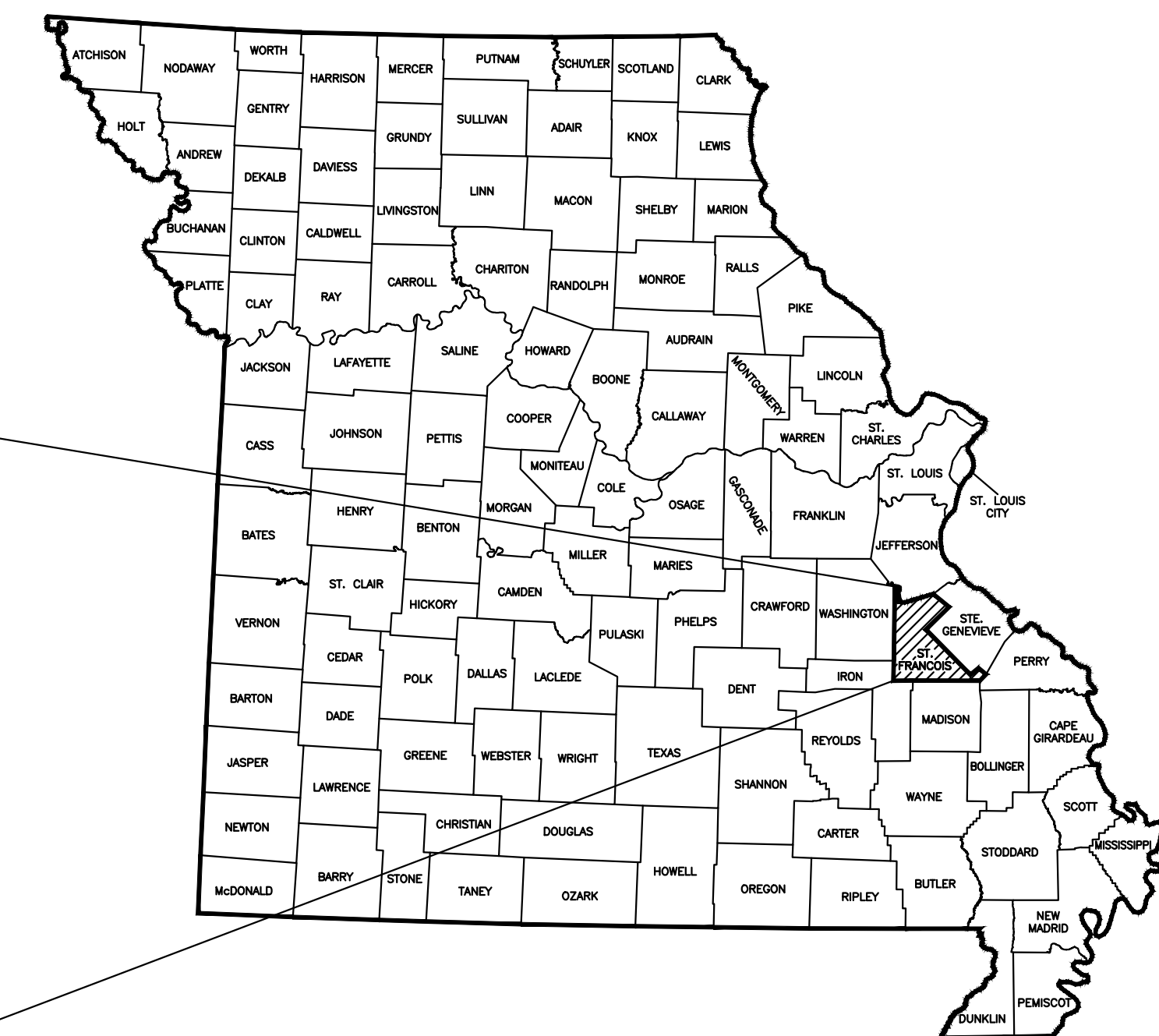
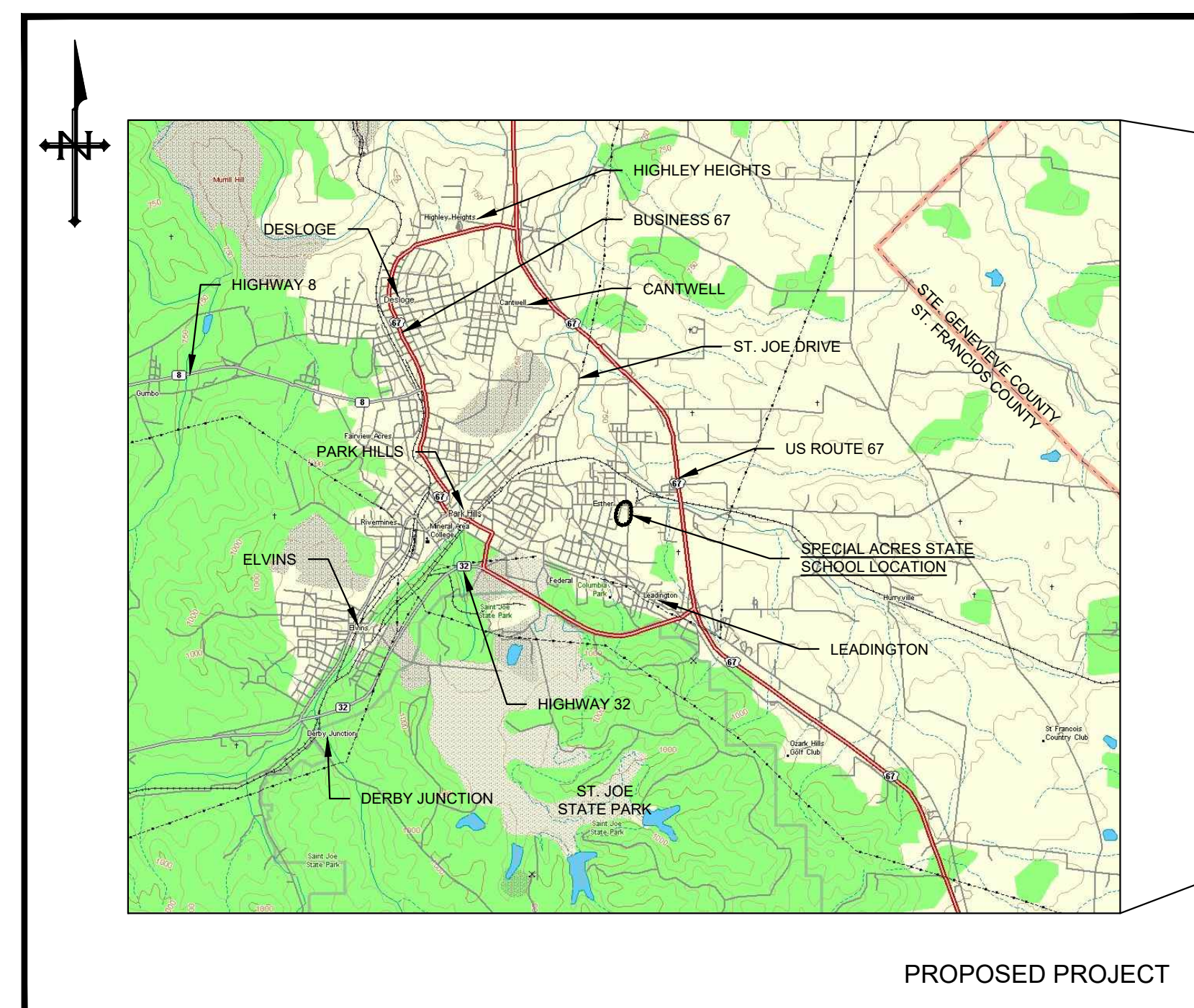


# STORMWATER IMPROVEMENTS SPECIAL ACRES STATE SCHOOL PARK HILLS, MISSOURI

## CONSTRUCTION DOCUMENTS



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VICINITY MAP

OWNER: STATE OF MISSOURI  
MICHAEL L. PARSON, GOVERNOR  
DEPARTMENT OF ELEMENTARY  
AND SECONDARY EDUCATION

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES MANAGEMENT,  
DESIGN AND CONSTRUCTION

DESIGNER: HURST-ROSCHE, INC.

PROJECT NUMBER: E2323-01

SITE NUMBER: 2032  
ASSET NUMBER: 5012032004

### UNDERGROUND UTILITY NOTE

ANY UNDERGROUND FACILITIES, STRUCTURES, OR UTILITIES THAT HAVE BEEN SHOWN ARE FROM AVAILABLE RECORDS. THEREFORE, THE RELATIONSHIP BETWEEN THE NEW WORK AND THE EXISTING FACILITIES, STRUCTURES, OR UTILITIES MUST BE CONSIDERED APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL THE LOCAL, AND/OR GOVERNING UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR EXACT LOCATIONS AND THE EXISTENCE OF ANY NOT SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND THE OWNER AS TO THE RELOCATION OR REMOVAL OF ANY UTILITIES SHOWN OR NOT SHOWN.



ZACHARIAH A. YORK - ENGINEER  
MO# PE-2005001068  
SIGNATURE  
DATE 10-03-2023  
LICENSE EXPIRES 12-31-2023  
PROFESSIONAL SEAL



SHEET NUMBER:  
**G-001**  
01 OF 09 SHEETS  
OCTOBER 03, 2023

**GENERAL NOTES:**

- EXISTING SITE IMPROVEMENTS DISTURBED OUTSIDE THE DESIGNATED CONSTRUCTION AREAS ARE TO BE REPLACED WITH EQUAL OR BETTER CONSTRUCTION AT THE EXPENSE OF THE CONTRACTOR. EVERY EFFORT SHALL BE MADE TO MINIMIZE SUCH DISTURBANCES. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO EXISTING CONSTRUCTION AND UTILITIES TO REMAIN AND SHALL REPAIR DAMAGE CAUSED BY THE WORK AT NO ADDITIONAL COST TO THE OWNER.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN DRAINAGE FLOWS AT ALL TIMES DURING THE PERFORMANCE OF THE WORK. DAMAGE RESULTING FROM IMPROPER MAINTENANCE OF DRAINAGE SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. COST OF MAINTAINING FLOWS IS INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL TAKE NOTE OF ALL EXISTING CONDITIONS AND BE PREPARED TO MOVE OR DISPOSE OF OBJECTS OR MATERIALS WITHIN THE LIMITS OF THE PROJECT. SUCH WORK SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE.
- THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND NEW DIMENSIONS WITH FIELD CONDITIONS PRIOR TO BIDDING, FABRICATION AND CONSTRUCTION AND MAKE MINOR ADJUSTMENTS AS NECESSARY AND NOTIFY THE ENGINEER OF ANY CONDITIONS THAT MAY AFFECT THE OUTCOME OF THE WORK.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER, ENGINEER, AND OTHER TRADES THROUGHOUT THE PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION PRIOR TO ANY WORK AND MAINTENANCE THROUGHOUT THE PROJECT OF ALL NECESSARY SEDIMENT AND EROSION CONTROL MEASURES AND MODEL BEST MANAGEMENT PRACTICES (BMP) FOR LAND DISTURBANCE. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING EROSION OF THE SOIL EXPOSED BY DISTURBANCE DUE TO HIS/HER OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL EROSION CONTROL MEASURES AND REPAIR OF ANY ERODED AREAS AFTER PROJECT ACCEPTANCE AND VEGETATION IN ALL LAWN DISTURBED AREAS HAS BEEN ESTABLISHED. NO ADDITIONAL COMPENSATION IS ALLOWED FOR TEMPORARY EROSION CONTROL.
- NO WORK SHALL OCCUR ON THE SITE UNTIL ALL NECESSARY PERMITS ARE SECURED WITH OWNER. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONING BEFORE ANY PERMIT WILL BE ISSUED. PERMITS AND LICENSES NECESSARY FOR THE PROCESSION OF WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.
- ALL DISTURBED AREAS AND LAWN AREA, EXCLUDING PAVED AND BUILDING AREAS, SHALL BE GRADED, SEEDED, FERTILIZED, MULCHED AND STRAWED WITHIN 14 DAYS FROM THE COMPLETION OF GRADING OPERATIONS OR SUSPENSION OF WORK AS DIRECTED BY THE ENGINEER.
- CONCRETE STRUCTURES SHALL BE CONSTRUCTED OF PRE-CAST CONCRETE. SHOP DRAWINGS SHALL BE REQUIRED FOR ALL CONCRETE STRUCTURES.
- ALL ELEVATIONS SHOWN ARE REFERENCED TO THE CONTROL POINTS SHOWN HEREIN.
- ALL TEMPORARY AGGREGATE PLACED BY THE CONTRACTOR SHALL BE REMOVED, GRADED, SEEDED, FERTILIZED, MULCHED AND STRAWED AT THE COMPLETION OF THE CONTRACT AS DIRECTED BY THE ENGINEER.
- STORE TOPSOIL ONSITE AT AN APPROVED LOCATION AS DIRECTED BY THE ENGINEER AND OWNER. EXCESS TOPSOIL SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
- ANY PROPERTY CORNERS OR OTHER PERMANENT SURVEY CONTROL MONUMENTS DISTURBED BY CONSTRUCTION SHALL BE VERIFIED AND/OR RESET AT THE CONCLUSION OF THE PROJECT CONSTRUCTION BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI AND EMPLOYED BY THE CONTRACTOR. WRITTEN VERIFICATION SHALL BE PROVIDED TO THE OWNER, THROUGH THE ENGINEER, THAT ALL SAID EXISTING PROPERTY CORNERS AND/OR PERMANENT SURVEY CONTROL MONUMENTS SHOWN IN THE CONSTRUCTION PLANS HAVE BEEN PROTECTED AND/OR RESET.
- RIGHT-OF-WAYS, PROPERTY LINES AND TOPOGRAPHY SHOWN HEREON HAVE BEEN TAKEN FROM THE BEST AVAILABLE RECORDS AND MUST BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION.
- PROPERTY LINES ARE BASED ON GIS INFORMATION, AS SHOWN, OBTAINED FROM THE ST. FRANCOIS COUNTY, MISSOURI GIS WEBSITE.
- THE ACTUAL LOCATION OF THE STORMWATER CONNECTION WILL BE FIELD LOCATED BY CONTRACTOR AND COORDINATED WITH THE OWNER AND ENGINEER. CONTRACTOR TO FIELD LOCATE THE EXISTING STORMWATER AND CONNECT THE PROPOSED STORMWATER TO SAID EXISTING STORMWATER.
- PRESERVE EXISTING TREES, WOODLANDS AND UNDERSTORY OUTSIDE THE LIMITS OF CONSTRUCTION. CONTRACTOR SHALL BE VERY CONSCIOUS ABOUT ADJACENT TREE REMOVAL TO CONSTRUCTION AREAS. CONTRACTOR SHALL ONLY REMOVE THE MINIMUM AMOUNT OF NECESSARY TREES TO COMPLETE THIS PROJECT. CONTRACTOR SHALL COORDINATE TREE REMOVAL WITH THE OWNER TO DETERMINE THE TREES THE OWNER WOULD LIKE REMOVED AND THE TREES THE OWNER WOULD LIKE TO PRESERVE.
- EXISTING FENCING THAT IS NECESSARY TO BE REMOVED AND REPLACED TO INSTALL PROPOSED IMPROVEMENTS SHALL BE REMOVED AND REPLACED TO THE SAME LOCATION PRIOR TO REMOVAL, ONCE THE EXISTING FENCING IS REMOVED DURING CONSTRUCTION THE CONTRACTOR SHALL INSTALL TEMPORARY INTERIM FENCING AND SAID TEMPORARY FENCING SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL THE EXISTING FENCING IS TO BE REPLACED AS CLOSE TO ITS ORIGINAL CONDITION AS POSSIBLE, TEMPORARY FENCING TO BE STRUCTURALLY SOUND AND CAPABLE OF CONFINING CHILDREN AND FAMILY PETS TO THE FENCED YARD AREA, CONTRACTOR MAY REUSE EXISTING FENCING MATERIALS SO LONG AS THE MATERIALS ARE IN GOOD, STABLE, AESTHETICALLY PLEASING CONDITION, IF NOT, THE EXISTING FENCING MATERIALS SHALL BE REPLACED WITH NEW MATERIALS OF SAME TYPE OF CONSTRUCTION, SIZE AND DIMENSIONS, EXISTING FENCING MATERIALS TO BE COORDINATED WITH AND AGREED UPON BY THE OWNER FOR REUSE ON THE PROJECT.

