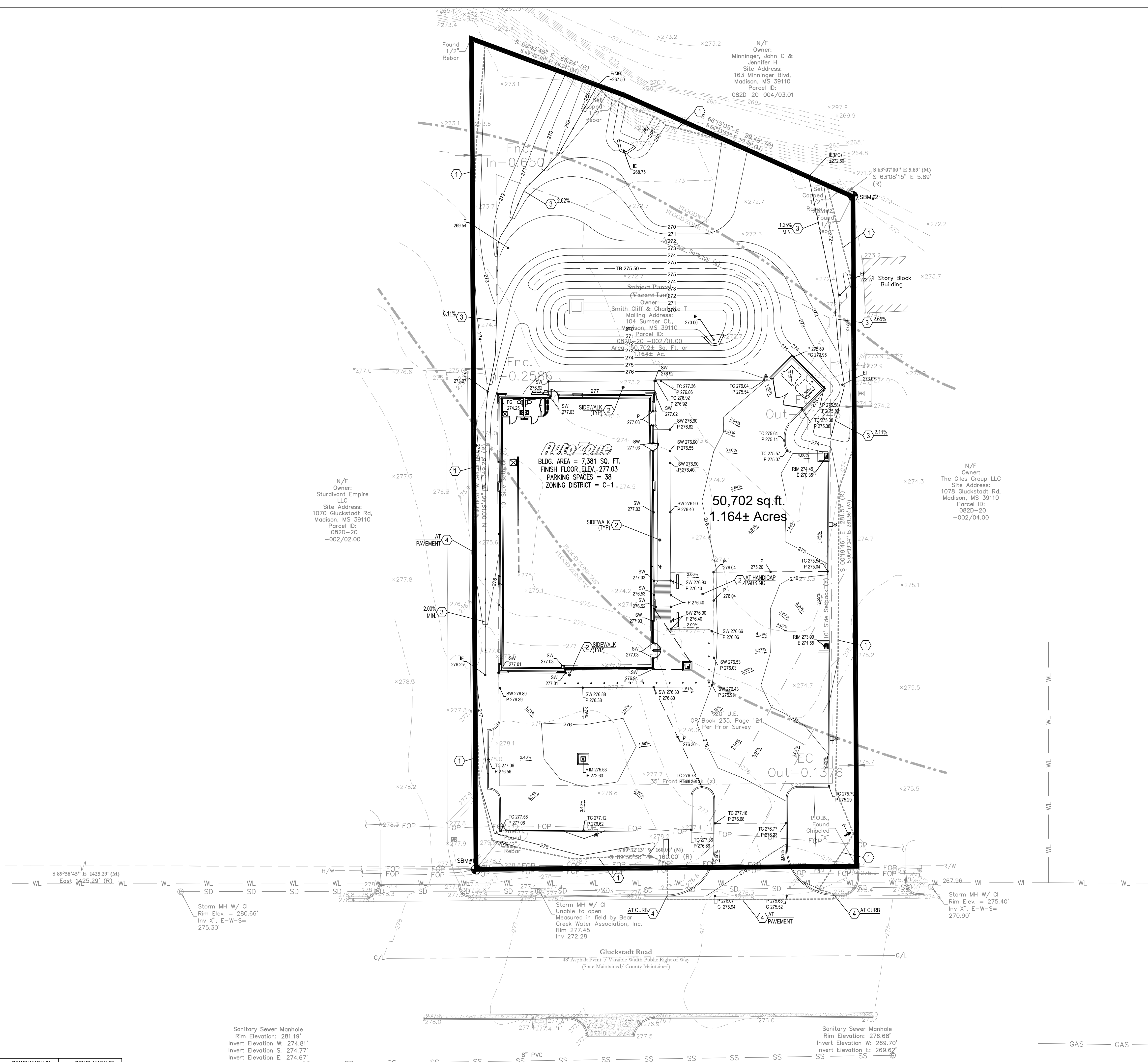
GLUCKSTADT MS 39110
GRADING PLAN

Owner / Developer: AUTOZONE STORES LLC
123 South Front Street, 3rd Floor
Memphis, Tennessee 38103
TEL: (901) 495-8994 FAX: (901) 495-8969
For Bidding & Contractor Information Contact:
Dodge Data & Analytics, Tel. 413-930-4215
Cindy.searcy@construction.com

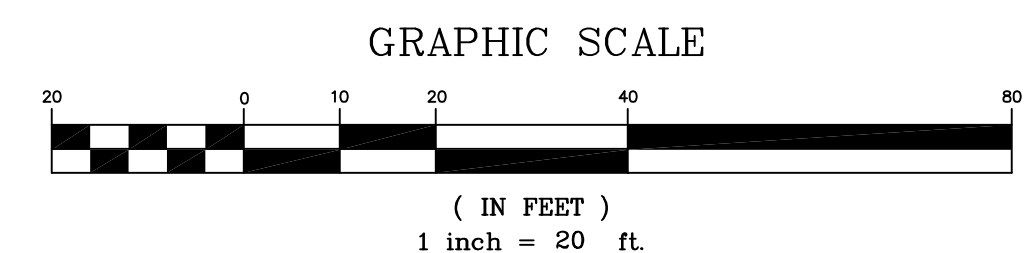
10/08/2021

7N2

C2.0



PROPOSED CONDITIONS DRAINAGE AREA MAP



Civil Engineering Services

7705 Spicer Farm Lane
Fairview, Tennessee 37062
phone: (615) 533-0401
fax: (615) 523-8865
e-mail: ray@civilengineeringservices.net

Engineering, Environmental, Land Planning

| | | |
|---|---|--|
| <p>⊗ BENCHMARK #1 1/2" REBAR N: 1.097.408.07 E: 2.365.109.95 ELEV= 272.93</p> | <p>⊗ BENCHMARK #2 1/2" REBAR N: 1.097.409.61 E: 2.365.269.98 ELEV= 272.84</p> | <p>FLOOD NOTE: FLOOD ZONE "AE" PER FEMA MAP NO. 28089-C0415-F EFFECTIVE DATE: MARCH 17, 2010</p> |
|---|---|--|

Sanitary Sewer Manhole
Rim Elevation: 281.19'
Invert Elevation W: 274.81'
Invert Elevation S: 274.77'
Invert Elevation E: 274.67'

Storm MH W/ CI
Rim Elev. = 280.66'
Inv. X', E-W-S = 275.30'

Sanitary Sewer Manhole
Rim Elevation: 276.68'
Invert Elevation W: 269.70'
Invert Elevation E: 269.62'

GAS GAS

Enclosure 4
NRCS Soils Report



United States
Department of
Agriculture

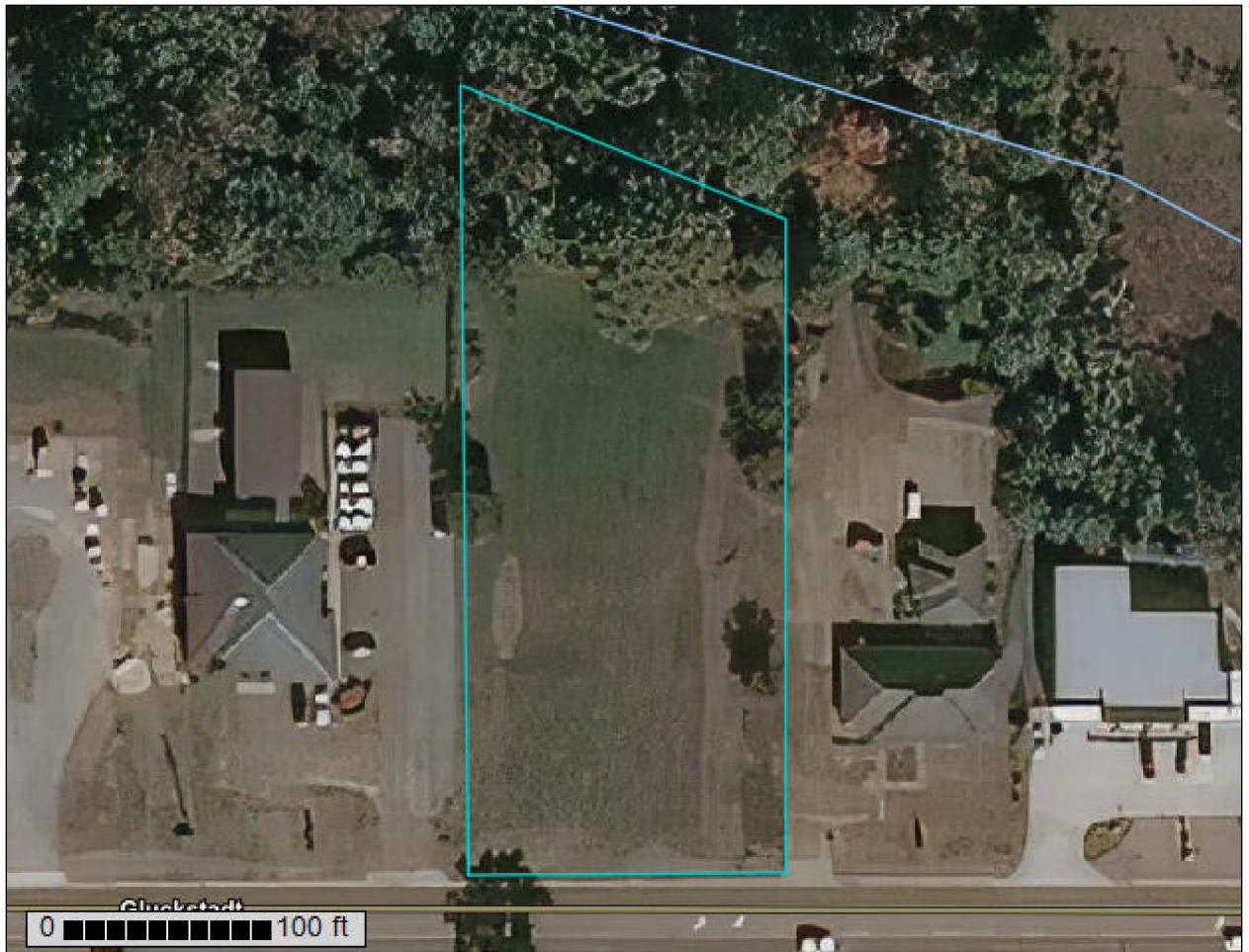
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Madison County, Mississippi**

Gluckstadt, MS



November 18, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Gluckstadt
Soil Map may not be valid at this scale.


Map Scale: 1:678 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Madison County, Mississippi
 Survey Area Data: Version 16, Sep 8, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|--|--------------|----------------|
| LoB2 | Loring silt loam, 2 to 5 percent slopes, moderately eroded, central | 0.1 | 7.9% |
| Oa | Oaklimeter silt loam, 0 to 2 percent slopes, occasionally flooded, north | 1.1 | 92.1% |
| Totals for Area of Interest | | 1.2 | 100.0% |

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

Custom Soil Resource Report

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Madison County, Mississippi

LoB2—Loring silt loam, 2 to 5 percent slopes, moderately eroded, central

Map Unit Setting

National map unit symbol: 2x0tr
Elevation: 170 to 660 feet
Mean annual precipitation: 52 to 58 inches
Mean annual air temperature: 60 to 66 degrees F
Frost-free period: 180 to 290 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Loring and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loring

Setting

Landform: Loess hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Noncalcareous loess

Typical profile

Ap - 0 to 5 inches: silt loam
Bt - 5 to 27 inches: silty clay loam
Btx - 27 to 56 inches: silt loam
C - 56 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 27 to 33 inches to fragipan
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 24 to 28 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Providence

Percent of map unit: 5 percent

Custom Soil Resource Report

Landform: Loess hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, base slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Memphis

Percent of map unit: 3 percent
Landform: Terraces, interfluves
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, riser
Down-slope shape: Linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Grenada

Percent of map unit: 1 percent
Landform: Stream terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Byram

Percent of map unit: 1 percent
Landform: Loess hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Oa—Oaklimeter silt loam, 0 to 2 percent slopes, occasionally flooded, north

Map Unit Setting

National map unit symbol: 2x0th
Elevation: 110 to 390 feet
Mean annual precipitation: 54 to 59 inches
Mean annual air temperature: 59 to 65 degrees F
Frost-free period: 165 to 290 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Oaklimeter and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oaklimeter

Setting

Landform: Alluvial flats, flood plains
Landform position (three-dimensional): Talf, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