**UNDERGROUND UTILITY NOTE**

ANY UNDERGROUND FACILITIES, STRUCTURES, OR UTILITIES THAT HAVE BEEN PLOTTED AND SHOWN FROM AVAILABLE INFORMATION AND RECORDS. THEREFORE, THEIR LOCATION AND RELATIONSHIP TO NEW PROPOSED WORK MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL THE LOCAL GOVERNING AGENCIES AND UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES EXACT LOCATION AND THE EXISTENCE OF ANY NOT SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND THE OWNER AS TO THE RELOCATION OR REMOVAL OF ANY UTILITIES SHOWN OR NOT SHOWN. THE ENGINEER/ARCHITECT AND THE OWNER DO NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE INFORMATION GIVEN.



**SITE GRADING NOTES:**

- CONTRACTOR SHALL NOTIFY THE OWNER AND ALL LOCAL GOVERNING AGENCIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- CONTRACTOR TO PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS.
- CONTRACTOR SHALL KEEP ALL PAVEMENT SURFACES CLEAR OF MUD AND DEBRIS. ALL PAVEMENT SURFACES USED FOR CONSTRUCTION ACCESS THERE TO SHALL BE CLEANED THROUGHOUT THE DAY.
- EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY WORK AND BE MAINTAINED THROUGHOUT THE PROJECT TO PREVENT DAMAGE OF OFFSITE PROPERTIES UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR CONTROLLING REGULATORY AGENCY. PAVEMENT SURFACE HAS BEEN INSTALLED AND ADEQUATE VEGETATIVE GROWTH IN ALL DISTURBED AREAS HAS BEEN ESTABLISHED AND INSURES NO FURTHER EROSION OF THE SOIL.
- WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.
- WHEN WORK OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 14 DAYS, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO RETAIN SOIL MATERIALS ONSITE. PROTECTIVE MEASURES MAY BE REQUIRED SUCH AS PERMANENT SEEDING, PERIODIC WETTING, MULCHING, OR OTHER SUITABLE MEANS.
- IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION, IF ADEQUATE STORMWATER DETENTION AND EROSION CONTROL DEVICES HAVE NOT BEEN ESTABLISHED.
- ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 3:1 (H:V) SLOPES SHALL BE MULCHED BY CONSTRUCTING EROSION CONTROL BLANKET PER PROJECT SPECIFICATIONS.
- NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OR ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PROPERTY OR PUBLIC OR PRIVATE STREET FROM SETTLING, CRACKING OR OTHER DAMAGE.
- STORM WATER STRUCTURES, PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND/OR PAVING. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES IS REQUIRED.
- SILTATION FENCES SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY STORM EVENT FOR DAMAGE AND THE AMOUNT OF SEDIMENT THAT HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION FENCE OR 12", WHICHEVER IS LESS.
- STRAW BALES SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY STORM EVENT FOR DAMAGE, DETERIORATION AND THE AMOUNT OF SEDIMENT THAT HAS ACCUMULATED. BALES THAT HAVE ROTTED OR FAILED SHALL BE REPLACED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE BALES OR 12", WHICHEVER IS LESS.
- ALL TRASH AND DEBRIS ONSITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFFSITE. EXCESS, SURPLUS, UNUSABLE, UNSTABLE AND/OR UNSUITABLE MATERIALS RESULTING FROM CONSTRUCTION OF THIS PROJECT SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR AT HIS/HER OWN EXPENSE IN A LEGAL MANNER, OUTSIDE THE SUBJECT PROPERTY IN SUCH A MANNER THAT PUBLIC OR PRIVATE PROPERTY WILL NOT BE DAMAGED OR ENDANGERED. COORDINATE WITH THE OWNER.
- ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 3:1 SLOPE (33%), UNLESS SPECIFICALLY APPROVED OTHERWISE.
- CONTRACTOR TO INSTALL ALL PROPOSED IMPROVEMENTS TO MATCH ALL EXISTING GRADES, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL GRADE AND PREPARE ALL SUBGRADES TO WITHIN 0.1 FEET, MORE OR LESS, OF PLAN GRADE.
- CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL EXISTING AND PROPOSED STRUCTURES AT A MINIMUM SLOPE OF 2%, UNLESS OTHERWISE NOTED. ALL ONSITE STORMWATER FLOWS SHALL BE DIRECTED AND POSITIVELY DRAINED TO PROPOSED AND/OR EXISTING STORM FACILITIES, STRUCTURES, SWALES OR OFFSITE. STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS. PONDING OF STORMWATER WILL NOT BE PERMITTED DURING OR AFTER CONSTRUCTION.
- CONTRACTOR TO REMOVE AND DISPOSE OF ALL VEGETATION AFFECTING CONSTRUCTION WITHIN THE CONSTRUCTION LIMITS SHOWN ON THE PLANS, UNLESS OTHERWISE NOTED. ALL REMOVED VEGETATION SHALL BE DISPOSED OF WITHIN 7 DAYS OF REMOVAL.
- THE REMOVAL OF ALL UNUSABLE, UNSTABLE AND/OR UNSUITABLE MATERIALS IN ALL CUT AND FILL AREAS AND THEIR REPLACEMENT WITH SATISFACTORY MATERIAL, WHERE REQUIRED, SHALL BE INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS. THE MISSOURI ONE CALL SYSTEM NUMBER IS 800-344-7483. A MINIMUM OF THREE WORKING DAYS ADVANCE NOTICE IS REQUIRED.

**WATERMAIN AND SEWER PIPING SEPARATION NOTE:**

- MAINTAIN SEPARATION OF WATERMAIN FROM SEWER PIPING IN ACCORDANCE WITH THE MISSOURI DEPARTMENT OF NATURAL RESOURCES - MINIMUM DESIGN STANDARDS FOR MISSOURI COMMUNITY WATER SYSTEMS. PARALLEL INSTALLATION - WATERMANS SHALL BE LAID AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. CROSSINGS - WATERMANS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL CLEAR DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATERMAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATERMAIN IS EITHER ABOVE OR BELOW THE SEWER. AT CROSSINGS, THE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE BUT IN NO CASE LESS THAN TEN FEET.

**ABBREVIATIONS**

|        |                                  |       |                                |
|--------|----------------------------------|-------|--------------------------------|
| AC     | ACRES                            | N     | NORTHING                       |
| APPROX | APPROXIMATE                      | N/F   | NOW OR FORMERLY                |
| ASB    | ABOVEGROUND SPLICE BOX           | NTS   | NOT TO SCALE                   |
| BOP    | BEGINNING OF PROJECT             | OC    | ON CENTER                      |
| CFS    | CUBIC FEET PER SECOND            | PC    | POINT OF CURVATURE             |
| CI     | CURB INLET                       | PL    | PROPERTY LINE                  |
| CJ     | CONTROL JOINT                    | PROP  | PROPOSED                       |
| CL     | CENTERLINE                       | PSI   | POUNDS PER SQUARE INCH         |
| CLR    | CLEAR                            | PT    | POINT OF TANGENCY              |
| CMP    | CORRUGATED METAL PIPE            | PVC   | POLYVINYL CHLORIDE PIPE        |
| CO     | CLEANOUT                         | Q     | DISCHARGE                      |
| CONC   | CONCRETE                         | R     | RADIUS                         |
| E      | EASTING                          | RCP   | REINFORCED CONCRETE PIPE       |
| E      | VERTICAL CURVE EXTERNAL DISTANCE | REINF | REINFORCED                     |
| EJ     | EXPANSION JOINT                  | ROW   | RIGHT-OF-WAY                   |
| ELV    | ELEVATION                        | SAN   | SANITARY                       |
| EOP    | END OF PROJECT                   | STA   | STATION                        |
| ESMT   | EASEMENT                         | T     | TOP                            |
| EX     | EXISTING                         | TBA   | TO BE ADJUSTED                 |
| FES    | FLARED END SECTION               | TBR   | TO BE REMOVED                  |
| FL     | FLOWLINE                         | TO    | TO                             |
| G      | GAS MAIN                         | TYP   | TYPICAL                        |
| HC     | HANDICAP                         | UCE   | UNDERGROUND ELECTRIC           |
| HDPE   | HIGH DENSITY POLYETHYLENE        | UIP   | USE IN PLACE                   |
| HGL    | HYDRAULIC GRADE LINE             | VPC   | VERTICAL POINT OF CURVATURE    |
| HP     | HIGH POINT                       | VPI   | VERTICAL POINT OF INTERSECTION |
| HYD    | FIRE HYDRANT                     | VPT   | VERTICAL POINT OF TANGENCY     |
| K      | RATE OF CURVATURE                | W     | WATERMAIN                      |
| LB     | POUNDS                           | W/    | WITH                           |
| LF     | LINEAL FEET                      | WV    | WATER VALVE                    |
| LP     | LOW POINT                        | WWF   | WELDED WIRE FABRIC             |
| MH     | MANHOLE                          | Ø     | DIAMETER                       |
| MIN    | MINIMUM                          | @     | AT                             |
| MJ     | MECHANICAL JOINT                 | ±     | PLUS OR MINUS                  |

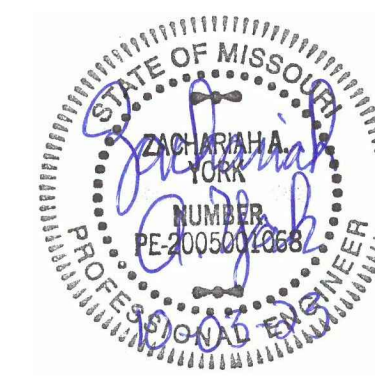
**STORMWATER AND UTILITY NOTES:**

- PRIOR TO OBTAINING CONSTRUCTION PERMITS THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE JURISDICTIONAL ENTITIES WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE.
- ALL STORMWATER PIPING SHALL BE ASTM C-76 OR ASTM C-655, CLASS III WITH WALL TYPE B PRECAST REINFORCED CIRCULAR CONCRETE PIPE. PIPE SHALL HAVE JOINTS CONFORMING TO ASTM C-443, RUBBER COMPRESSION GASKET JOINT. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-1479.
- GRANULAR CRADLE SHALL BE CONSTRUCTED ON ALL STORMWATER PIPING FROM A PLANE 6" BELOW THE PIPE TO A PLANE 6" ABOVE THE PIPE. GRANULAR CRADLE SHALL CONSIST OF CLASS II EMBEDMENT MATERIAL AS PER ASTM D-1479 AND SHALL CONFORM TO MODOT SECTION 1007 TYPE 5. SELECT GRANULAR BACKFILL SHALL CONFORM TO MODOT SECTION 1009 GRADE 4A.
- CIRCULAR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASTM C-913. MANHOLE SECTIONS SHALL BE FABRICATED CONFORMING TO ASTM C-478, ACI 318 AND NPCA QUALITY CONTROL MANUAL FOR PRECAST AND PRESTRESSED CONCRETE PLANTS WITH GASKETS IN ACCORDANCE WITH ASTM C-923. ALL MANHOLE SECTIONS AND COMPONENTS SHALL BE RATED FOR A MINIMUM H-25/HS-25 DESIGN LOAD. MANHOLE SECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C-1821. THE MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI. WIRE FABRIC REINFORCEMENT SHALL BE IN ACCORDANCE WITH ASTM A-1064, AND BAR REINFORCEMENT SHALL BE IN ACCORDANCE WITH ASTM A-615, INTERMEDIATE GRADE. MANHOLE SECTIONS SHALL BE FREE FROM FRACTURES, LARGE OR DEEP CRACKS AND SURFACE ROUGHNESS. MANHOLE SECTIONS SHALL HAVE ACCESS HATCHES AND ACCESS LADDERS PER PROJECT DRAWINGS AND SPECIFICATIONS.
- CAST-IN-PLACE CONCRETE SHALL CONFORM TO MODOT SECTION 501 CLASS B CONCRETE. CLASS B CONCRETE SHALL CONSIST OF THE FOLLOWING REQUIREMENTS: CEMENT - 4-1/2 SACK MINIMUM PER CUBIC YARD, W/C RATIO - 0.36 MINIMUM TO 0.45 MAXIMUM (INCLUDING WATER IN AGGREGATES) AND STRENGTH - 3,000 PSI IN 28 DAYS AND 1,600 PSI IN 7 DAYS.
- UTILITY LOCATIONS AND ELEVATIONS ARE APPROXIMATE. IT IS THE CONTRACTOR RESPONSIBILITY TO FIELD VERIFY ALL UTILITIES.
- ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE FULL HEIGHT GRANULARLY FILLED WITH COMPACTED SELECT GRANULAR BACKFILL.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL OSHA SAFETY COMPLIANCES WHEN TRENCHING AND LAYING UTILITIES.
- EXISTING ABOVE AND BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED. EXISTING UTILITIES AND/OR STRUCTURES AFFECTED BY CONSTRUCTION, EITHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE ADJUSTED TO GRADE.
- ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

- CONTRACTOR WILL COORDINATE ANY INTERRUPTION OF ANY SERVICE LINE WITH THE LOCAL GOVERNING UTILITY AGENCIES AND THE OWNER TO LIMIT UTILITY OUTAGE TO EXISTING CUSTOMERS. THE ACTUAL LOCATION OF THE POINT OF CONNECTION IS APPROXIMATE AND SHALL BE FIELD LOCATED BY THE CONTRACTOR.

- THE CONTRACTOR SHALL LIMIT THE AMOUNT OF TRENCH TO BE OPEN AT ANY GIVEN TIME TO A MAXIMUM OF FORTY (40) LINEAR FEET AS MEASURED ALONG THE CENTERLINE OF THE PROPOSED PIPE. ALL OPEN TRENCHES SHALL BE BACKFILLED AT THE END OF EACH DAY'S WORK AND IMMEDIATE MEASURES TAKEN TO STABILIZE THE DISTURBED AREA.

**STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR**



ZACHARIAH A. YORK - ENGINEER  
MOH PE-2025001068

SIGNATURE \_\_\_\_\_  
10-03-2023  
DATE 12-31-2023  
LICENSE EXPIRES

PROFESSIONAL SEAL



**Hurst-Rosche, Inc.**  
PROFESSIONAL DESIGN NUMBER: 000372  
3675 W. Outer Road, Suite 205  
Arnold, MO 63010  
636.333.3351 t  
www.hurst-rosche.com

HILLSBORO, IL  
EAST ST. LOUIS, IL  
MARION, IL  
SPRINGFIELD, IL  
NASHVILLE, TN

**OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION**

**DEPARTMENT OF  
ELEMENTARY  
AND SECONDARY  
EDUCATION**

STORMWATER IMPROVEMENTS  
SPECIAL ACRES STATE SCHOOL  
519 8TH STREET  
PARK HILLS, MISSOURI 63601

PROJECT # E2323-01  
SITE # 2032  
ASSET # 5012032004

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 10/03/2023

CAD DWG FILE: C-001.DWG  
DRAWN BY: JMA  
CHECKED BY: ZAY  
DESIGNED BY: ZAY

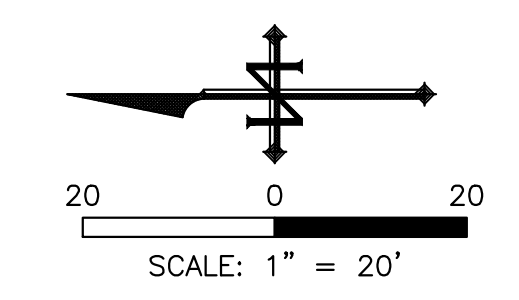
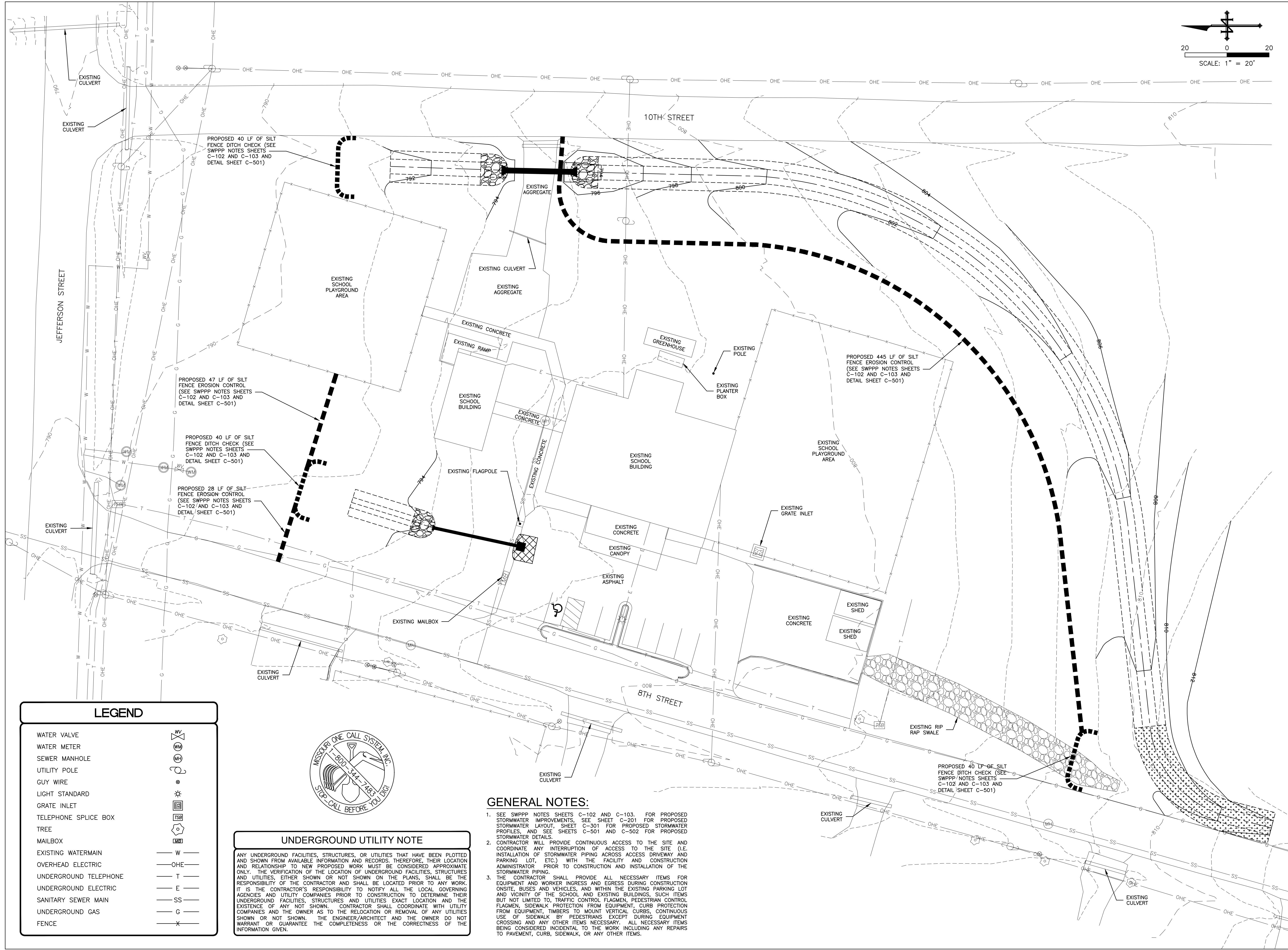
SHEET TITLE:

**NOTES  
AND ABBREVIATIONS**

SHEET NUMBER:

**C-001**

02 OF 09 SHEETS  
10/03/2023



STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



ZACHARIAH A. YORK - ENGINEER  
MOW PE-2005001068  
SIGNATURE  
10-03-2023  
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3675 W. Outer Road, Suite 205  
Arnold, MO 63010  
636.333.3351 t  
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PARK HILLS, MISSOURI 63601

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CHECKED BY: ZAY  
DESIGNED BY: ZAY

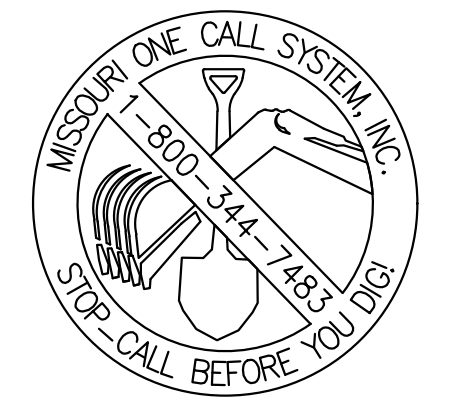
SHEET TITLE:  
SWPPP  
LAYOUT

SHEET NUMBER:

C-101

03 OF 09 SHEETS  
10/03/2023

| LEGEND                |         |
|-----------------------|---------|
| WATER VALVE           |         |
| WATER METER           |         |
| SEWER MANHOLE         |         |
| UTILITY POLE          |         |
| GUY WIRE              |         |
| LIGHT STANDARD        |         |
| GRATE INLET           |         |
| TELEPHONE SPLICE BOX  |         |
| TREE                  |         |
| MAILBOX               |         |
| EXISTING WATERMAIN    | — W —   |
| OVERHEAD ELECTRIC     | — OHE — |
| UNDERGROUND TELEPHONE | — T —   |
| UNDERGROUND ELECTRIC  | — E —   |
| SANITARY SEWER MAIN   | — SS —  |
| UNDERGROUND GAS       | — G —   |
| FENCE                 | — X —   |



**UNDERGROUND UTILITY NOTE**

ANY UNDERGROUND FACILITIES, STRUCTURES, OR UTILITIES THAT HAVE BEEN PLOTTED AND SHOWN FROM AVAILABLE INFORMATION AND RECORDS. THEREFORE, THEIR LOCATION AND RELATIONSHIP TO NEW PROPOSED WORK MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL THE LOCAL GOVERNING AGENCIES AND UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES EXACT LOCATION AND THE EXISTENCE OF ANY NOT SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND THE OWNER AS TO THE RELOCATION OR REMOVAL OF ANY UTILITIES SHOWN OR NOT SHOWN. THE ENGINEER/ARCHITECT AND THE OWNER DO NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE INFORMATION GIVEN.

**GENERAL NOTES:**

- SEE SWPPP NOTES SHEETS C-102 AND C-103. FOR PROPOSED STORMWATER IMPROVEMENTS, SEE SHEET C-201 FOR PROPOSED STORMWATER LAYOUT, SHEET C-301 FOR PROPOSED STORMWATER PROFILES, AND SEE SHEETS C-501 AND C-502 FOR PROPOSED STORMWATER DETAILS.
- CONTRACTOR WILL PROVIDE CONTINUOUS ACCESS TO THE SITE AND COORDINATE ANY INTERRUPTION OF ACCESS TO THE SITE (I.E. INSTALLATION OF STORMWATER PIPING ACROSS ACCESS DRIVEWAY AND PARKING LOT, ETC.) WITH THE FACILITY AND CONSTRUCTION ADMINISTRATOR PRIOR TO CONSTRUCTION AND INSTALLATION OF THE STORMWATER PIPING.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ITEMS FOR EQUIPMENT AND WORKER INGRESS AND EGRESS DURING CONSTRUCTION ONSITE, BUSES AND VEHICLES, AND WITHIN THE EXISTING PARKING LOT AND VICINITY OF THE SCHOOL AND EXISTING BUILDINGS. SUCH ITEMS BUT NOT LIMITED TO, TRAFFIC CONTROL FLAGMEN, PEDESTRIAN CONTROL FLAGMEN, SIDEWALK PROTECTION FROM EQUIPMENT, CURB PROTECTION FROM EQUIPMENT, TIMBERS TO MOUNT VERTICAL CURBS, CONTINUOUS USE OF SIDEWALK BY PEDESTRIANS EXCEPT DURING EQUIPMENT CROSSING AND ANY OTHER ITEMS NECESSARY. ALL NECESSARY ITEMS BEING CONSIDERED INCIDENTAL TO THE WORK INCLUDING ANY REPAIRS TO PAVEMENT, CURB, SIDEWALK, OR ANY OTHER ITEMS.



ZACHARIAH A. YORK - ENGINEER  
NO. PE-2005001068  
SIGNATURE \_\_\_\_\_  
10-03-2023  
DATE \_\_\_\_\_  
12-31-2023  
LICENSE EXPIRES \_\_\_\_\_

PROFESSIONAL SEAL



Hurst-Rosche, Inc.  
PROFESSIONAL DESIGN NUMBER: 000372  
3675 W. Outer Road, Suite 205  
Arnold, MO 63010  
636.333.3351 t  
www.hurst-rosche.com

HILLSBORO, IL  
EAST ST. LOUIS, IL  
MARION, IL  
SPRINGFIELD, IL  
NASHVILLE, TN

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
ELEMENTARY  
AND SECONDARY  
EDUCATION

STORMWATER IMPROVEMENTS  
SPECIAL ACRES STATE SCHOOL  
519 8TH STREET  
PARK HILLS, MISSOURI 63601

PROJECT # E2323-01  
SITE # 2032  
ASSET # 5012032004

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 10/03/2023

CAD DWG FILE: C-102.DWG  
DRAWN BY: JMA  
CHECKED BY: ZAY  
DESIGNED BY: ZAY

SHEET TITLE:

SWPPP  
NOTES

SHEET NUMBER:

C-102

04 OF 09 SHEETS  
10/03/2023

THIS PLAN HAS BEEN PREPARED TO COMPLY WITH THE PROVISIONS OF THE FEDERAL NPDES PERMIT AND MISSOURI STATE OPERATING PERMIT NUMBER MO-R100038, ISSUED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES ON AUGUST 1, 2022 FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES. THIS PLAN HAS ALSO BEEN PREPARED TO COMPLY WITH THE PROVISIONS OF MISSOURI DEPARTMENT OF NATURAL RESOURCES MASTER GENERAL PERMIT NUMBER MO-R100000 FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

|  |                              |
|--|------------------------------|
| ZACHARIAH A. YORK, PE, PLS<br>PRINT NAME | HURST-ROSCHE, INC.<br>AGENCY |
| CIVIL ENGINEER<br>TITLE                  | 10-03-2023<br>DATE           |

I. SITE DESCRIPTION:

A. THE FOLLOWING IS A DESCRIPTION OF THE PROJECT LOCATION:

1. THE PROJECT IS LOCATED IN THE CITY OF PARK HILLS, ST. FRANCOIS COUNTY, MISSOURI. THE PROJECT IS IN THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 36 NORTH, RANGE 5 EAST OF THE 5TH PRINCIPAL MERIDIAN.

B. THE FOLLOWING IS A DESCRIPTION OF THE CONSTRUCTION ACTIVITY WHICH IS THE SUBJECT OF THIS PLAN:

1. THE PROPOSED PROJECT CONSISTS OF STORM WATER IMPROVEMENTS FOR SPECIAL ACRES STATE SCHOOL THAT INCLUDES THE INSTALLATION OF UNDERGROUND STORM WATER PIPING, GRATE INLET STRUCTURE, FLARED END SECTIONS, EXISTING UNDERGROUND STORM WATER PIPING AND EXISTING GRATE INLET STRUCTURE REMOVAL, DIVERSION DRAINAGE SWALE, DISCHARGE DRAINAGE SWALES, SITEWORK, EXCAVATION, GRADING, PAVEMENT AND CURB REMOVAL AND REPLACEMENT, EROSION CONTROL BLANKETS, RIP RAP, EROSION CONTROL / STORM WATER POLLUTION PREVENTION, LANDSCAPE / FINISH GRADING, SEEDING AND FERTILIZING, OTHER MISCELLANEOUS WORK, ALL APPURTENANCES AND MINOR DETAILS NECESSARY TO MAKE THE COMPLETED IMPROVEMENTS FULLY OPERATIONAL WITH THE PROJECT PLANS AND SPECIFICATIONS.

C. THE FOLLOWING IS A DESCRIPTION OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE, SUCH AS GRUBBING, EXCAVATION AND GRADING:

DESCRIPTION OF INTENDED SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

- EROSION CONTROL / STORM WATER POLLUTION PREVENTION INSTALLATION.
- EXISTING UNDERGROUND STORM WATER PIPING AND EXISTING GRATE INLET REMOVAL AND REPLACEMENT FOR PARKING LOT.
- FLARED END SECTION, DISCHARGE DRAINAGE SWALE, EROSION CONTROL BLANKET, AND RIP RAP INSTALLATION AND GRADING.
- PAVEMENT AND CURB REMOVAL AND REPLACEMENT.
- UNDERGROUND STORM WATER PIPING INSTALLATION FOR AGGREGATE ROAD CROSSING.
- FLARED END SECTION, DISCHARGE DRAINAGE SWALE, EROSION CONTROL BLANKET, AND RIP RAP INSTALLATION AND GRADING.
- DIVERSION DRAINAGE SWALE INSTALLATION AND GRADING.
- LANDSCAPE / FINISH GRADING.
- SEEDING AND FERTILIZING AND OTHER MISCELLANEOUS ITEMS.

D. THE TOTAL AREA OF THE CONSTRUCTION SITE IS ESTIMATED TO BE 0.7 ACRES. THE TOTAL AREA OF THE SITE THAT IS ESTIMATED TO BE DISTURBED BY EXCAVATION, GRADING OR OTHER ACTIVITIES IS 0.7 ACRES.

E. THE FOLLOWING IS A WEIGHTED AVERAGE OF THE RUNOFF COEFFICIENT FOR THIS PROJECT AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED:

1. WEIGHTED RUNOFF COEFFICIENT: 0.56

F. THE FOLLOWING IS A DESCRIPTION OF THE SOIL TYPES FOUND AT THE PROJECT SITE FOLLOWED BY INFORMATION REGARDING THEIR EROSIIVITY:

1. CANEYVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES

G. THE FOLLOWING IS A DESCRIPTION OF POTENTIALLY EROSIIVE AREAS ASSOCIATED WITH THIS PROJECT:

1. SLOPES

H. THE FOLLOWING IS A DESCRIPTION OF SOIL DISTURBING ACTIVITIES, THEIR LOCATIONS, AND THEIR EROSIIVE FACTORS (E.G. STEEPNESS OF SLOPES, LENGTH OF SLOPES, ETC):

1. SLOPES, NOT IN EXCESS OF 3H:1V.

I. SEE THE EROSION CONTROL PLANS AND/OR DRAINAGE PLANS FOR THIS CONTRACT FOR INFORMATION REGARDING DRAINAGE PATTERNS, APPROXIMATE SLOPES ANTICIPATED BEFORE AND AFTER MAJOR GRADING ACTIVITIES, LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AND CONTROLS TO PREVENT OFF SITE SEDIMENT TRACKING (TO BE ADDED AFTER CONTRACTOR IDENTIFIES LOCATIONS), AREAS OF SOIL DISTURBANCE, THE LOCATION OF MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS IDENTIFIED IN THE PLAN, THE LOCATION OF AREAS WHERE STABILIZATION PRACTICES ARE EXPECTED TO OCCUR, SURFACE WATERS (INCLUDING WETLANDS) AND LOCATIONS WHERE STORM WATER IS DISCHARGED TO SURFACE WATER INCLUDING WETLANDS.