Ap - 0 to 6 inches: silt loam
Bw - 6 to 27 inches: silt loam
EBb - 27 to 52 inches: silt loam
Btgb - 52 to 70 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very high (about 13.6 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Gillsburg

Percent of map unit: 4 percent
Landform: Flood plains, alluvial flats
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ariel

Percent of map unit: 4 percent
Landform: Flood plains, alluvial flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rosebloom

Percent of map unit: 2 percent
Landform: Flood plains, alluvial flats
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear

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Hydric soil rating: Yes

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Enclosure 5

Curve Number and Rainfall
Reference Information



Home Site Map Organization

Search NWS All NOAA

- General Information
- Homepage
- Progress Reports
- FAQ
- Glossary

NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: MS

Data description

Data type: Units: Time series type:

Select location

1) Manually:

a) By location (decimal degrees, use "-" for S and W): Latitude: Longitude:

b) By station (list of MS stations):

c) By address

2) Use map (if ESRI interactive map is not loading, try adding the host: <https://js.arcgis.com/> to the firewall, or contact us at hdsc.questions@noaa.gov):

a) Select location
Move crosshair or double click

b) Click on station icon
 Show stations on map

Location information:
Name: Madison, Mississippi, USA*
Latitude: 32.5174°
Longitude: -90.1100°
Elevation: 275.8 ft **

* Source: ESRI Maps
** Source: USGS

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION NOAA Atlas 14, Volume 9, Version 2

[PF tabular](#)

[PF graphical](#)

[Supplementary information](#)

[Print page](#)

| PDS-based precipitation frequency estimates with 90% confidence intervals (in inches/hour) ¹ | | | | | | | | | | |
|---|-------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Duration | Average recurrence interval (years) | | | | | | | | | |
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | 5.74 (4.93-6.72) | 6.52 (5.59-7.63) | 7.80 (6.67-9.17) | 8.88 (7.55-10.5) | 10.4 (8.53-12.6) | 11.6 (9.26-14.3) | 12.7 (9.86-16.2) | 13.9 (10.3-18.2) | 15.6 (11.1-20.9) | 16.8 (11.7-22.9) |
| 10-min | 4.20 (3.61-4.92) | 4.78 (4.10-5.59) | 5.71 (4.89-6.71) | 6.50 (5.53-7.67) | 7.60 (6.25-9.26) | 8.46 (6.79-10.5) | 9.32 (7.22-11.8) | 10.2 (7.58-13.3) | 11.4 (8.12-15.3) | 12.3 (8.54-16.8) |
| 15-min | 3.42 (2.94-4.00) | 3.88 (3.33-4.54) | 4.65 (3.97-5.46) | 5.29 (4.50-6.24) | 6.18 (5.08-7.52) | 6.88 (5.52-8.50) | 7.58 (5.87-9.61) | 8.30 (6.16-10.8) | 9.26 (6.60-12.4) | 9.99 (6.94-13.7) |
| 30-min | 2.49 (2.14-2.92) | 2.84 (2.44-3.33) | 3.41 (2.91-4.00) | 3.88 (3.30-4.58) | 4.54 (3.73-5.52) | 5.05 (4.05-6.24) | 5.56 (4.30-7.05) | 6.08 (4.51-7.93) | 6.77 (4.83-9.09) | 7.30 (5.07-9.98) |
| 60-min | 1.66 (1.42-1.94) | 1.89 (1.62-2.21) | 2.28 (1.95-2.68) | 2.61 (2.22-3.08) | 3.07 (2.52-3.75) | 3.43 (2.76-4.25) | 3.81 (2.95-4.83) | 4.19 (3.11-5.48) | 4.71 (3.36-6.33) | 5.11 (3.55-6.98) |
| 2-hr | 1.03 (0.893-1.20) | 1.18 (1.02-1.37) | 1.43 (1.23-1.66) | 1.64 (1.40-1.92) | 1.93 (1.60-2.35) | 2.17 (1.76-2.67) | 2.42 (1.89-3.05) | 2.67 (2.00-3.47) | 3.02 (2.17-4.03) | 3.29 (2.30-4.46) |
| 3-hr | 0.774 (0.671-0.896) | 0.884 (0.766-1.02) | 1.07 (0.925-1.25) | 1.23 (1.06-1.44) | 1.47 (1.22-1.78) | 1.66 (1.34-2.03) | 1.85 (1.45-2.33) | 2.05 (1.54-2.66) | 2.34 (1.69-3.11) | 2.56 (1.79-3.46) |
| 6-hr | 0.463 (0.404-0.532) | 0.530 (0.462-0.610) | 0.645 (0.560-0.744) | 0.746 (0.644-0.864) | 0.892 (0.747-1.08) | 1.01 (0.826-1.23) | 1.13 (0.895-1.42) | 1.26 (0.957-1.63) | 1.45 (1.05-1.92) | 1.59 (1.12-2.13) |
| 12-hr | 0.268 (0.235-0.306) | 0.308 (0.270-0.352) | 0.376 (0.328-0.431) | 0.435 (0.378-0.501) | 0.521 (0.439-0.623) | 0.590 (0.485-0.715) | 0.662 (0.526-0.823) | 0.738 (0.562-0.944) | 0.842 (0.616-1.11) | 0.925 (0.658-1.23) |
| 24-hr | 0.155 (0.137-0.176) | 0.179 (0.158-0.203) | 0.219 (0.193-0.249) | 0.253 (0.221-0.290) | 0.302 (0.256-0.358) | 0.341 (0.281-0.409) | 0.380 (0.304-0.469) | 0.422 (0.323-0.535) | 0.478 (0.352-0.624) | 0.522 (0.374-0.692) |
| 2-day | 0.090 (0.080-0.101) | 0.104 (0.092-0.117) | 0.126 (0.111-0.142) | 0.145 (0.127-0.164) | 0.171 (0.146-0.201) | 0.192 (0.159-0.228) | 0.213 (0.171-0.260) | 0.234 (0.180-0.294) | 0.262 (0.194-0.340) | 0.284 (0.205-0.375) |
| 3-day | 0.066 (0.059-0.074) | 0.075 (0.067-0.085) | 0.090 (0.080-0.102) | 0.103 (0.091-0.117) | 0.121 (0.103-0.141) | 0.135 (0.112-0.160) | 0.149 (0.120-0.181) | 0.163 (0.126-0.204) | 0.182 (0.136-0.235) | 0.197 (0.143-0.259) |
| 4-day | 0.054 (0.048-0.060) | 0.061 (0.054-0.068) | 0.072 (0.064-0.081) | 0.081 (0.072-0.092) | 0.095 (0.081-0.110) | 0.105 (0.088-0.124) | 0.115 (0.093-0.140) | 0.126 (0.098-0.158) | 0.141 (0.105-0.181) | 0.152 (0.110-0.199) |
| 7-day | 0.036 (0.033-0.041) | 0.041 (0.036-0.045) | 0.047 (0.042-0.053) | 0.053 (0.047-0.059) | 0.061 (0.052-0.070) | 0.067 (0.056-0.078) | 0.073 (0.059-0.088) | 0.079 (0.062-0.098) | 0.087 (0.065-0.112) | 0.094 (0.068-0.122) |
| 10-day | 0.029 (0.026-0.032) | 0.032 (0.029-0.035) | 0.037 (0.033-0.041) | 0.041 (0.037-0.046) | 0.047 (0.040-0.054) | 0.051 (0.043-0.060) | 0.056 (0.045-0.067) | 0.060 (0.047-0.074) | 0.066 (0.050-0.084) | 0.071 (0.052-0.091) |
| 20-day | 0.019 (0.017-0.021) | 0.021 (0.019-0.023) | 0.024 (0.022-0.026) | 0.026 (0.024-0.029) | 0.030 (0.026-0.034) | 0.033 (0.028-0.038) | 0.035 (0.029-0.042) | 0.038 (0.030-0.046) | 0.041 (0.031-0.052) | 0.044 (0.032-0.057) |
| 30-day | 0.015 (0.014-0.017) | 0.017 (0.015-0.018) | 0.019 (0.017-0.021) | 0.021 (0.019-0.023) | 0.024 (0.021-0.027) | 0.026 (0.022-0.030) | 0.028 (0.023-0.033) | 0.030 (0.024-0.037) | 0.033 (0.025-0.041) | 0.035 (0.026-0.044) |
| 45-day | 0.013 (0.012-0.014) | 0.014 (0.013-0.015) | 0.016 (0.014-0.017) | 0.017 (0.016-0.019) | 0.020 (0.017-0.022) | 0.021 (0.018-0.024) | 0.023 (0.019-0.027) | 0.024 (0.019-0.029) | 0.026 (0.020-0.033) | 0.028 (0.021-0.035) |
| 60-day | 0.011 (0.010-0.012) | 0.012 (0.011-0.013) | 0.014 (0.013-0.015) | 0.015 (0.014-0.017) | 0.017 (0.015-0.019) | 0.019 (0.016-0.021) | 0.020 (0.016-0.023) | 0.021 (0.017-0.025) | 0.023 (0.017-0.028) | 0.024 (0.018-0.030) |

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format: [Precipitation frequency estimates](#)

Rational Method
c values
from Autodesk Storm and Sanitary Sewer Analysis

| Land Use | Return Period | A(0-2%) | A(2-6%) | A(6%+) | B(0-2%) | B(2-6%) | B(6%+) | C(0-2%) | C(2-6%) | C(6%+) | D(0-2%) | D(2-6%) | D(6%+) |
|-------------------------------|---------------------|---------|---------|--------|---------|---------|--------|---------|---------|--------|---------|---------|--------|
| Cultivated Land | less than 25 years | 0.08 | 0.13 | 0.16 | 0.11 | 0.15 | 0.21 | 0.14 | 0.19 | 0.26 | 0.18 | 0.23 | 0.31 |
| Cultivated Land | 25 years or greater | 0.14 | 0.18 | 0.22 | 0.16 | 0.21 | 0.28 | 0.20 | 0.25 | 0.34 | 0.24 | 0.29 | 0.41 |
| Pasture | less than 25 years | 0.12 | 0.20 | 0.30 | 0.18 | 0.28 | 0.37 | 0.24 | 0.34 | 0.44 | 0.30 | 0.40 | 0.50 |
| Pasture | 25 years or greater | 0.15 | 0.25 | 0.37 | 0.23 | 0.34 | 0.45 | 0.30 | 0.42 | 0.52 | 0.37 | 0.50 | 0.62 |
| Meadow | less than 25 years | 0.10 | 0.16 | 0.25 | 0.14 | 0.22 | 0.30 | 0.20 | 0.28 | 0.36 | 0.24 | 0.30 | 0.40 |
| Meadow | 25 years or greater | 0.14 | 0.22 | 0.30 | 0.20 | 0.28 | 0.37 | 0.26 | 0.35 | 0.44 | 0.30 | 0.40 | 0.50 |
| Forest | less than 25 years | 0.05 | 0.08 | 0.11 | 0.08 | 0.11 | 0.14 | 0.10 | 0.13 | 0.16 | 0.12 | 0.16 | 0.20 |
| Forest | 25 years or greater | 0.08 | 0.11 | 0.14 | 0.10 | 0.14 | 0.18 | 0.12 | 0.16 | 0.20 | 0.15 | 0.20 | 0.25 |
| Residential Lot Size 1/8 Acre | less than 25 years | 0.25 | 0.28 | 0.31 | 0.27 | 0.30 | 0.35 | 0.30 | 0.33 | 0.38 | 0.33 | 0.36 | 0.42 |
| Residential Lot Size 1/8 Acre | 25 years or greater | 0.33 | 0.37 | 0.40 | 0.35 | 0.39 | 0.44 | 0.38 | 0.42 | 0.49 | 0.41 | 0.45 | 0.54 |
| Residential Lot Size 1/4 Acre | less than 25 years | 0.22 | 0.26 | 0.29 | 0.24 | 0.29 | 0.33 | 0.27 | 0.31 | 0.36 | 0.30 | 0.34 | 0.40 |
| Residential Lot Size 1/4 Acre | 25 years or greater | 0.30 | 0.34 | 0.37 | 0.33 | 0.37 | 0.42 | 0.36 | 0.40 | 0.47 | 0.38 | 0.42 | 0.52 |
| Residential Lot Size 1/3 Acre | less than 25 years | 0.19 | 0.23 | 0.26 | 0.22 | 0.26 | 0.30 | 0.25 | 0.29 | 0.34 | 0.28 | 0.32 | 0.39 |
| Residential Lot Size 1/3 Acre | 25 years or greater | 0.28 | 0.32 | 0.35 | 0.30 | 0.35 | 0.39 | 0.33 | 0.38 | 0.45 | 0.36 | 0.40 | 0.50 |
| Residential Lot Size 1/2 Acre | less than 25 years | 0.16 | 0.20 | 0.24 | 0.19 | 0.23 | 0.28 | 0.22 | 0.27 | 0.32 | 0.26 | 0.30 | 0.37 |
| Residential Lot Size 1/2 Acre | 25 years or greater | 0.25 | 0.29 | 0.32 | 0.28 | 0.32 | 0.36 | 0.31 | 0.35 | 0.42 | 0.34 | 0.38 | 0.48 |
| Residential Lot Size 1 Acre | less than 25 years | 0.14 | 0.19 | 0.22 | 0.17 | 0.21 | 0.26 | 0.20 | 0.25 | 0.31 | 0.24 | 0.29 | 0.35 |
| Residential Lot Size 1 Acre | 25 years or greater | 0.22 | 0.26 | 0.29 | 0.24 | 0.28 | 0.34 | 0.28 | 0.32 | 0.40 | 0.31 | 0.35 | 0.46 |
| Industrial | less than 25 years | 0.67 | 0.68 | 0.68 | 0.68 | 0.68 | 0.69 | 0.68 | 0.69 | 0.69 | 0.69 | 0.69 | 0.70 |
| Industrial | 25 years or greater | 0.85 | 0.85 | 0.86 | 0.85 | 0.86 | 0.86 | 0.86 | 0.86 | 0.87 | 0.86 | 0.86 | 0.88 |
| Commercial | less than 25 years | 0.71 | 0.71 | 0.72 | 0.71 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 |
| Commercial | 25 years or greater | 0.88 | 0.88 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.90 | 0.89 | 0.89 | 0.90 |
| Streets | less than 25 years | 0.70 | 0.71 | 0.72 | 0.71 | 0.72 | 0.74 | 0.72 | 0.73 | 0.76 | 0.73 | 0.75 | 0.78 |
| Streets | 25 years or greater | 0.76 | 0.77 | 0.79 | 0.80 | 0.82 | 0.84 | 0.84 | 0.85 | 0.89 | 0.89 | 0.91 | 0.95 |
| Open Space | less than 25 years | 0.05 | 0.10 | 0.14 | 0.08 | 0.13 | 0.19 | 0.12 | 0.17 | 0.24 | 0.16 | 0.21 | 0.28 |
| Open Space | 25 years or greater | 0.11 | 0.16 | 0.20 | 0.14 | 0.19 | 0.26 | 0.18 | 0.23 | 0.32 | 0.22 | 0.27 | 0.39 |
| Parking | less than 25 years | 0.85 | 0.86 | 0.87 | 0.85 | 0.86 | 0.87 | 0.85 | 0.86 | 0.87 | 0.85 | 0.86 | 0.87 |
| Parking | 25 years or greater | 0.95 | 0.96 | 0.97 | 0.95 | 0.96 | 0.97 | 0.95 | 0.96 | 0.97 | 0.95 | 0.96 | 0.97 |

Enclosure 6

Curve Number Calculations

Gluckstadt, MS

AutoZone

11/16/2021

Existing Conditions

| | Area (sq.ft.) | Area (acres) | Rational c |
|-------|------------------|-----------------|------------|
| - | 0 | 0.000 | 0.00 |
| - | 0 | 0.000 | 0.00 |
| lawn | 43,390 | 0.996 | 0.18 |
| woods | 7,312 | 0.168 | 0.12 |
| paved | 0 | 0.000 | 0.95 |
| total | 50,702 | 1.164 | 0.17 |

Proposed Conditions

| | Area (sq.ft.) | Area (acres) | Rational c |
|-------------|------------------|-----------------|------------|
| pond area | 4,986 | 0.114 | 0.80 |
| bypass area | 11,410 | 0.262 | 0.20 |
| lawn | 1,886 | 0.043 | 0.18 |
| woods | 6,969 | 0.160 | 0.12 |
| paved | 25,451 | 0.584 | 0.95 |
| total | 50,702 | 1.164 | 0.62 |

Enclosure 7

Rational Method Runoff & Detention Calculations

 Project Description

File Name rational method runoff.SPF

 Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 2 years
 Storm Duration..... 5 min
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

 Element Count

Number of subbasins 2
 Number of nodes 2
 Number of links 0

 Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |
| DA#1-Pre | 50701.81 | 100.00 | 2.0000 |

 Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Out-1-Post | OUTFALL | 268.75 | 268.75 | 0.00 | |
| Out-1-Pre | OUTFALL | 268.75 | 268.75 | 0.00 | |

| | Volume acre-ft | Depth inches |
|----------------------------|-------------------|-----------------|
| Runoff Quantity Continuity | | |
| Total Precipitation | 0.155 | 0.797 |
| Continuity Error (%) | 1.000 | |

| | Volume acre-ft | Volume Mgallons |
|----------------------------|-------------------|--------------------|
| Flow Routing Continuity | | |
| External Inflow | 0.000 | 0.000 |
| External Outflow | 0.061 | 0.020 |
| Initial Stored Volume | 0.000 | 0.000 |

Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|----------------------------|---------------|------------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Subbasin DA#1-Pre

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|----------------------------|---------------|------------------|
| Open Space, 25 years or greater | 43389.81 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 7311.95 | C (0-2%) | 0.12 |
| Composite Area & Weighted Runoff Coeff. | 50701.76 | | 0.17 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

Tc = Time of Concentration (min)
 L = Flow length (ft)
 S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

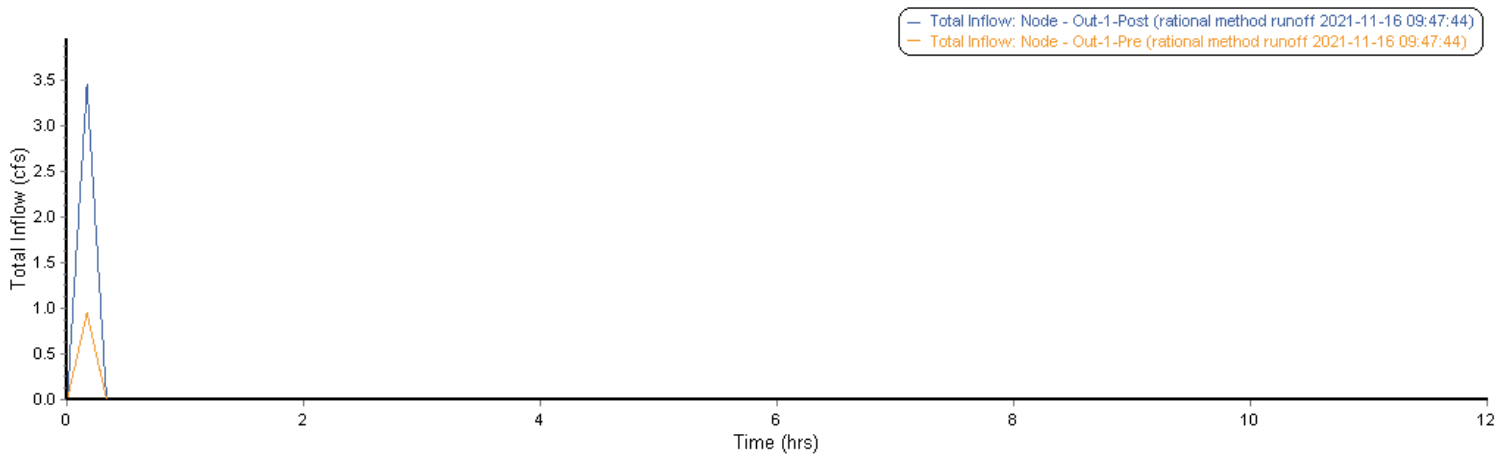
 Subbasin DA#1-Pre

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days hh:mm:ss |
|----------------|-----------------------------|--------------------------------|-----------------------|-----------------------|-----------------------------|---|
| DA#1-Post | 0.80 | 4.78 | 0.49 | 3.45 | 0.620 | 0 00:10:00 |
| DA#1-Pre | 0.80 | 4.78 | 0.14 | 0.95 | 0.170 | 0 00:10:00 |

Analysis began on: Tue Nov 16 09:47:42 2021
Analysis ended on: Tue Nov 16 09:47:43 2021
Total elapsed time: 00:00:01



 Project Description

File Name rational method runoff.SPF

 Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 10 years
 Storm Duration..... 5 min
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

 Element Count

Number of subbasins 2
 Number of nodes 2
 Number of links 0

 Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |
| DA#1-Pre | 50701.81 | 100.00 | 2.0000 |

 Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Out-1-Post | OUTFALL | 268.75 | 268.75 | 0.00 | |
| Out-1-Pre | OUTFALL | 268.75 | 268.75 | 0.00 | |

| Runoff Quantity Continuity | Volume acre-ft | Depth inches |
|----------------------------|-------------------|-----------------|
| Total Precipitation | 0.210 | 1.083 |
| Continuity Error (%) | 1.000 | |

| Flow Routing Continuity | Volume acre-ft | Volume Mgallons |
|----------------------------|-------------------|--------------------|
| External Inflow | 0.000 | 0.000 |
| External Outflow | 0.082 | 0.027 |
| Initial Stored Volume | 0.000 | 0.000 |

Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Subbasin DA#1-Pre

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 43389.81 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 7311.95 | C (0-2%) | 0.12 |
| Composite Area & Weighted Runoff Coeff. | 50701.76 | | 0.17 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

Tc = Time of Concentration (min)
 L = Flow length (ft)
 S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

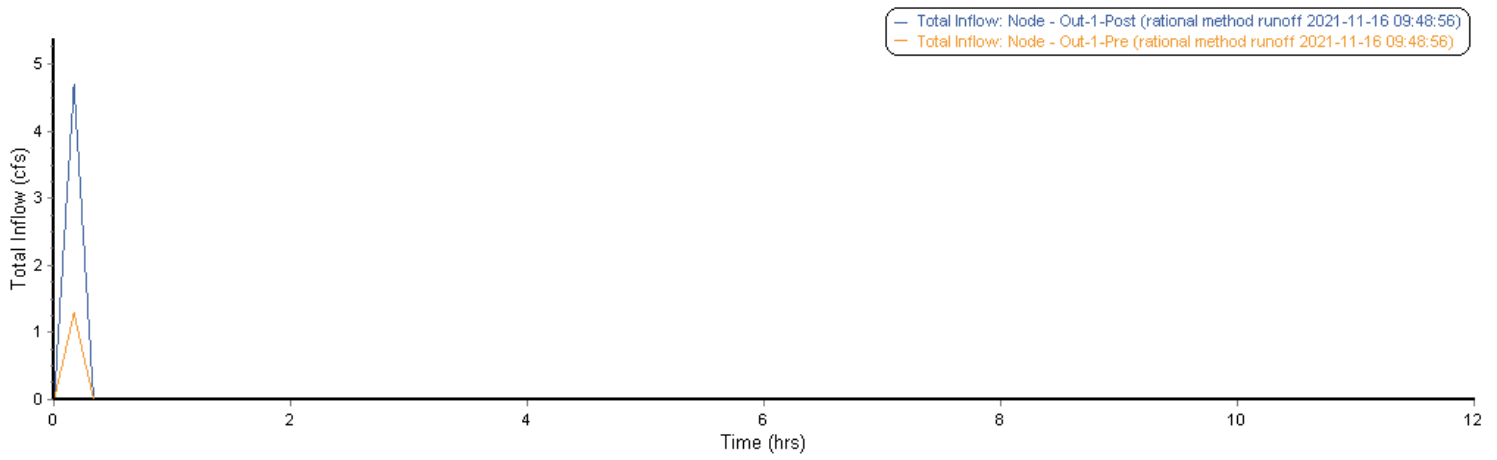
 Subbasin DA#1-Pre

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|----------|
| DA#1-Post | 1.08 | 6.50 | 0.67 | 4.69 | 0.620 | 0 | 00:10:00 |
| DA#1-Pre | 1.08 | 6.50 | 0.18 | 1.29 | 0.170 | 0 | 00:10:00 |