J. THE FOLLOWING IS A LIST OF RECEIVING WATER(S) AND THE ULTIMATE RECEIVING WATER(S), AND AERIAL EXTENT OF WETLAND ACREAGE AT THE SITE. THE LOCATION OF THE RECEIVING WATERS CAN BE FOUND ON THE USGS FARMINGTON QUADRANGLE MAP:

1. KOEN CREEK

K. THE FOLLOWING POLLUTANTS OF CONCERN WILL BE ASSOCIATED WITH THIS CONSTRUCTION PROJECT: (CHECK ALL THAT APPLY)

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> SOIL SEDIMENT             | <input checked="" type="checkbox"/> PETROLEUM (GAS, DIESEL, OIL, KEROSENE, HYDRAULIC OIL / FLUIDS) |
| <input checked="" type="checkbox"/> CONCRETE                  | <input checked="" type="checkbox"/> ANTIFREEZE / COOLANTS  |
| <input checked="" type="checkbox"/> CONCRETE TRUCK WASTE      | <input checked="" type="checkbox"/> WASTE WATER FROM CLEANING CONSTRUCTION EQUIPMENT               |
| <input checked="" type="checkbox"/> CONCRETE CURING COMPOUNDS | <input type="checkbox"/> OTHER (SPECIFY):  |
| <input checked="" type="checkbox"/> SOLID WASTE DEBRIS        |  |
| <input checked="" type="checkbox"/> PAINTS                    |  |
| <input checked="" type="checkbox"/> SOLVENTS                  |  |
| <input checked="" type="checkbox"/> FERTILIZERS / PESTICIDES  |  |

II. CONTROLS

THIS SECTION OF THE PLAN ADDRESSES THE CONTROLS THAT WILL BE IMPLEMENTED FOR EACH OF THE MAJOR CONSTRUCTION ACTIVITIES DESCRIBED IN I.C. ABOVE AND FOR ALL USE AREAS, BORROW SITES, AND WASTE SITES. FOR EACH MEASURE DISCUSSED, THE CONTRACTOR WILL BE RESPONSIBLE FOR ITS IMPLEMENTATION AS INDICATED. THE CONTRACTOR SHALL PROVIDE TO THE ARCHITECT/ENGINEER A PLAN FOR THE IMPLEMENTATION OF THE MEASURES INDICATED. THE CONTRACTOR, AND SUBCONTRACTORS, WILL NOTIFY THE ARCHITECT/ENGINEER OF ANY PROPOSED CHANGES, MAINTENANCE, OR MODIFICATIONS TO KEEP CONSTRUCTION ACTIVITIES COMPLIANT WITH THE PERMIT. EACH SUCH CONTRACTOR HAS SIGNED THE REQUIRED CERTIFICATION ON FORMS WHICH WILL BE PROVIDED AT THE PRE-CONSTRUCTION CONFERENCE, AND ARE A PART OF, THIS PLAN:

A. EROSION AND SEDIMENT CONTROL

1. STABILIZED PRACTICES: PROVIDED BELOW IS A DESCRIPTION OF INTERIM AND PERMANENT STABILIZATION PRACTICES, INCLUDING SITE SPECIFIC SCHEDULING OF THE IMPLEMENTATION OF THE PRACTICES. SITE PLANS WILL ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED. STABILIZATION PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, GEOTEXTILES, SODDING, VEGETATIVE BUFFER STRIPS, PROTECTION OF TREES, PRESERVATION OF MATURE VEGETATION, AND OTHER APPROPRIATE MEASURES. EXCEPT AS PROVIDED BELOW IN II(A)(1)(o) AND II(A)(3), STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED ON ALL DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION WILL NOT OCCUR FOR A PERIOD OF 21 OR MORE CALENDAR DAYS.

a. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE THEREAFTER.

THE FOLLOWING STABILIZATION PRACTICES WILL BE USED FOR THIS PROJECT: (CHECK ALL THAT APPLY)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> PRESERVATION OF MATURE VEGETATION | <input checked="" type="checkbox"/> EROSION CONTROL BLANKET /MULCHING |
| <input type="checkbox"/> VEGETATED BUFFER STRIPS                      | <input type="checkbox"/> SODDING                                      |
| <input checked="" type="checkbox"/> PROTECTION OF TREES               | <input checked="" type="checkbox"/> GEOTEXTILES                       |
| <input checked="" type="checkbox"/> TEMPORARY EROSION CONTROL SEEDING | <input type="checkbox"/> OTHER (SPECIFY):                             |
| <input type="checkbox"/> TEMPORARY TURF (SEEDING, CLASS 7)            |   |
| <input checked="" type="checkbox"/> TEMPORARY MULCHING                |   |
| <input checked="" type="checkbox"/> PERMANENT SEEDING                 |   |

DESCRIBE HOW THE STABILIZATION PRACTICES LISTED ABOVE WILL BE UTILIZED:

AT THE BEGINNING OF CONSTRUCTION:

- AREAS OF EXISTING VEGETATION (WOOD AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES.

- DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED, ALONG WITH REQUIRED TREE REMOVAL.

- AS SOON AS REASONABLE ACCESS IS AVAILABLE TO ALL LOCATIONS WHERE WATER DRAINS AWAY FROM THE PROJECT, TEMPORARY DITCH CHECKS, INLET AND PIPE PROTECTION AND PERIMETER EROSION BARRIER SHALL BE INSTALLED AS CALLED OUT IN THIS PLAN AND AS DIRECTED.

- BARE AND SPARSELY VEGETATED GROUND IN HIGH ERODABLE AREAS AS DETERMINED SHALL BE TEMPORARILY SEEDED AT THE BEGINNING OF CONSTRUCTION WHERE NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN DAYS.

- IMMEDIATELY AFTER TREE REMOVAL IS COMPLETED, AREAS WHICH ARE HIGHLY ERODABLE AS DETERMINED, SHALL BE TEMPORARILY SEEDED WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN DAYS.

- AT LOCATIONS WHERE A SIGNIFICANT AMOUNT OF WATER DRAINS INTO THE CONSTRUCTION ZONE FROM OUTSIDE AREAS (ADJACENT LANDOWNERS), TEMPORARY DITCH CHECKS WILL BE UTILIZED TO LOCALLY DIVERT WATER, REDUCE FLOW RATES, AND COLLECT OUTSIDE SILTATION INSIDE THE RIGHT-OF-WAY LINE.

- ESTABLISHMENT OF THESE TEMPORARY EROSION CONTROL MEASURES WILL HAVE ADDITIONAL BENEFITS TO THE PROJECT. DESIRABLE GRASS SEED WILL BECOME ESTABLISHED IN THESE AREAS AND WILL SPREAD SEEDS ONTO THE CONSTRUCTION SITE UNTIL PERMANENT SEEDING/MOWING AND OVERSEEDING CAN BE COMPLETED.

DURING CONSTRUCTION

- AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED. THE CONTRACTOR SHALL NOT USE THIS AREA FOR STAGING (EXCEPT AS DESCRIBED ON THE PLANS AND AS DIRECTED), PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.

- WITHIN THE CONSTRUCTION LIMITS, AREAS WHICH MAY BE SUSCEPTIBLE TO EROSION AS DETERMINED SHALL REMAIN UNDISTURBED UNTIL FULL SCALE CONSTRUCTION IS UNDERWAY TO PREVENT UNNECESSARY SOIL EROSION.

- EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN DAYS.

- AS CONSTRUCTION PROCEEDS, THE CONTRACTOR SHALL INSTITUTE THE FOLLOWING AS DIRECTED:

- PLACE TEMPORARY EROSION CONTROL FACILITIES AT LOCATIONS SHOWN ON THE PLANS.

- TEMPORARILY SEED ERODABLE BARE EARTH ON A WEEKLY BASIS TO MINIMIZE THE AMOUNT OF ERODABLE SURFACE AREA WITHIN THE CONTRACT LIMITS.

- CONSTRUCT ROADSIDE DITCHES AND PROVIDE TEMPORARY EROSION CONTROL SYSTEMS.

- TEMPORARILY DIVERT WATER AROUND PROPOSED CULVERT LOCATIONS.

- BUILD NECESSARY EMBANKMENT AT CULVERT LOCATIONS AND THEN EXCAVATE AND PLACE CULVERT.

- CONTINUE BUILDING UP THE EMBANKMENT TO THE PROPOSED GRADE WHILE AT THE SAME TIME, PLACING PERMANENT CONTROL SUCH AS RIP RAP DITCH LINING AND CONDUCTING FINAL SHAPING TO THE SLOPES.

- EXCAVATED AREAS AND EMBANKMENT SHALL BE PERMANENTLY SEEDED IMMEDIATELY AFTER FINAL GRADING. IF NOT, THEY SHALL BE TEMPORARILY SEEDED IF NO CONSTRUCTION ACTIVITY IN THE AREA IS PLANNED FOR SEVEN DAYS.

- CONSTRUCTION EQUIPMENT SHALL BE STORED AND FUELED ONLY AT DESIGNATED LOCATIONS. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR OTHER POLLUTANT IN ACCORDANCE WITH EPA WATER QUALITY REGULATIONS. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.

- THE CONTRACTOR SHALL INSPECT THE PROJECT DAILY DURING CONSTRUCTION ACTIVITIES. INSPECTION SHALL ALSO BE DONE WEEKLY AND AFTER RAINS OF 1/2 INCH OR GREATER OR EQUIVALENT SNOWFALL AND DURING THE WINTER SHUTDOWN PERIOD. THE PROJECT SHALL ADDITIONALLY BE INSPECTED BY THE CONTRACTOR ON A BI-WEEKLY BASIS TO DETERMINE THAT EROSION CONTROL EFFORTS ARE IN PLACE AND EFFECTIVE AND IF OTHER EROSION CONTROL WORK IS NECESSARY.

- SEDIMENT COLLECTED DURING CONSTRUCTION OF THE VARIOUS TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON THE SITE ON A REGULAR BASIS AS DIRECTED. THE COST OF THIS MAINTENANCE SHALL BE ACCORDING TO THE PROJECT GENERAL CONDITIONS.

- THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE REMOVED AS DIRECTED AFTER USE IS NO LONGER NEEDED OR NO LONGER FUNCTIONING. THE COST OF THIS REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE TEMPORARY EROSION CONTROL SYSTEM.

2. STRUCTURAL PRACTICES: PROVIDED BELOW IS A DESCRIPTION OF STRUCTURAL PRACTICES THAT WILL BE IMPLEMENTED, TO THE DEGREE ATTAINABLE, TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. SUCH PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO PERIMETER EROSION BARRIER, EARTH DIKES, DRAINAGE SWALES, SEDIMENT TRAPS, DITCH CHECKS, SUBSURFACE DRAINS, PIPE SLOPE DRAINS, LEVEL SPREADERS, STORM DRAIN INLET PROTECTION, ROCK OUTLET PROTECTION, REINFORCED SOIL RETAINING SYSTEMS, GABIONS, AND TEMPORARY OR PERMANENT SEDIMENT BASINS. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO THE MISSOURI CLEAN WATER ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT [CLEAN WATER ACT (CWA)].



ZACHARIAH A. YORK - ENGINEER  
MICH PE-2005001068

SIGNATURE \_\_\_\_\_  
10-03-2023  
DATE \_\_\_\_\_  
12-31-2023  
LICENSE EXPIRES \_\_\_\_\_

PROFESSIONAL SEAL



Hurst-Rosche, Inc.  
PROFESSIONAL DESIGN NUMBER: 000372  
3675 W. Outer Road, Suite 205  
Arnold, MO 63010  
636.333.3351 t  
www.hurst-rosche.com

HILLSBORO, IL  
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STORMWATER IMPROVEMENTS  
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519 8TH STREET  
PARK HILLS, MISSOURI 63601

PROJECT # E2323-01  
SITE # 2032  
ASSET # 5012032004

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 10/03/2023

CAD DWG FILE: C-103.DWG  
DRAWN BY: JMA  
CHECKED BY: ZAY  
DESIGNED BY: ZAY

SHEET TITLE:

SWPPP  
NOTES

SHEET NUMBER:

C-103

05 OF 09 SHEETS  
10/03/2023

THE FOLLOWING STRUCTURAL PRACTICES WILL BE USED FOR THIS PROJECT (CHECK ALL THAT APPLY):

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> PERIMETER EROSION BARRIER     | <input checked="" type="checkbox"/> ROCK OUTLET PROTECTION |
| <input checked="" type="checkbox"/> TEMPORARY DITCH CHECK         | <input checked="" type="checkbox"/> RIP RAP                |
| <input checked="" type="checkbox"/> STORM DRAIN INLET PROTECTION  | <input type="checkbox"/> GABIONS                           |
| <input type="checkbox"/> SEDIMENT TRAP                            | <input type="checkbox"/> SLOPE MATTRESS                    |
| <input type="checkbox"/> TEMPORARY PIPE SLOPE DRAIN               | <input type="checkbox"/> RETAINING WALLS                   |
| <input type="checkbox"/> TEMPORARY SEDIMENT BASIN                 | <input type="checkbox"/> SLOPE WALLS                       |
| <input type="checkbox"/> TEMPORARY STREAM CROSSING                | <input type="checkbox"/> CONCRETE REVETMENT MATS           |
| <input checked="" type="checkbox"/> STABILIZED CONSTRUCTION EXITS | <input type="checkbox"/> LEVEL SPREADERS                   |
| <input checked="" type="checkbox"/> TURF REINFORCEMENT MATS       | <input type="checkbox"/> OTHER (SPECIFY):                  |
| <input type="checkbox"/> PERMANENT CHECK DAMS                     |  |
| <input type="checkbox"/> PERMANENT SEDIMENT BASIN                 |  |
| <input type="checkbox"/> AGGREGATE DITCH                          |  |
| <input type="checkbox"/> PAVED DITCH                              |  |

DESCRIBE HOW THE STRUCTURAL PRACTICES LISTED ABOVE WILL BE UTILIZED:

- TEMPORARY DITCH CHECKS SHALL BE LOCATED AT EVERY 2 FT. FALL/RISE IN DITCH GRADE.
  - TEMPORARY DITCH CHECKS SHALL BE SILT FENCE – REMOVE AT END OF CONSTRUCTION.
  - TEMPORARY EROSION CONTROL SEEDING SHALL BE APPLIED AT A RATE OF 100 LBS/ACRES.
  - MULCH AS APPLIED TO TEMPORARY EROSION CONTROL SEEDING SHALL BE BY THE METHOD SPECIFIED IN THE CONTRACT AND AS DIRECTED. MULCH WILL BE PAID SEPARATELY AND SHALL CONFORM TO THE PROJECT GENERAL CONDITIONS.
  - CONSTRUCT PERIMETER EROSION CONTROL AT BEGINNING OF CONSTRUCTION. REMOVE AT END OF CONSTRUCTION.
  - STRAW BALES, HAY BALES, PERIMETER EROSION BARRIER AND SILT FENCE WILL BE PERMITTED FOR TEMPORARY OR PERMANENT DITCH CHECKS. DITCH CHECKS CAN ALSO BE COMPOSED OF AGGREGATE (IF SPECIFIED), ENVIROBERM, TRIANGULAR SILT DIKES, GEORIDGE AND ROLLED EXCELSIOR.
3. STORM WATER MANAGEMENT: PROVIDED BELOW IS A DESCRIPTION OF MEASURES THAT WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO THE MISSOURI CLEAN WATER ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT [CLEAN WATER ACT (CWA)].
- SUCH PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO STORM WATER DETENTION STRUCTURES (INCLUDING WET PONDS), STORM WATER RETENTION STRUCTURES, FLOW ATTENUATION BY USE OF OPEN VEGETATED SWALES AND NATURAL DEPRESSIONS, INFILTRATION OF RUNOFF ON SITE, AND SEQUENTIAL SYSTEMS (WHICH COMBINE SEVERAL PRACTICES). THE PRACTICES SELECTED FOR IMPLEMENTATION WERE DETERMINED ON THE BASIS OF THE TECHNICAL GUIDANCE IN STORM WATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES: DEVELOPING POLLUTION PREVENTION PLANS AND BEST MANAGEMENT PRACTICES AS PUBLISHED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY AND PROTECTING WATER QUALITY AS PUBLISHED BY MISSOURI DEPARTMENT OF NATURAL RESOURCES. IF PRACTICES OTHER THAN THOSE DISCUSSED IN THESE PUBLICATIONS ARE SELECTED FOR IMPLEMENTATION OR IF PRACTICES ARE APPLIED TO SITUATIONS DIFFERENT FROM THOSE COVERED IN THESE PUBLICATIONS, THE TECHNICAL BASIS FOR SUCH DECISIONS WILL BE EXPLAINED BELOW.
  - VELOCITY DISSIPATION DEVICES WILL BE PLACED AT DISCHARGE LOCATIONS AND ALONG THE LENGTH OF ANY OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSIVE VELOCITY FLOW FROM THE STRUCTURE TO A WATER COURSE SO THAT THE NATURAL PHYSICAL AND BIOLOGICAL CHARACTERISTICS AND FUNCTIONS ARE MAINTAINED AND PROTECTED (E.G. MAINTENANCE OF HYDROLOGIC CONDITIONS SUCH AS THE HYDROPERIOD AND HYDRODYNAMICS PRESENT PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES).