Analysis began on: Tue Nov 16 09:48:53 2021
Analysis ended on: Tue Nov 16 09:48:54 2021
Total elapsed time: 00:00:01



Project Description

File Name rational method runoff.SPF

Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 25 years
 Storm Duration..... 5 min
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

Element Count

Number of subbasins 2
 Number of nodes 2
 Number of links 0

Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |
| DA#1-Pre | 50701.81 | 100.00 | 2.0000 |

Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Out-1-Post | OUTFALL | 268.75 | 268.75 | 0.00 | |
| Out-1-Pre | OUTFALL | 268.75 | 268.75 | 0.00 | |

| Runoff Quantity Continuity | Volume acre-ft | Depth inches |
|----------------------------|-------------------|-----------------|
| Total Precipitation | 0.246 | 1.267 |
| Continuity Error (%) | 1.000 | |

| Flow Routing Continuity | Volume acre-ft | Volume Mgallons |
|----------------------------|-------------------|--------------------|
| External Inflow | 0.000 | 0.000 |
| External Outflow | 0.096 | 0.031 |
| Initial Stored Volume | 0.000 | 0.000 |

Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Subbasin DA#1-Pre

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 43389.81 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 7311.95 | C (0-2%) | 0.12 |
| Composite Area & Weighted Runoff Coeff. | 50701.76 | | 0.17 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

Tc = Time of Concentration (min)
 L = Flow length (ft)
 S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

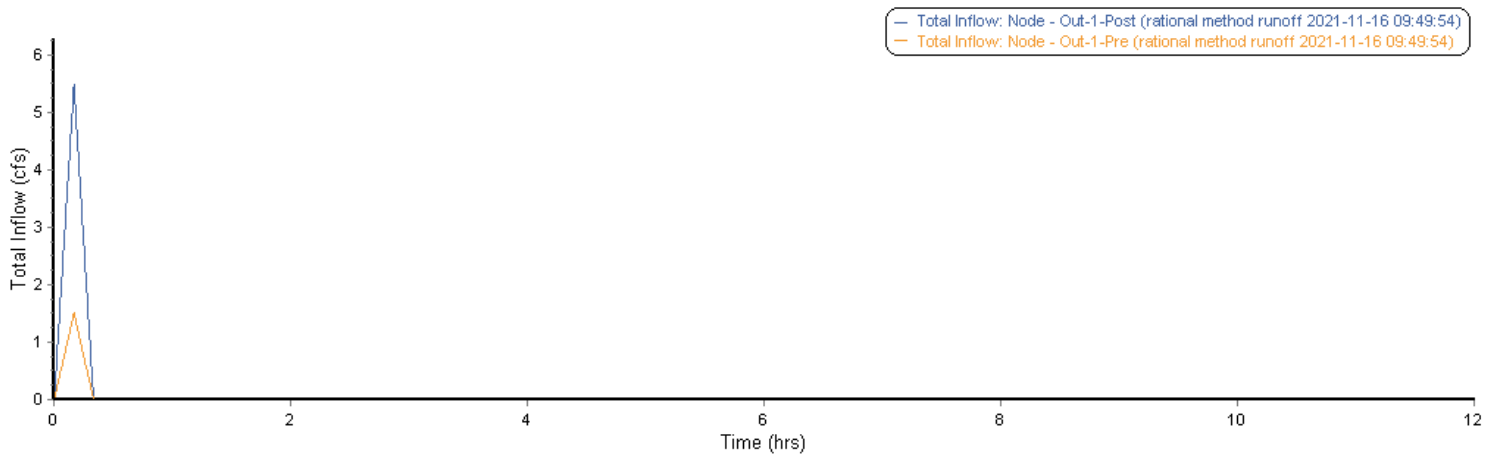
 Subbasin DA#1-Pre

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|----------|
| DA#1-Post | 1.27 | 7.60 | 0.79 | 5.48 | 0.620 | 0 | 00:10:00 |
| DA#1-Pre | 1.27 | 7.60 | 0.22 | 1.50 | 0.170 | 0 | 00:10:00 |

Analysis began on: Tue Nov 16 09:49:52 2021
Analysis ended on: Tue Nov 16 09:49:53 2021
Total elapsed time: 00:00:01



Project Description

File Name rational method runoff.SPF

Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 50 years
 Storm Duration..... 5 min
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

Element Count

Number of subbasins 2
 Number of nodes 2
 Number of links 0

Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |
| DA#1-Pre | 50701.81 | 100.00 | 2.0000 |

Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Out-1-Post | OUTFALL | 268.75 | 268.75 | 0.00 | |
| Out-1-Pre | OUTFALL | 268.75 | 268.75 | 0.00 | |

| Runoff Quantity Continuity | Volume acre-ft | Depth inches |
|----------------------------|-------------------|-----------------|
| Total Precipitation | 0.274 | 1.410 |
| Continuity Error (%) | 1.000 | |

| Flow Routing Continuity | Volume acre-ft | Volume Mgallons |
|----------------------------|-------------------|--------------------|
| External Inflow | 0.000 | 0.000 |
| External Outflow | 0.107 | 0.035 |
| Initial Stored Volume | 0.000 | 0.000 |

Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Subbasin DA#1-Pre

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 43389.81 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 7311.95 | C (0-2%) | 0.12 |
| Composite Area & Weighted Runoff Coeff. | 50701.76 | | 0.17 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

Tc = Time of Concentration (min)
 L = Flow length (ft)
 S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

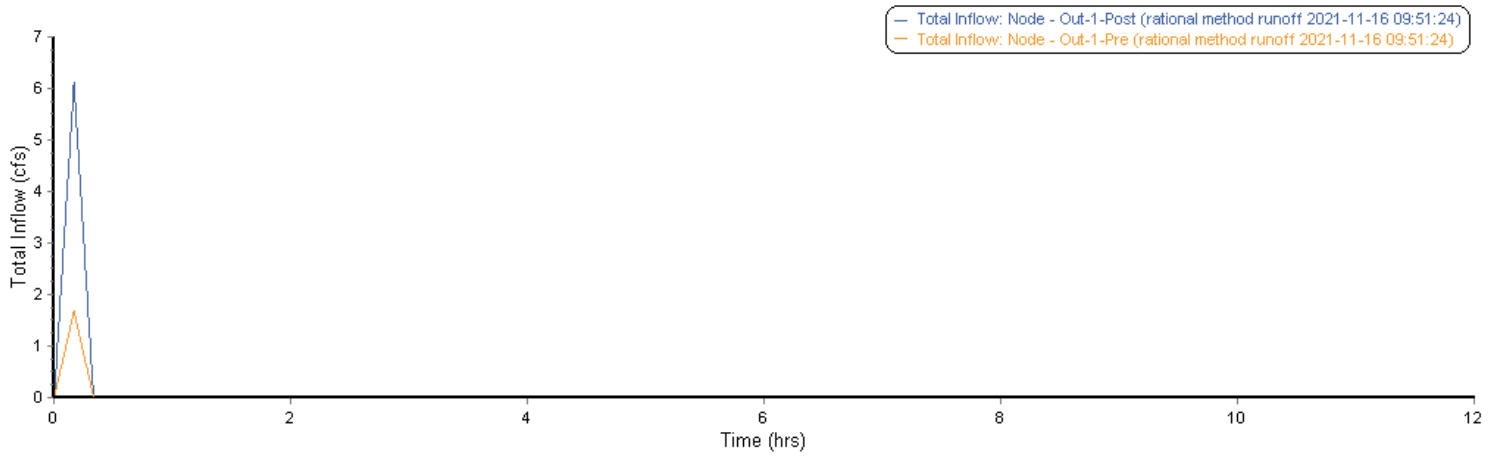
 Subbasin DA#1-Pre

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|----------|
| DA#1-Post | 1.41 | 8.46 | 0.87 | 6.11 | 0.620 | 0 | 00:10:00 |
| DA#1-Pre | 1.41 | 8.46 | 0.24 | 1.67 | 0.170 | 0 | 00:10:00 |

Analysis began on: Tue Nov 16 09:51:21 2021
Analysis ended on: Tue Nov 16 09:51:23 2021
Total elapsed time: 00:00:02



Project Description

File Name rational method runoff.SPF

Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 100 years
 Storm Duration..... 5 min
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

Element Count

Number of subbasins 2
 Number of nodes 2
 Number of links 0

Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |
| DA#1-Pre | 50701.81 | 100.00 | 2.0000 |

Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Out-1-Post | OUTFALL | 268.75 | 268.75 | 0.00 | |
| Out-1-Pre | OUTFALL | 268.75 | 268.75 | 0.00 | |

| Runoff Quantity Continuity | Volume acre-ft | Depth inches |
|----------------------------|-------------------|-----------------|
| Total Precipitation | 0.301 | 1.553 |
| Continuity Error (%) | 1.000 | |

| Flow Routing Continuity | Volume acre-ft | Volume Mgallons |
|----------------------------|-------------------|--------------------|
| External Inflow | 0.000 | 0.000 |
| External Outflow | 0.118 | 0.038 |
| Initial Stored Volume | 0.000 | 0.000 |

Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|----------------------------|---------------|------------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Subbasin DA#1-Pre

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|----------------------------|---------------|------------------|
| Open Space, 25 years or greater | 43389.81 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 7311.95 | C (0-2%) | 0.12 |
| Composite Area & Weighted Runoff Coeff. | 50701.76 | | 0.17 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

Tc = Time of Concentration (min)
 L = Flow length (ft)
 S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

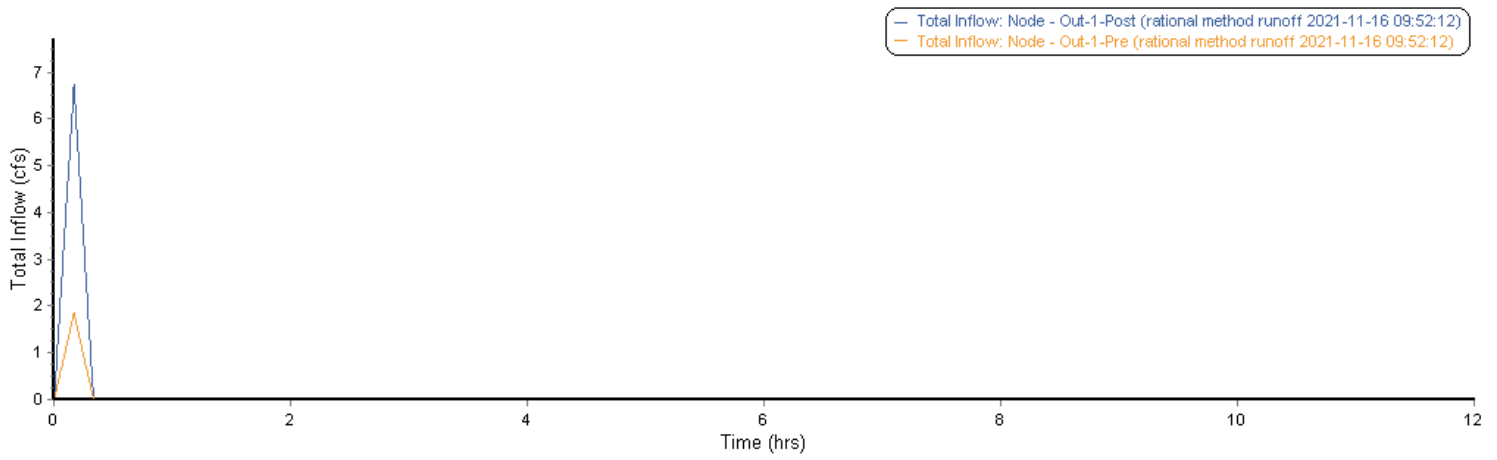
 Subbasin DA#1-Pre

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|----------|
| DA#1-Post | 1.55 | 9.32 | 0.96 | 6.73 | 0.620 | 0 | 00:10:00 |
| DA#1-Pre | 1.55 | 9.32 | 0.26 | 1.84 | 0.170 | 0 | 00:10:00 |

Analysis began on: Tue Nov 16 09:52:10 2021
Analysis ended on: Tue Nov 16 09:52:11 2021
Total elapsed time: 00:00:01



 Project Description

File Name rational method detention.SPF

 Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 2 years
 Storm Duration..... 5 min
 Link Routing Method Kinematic Wave
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

 Element Count

Number of subbasins 1
 Number of nodes 3
 Number of links 3

 Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |

 Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Jun-01 | JUNCTION | 269.00 | 274.90 | 0.00 | |
| Out-1-Post | OUTFALL | 268.75 | 270.25 | 0.00 | |
| Stor-01 | STORAGE | 269.50 | 275.50 | 0.00 | |

 Link Summary

| Link ID | From Node | To Node | Element Type | Length ft | Slope % | Manning's Roughness |
|------------|-----------|------------|--------------|--------------|------------|---------------------|
| Culvert-01 | Jun-01 | Out-1-Post | CONDUIT | 55.0 | 1.3636 | 0.0120 |
| Orifice-01 | Stor-01 | Jun-01 | ORIFICE | | | |
| Weir-01 | Stor-01 | Jun-01 | WEIR | | | |

Cross Section Summary

| Link Design ID Flow Capacity | Shape | Depth/ Diameter ft | Width ft | No. of Barrels | Cross Sectional Area ft ² | Full Flow Hydraulic Radius ft |
|------------------------------|-------|--------------------------|-------------|-------------------|---|--|
|------------------------------|-------|--------------------------|-------------|-------------------|---|--|

| | | | | | | |
|---------------------|----------|------|------|---|------|------|
| Culvert-01 13.29 | CIRCULAR | 1.50 | 1.50 | 1 | 1.77 | 0.38 |
|---------------------|----------|------|------|---|------|------|

 Runoff Quantity Continuity

 Total Precipitation 0.077 0.797
 Continuity Error (%) 1.000

 Flow Routing Continuity

 External Inflow 0.000 0.000
 External Outflow 0.048 0.015
 Initial Stored Volume 0.000
 Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|----------------------------|---------------|------------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

- Tc = Time of Concentration (min)
- L = Flow length (ft)
- S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | Time of Concentration hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|--------------------------------|
| DA#1-Post | 0.80 | 4.78 | 0.49 | 3.45 | 0.620 | 0 | 00:10:00 |

 Node Depth Summary

| Node ID | Average Depth Attained ft | Maximum Depth Attained ft | Maximum HGL Attained ft | Time of Max Occurrence days | Time of Max Occurrence hh:mm | Total Flooded Volume acre-in | Total Time Flooded minutes | Retention Time hh:mm:ss |
|------------|---------------------------|---------------------------|-------------------------|-----------------------------|------------------------------|------------------------------|----------------------------|-------------------------|
| Jun-01 | 0.52 | 0.76 | 269.76 | 0 | 00:17 | 0 | 0 | 0:00:00 |
| Out-1-Post | 0.02 | 0.26 | 269.01 | 0 | 00:17 | 0 | 0 | 0:00:00 |
| Stor-01 | 0.09 | 1.93 | 271.43 | 0 | 00:17 | 0 | 0 | 0:00:00 |

 Node Flow Summary

| Node ID | Element Type | Maximum Lateral Inflow cfs | Peak Inflow cfs | Time of Peak Inflow Occurrence days | Time of Peak Inflow Occurrence hh:mm | Maximum Flooding Overflow cfs | Time of Peak Flooding Occurrence days | Time of Peak Flooding Occurrence hh:mm |
|------------|--------------|----------------------------|-----------------|-------------------------------------|--------------------------------------|-------------------------------|---------------------------------------|--|
| Jun-01 | JUNCTION | 0.00 | 0.88 | 0 | 00:17 | 0.00 | | |
| Out-1-Post | OUTFALL | 0.00 | 0.88 | 0 | 00:17 | 0.00 | | |
| Stor-01 | STORAGE | 3.45 | 3.45 | 0 | 00:10 | 0.00 | | |

 Storage Node Summary

| Storage Node ID | Maximum Time of Max. Exfiltration Rate cfm | Maximum Time of Max. Exfiltration Rate hh:mm:ss | Maximum Total Pounded Volume 1000 ft ³ | Maximum Pounded Volume (%) | Time of Max Pounded Volume days | Time of Max Pounded Volume hh:mm | Average Pounded Volume 1000 ft ³ | Average Pounded Volume (%) | Maximum Storage Node Outflow cfs |
|-----------------|--|---|---|----------------------------|---------------------------------|----------------------------------|---|----------------------------|----------------------------------|
| Stor-01 | 0.00 | 0:00:00 | 1.393 | 12 | 0 | 00:17 | 0.050 | 0 | 0.88 |

 Outfall Loading Summary

| Outfall Node ID | Flow Frequency (%) | Average Flow cfs | Peak Inflow cfs |
|-----------------|--------------------|------------------|-----------------|
| Out-1-Post | 9.80 | 0.49 | 0.88 |
| System | 9.80 | 0.49 | 0.88 |

 Link Flow Summary

| Link ID | Ratio of Total Flow Surcharged Depth | Element Reported Type Condition | Time of Peak Flow Occurrence | Maximum Velocity Attained | Length Factor | Peak Flow during Analysis | Design Flow Capacity | Ratio of Maximum /Design Flow |
|------------|--------------------------------------|---------------------------------|------------------------------|---------------------------|---------------|---------------------------|----------------------|-------------------------------|
| | minutes | | days hh:mm | ft/sec | | cfs | cfs | Flow |
| Culvert-01 | 0.17 | CONDUIT | 0 00:17 | 4.24 | 1.00 | 0.88 | 13.29 | 0.07 |
| Orifice-01 | 0.00 | ORIFICE | 0 00:17 | | | 0.88 | | |
| Weir-01 | 0.00 | WEIR | 0 00:00 | | | 0.00 | | |

 Highest Flow Instability Indexes

 All links are stable.

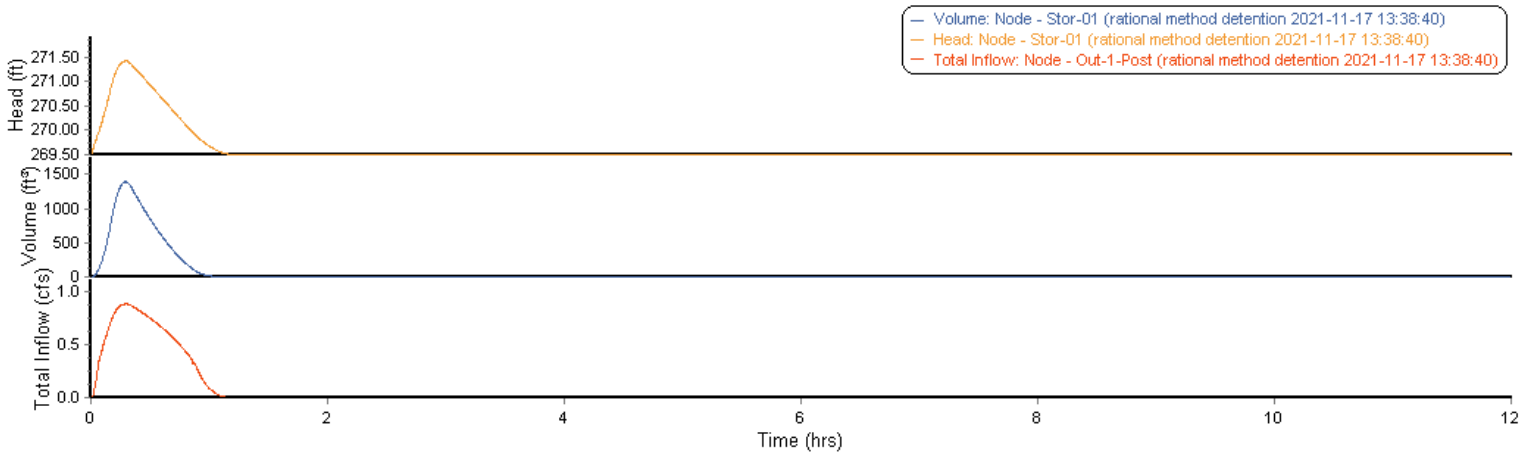
WARNING 107 : Initial water surface elevation defined for Junction Jun-01 is below junction invert elevation.

Assumed initial water surface elevation equal to invert elevation.

WARNING 108 : Surge elevation defined for Junction Jun-01 is below junction maximum elevation. Assumed surge elevation equal to maximum elevation.

WARNING 002 : Max/rim elevation (depth) increased to account for connecting conduit height dimensions for Node Jun-01.

Analysis began on: Wed Nov 17 13:38:38 2021
 Analysis ended on: Wed Nov 17 13:38:39 2021
 Total elapsed time: 00:00:01



Project Description

File Name rational method detention.SPF

Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 10 years
 Storm Duration..... 5 min
 Link Routing Method Kinematic Wave
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

Element Count

Number of subbasins 1
 Number of nodes 3
 Number of links 3

Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |

Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Jun-01 | JUNCTION | 269.00 | 274.90 | 0.00 | |
| Out-1-Post | OUTFALL | 268.75 | 270.25 | 0.00 | |
| Stor-01 | STORAGE | 269.50 | 275.50 | 0.00 | |

Link Summary

| Link ID | From Node | To Node | Element Type | Length ft | Slope % | Manning's Roughness |
|------------|-----------|------------|--------------|--------------|------------|---------------------|
| Culvert-01 | Jun-01 | Out-1-Post | CONDUIT | 55.0 | 1.3636 | 0.0120 |
| Orifice-01 | Stor-01 | Jun-01 | ORIFICE | | | |
| Weir-01 | Stor-01 | Jun-01 | WEIR | | | |

Cross Section Summary

| Link Design ID | Shape | Depth/ Diameter | Width | No. of Barrels | Cross Sectional Area | Full Flow Hydraulic Radius |
|---------------------|----------|--------------------|-------|-------------------|----------------------------|----------------------------------|
| Flow Capacity | | ft | ft | | ft ² | ft |
| ----- | | | | | | |
| Culvert-01 13.29 | CIRCULAR | 1.50 | 1.50 | 1 | 1.77 | 0.38 |

Runoff Quantity Continuity

| | Volume acre-ft | Depth inches |
|----------------------------|-------------------|-----------------|
| Total Precipitation | 0.105 | 1.083 |
| Continuity Error (%) | 1.000 | |

Flow Routing Continuity

| | Volume acre-ft | Volume Mgallons |
|----------------------------|-------------------|--------------------|
| External Inflow | 0.000 | 0.000 |
| External Outflow | 0.065 | 0.021 |
| Initial Stored Volume | 0.000 | 0.000 |
| Final Stored Volume | 0.000 | 0.000 |
| Continuity Error (%) | 0.000 | |

Runoff Coefficient Computations Report

Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|----------------------------|---------------|------------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

Tc = Time of Concentration (min)
L = Flow length (ft)
S = Slope (ft/ft)

Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | Time of Concentration hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|--------------------------------|
| DA#1-Post | 1.08 | 6.50 | 0.67 | 4.69 | 0.620 | 0 | 00:10:00 |

 Node Depth Summary

| Node ID | Average Depth Attained ft | Maximum Depth Attained ft | Maximum HGL Attained ft | Time of Max Occurrence days | Time of Max Occurrence hh:mm | Total Flooded Volume acre-in | Total Time Flooded minutes | Retention Time hh:mm:ss |
|------------|---------------------------|---------------------------|-------------------------|-----------------------------|------------------------------|------------------------------|----------------------------|-------------------------|
| Jun-01 | 0.52 | 0.78 | 269.78 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Out-1-Post | 0.02 | 0.28 | 269.03 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Stor-01 | 0.13 | 2.40 | 271.90 | 0 | 00:18 | 0 | 0 | 0:00:00 |

 Node Flow Summary

| Node ID | Element Type | Maximum Lateral Inflow cfs | Peak Inflow cfs | Time of Peak Inflow Occurrence days | Time of Peak Inflow Occurrence hh:mm | Maximum Flooding Overflow cfs | Time of Peak Flooding Occurrence days | Time of Peak Flooding Occurrence hh:mm |
|------------|--------------|----------------------------|-----------------|-------------------------------------|--------------------------------------|-------------------------------|---------------------------------------|--|
| Jun-01 | JUNCTION | 0.00 | 0.99 | 0 | 00:18 | 0.00 | | |
| Out-1-Post | OUTFALL | 0.00 | 0.99 | 0 | 00:18 | 0.00 | | |
| Stor-01 | STORAGE | 4.69 | 4.69 | 0 | 00:10 | 0.00 | | |

 Storage Node Summary

| Storage Node ID | Maximum Time of Max. Exfiltration Rate cfm | Maximum Total Pounded Volume 1000 ft ³ | Maximum Pounded Volume (%) | Time of Max Pounded Volume days | Time of Max Pounded Volume hh:mm | Average Pounded Volume 1000 ft ³ | Average Pounded Volume (%) | Maximum Storage Node Outflow cfs |
|-----------------|--|---|----------------------------|---------------------------------|----------------------------------|---|----------------------------|----------------------------------|
| Stor-01 | 0.00 | 2.033 | 18 | 0 | 00:18 | 0.085 | 1 | 0.99 |
| | 0:00:00 | 0.000 | | | | | | |

 Outfall Loading Summary

| Outfall Node ID | Flow Frequency (%) | Average Flow cfs | Peak Inflow cfs |
|-----------------|--------------------|------------------|-----------------|
| Out-1-Post | 11.41 | 0.57 | 0.99 |
| System | 11.41 | 0.57 | 0.99 |

 Link Flow Summary

| Link ID | Element | Time of | Maximum | Length | Peak Flow | Design | Ratio of |
|-----------------|--------------|----------|------------|----------|-----------|----------|----------|
| Ratio of | Total | Reported | Peak Flow | Velocity | during | Flow | Maximum |
| Maximum | Time | Type | Occurrence | Attained | Analysis | Capacity | /Design |
| Flow Surcharged | Condition | | days hh:mm | ft/sec | cfs | cfs | Flow |
| Depth | minutes | | | | | | |
| Culvert-01 | CONDUIT | 0 00:18 | 4.42 | 1.00 | 0.99 | 13.29 | 0.07 |
| 0.18 | 0 Calculated | | | | | | |
| Orifice-01 | ORIFICE | 0 00:18 | | | 0.99 | | |
| 0.00 | | | | | | | |
| Weir-01 | WEIR | 0 00:00 | | | 0.00 | | |
| 0.00 | | | | | | | |

 Highest Flow Instability Indexes

 All links are stable.