DESCRIPTION OF STORM WATER MANAGEMENT CONTROLS:

NOT APPLICABLE.

4. OTHER CONTROLS

- VEHICLE ENTRANCES AND EXITS – STABILIZED CONSTRUCTION ENTRANCES AND EXITS MUST BE CONSTRUCTED TO PREVENT TRACKING OF SEDIMENTS ONTO ROADWAYS. THE CONTRACTOR WILL PROVIDE THE ARCHITECT/ENGINEER WITH A WRITTEN PLAN IDENTIFYING THE LOCATION OF STABILIZED ENTRANCES AND EXITS AND THE PROCEDURES (S)HE WILL USE TO CONSTRUCT AND MAINTAIN THEM.
- MATERIAL DELIVERY, STORAGE, AND USE – THE FOLLOWING BMPS SHALL BE IMPLEMENTED TO HELP PREVENT DISCHARGES OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE:
  - ALL PRODUCTS DELIVERED TO THE PROJECT SITE MUST BE PROPERLY LABELED
  - WATER TIGHT SHIPPING CONTAINERS AND/OR SEMI TRAILERS SHALL BE USED TO STORE HAND TOOLS, SMALL PARTS, AND MOST CONSTRUCTION MATERIALS THAT CAN BE CARRIED BY HAND, SUCH AS PAINT CANS, SOLVENTS, AND GREASE.

- A STORAGE/CONTAINMENT FACILITY SHOULD BE CHOSEN FOR LARGER ITEMS SUCH AS DRUMS AND ITEMS SHIPPED OR STORED ON PALLETS. SUCH MATERIAL IS TO BE COVERED BY A TIN ROOF OR LARGE SHEETS OF PLASTIC TO PREVENT PRECIPITATION FROM COMING IN CONTACT WITH THE PRODUCTS BEING STORED

- LARGE ITEMS SUCH AS LIGHT STANDS, FRAMING MATERIALS AND LUMBER SHALL BE STORED IN THE OPEN IN A GENERAL STORAGE AREA. SUCH MATERIAL SHALL BE ELEVATED WITH WOOD BLOCKS TO MINIMIZE CONTACT WITH STORM WATER RUNOFF.

- SPILL CLEAN-UP MATERIALS, MATERIAL SAFETY DATA SHEETS, AN INVENTORY OF MATERIALS, AND EMERGENCY CONTACT NUMBERS SHALL BE MAINTAINED AND STORED IN ONE DESIGNATED AREA AND EACH CONTRACTOR IS TO INFORM HIS/HER EMPLOYEES AND THE ARCHITECT/ENGINEER OF THIS LOCATION.

c. STOCKPILE MANAGEMENT – BMPS SHALL BE IMPLEMENTED TO REDUCE OR ELIMINATE POLLUTION OF STORM WATER FROM STOCKPILES OF SOIL AND PAVING MATERIALS SUCH AS BUT NOT LIMITED TO PORTLAND CEMENT CONCRETE RUBBLE, ASPHALT CONCRETE, ASPHALT CONCRETE RUBBLE, AGGREGATE BASE, AGGREGATE SUB BASE, AND PRE-MIXED AGGREGATE. THE FOLLOWING BMPS MAY BE CONSIDERED:

- PERIMETER EROSION BARRIER
- TEMPORARY SEEDING
- TEMPORARY MULCH
- PLASTIC COVERS
- SOIL BINDERS

THE CONTRACTOR WILL PROVIDE THE ARCHITECT/ENGINEER WITH A WRITTEN PLAN OF THE PROCEDURES (S)HE WILL USE ON THE PROJECT AND HOW THEY WILL BE MAINTAINED

d. WASTE DISPOSAL. NO MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED INTO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY THE MISSOURI CLEAN WATER ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT [CLEAN WATER ACT (CWA)].

e. THE PROVISIONS OF THIS PLAN SHALL ENSURE AND DEMONSTRATE COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.

f. THE CONTRACTOR SHALL PROVIDE A WRITTEN AND GRAPHIC PLAN TO THE ARCHITECT/ENGINEER IDENTIFYING WHERE EACH OF THE ABOVE AREAS WILL BE LOCATED AND HOW THEY ARE TO BE MANAGED.

5. APPROVED STATE OR LOCAL LAWS:

THE MANAGEMENT PRACTICES, CONTROLS AND PROVISIONS CONTAINED IN THIS PLAN WILL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS, WHICH ARE AT LEAST AS PROTECTIVE AS THE REQUIREMENTS CONTAINED IN THE FEDERAL NPDES PERMIT AND MISSOURI STATE OPERATING PERMIT NUMBER MO-R100038. PROCEDURES AND REQUIREMENTS SPECIFIED IN APPLICABLE SEDIMENT AND EROSION SITE PLANS OR STORM WATER MANAGEMENT PLANS APPROVED BY LOCAL OFFICIALS SHALL BE DESCRIBED OR INCORPORATED BY REFERENCE IN THE SPACE PROVIDED BELOW. REQUIREMENTS SPECIFIED IN SEDIMENT AND EROSION SITE PLANS, SITE PERMITS, STORM WATER MANAGEMENT SITE PLANS OR SITE PERMITS APPROVED BY LOCAL OFFICIALS THAT ARE APPLICABLE TO PROTECTING SURFACE WATER RESOURCES ARE, UPON SUBMITTAL OF AN NOI, TO BE AUTHORIZED TO DISCHARGE UNDER THE FEDERAL NPDES PERMIT AND MISSOURI STATE OPERATING PERMIT NUMBER MO-R100038 INCORPORATED BY REFERENCE AND ARE ENFORCEABLE UNDER THIS PERMIT EVEN IF THEY ARE NOT SPECIFICALLY INCLUDED IN THE PLAN. DESCRIPTION OF PROCEDURES AND REQUIREMENTS SPECIFIED IN APPLICABLE SEDIMENT AND EROSION SITE PLANS OR STORM WATER MANAGEMENT PLANS APPROVED BY LOCAL OFFICIALS:

III. MAINTENANCE:

THE FOLLOWING IS A DESCRIPTION OF PROCEDURES THAT WILL BE USED TO MAINTAIN, IN GOOD AND EFFECTIVE OPERATING CONDITIONS, THE VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THIS PLAN.

THE CONTRACTOR WILL PROVIDE MAINTENANCE GUIDES FOR THE PRACTICES ASSOCIATED WITH THIS PROJECT. MAINTENANCE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE AND ACCEPTED BY STATE OF MISSOURI AFTER FINAL INSPECTION.

IV. INSPECTIONS

CONTRACTOR'S QUALIFIED PERSONNEL SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE WHICH HAVE NOT YET BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES AND EQUIPMENT ENTER AND EXIT THE SITE. SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 1/2 INCH OR GREATER OR EQUIVALENT SNOWFALL.

A. DISTURBED AREAS, USE AREAS (STORAGE OF MATERIALS, STOCKPILES, MACHINE MAINTENANCE, FUELING, ETC.), BORROW SITES, AND WASTE SITES SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS OR POINTS THAT ARE ACCESSIBLE, SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF SITE SEDIMENT TRACKING.

B. BASED ON THE RESULTS OF THE INSPECTION, THE DESCRIPTION OF POTENTIAL POLLUTANT SOURCES IDENTIFIED IN SECTION I ABOVE AND POLLUTION PREVENTION MEASURES IDENTIFIED IN SECTION II ABOVE SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER SUCH INSPECTION. ANY CHANGES TO THIS PLAN RESULTING FROM THE REQUIRED INSPECTIONS SHALL BE IMPLEMENTED WITHIN 1/2 HOUR TO 1 WEEK BASED ON THE URGENCY OF THE SITUATION. THE CONTRACTOR WILL PROVIDE THE TIME REQUIRED TO IMPLEMENT SUCH ACTIONS THROUGH THE WEEKLY INSPECTION REPORT.

C. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF CONTRACTOR'S PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THIS STORM WATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH SECTION IV(B) SHALL BE MADE AND RETAINED AS PART OF THE PLAN FOR AT LEAST THREE (3) YEARS AFTER THE DATE OF THE INSPECTION. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH THE GENERAL PERMIT.

D. IF ANY VIOLATION OF THE PROVISIONS OF THIS PLAN IS IDENTIFIED DURING THE CONDUCT OF THE CONSTRUCTION WORK COVERED BY THIS PLAN, AN 'INCIDENCE OF NONCOMPLIANCE' (ION) REPORT SHALL BE COMPLETED AND FILED FOR THE IDENTIFIED VIOLATION. THE FORMS PROVIDED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SHALL BE USED AND SHALL INCLUDE SPECIFIC INFORMATION ON THE CAUSE OF NONCOMPLIANCE, ACTIONS WHICH WERE TAKEN TO PREVENT ANY FURTHER CAUSES OF NONCOMPLIANCE, AND A STATEMENT DETAILING ANY ENVIRONMENTAL IMPACT WHICH MAY HAVE RESULTED FROM THE NONCOMPLIANCE. ALL REPORTS OF NONCOMPLIANCE SHALL BE SIGNED BY A RESPONSIBLE AUTHORITY IN ACCORDANCE WITH THE GENERAL PERMIT. THE INCIDENCE OF NON-COMPLIANCE SHALL BE MAILED TO THE FOLLOWING ADDRESS:

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM  
ATTN: OPERATING PERMITS SECTION  
1101 RIVERSIDE DRIVE  
P.O. BOX 176  
JEFFERSON CITY, MISSOURI 65102-0176

V. NON-STORM WATER DISCHARGES:

EXCEPT FOR FLOWS FROM FIRE FIGHTING ACTIVITIES, SOURCES OF NON-STORM WATER THAT IS COMBINED WITH STORM WATER DISCHARGES ASSOCIATED WITH THE INDUSTRIAL ACTIVITY ADDRESSED IN THIS PLAN MUST BE DESCRIBED BELOW. APPROPRIATE POLLUTION PREVENTION MEASURES, AS DESCRIBED BELOW, WILL BE IMPLEMENTED FOR THE NON-STORM WATER COMPONENT(S) OF THE DISCHARGE.

A. SPILL PREVENTION AND CONTROL – BMPS SHALL BE IMPLEMENTED TO CONTAIN AND CLEAN-UP SPILLS AND PREVENT MATERIAL DISCHARGES TO THE STORM DRAIN SYSTEM. THE CONTRACTOR SHALL PRODUCE A WRITTEN PLAN STATING HOW HIS/HER COMPANY WILL PREVENT, REPORT, AND CLEAN UP SPILLS AND PROVIDE A COPY TO ALL OF HIS/HER EMPLOYEES AND THE ARCHITECT/ENGINEER. THE CONTRACTOR SHALL NOTIFY ALL OF HIS/HER EMPLOYEES ON THE PROPER PROTOCOL FOR REPORTING SPILLS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY SPILLS IMMEDIATELY.

B. CONCRETE RESIDUALS AND WASHOUT WASTES – THE FOLLOWING BMPS SHALL BE IMPLEMENTED TO CONTROL RESIDUAL CONCRETE, CONCRETE SEDIMENTS, AND RINSE WATER:

- TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED FOR RINSING OUT CONCRETE TRUCKS. SIGNS SHALL BE INSTALLED DIRECTING CONCRETE TRUCK DRIVERS WHERE DESIGNATED WASHOUT FACILITIES ARE LOCATED.
- THE CONTRACTOR SHALL PROVIDE THE LOCATION OF TEMPORARY CONCRETE WASHOUT FACILITIES TO THE ARCHITECT/ENGINEER.
- ALL TEMPORARY CONCRETE WASHOUT FACILITIES ARE TO BE INSPECTED BY THE CONTRACTOR AFTER EACH USE AND ALL SPILLS MUST BE REPORTED TO THE ARCHITECT/ENGINEER AND CLEANED UP IMMEDIATELY.
- CONCRETE WASTE SOLIDS/LIQUIDS SHALL BE DISPOSED OF PROPERLY.

C. LITTER MANAGEMENT – A PROPER NUMBER OF DUMPSTERS SHALL BE PROVIDED ON SITE TO HANDLE DEBRIS AND LITTER ASSOCIATED WITH THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING HIS/HER EMPLOYEES PLACE ALL LITTER INCLUDING MARKING PAINT CANS, SODA CANS, FOOD WRAPPERS, WOOD LATHE, MARKING RIBBON, CONSTRUCTION STRING, AND ALL OTHER CONSTRUCTION RELATED LITTER IN THE PROPER DUMPSTERS.

D. VEHICLE AND EQUIPMENT CLEANING – VEHICLES AND EQUIPMENT ARE TO BE CLEANED IN DESIGNATED AREAS ONLY, PREFERABLY OFF SITE.

E. VEHICLE AND EQUIPMENT FUELING – A VARIETY OF BMPS CAN BE IMPLEMENTED DURING FUELING OF VEHICLES AND EQUIPMENT TO PREVENT POLLUTION. THE CONTRACTOR SHALL INFORM THE CONSTRUCTION MANAGER AS TO WHICH BMPS WILL BE USED ON THE PROJECT. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER HOW (S)HE WILL BE INFORMING HIS/HER EMPLOYEES OF THESE BMPS (I.E. SIGNS, TRAINING, ETC.). BELOW ARE A FEW EXAMPLES OF THESE BMPS:

- CONTAINMENT
- SPILL PREVENTION AND CONTROL
- USE OF DRIP PANS AND ABSORBENTS
- AUTOMATIC SHUT-OFF NOZZLES
- TOPPING OFF RESTRICTIONS
- LEAK INSPECTION AND REPAIR

F. VEHICLE AND EQUIPMENT MAINTENANCE – ON SITE MAINTENANCE MUST BE PERFORMED IN ACCORDANCE WITH ALL ENVIRONMENTAL LAWS SUCH AS PROPER STORAGE AND NO DUMPING OF OLD ENGINE OIL OR OTHER FLUIDS ON SITE.

VI. FAILURE TO COMPLY:

FAILURE TO COMPLY WITH ANY PROVISIONS OF THIS STORM WATER POLLUTION PREVENTION PLAN WILL RESULT IN THE IMPLEMENTATION OF AN EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION AGAINST THE CONTRACTOR AND/OR PENALTIES UNDER THE FEDERAL NPDES PERMIT AND MISSOURI STATE OPERATING PERMIT WHICH COULD BE PASSED ONTO THE CONTRACTOR.