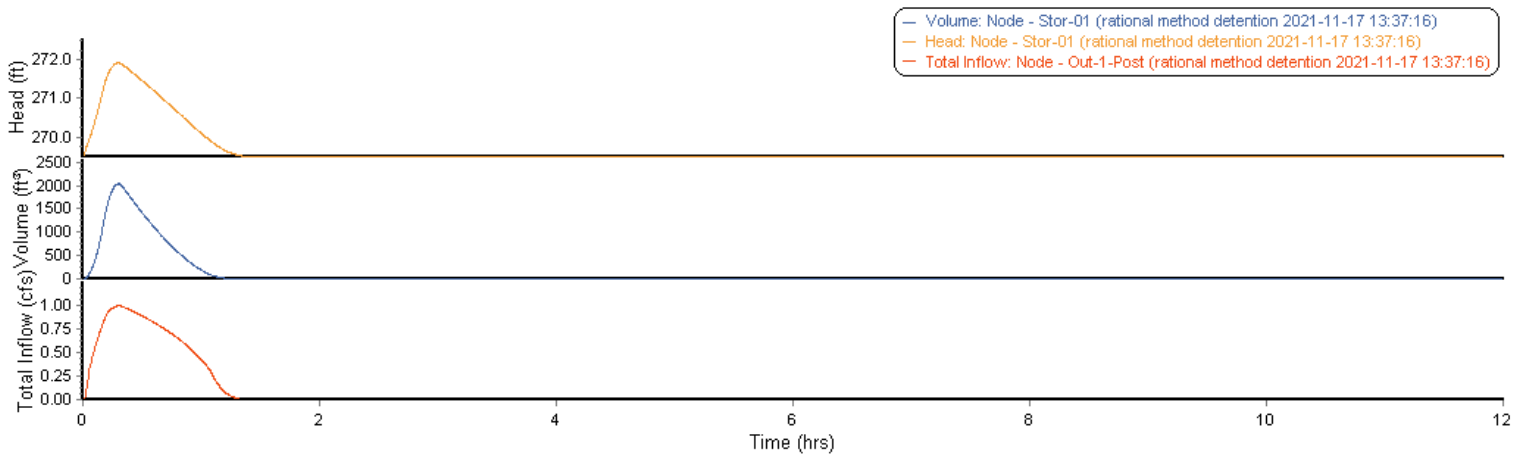
WARNING 107 : Initial water surface elevation defined for Junction Jun-01 is below junction invert elevation.

Assumed initial water surface elevation equal to invert elevation.

WARNING 108 : Surge elevation defined for Junction Jun-01 is below junction maximum elevation. Assumed surge elevation equal to maximum elevation.

WARNING 002 : Max/rim elevation (depth) increased to account for connecting conduit height dimensions for Node Jun-01.

Analysis began on: Wed Nov 17 13:37:13 2021
 Analysis ended on: Wed Nov 17 13:37:14 2021
 Total elapsed time: 00:00:01



 Project Description

File Name rational method detention.SPF

 Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 25 years
 Storm Duration..... 5 min
 Link Routing Method Kinematic Wave
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

 Element Count

Number of subbasins 1
 Number of nodes 3
 Number of links 3

 Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |

 Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Jun-01 | JUNCTION | 269.00 | 274.90 | 0.00 | |
| Out-1-Post | OUTFALL | 268.75 | 270.25 | 0.00 | |
| Stor-01 | STORAGE | 269.50 | 275.50 | 0.00 | |

 Link Summary

| Link ID | From Node | To Node | Element Type | Length ft | Slope % | Manning's Roughness |
|------------|-----------|------------|--------------|--------------|------------|---------------------|
| Culvert-01 | Jun-01 | Out-1-Post | CONDUIT | 55.0 | 1.3636 | 0.0120 |
| Orifice-01 | Stor-01 | Jun-01 | ORIFICE | | | |
| Weir-01 | Stor-01 | Jun-01 | WEIR | | | |

Cross Section Summary

 Link Shape Depth/ Width No. of Cross Full Flow
 Design Diameter Barrels Sectional Hydraulic
 ID Area Radius
 Flow
 Capacity
 cfs

 Culvert-01 CIRCULAR 1.50 1.50 1 1.77 0.38
 13.29

 Runoff Quantity Continuity Volume Depth
 ***** acre-ft inches

 Total Precipitation 0.123 1.267
 Continuity Error (%) 1.000

 Flow Routing Continuity Volume Volume
 ***** acre-ft Mgallons

 External Inflow 0.000 0.000
 External Outflow 0.076 0.025
 Initial Stored Volume 0.000 0.000
 Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

- Tc = Time of Concentration (min)
- L = Flow length (ft)
- S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | Time of Concentration hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|--------------------------------|
| DA#1-Post | 1.27 | 7.60 | 0.79 | 5.48 | 0.620 | 0 | 00:10:00 |

 Node Depth Summary

| Node ID | Average Depth Attained ft | Maximum Depth Attained ft | Maximum HGL Attained ft | Time of Max Occurrence days | Time of Max Occurrence hh:mm | Total Flooded Volume acre-in | Total Time Flooded minutes | Retention Time hh:mm:ss |
|------------|---------------------------|---------------------------|-------------------------|-----------------------------|------------------------------|------------------------------|----------------------------|-------------------------|
| Jun-01 | 0.53 | 0.79 | 269.79 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Out-1-Post | 0.03 | 0.29 | 269.04 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Stor-01 | 0.16 | 2.67 | 272.17 | 0 | 00:18 | 0 | 0 | 0:00:00 |

 Node Flow Summary

| Node ID | Element Type | Maximum Lateral Inflow cfs | Peak Inflow cfs | Time of Peak Inflow Occurrence days | Time of Peak Inflow Occurrence hh:mm | Maximum Flooding Overflow cfs | Time of Peak Flooding Occurrence days | Time of Peak Flooding Occurrence hh:mm |
|------------|--------------|----------------------------|-----------------|-------------------------------------|--------------------------------------|-------------------------------|---------------------------------------|--|
| Jun-01 | JUNCTION | 0.00 | 1.05 | 0 | 00:18 | 0.00 | | |
| Out-1-Post | OUTFALL | 0.00 | 1.05 | 0 | 00:18 | 0.00 | | |
| Stor-01 | STORAGE | 5.48 | 5.48 | 0 | 00:10 | 0.00 | | |

 Storage Node Summary

| Storage Node ID | Maximum Time of Max. Exfiltration Rate cfm | Maximum Total Pounded Volume 1000 ft ³ | Maximum Pounded Volume (%) | Time of Max Pounded Volume days | Time of Max Pounded Volume hh:mm | Average Pounded Volume 1000 ft ³ | Average Pounded Volume (%) | Maximum Storage Node Outflow cfs |
|-----------------|--|---|----------------------------|---------------------------------|----------------------------------|---|----------------------------|----------------------------------|
| Stor-01 | 0.00 | 2.454 | 21 | 0 | 00:18 | 0.112 | 1 | 1.05 |
| | 0:00:00 | 0.000 | | | | | | |

 Outfall Loading Summary

| Outfall Node ID | Flow Frequency (%) | Average Flow cfs | Peak Inflow cfs |
|-----------------|--------------------|------------------|-----------------|
| Out-1-Post | 12.38 | 0.62 | 1.05 |
| System | 12.38 | 0.62 | 1.05 |

 Link Flow Summary

| Link ID | Ratio of Total Flow Surcharged Depth | Element Reported Type Condition | Time of Peak Flow Occurrence | Maximum Velocity Attained | Length Factor | Peak Flow during Analysis | Design Flow Capacity | Ratio of Maximum /Design Flow |
|------------|--------------------------------------|---------------------------------|------------------------------|---------------------------|---------------|---------------------------|----------------------|-------------------------------|
| | minutes | | days hh:mm | ft/sec | | cfs | cfs | Flow |
| Culvert-01 | 0.19 | CONDUIT | 0 00:18 | 4.50 | 1.00 | 1.05 | 13.29 | 0.08 |
| Orifice-01 | 0.00 | ORIFICE | 0 00:18 | | | 1.05 | | |
| Weir-01 | 0.00 | WEIR | 0 00:00 | | | 0.00 | | |

 Highest Flow Instability Indexes

 All links are stable.

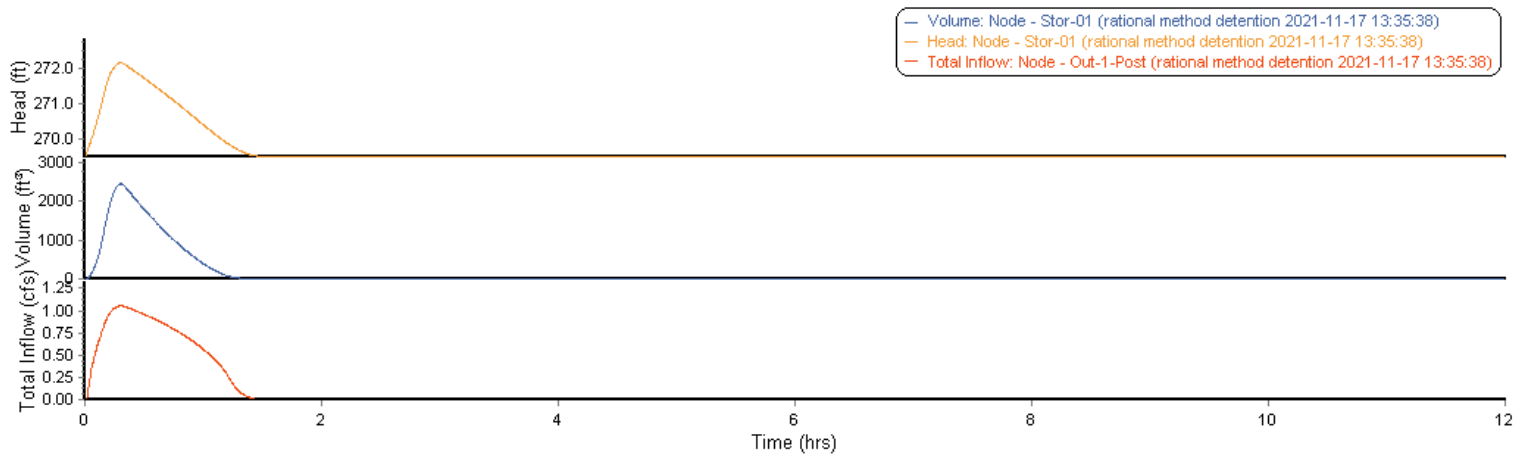
WARNING 107 : Initial water surface elevation defined for Junction Jun-01 is below junction invert elevation.

Assumed initial water surface elevation equal to invert elevation.