ZACHARIAH A. YORK - ENGINEER  
MO# PE-2005001068  
SIGNATURE  
DATE 10-03-2023  
12-31-2023  
LICENSE EXPIRES

PROFESSIONAL SEAL



Hurst-Rosche, Inc.  
PROFESSIONAL DESIGN NUMBER: 000372  
3675 W. Outer Road, Suite 205  
Arnold, MO 63010  
636.333.3351 t  
www.hurst-rosche.com  
HILLSBORO, IL  
EAST ST. LOUIS, IL  
MARION, IL  
SPRINGFIELD, IL  
NASHVILLE, TN

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
ELEMENTARY  
AND SECONDARY  
EDUCATION

STORMWATER IMPROVEMENTS  
SPECIAL ACRES STATE SCHOOL  
519 8TH STREET  
PARK HILLS, MISSOURI 63601

PROJECT # E2323-01  
SITE # 2032  
ASSET # 5012032004

REVISION:  
DATE:  
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ISSUE DATE: 10/03/2023

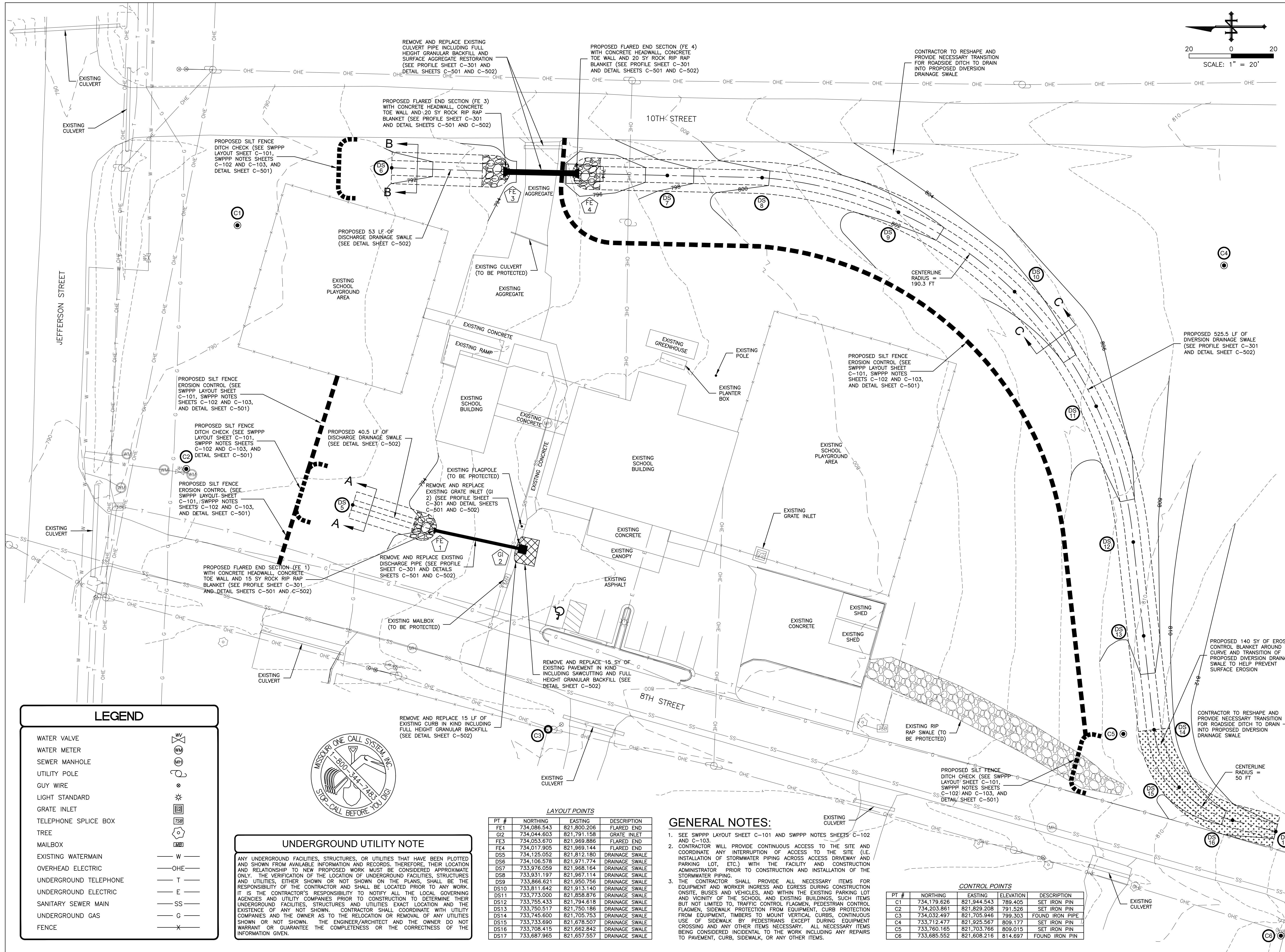
CAD DWG FILE: C-201.DWG  
DRAWN BY: JMA  
CHECKED BY: ZAY  
DESIGNED BY: ZAY

SHEET TITLE:  
STORMWATER  
LAYOUT

SHEET NUMBER:

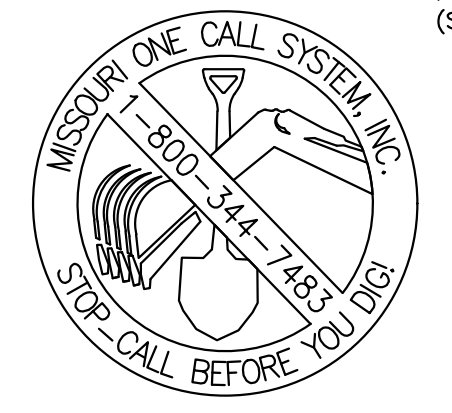
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10/03/2023



**LEGEND**

|                       |         |
|-----------------------|---------|
| WATER VALVE           |         |
| WATER METER           |         |
| SEWER MANHOLE         |         |
| UTILITY POLE          |         |
| GUY WIRE              |         |
| LIGHT STANDARD        |         |
| GRATE INLET           |         |
| TELEPHONE SPLICE BOX  |         |
| TREE                  |         |
| MAILBOX               |         |
| EXISTING WATERMAIN    | — W —   |
| OVERHEAD ELECTRIC     | — OHE — |
| UNDERGROUND TELEPHONE | — T —   |
| UNDERGROUND ELECTRIC  | — E —   |
| SANITARY SEWER MAIN   | — SS —  |
| UNDERGROUND GAS       | — G —   |
| FENCE                 | — X —   |



**UNDERGROUND UTILITY NOTE**

ANY UNDERGROUND FACILITIES, STRUCTURES, OR UTILITIES THAT HAVE BEEN PLOTTED AND SHOWN FROM AVAILABLE INFORMATION AND RECORDS. THEREFORE, THEIR LOCATION AND RELATIONSHIP TO NEW PROPOSED WORK MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL THE LOCAL GOVERNING AGENCIES AND UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES EXACT LOCATION AND THE EXISTENCE OF ANY NOT SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND THE OWNER AS TO THE RELOCATION OR REMOVAL OF ANY UTILITIES SHOWN OR NOT SHOWN. THE ENGINEER/ARCHITECT AND THE OWNER DO NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE INFORMATION GIVEN.

**LAYOUT POINTS**

| PT # | NORTHING    | EASTING     | DESCRIPTION    |
|------|-------------|-------------|----------------|
| FE1  | 734,086.543 | 821,800.208 | FLARED END     |
| GI2  | 734,044.603 | 821,791.158 | GRATE INLET    |
| FE3  | 734,053.670 | 821,989.886 | FLARED END     |
| FE4  | 734,017.905 | 821,969.144 | FLARED END     |
| DS5  | 734,125.052 | 821,812.180 | DRAINAGE SWALE |
| DS6  | 734,106.578 | 821,971.774 | DRAINAGE SWALE |
| DS7  | 733,976.059 | 821,968.164 | DRAINAGE SWALE |
| DS8  | 733,951.197 | 821,967.114 | DRAINAGE SWALE |
| DS9  | 733,968.621 | 821,950.756 | DRAINAGE SWALE |
| DS10 | 733,811.642 | 821,913.140 | DRAINAGE SWALE |
| DS11 | 733,773.000 | 821,858.876 | DRAINAGE SWALE |
| DS12 | 733,755.433 | 821,794.618 | DRAINAGE SWALE |
| DS13 | 733,750.517 | 821,750.186 | DRAINAGE SWALE |
| DS14 | 733,745.600 | 821,705.753 | DRAINAGE SWALE |
| DS15 | 733,733.690 | 821,678.507 | DRAINAGE SWALE |
| DS16 | 733,708.415 | 821,662.842 | DRAINAGE SWALE |
| DS17 | 733,687.965 | 821,657.557 | DRAINAGE SWALE |

**GENERAL NOTES:**

- SEE SWPPP LAYOUT SHEET C-101 AND SWPPP NOTES SHEETS C-102 AND C-103.
- CONTRACTOR WILL PROVIDE CONTINUOUS ACCESS TO THE SITE AND COORDINATE ANY INTERRUPTION OF ACCESS TO THE SITE (I.E. INSTALLATION OF STORMWATER PIPING ACROSS ACCESS DRIVEWAY AND PARKING LOT, ETC.) WITH THE FACILITY AND CONSTRUCTION ADMINISTRATOR PRIOR TO CONSTRUCTION AND INSTALLATION OF THE STORMWATER PIPING.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ITEMS FOR EQUIPMENT AND WORKER INGRESS AND EGRESS DURING CONSTRUCTION ONSITE, BUSES AND VEHICLES, AND WITHIN THE EXISTING PARKING LOT AND VICINITY OF THE SCHOOL AND EXISTING BUILDINGS, SUCH ITEMS BUT NOT LIMITED TO, TRAFFIC CONTROL, FLAGMEN, PEDESTRIAN CONTROL, FLAGMEN, SIDEWALK PROTECTION FROM EQUIPMENT, CURB PROTECTION FROM EQUIPMENT, TIMBERS TO MOUNT VERTICAL CURBS; CONTINUOUS USE OF SIDEWALK PROTECTION FROM EQUIPMENT DURING EQUIPMENT CROSSING AND ANY OTHER ITEMS NECESSARY. ALL NECESSARY ITEMS BEING CONSIDERED INCIDENTAL TO THE WORK INCLUDING ANY REPAIRS TO PAVEMENT, CURB, SIDEWALK, OR ANY OTHER ITEMS.

**CONTROL POINTS**

| PT # | NORTHING    | EASTING     | ELEVATION | DESCRIPTION     |
|------|-------------|-------------|-----------|-----------------|
| C1   | 734,179.626 | 821,944.543 | 789.405   | SET IRON PIN    |
| C2   | 734,203.861 | 821,829.208 | 791.526   | SET IRON PIN    |
| C3   | 734,032.497 | 821,705.946 | 799.303   | FOUND IRON PIPE |
| C4   | 733,712.477 | 821,925.567 | 809.177   | SET IRON PIN    |
| C5   | 733,760.165 | 821,703.766 | 809.015   | SET IRON PIN    |
| C6   | 733,685.552 | 821,608.216 | 814.697   | FOUND IRON PIN  |



ZACHARIAH A. YORK - ENGINEER  
MOM PE-2005001068  
SIGNATURE  
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LICENSE EXPIRES

PROFESSIONAL SEAL



Hurst-Rosche, Inc.  
PROFESSIONAL DESIGN NUMBER: 000372  
3675 W. Outer Road, Suite 205  
Arnold, MO 63010  
636.333.3351 t  
www.hurst-rosche.com  
HILLSBORO, IL  
EAST ST. LOUIS, IL  
MARION, IL  
SPRINGFIELD, IL  
NASHVILLE, TN

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
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STORMWATER IMPROVEMENTS  
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519 8TH STREET  
PARK HILLS, MISSOURI 63601

PROJECT # E2323-01  
SITE # 2032  
ASSET # 5012032004

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 10/03/2023

CAD DWG FILE: C-301.DWG  
DRAWN BY: JMA  
CHECKED BY: ZAY  
DESIGNED BY: ZAY

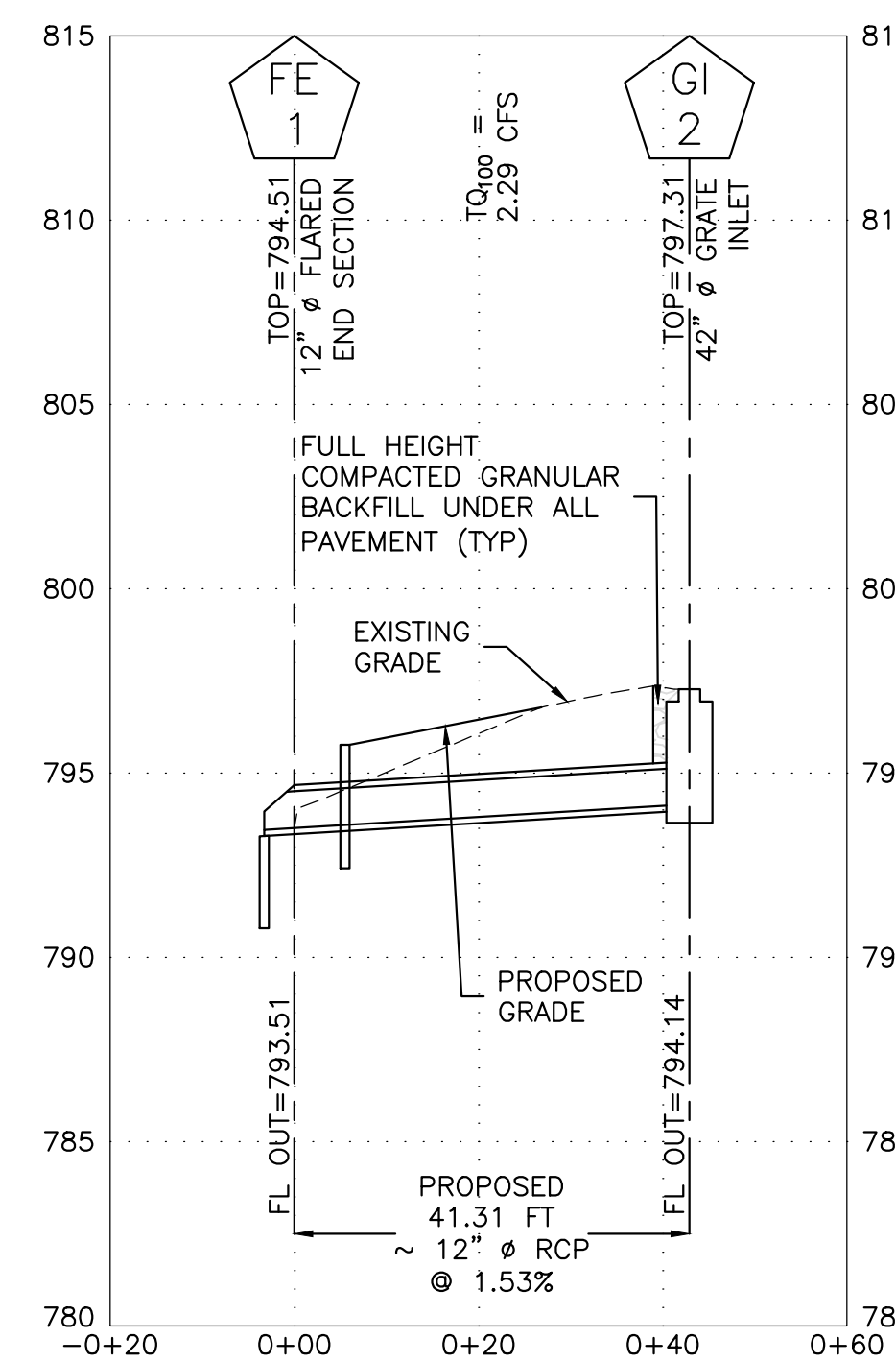
SHEET TITLE:

STORMWATER  
PROFILES

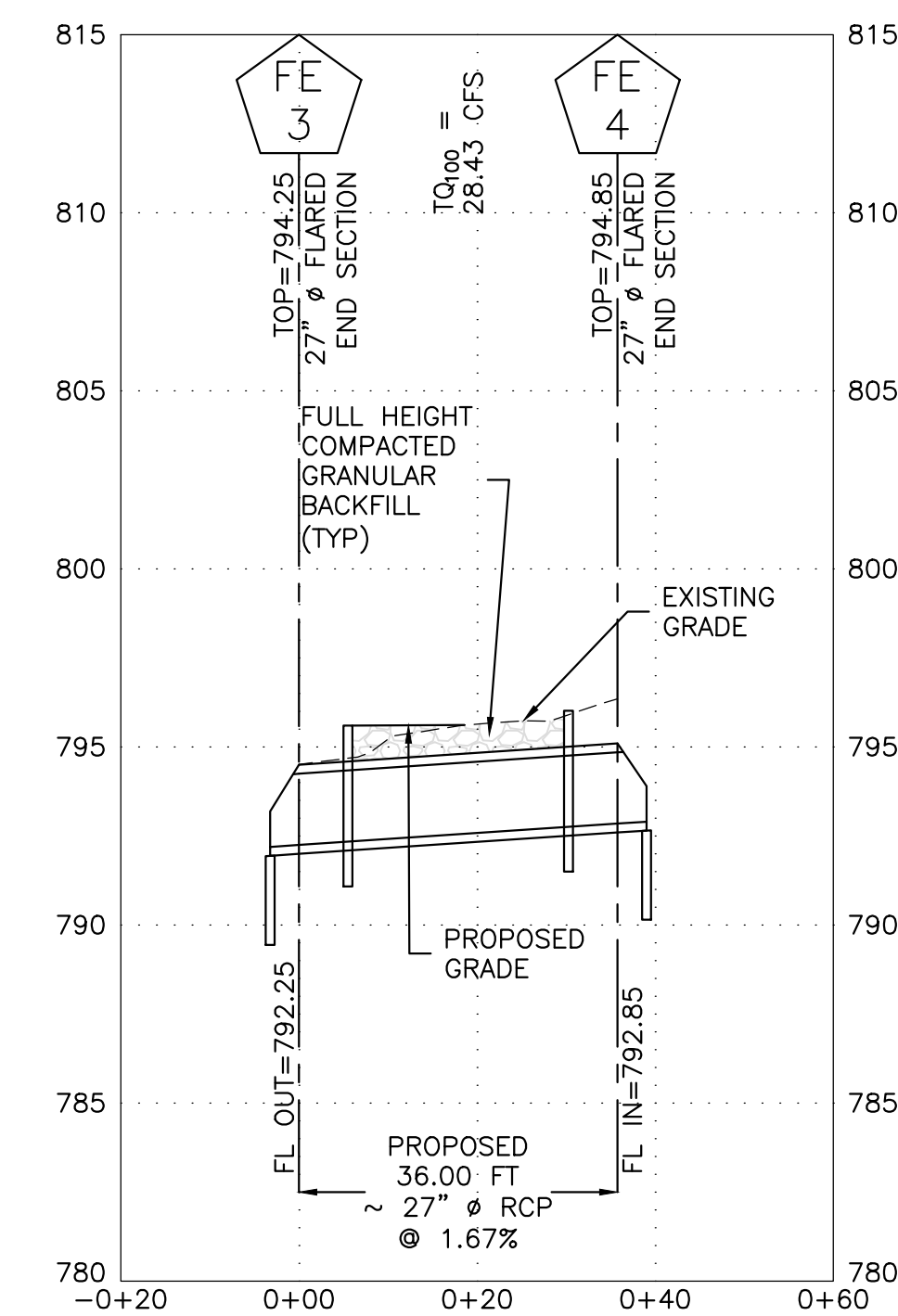
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07 OF 09 SHEETS  
10/03/2023



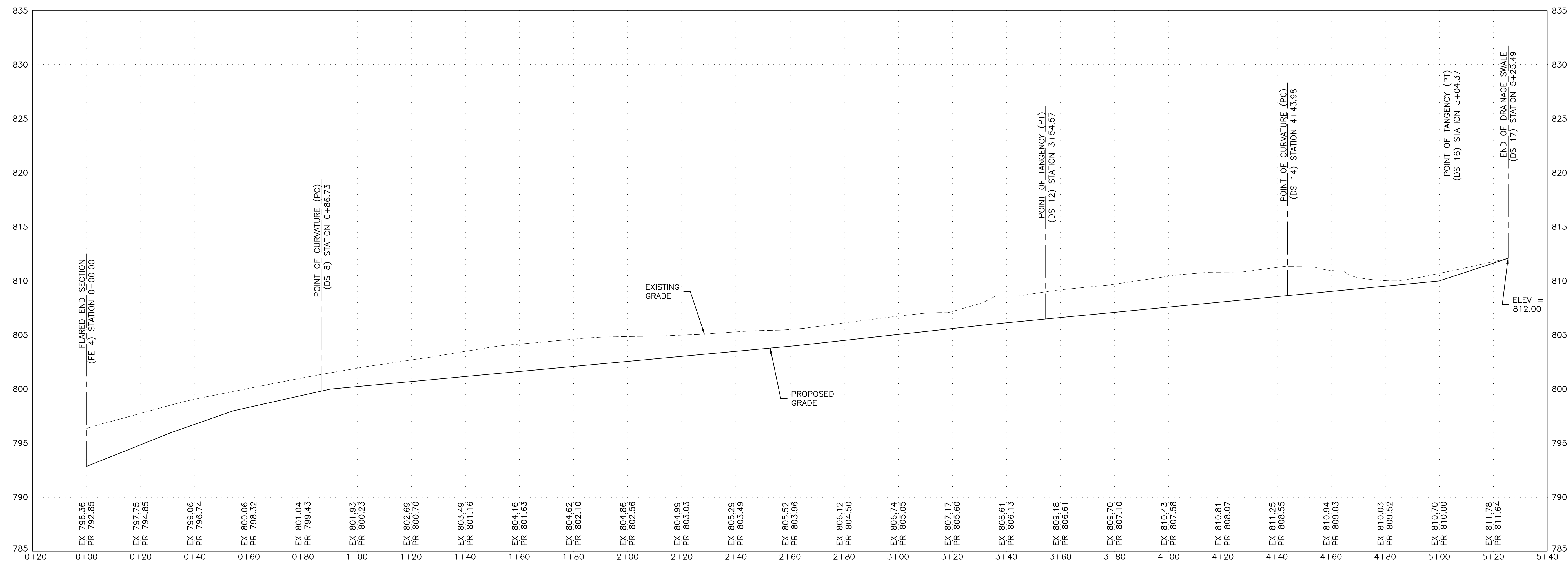
STORMWATER PROFILE  
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 5'



STORMWATER PROFILE  
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 5'

GENERAL NOTES:

- SEE SWPPP LAYOUT SHEET C-101 AND SWPPP NOTES SHEETS C-102 AND C-103. FOR PROPOSED STORMWATER IMPROVEMENTS, SEE SHEET C-201 FOR PROPOSED STORMWATER LAYOUT AND SEE SHEETS C-501 AND C-502 FOR PROPOSED STORMWATER DETAILS.
- PROPOSED PIPE LENGTH AND SLOPE LABELS SHOWN ON THE STORMWATER PROFILES ARE CALCULATED FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE. CONTRACTORS TO CALCULATE THE ACTUAL NECESSARY LENGTH AND SLOPE OF PIPE BETWEEN STRUCTURES BASED ON THE VARYING SIZES OF THE STRUCTURES.
- ALL STORMWATER IMPROVEMENTS AND APPURTENANCES METHOD OF CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF ALL LOCAL GOVERNING AGENCIES, STATE OF MISSOURI, MODNR, ASTM, MODOT AND MSD.
- UTILITY LOCATIONS AND ELEVATIONS ARE APPROXIMATE. IT IS THE CONTRACTOR RESPONSIBILITY TO FIELD VERIFY ALL UTILITIES.
- CONTRACTOR TO ADJUST ALL SERVICE LINES (WATER, GAS, SANITARY, ETC.) THAT CROSS THE PROPOSED STORMWATER IMPROVEMENTS AS NECESSARY TO CROSS OVER OR UNDER SAID STORMWATER IMPROVEMENTS.
- ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE FULL HEIGHT GRANULARLY FILLED WITH COMPACTED SELECT GRANULAR BACKFILL, AND THE SURFACE SHALL BE RESTORED WITH FULL DEPTH PAVEMENT REPLACEMENT PER TYPICAL PROPOSED PAVEMENT SECTION. BACKFILL AND PAVEMENT SHALL BE PLACED IN ACCORDANCE WITH THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF ALL LOCAL GOVERNING AGENCIES' SPECIFICATIONS AND AS DIRECTED ON THE PLANS.
- EXISTING ABOVE AND BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED. EXISTING UTILITIES AND/OR STRUCTURES AFFECTED BY CONSTRUCTION, EITHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE ADJUSTED TO GRADE.
- ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.



DIVERSION DRAINAGE SWALE CENTERLINE PROFILE

HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 5'



ZACHARIAH A. YORK - ENGINEER  
MOW PE-2005001068  
SIGNATURE  
10-03-2023  
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12-31-2023  
LICENSE EXPIRES

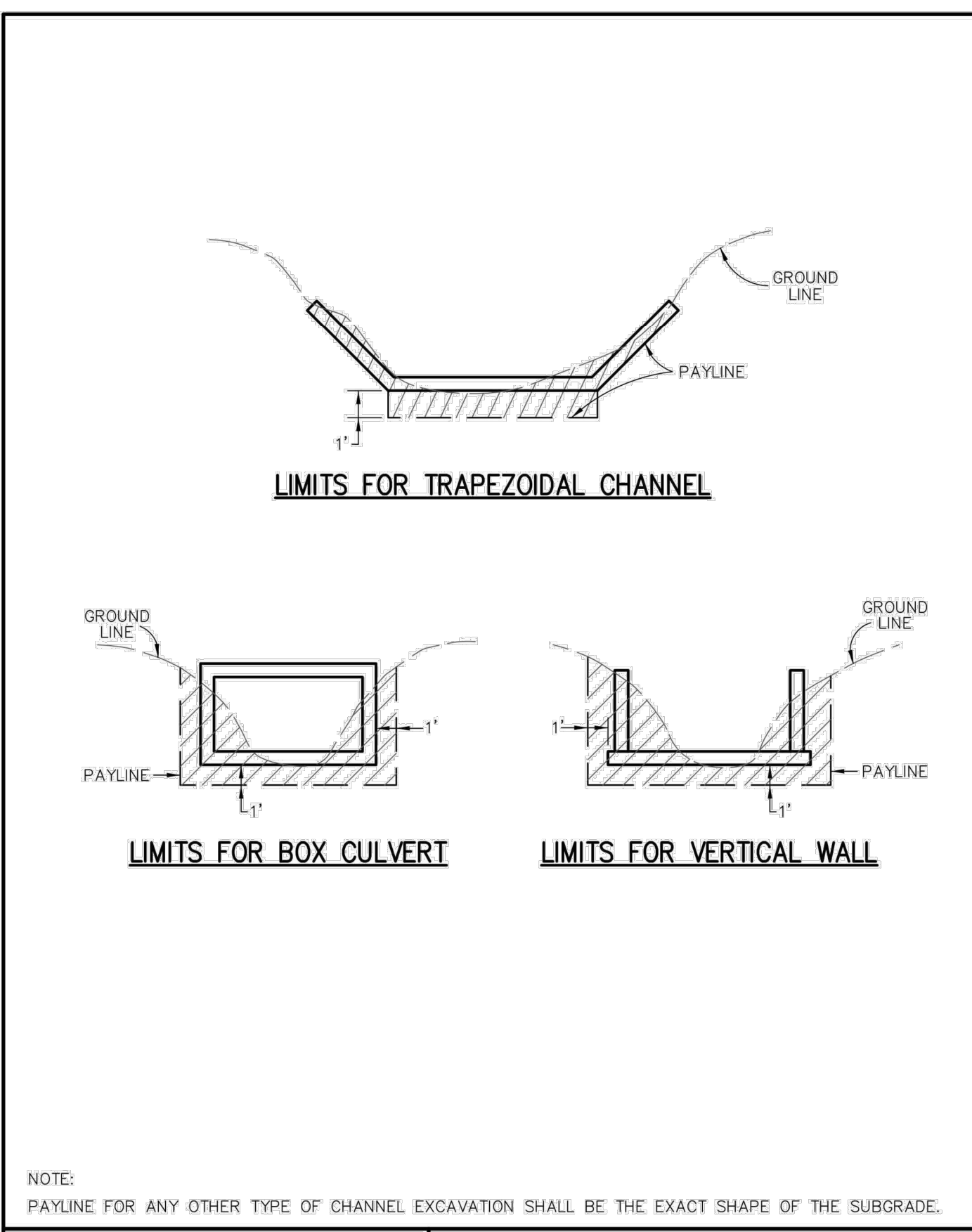
PROFESSIONAL SEAL



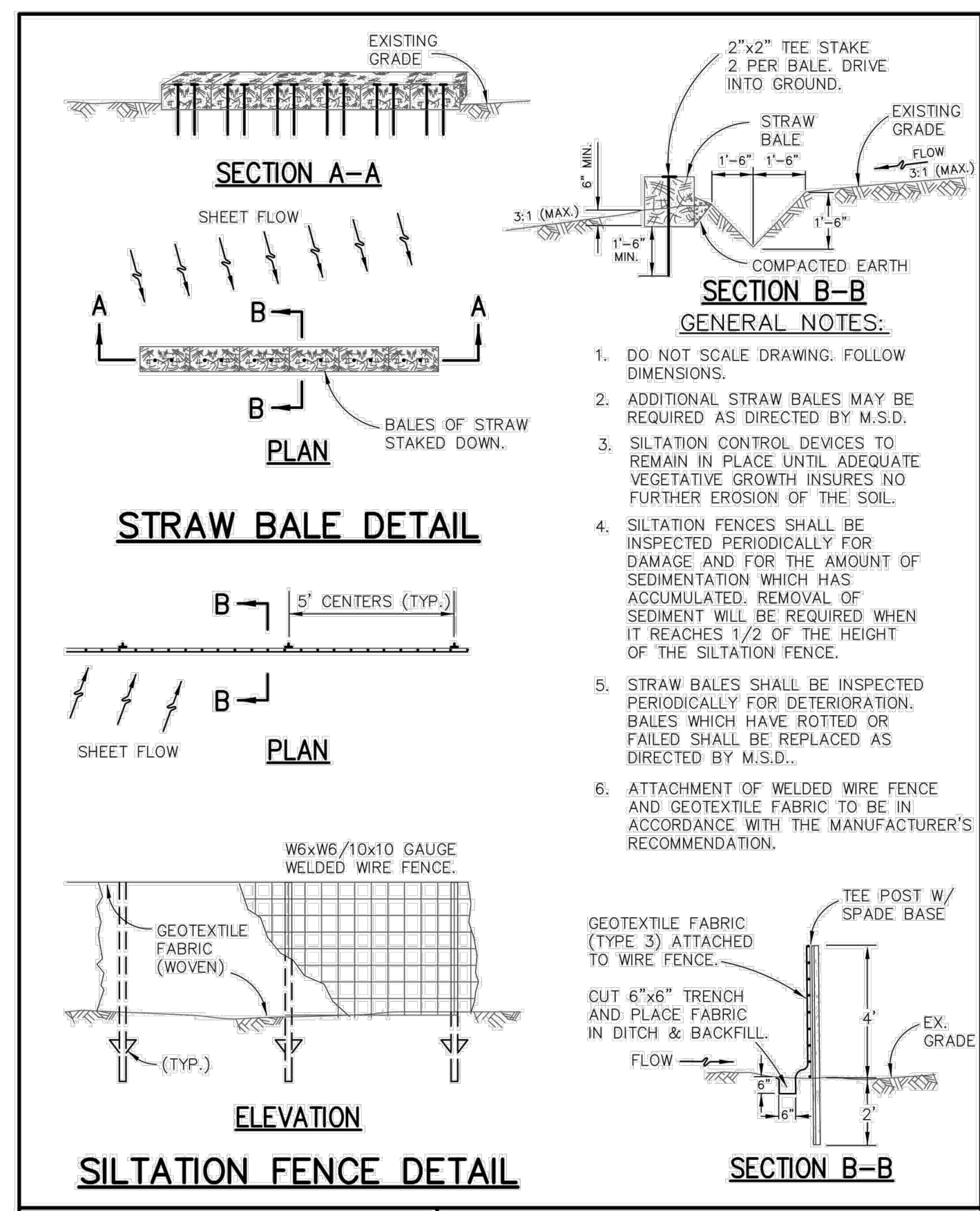
Hurst-Rosche, Inc.  
PROFESSIONAL DESIGN NUMBER: 000372  
3675 W. Outer Road, Suite 205  
Arnold, MO 63010  
636.333.3351 t  
www.hurst-rosche.com  
HILLSBORO, IL  
EAST ST. LOUIS, IL  
MARION, IL  
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NASHVILLE, TN

| ROUND PIPE                       |                                      |                                    |   | HORIZONTAL ELLIPTICAL PIPE         |                                      |                                    |   |
|----------------------------------|--------------------------------------|------------------------------------|---|------------------------------------|--------------------------------------|------------------------------------|---|
| INSIDE DIAMETER OF PIPE (INCHES) | "W" PAYLINE WIDTH OF TRENCH (INCHES) | "W" PAYLINE WIDTH OF TRENCH (FEET) | PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASEMENT | INSIDE DIMENSIONS OF PIPE (INCHES) | "W" PAYLINE WIDTH OF TRENCH (INCHES) | "W" PAYLINE WIDTH OF TRENCH (FEET) | PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASEMENT |
| 4                                | 30                                   | 2.50                               | 3.28  |                                    |                                      |                                    |   |
| 6                                | 30                                   | 2.50                               | 3.59  |                                    |                                      |                                    |   |
| 8                                | 30                                   | 2.50                               | 3.87  |                                    |                                      |                                    |   |
| 10                               | 30                                   | 2.50                               | 4.09  |                                    |                                      |                                    |   |
| 12                               | 30                                   | 2.50                               | 4.25  |                                    |                                      |                                    |   |
| 15                               | 36                                   | 3.00                               | 5.55  |                                    |                                      |                                    |   |
| 18                               | 36                                   | 3.00                               | 5.77  | 14 x 23                            | 41                                   | 3.42                               | 5.94  |
| 21                               | 39                                   | 3.25                               | 6.61  |                                    |                                      |                                    |   |
| 24                               | 42                                   | 3.50                               | 7.39  | 19 x 30                            | 49                                   | 4.08                               | 7.68  |
| 27                               | 45                                   | 3.75                               | 8.18  | 22 x 34                            | 53                                   | 4.42                               | 8.61  |
| 30                               | 49                                   | 4.08                               | 9.30  | 24 x 38                            | 58                                   | 4.83                               | 9.70  |
| 33                               | 53                                   | 4.42                               | 10.53   | 27 x 42                            | 62                                   | 5.17                               | 10.71   |
| 36                               | 56                                   | 4.67                               | 11.43   | 29 x 45                            | 66                                   | 5.50                               | 11.72   |
| 39                               | DISCONTINUED                         |                                    |   | 32 x 49                            | 71                                   | 5.92                               | 13.14   |
| 42                               | 63                                   | 5.25                               | 13.38   | 34 x 53                            | 75                                   | 6.25                               | 14.05   |
| 48                               | 70                                   | 5.83                               | 15.67   | 38 x 60                            | 83                                   | 6.92                               | 16.18   |
| 54                               | 77                                   | 6.42                               | 18.15   | 43 x 68                            | 92                                   | 7.67                               | 18.81   |
| 60                               | 84                                   | 7.00                               | 20.73   | 48 x 76                            | 101                                  | 8.42                               | 21.59   |
| 66                               | 91                                   | 7.58                               | 23.45   | 53 x 83                            | 109                                  | 9.08                               | 24.35   |
| 72                               | 98                                   | 8.17                               | 26.37   | 58 x 91                            | 118                                  | 9.83                               | 27.45   |
| 78                               | 105                                  | 8.75                               | 29.39   | 63 x 98                            | 126                                  | 10.50                              | 30.50   |
| 84                               | 112                                  | 9.33                               | 32.57   | 68 x 106                           | 135                                  | 11.25                              | 33.91   |
| 90                               | 119                                  | 9.92                               | 35.90   | 72 x 113                           | 143                                  | 11.92                              | 36.99   |
| 96                               | 126                                  | 10.50                              | 39.37   | 77 x 121                           | 152                                  | 12.67                              | 40.69   |
| 102                              | 133                                  | 11.08                              | 42.99   | 82 x 128                           | 160                                  | 13.33                              | 44.45   |
| 108                              | 140                                  | 11.67                              | 46.75   | 87 x 136                           | 168                                  | 14.00                              | 47.79   |
| 114                              | 147                                  | 12.25                              | 50.66   | 92 x 143                           | 176                                  | 14.67                              | 51.70   |
| 120                              | 154                                  | 12.83                              | 54.72   | 97 x 151                           | 185                                  | 15.42                              | 56.01   |
| 126                              | 161                                  | 13.42                              | 58.92   |                                    |                                      |                                    |   |
| 132                              | 168                                  | 14.00                              | 63.27   | 106 x 166                          | 202                                  | 16.83                              | 64.48   |
| 144                              | 182                                  | 15.17                              | 72.40   | 116 x 180                          | 218                                  | 18.17                              | 73.59   |

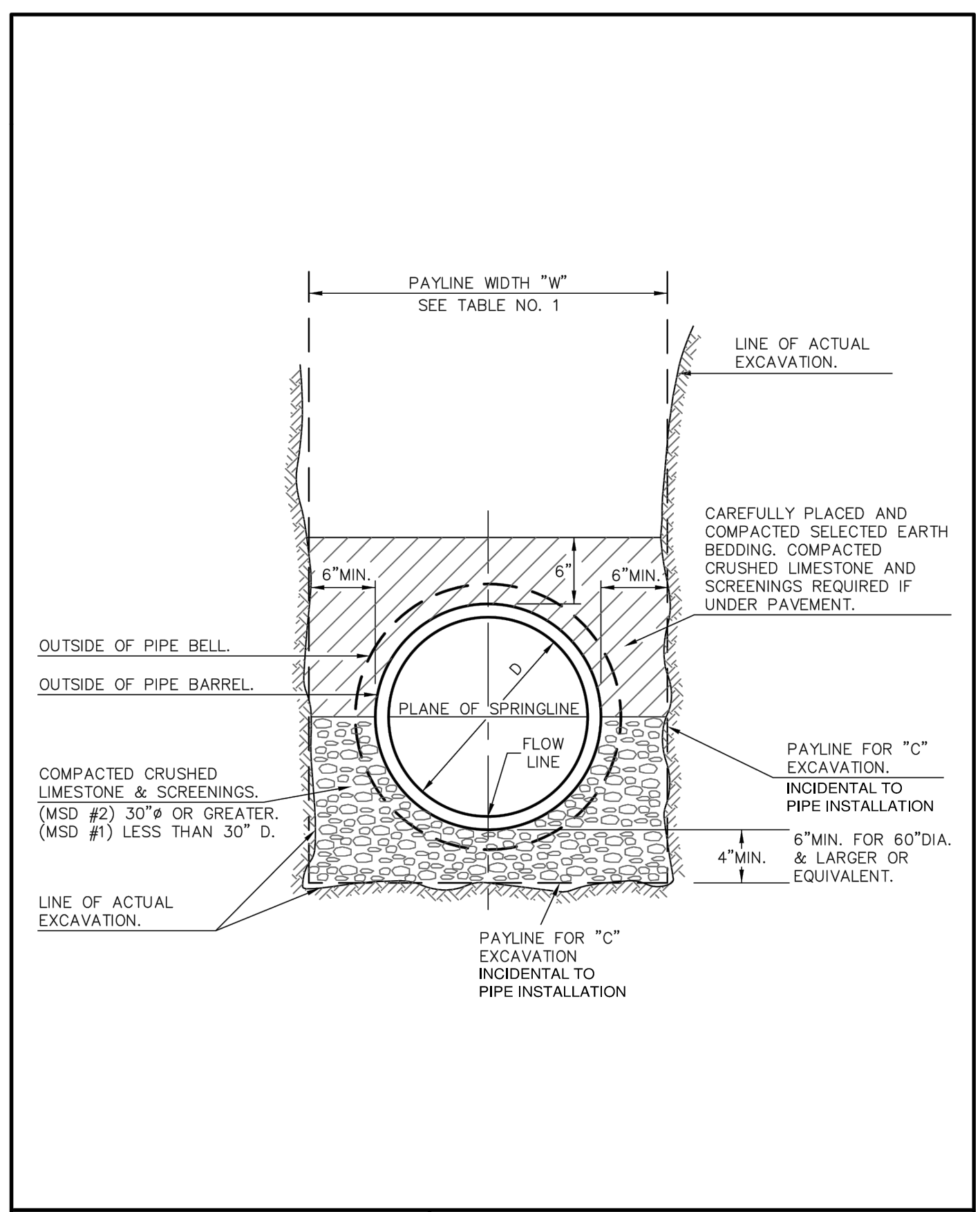
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| TABLE 1<br>PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. B.E.B.<br>Ch. J.C.K. | 2009 | SHEET 1 |
|--|---|--------------------------|------|---------|



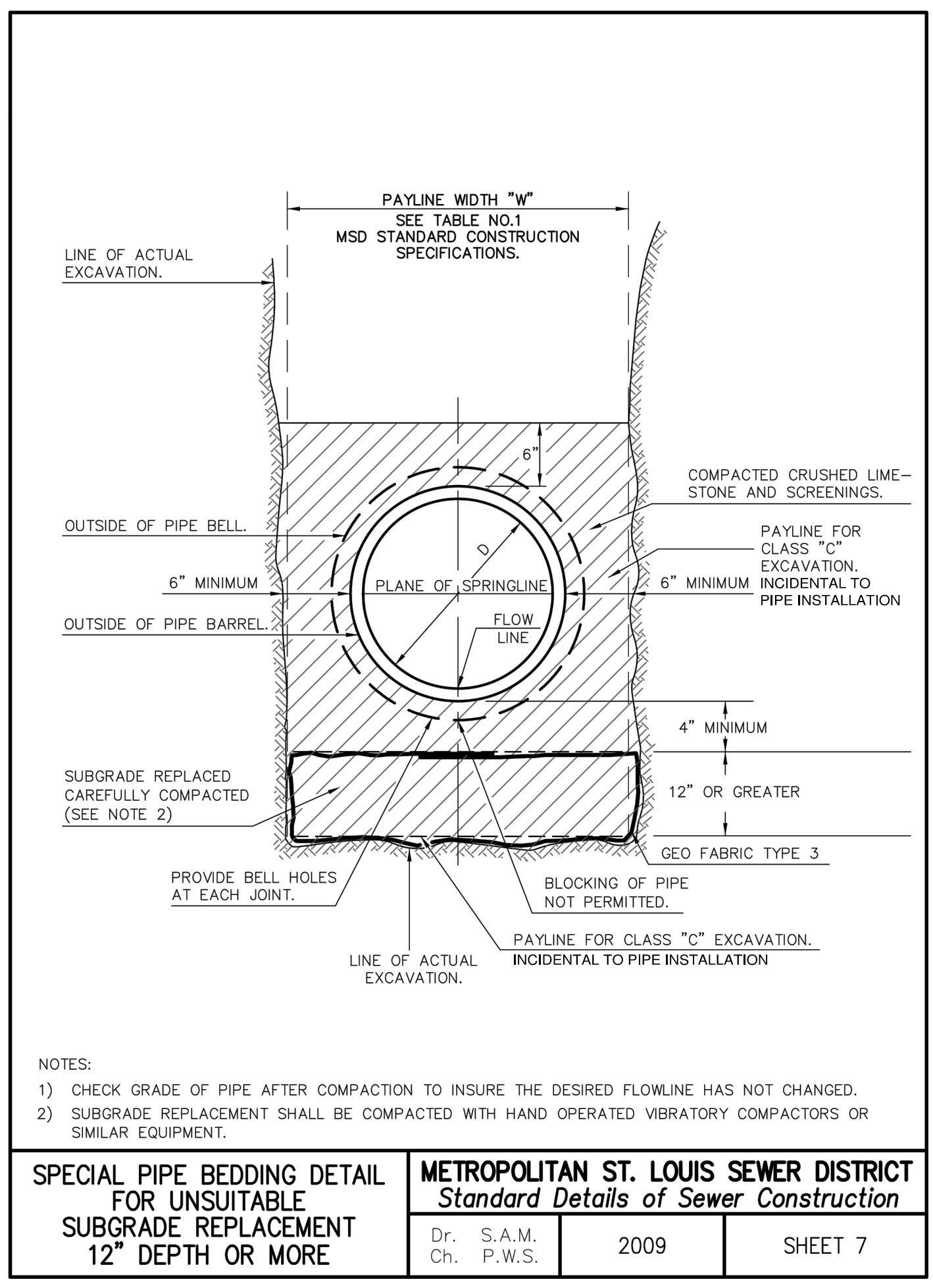
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| PAYLINE LIMITS FOR EXCAVATION | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. W.S.H.<br>Ch. J.C.K. | 2009 | SHEET 2 |
|-------------------------------|---|--------------------------|------|---------|



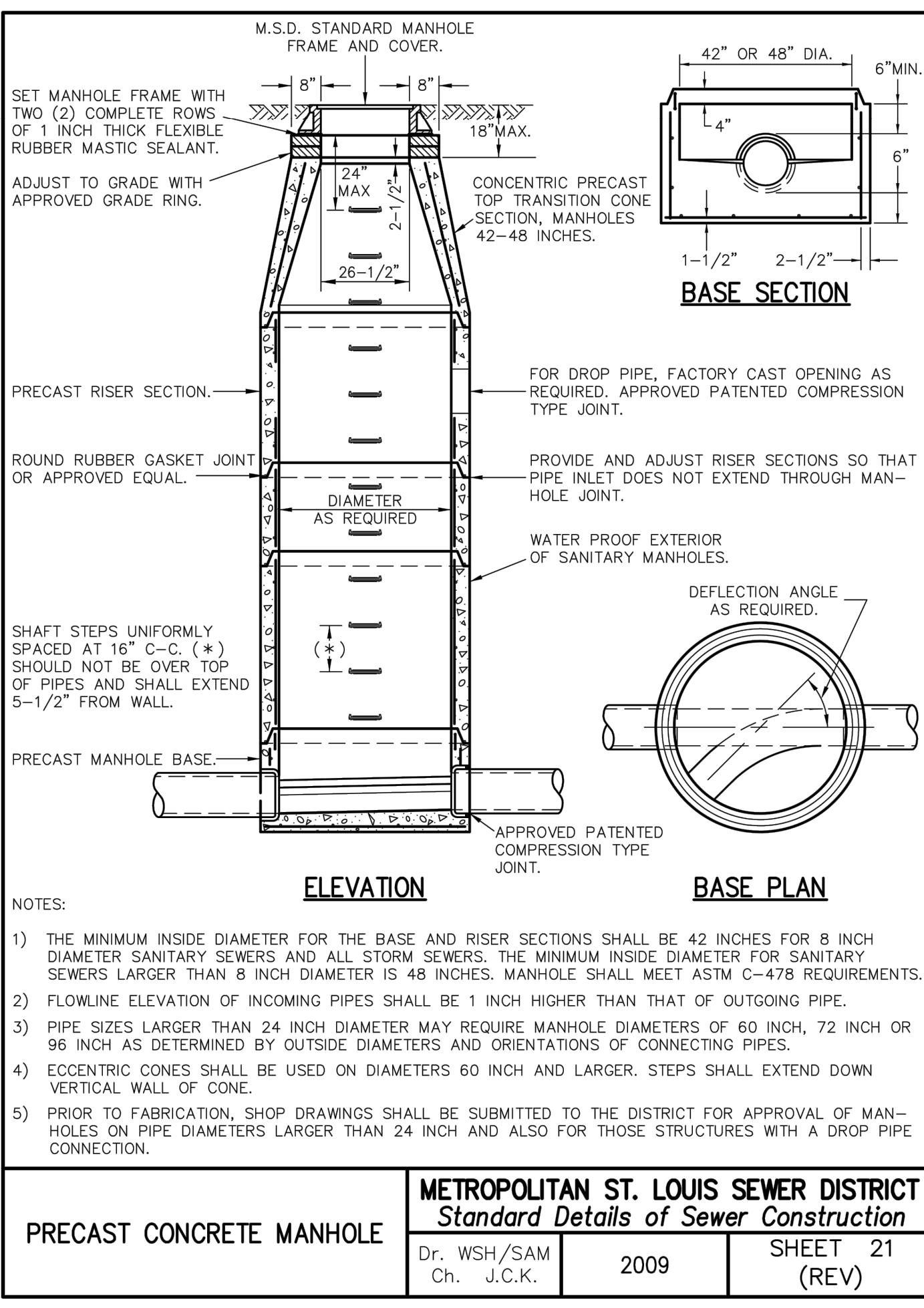
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|-----------------------------------|---|---------------------------|------|---------|
| TYPICAL SILTATION CONTROL DEVICES | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. AES/SAM<br>Ch. P.T.K. | 2009 | SHEET 3 |
|-----------------------------------|---|---------------------------|------|---------|