WARNING 108 : Surge elevation defined for Junction Jun-01 is below junction maximum elevation. Assumed surge elevation equal to maximum elevation.

WARNING 002 : Max/rim elevation (depth) increased to account for connecting conduit height dimensions for Node Jun-01.

Analysis began on: Wed Nov 17 13:35:36 2021
 Analysis ended on: Wed Nov 17 13:35:37 2021
 Total elapsed time: 00:00:01



 Project Description

File Name rational method detention.SPF

 Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 50 years
 Storm Duration..... 5 min
 Link Routing Method Kinematic Wave
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

 Element Count

Number of subbasins 1
 Number of nodes 3
 Number of links 3

 Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |

 Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Jun-01 | JUNCTION | 269.00 | 274.90 | 0.00 | |
| Out-1-Post | OUTFALL | 268.75 | 270.25 | 0.00 | |
| Stor-01 | STORAGE | 269.50 | 275.50 | 0.00 | |

 Link Summary

| Link ID | From Node | To Node | Element Type | Length ft | Slope % | Manning's Roughness |
|------------|-----------|------------|--------------|--------------|------------|---------------------|
| Culvert-01 | Jun-01 | Out-1-Post | CONDUIT | 55.0 | 1.3636 | 0.0120 |
| Orifice-01 | Stor-01 | Jun-01 | ORIFICE | | | |
| Weir-01 | Stor-01 | Jun-01 | WEIR | | | |

Cross Section Summary

 Link Shape Depth/ Width No. of Cross Full Flow
 Design Diameter Barrels Sectional Hydraulic
 ID Area Radius
 Flow
 Capacity
 cfs

 Culvert-01 CIRCULAR 1.50 1.50 1 1.77 0.38
 13.29

 Runoff Quantity Continuity Volume Depth
 ***** acre-ft inches

 Total Precipitation 0.137 1.410
 Continuity Error (%) 1.000

 Flow Routing Continuity Volume Volume
 ***** acre-ft Mgallons

 External Inflow 0.000 0.000
 External Outflow 0.084 0.027
 Initial Stored Volume 0.000 0.000
 Final Stored Volume 0.000 0.000
 Continuity Error (%) 0.000

 Runoff Coefficient Computations Report

 Subbasin DA#1-Post

| Soil/Surface Description | Area (ft ²) | Soil Group | Runoff Coeff. |
|---|-------------------------|------------|---------------|
| Open Space, 25 years or greater | 1886.01 | C (0-2%) | 0.18 |
| Forest, 25 years or greater | 6968.96 | C (0-2%) | 0.12 |
| Parking, 25 years or greater | 25450.92 | C (0-2%) | 0.95 |
| Pond-Area | 4985.99 | C (0-2%) | 0.80 |
| Bypass-Area | 11409.97 | C (0-2%) | 0.18 |
| Composite Area & Weighted Runoff Coeff. | 50701.85 | | 0.62 |

 Kirpich Time of Concentration Computations Report

$$T_c = (0.0078 * (L^{0.77}) * (S^{-0.385}))$$

Where:

Tc = Time of Concentration (min)
 L = Flow length (ft)
 S = Slope (ft/ft)

 Subbasin DA#1-Post

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | Time of Concentration hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|--------------------------------|
| DA#1-Post | 1.41 | 8.46 | 0.87 | 6.11 | 0.620 | 0 | 00:10:00 |

 Node Depth Summary

| Node ID | Average Depth Attained ft | Maximum Depth Attained ft | Maximum HGL Attained ft | Time of Max Occurrence days | Time of Max Occurrence hh:mm | Total Flooded Volume acre-in | Total Time Flooded minutes | Retention Time hh:mm:ss |
|------------|---------------------------|---------------------------|-------------------------|-----------------------------|------------------------------|------------------------------|----------------------------|-------------------------|
| Jun-01 | 0.53 | 0.79 | 269.79 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Out-1-Post | 0.03 | 0.29 | 269.04 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Stor-01 | 0.18 | 2.86 | 272.36 | 0 | 00:18 | 0 | 0 | 0:00:00 |

 Node Flow Summary

| Node ID | Element Type | Maximum Lateral Inflow cfs | Peak Inflow cfs | Time of Peak Inflow Occurrence days | Time of Peak Inflow Occurrence hh:mm | Maximum Flooding Overflow cfs | Time of Peak Flooding Occurrence days | Time of Peak Flooding Occurrence hh:mm |
|------------|--------------|----------------------------|-----------------|-------------------------------------|--------------------------------------|-------------------------------|---------------------------------------|--|
| Jun-01 | JUNCTION | 0.00 | 1.09 | 0 | 00:18 | 0.00 | | |
| Out-1-Post | OUTFALL | 0.00 | 1.09 | 0 | 00:18 | 0.00 | | |
| Stor-01 | STORAGE | 6.11 | 6.11 | 0 | 00:10 | 0.00 | | |

 Storage Node Summary

| Storage Node ID | Maximum Time of Max. Exfiltration Rate cfm | Maximum Time of Max. Exfiltration Rate hh:mm:ss | Maximum Total Pounded Volume 1000 ft ³ | Maximum Pounded Volume (%) | Time of Max Pounded Volume days | Time of Max Pounded Volume hh:mm | Average Pounded Volume 1000 ft ³ | Average Pounded Volume (%) | Maximum Storage Node Outflow cfs |
|-----------------|--|---|---|----------------------------|---------------------------------|----------------------------------|---|----------------------------|----------------------------------|
| Stor-01 | 0.00 | 0:00:00 | 2.787 | 24 | 0 | 00:18 | 0.136 | 1 | 1.09 |

 Outfall Loading Summary

| Outfall Node ID | Flow Frequency (%) | Average Flow cfs | Peak Inflow cfs |
|-----------------|--------------------|------------------|-----------------|
| Out-1-Post | 13.11 | 0.65 | 1.09 |
| System | 13.11 | 0.65 | 1.09 |

 Link Flow Summary

| Link ID | Ratio of Total Flow Surcharged Depth | Element Reported Type Condition | Time of Peak Flow Occurrence | Maximum Velocity Attained | Length Factor | Peak Flow during Analysis | Design Flow Capacity | Ratio of Maximum /Design Flow |
|------------|--------------------------------------|---------------------------------|------------------------------|---------------------------|---------------|---------------------------|----------------------|-------------------------------|
| | minutes | | days hh:mm | ft/sec | | cfs | cfs | Flow |
| Culvert-01 | 0.19 | CONDUIT | 0 00:18 | 4.55 | 1.00 | 1.09 | 13.29 | 0.08 |
| Orifice-01 | 0.00 | ORIFICE | 0 00:18 | | | 1.09 | | |
| Weir-01 | 0.00 | WEIR | 0 00:00 | | | 0.00 | | |

 Highest Flow Instability Indexes

 All links are stable.

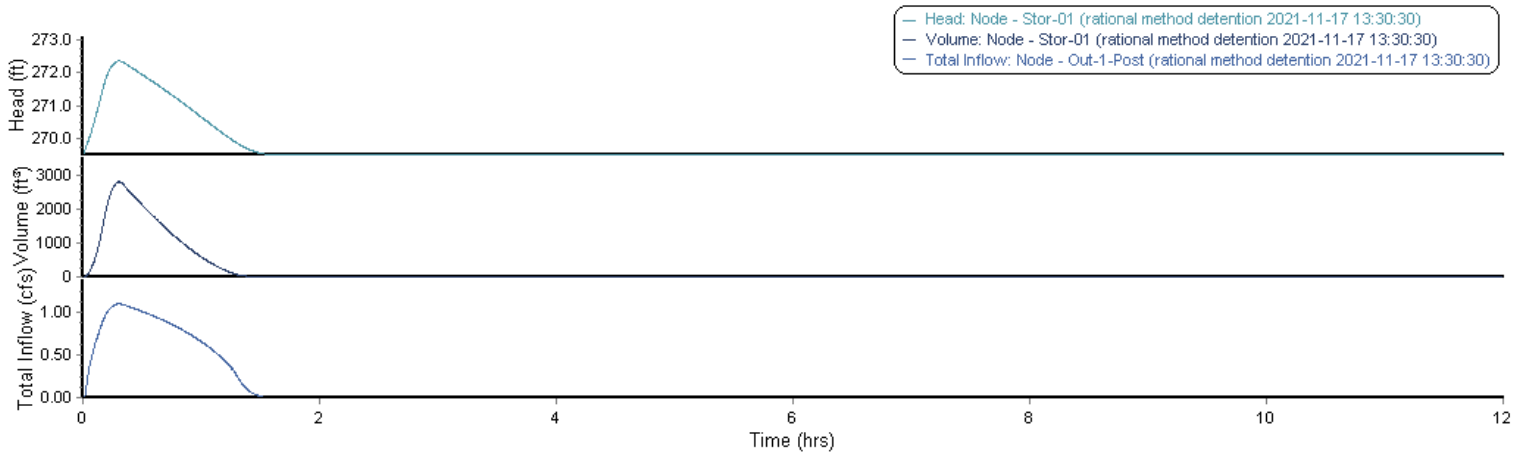
WARNING 107 : Initial water surface elevation defined for Junction Jun-01 is below junction invert elevation.

Assumed initial water surface elevation equal to invert elevation.

WARNING 108 : Surge elevation defined for Junction Jun-01 is below junction maximum elevation. Assumed surge elevation equal to maximum elevation.

WARNING 002 : Max/rim elevation (depth) increased to account for connecting conduit height dimensions for Node Jun-01.

Analysis began on: Wed Nov 17 13:30:28 2021
 Analysis ended on: Wed Nov 17 13:30:29 2021
 Total elapsed time: 00:00:01



 Project Description

File Name rational method detention.SPF

 Analysis Options

Flow Units cfs
 Subbasin Hydrograph Method. Modified Rational
 Time of Concentration..... Kirpich
 Return Period..... 100 years
 Storm Duration..... 5 min
 Link Routing Method Kinematic Wave
 Storage Node Exfiltration.. None
 Starting Date MAR-15-2021 00:00:00
 Ending Date MAR-15-2021 12:00:00
 Report Time Step 00:00:10

 Element Count

Number of subbasins 1
 Number of nodes 3
 Number of links 3

 Subbasin Summary

| Subbasin ID | Total Area ft ² | Flow Length ft | Average Slope % |
|-------------|-------------------------------|-------------------|--------------------|
| DA#1-Post | 50701.81 | 200.00 | 2.0000 |

 Node Summary

| Node ID | Element Type | Invert Elevation ft | Maximum Elev. ft | Ponded Area ft ² | External Inflow |
|------------|--------------|------------------------|---------------------|--------------------------------|-----------------|
| Jun-01 | JUNCTION | 269.00 | 274.90 | 0.00 | |
| Out-1-Post | OUTFALL | 268.75 | 270.25 | 0.00 | |
| Stor-01 | STORAGE | 269.50 | 275.50 | 0.00 | |

 Link Summary

| Link ID | From Node | To Node | Element Type | Length ft | Slope % | Manning's Roughness |
|------------|-----------|------------|--------------|--------------|------------|---------------------|
| Culvert-01 | Jun-01 | Out-1-Post | CONDUIT | 55.0 | 1.3636 | 0.0120 |
| Orifice-01 | Stor-01 | Jun-01 | ORIFICE | | | |
| Weir-01 | Stor-01 | Jun-01 | WEIR | | | |

User-Defined TOC override (minutes): 10.00

 Subbasin Runoff Summary

| Subbasin ID | Accumulated Precip in | Rainfall Intensity in/hr | Total Runoff in | Peak Runoff cfs | Weighted Runoff Coeff | Time of Concentration days | Time of Concentration hh:mm:ss |
|-------------|-----------------------|--------------------------|-----------------|-----------------|-----------------------|----------------------------|--------------------------------|
| DA#1-Post | 1.55 | 9.32 | 0.96 | 6.73 | 0.620 | 0 | 00:10:00 |

 Node Depth Summary

| Node ID | Average Depth Attained ft | Maximum Depth Attained ft | Maximum HGL Attained ft | Time of Max Occurrence days | Time of Max Occurrence hh:mm | Total Flooded Volume acre-in | Total Time Flooded minutes | Retention Time hh:mm:ss |
|------------|---------------------------|---------------------------|-------------------------|-----------------------------|------------------------------|------------------------------|----------------------------|-------------------------|
| Jun-01 | 0.53 | 0.80 | 269.80 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Out-1-Post | 0.03 | 0.30 | 269.05 | 0 | 00:18 | 0 | 0 | 0:00:00 |
| Stor-01 | 0.21 | 3.05 | 272.55 | 0 | 00:18 | 0 | 0 | 0:00:00 |

 Node Flow Summary

| Node ID | Element Type | Maximum Lateral Inflow cfs | Peak Inflow cfs | Time of Peak Inflow Occurrence days | Time of Peak Inflow Occurrence hh:mm | Maximum Flooding Overflow cfs | Time of Peak Flooding Occurrence days | Time of Peak Flooding Occurrence hh:mm |
|------------|--------------|----------------------------|-----------------|-------------------------------------|--------------------------------------|-------------------------------|---------------------------------------|--|
| Jun-01 | JUNCTION | 0.00 | 1.13 | 0 | 00:18 | 0.00 | | |
| Out-1-Post | OUTFALL | 0.00 | 1.13 | 0 | 00:18 | 0.00 | | |
| Stor-01 | STORAGE | 6.73 | 6.73 | 0 | 00:10 | 0.00 | | |

 Storage Node Summary

| Storage Node ID | Maximum Time of Max. Exfiltration Rate cfm | Maximum Total Pounded Volume 1000 ft ³ | Maximum Pounded Volume (%) | Time of Max Pounded Volume days | Time of Max Pounded Volume hh:mm | Average Pounded Volume 1000 ft ³ | Average Pounded Volume (%) | Maximum Storage Node Outflow cfs |
|-----------------|--|---|----------------------------|---------------------------------|----------------------------------|---|----------------------------|----------------------------------|
| Stor-01 | 0.00 | 3.124 | 27 | 0 | 00:18 | 0.161 | 1 | 1.13 |
| | 0:00:00 | 0.000 | | | | | | |

 Outfall Loading Summary

| Outfall Node ID | Flow Frequency (%) | Average Flow cfs | Peak Inflow cfs |
|-----------------|--------------------|------------------|-----------------|
| Out-1-Post | 13.81 | 0.68 | 1.13 |
| System | 13.81 | 0.68 | 1.13 |

 Link Flow Summary

| Link ID | Ratio of Total Flow Surcharged Depth | Element Reported Type Condition | Time of Peak Flow Occurrence | Maximum Velocity Attained | Length Factor | Peak Flow during Analysis | Design Flow Capacity | Ratio of Maximum /Design Flow |
|------------|--------------------------------------|---------------------------------|------------------------------|---------------------------|---------------|---------------------------|----------------------|-------------------------------|
| | minutes | | days hh:mm | ft/sec | | cfs | cfs | Flow |
| Culvert-01 | 0.20 | CONDUIT | 0 00:18 | 4.59 | 1.00 | 1.13 | 13.29 | 0.09 |
| Orifice-01 | 0.00 | ORIFICE | 0 00:18 | | | 1.13 | | |
| Weir-01 | 0.00 | WEIR | 0 00:00 | | | 0.00 | | |

 Highest Flow Instability Indexes

 All links are stable.

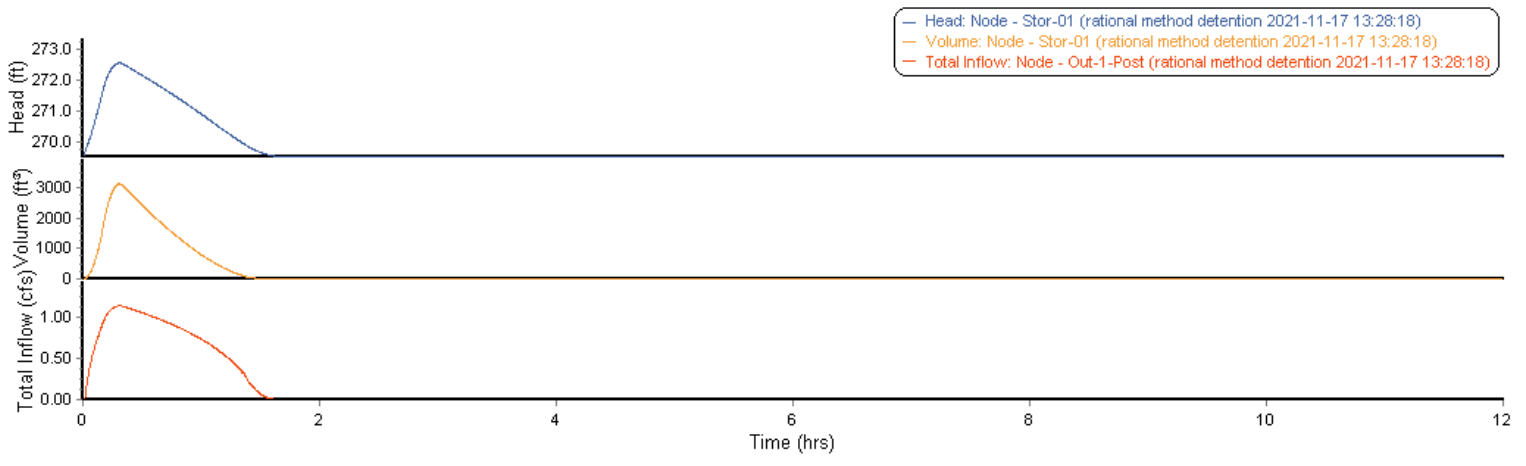
WARNING 107 : Initial water surface elevation defined for Junction Jun-01 is below junction invert elevation.

Assumed initial water surface elevation equal to invert elevation.

WARNING 108 : Surge elevation defined for Junction Jun-01 is below junction maximum elevation. Assumed surcharge elevation equal to maximum elevation.

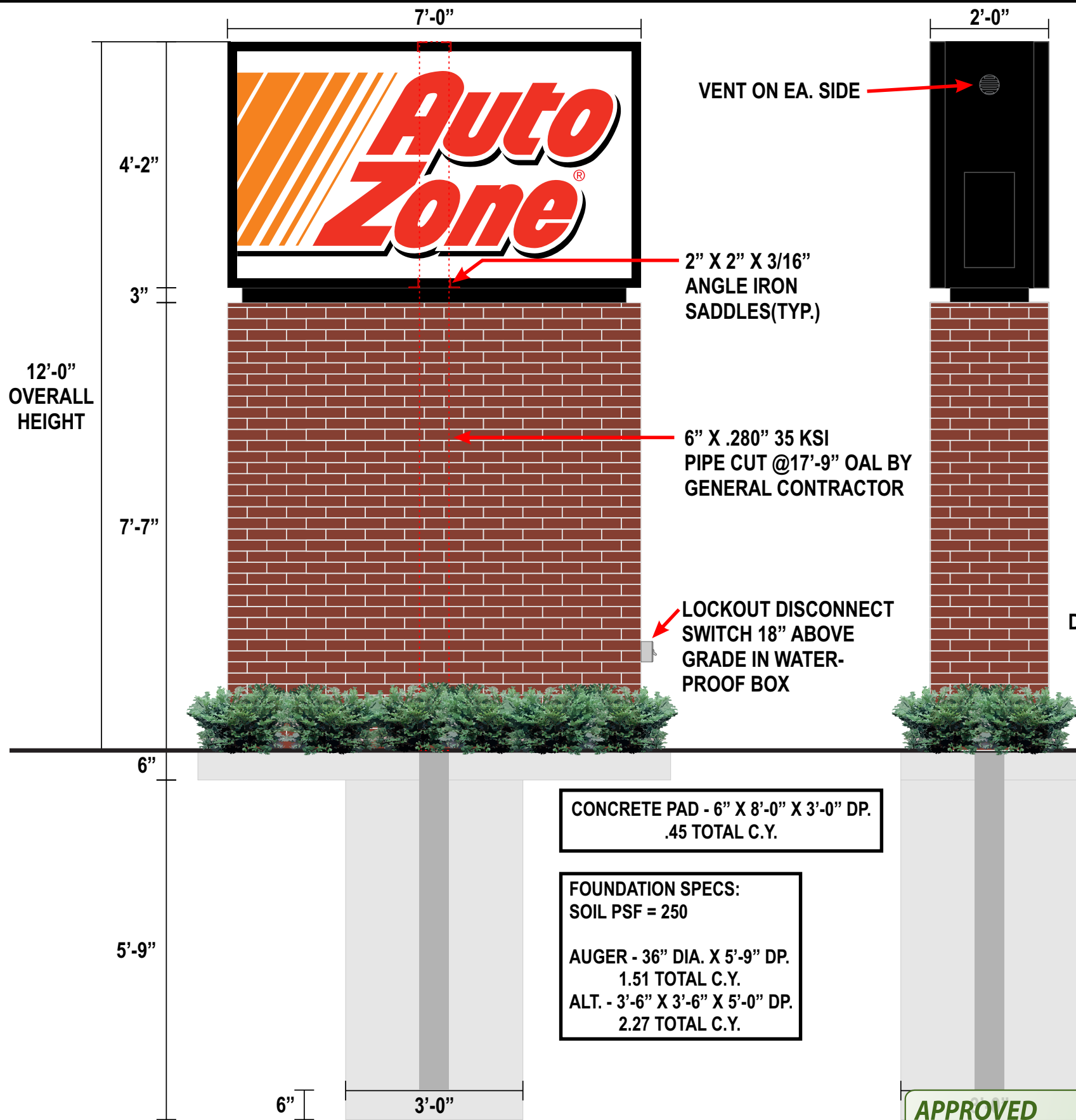
WARNING 002 : Max/rim elevation (depth) increased to account for connecting conduit height dimensions for Node Jun-01.

Analysis began on: Wed Nov 17 13:28:15 2021
 Analysis ended on: Wed Nov 17 13:28:16 2021
 Total elapsed time: 00:00:01



Enclosure 8

Pipe Capacity Calculations



NOTES:

4'-2" X 7'-0" X 2'-0" @ 12'-0" OAH INTERNALLY
 LED ILLUMINATED MONUMENT
 FLEX FACES W/ FIRST SURFACE VINYL GRAPHICS
 3" ALUMINUM REVEAL
 2" RETAINERS

COLORS:

CABINET, RETAINERS, & REVEAL -
 MATTHEWS 42-204 GLOSS BLACK
 AUTOZONE FACE - 3M PANAGRAPHICS III FLEXIBLE FACES
 W/ 3M 3630-44 ORANGE, 3630-143 RED,
 & 3630-22 BLACK VINYL W/ 3660 MATTE
 LAMINATE

**BRICK BASE TO MATCH BUILDING
 CAROLINA CERAMICS - CHERRY VELOUR

LANDSCAPING REQUIREMENTS:
 THE BASE OF ALL GROUND-MOUNTED SIGNS
 IN RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL
 DISTRICTS SHALL BE FULLY LANDSCAPED WITH PLANTERS
 AND/OR SHRUBS IN ALL DIRECTIONS, NOT LESS
 THAN THE DIMENSIONAL WIDTH OF THE SIGN.

CONCRETE PAD - 6" X 8'-0" X 3'-0" DP.
 .45 TOTAL C.Y.

FOUNDATION SPECS:
 SOIL PSF = 250
 AUGER - 36" DIA. X 5'-9" DP.
 1.51 TOTAL C.Y.
 ALT. - 3'-6" X 3'-6" X 5'-0" DP.
 2.27 TOTAL C.Y.

GENERAL CONTRACTOR TO PROVIDE
 STEEL POLE, DIG FOOTER, POUR
 CONCRETE TO INCLUDE PAD, SET POLE,
 PROVIDE AND INSTALL BASE. SIGN
 VENDOR TO PROVIDE DOUBLE-FACE
 CABINET AND INSTALL ON POLE.

APPROVED
 By Laura Beth Myers at 2:48 pm, Oct 13, 2021

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. DUE TO CONSTRUCTION CONSTRAINTS

| | | | | | | | |
|---------------|---|------------|----------|-------|--|-------|--|
| CLIENT: | AUTOZONE | STORE NO.: | #5607 | REV.: | | REV.: | |
| LOCATION: | GLUCKSTADT, MISSISSIPPI | DATE: | 10/13/21 | REV.: | | REV.: | |
| ACCOUNT REP.: | CYNDI CRAWFORD | DRAWN BY: | JAS | REV.: | | REV.: | |
| DRAWING NO.: | AZ#5607-GLUCKSTADT, MS-FREESTANDING EXHIBIT | | | REV.: | | REV.: | |

EXHIBIT APPROVED BY: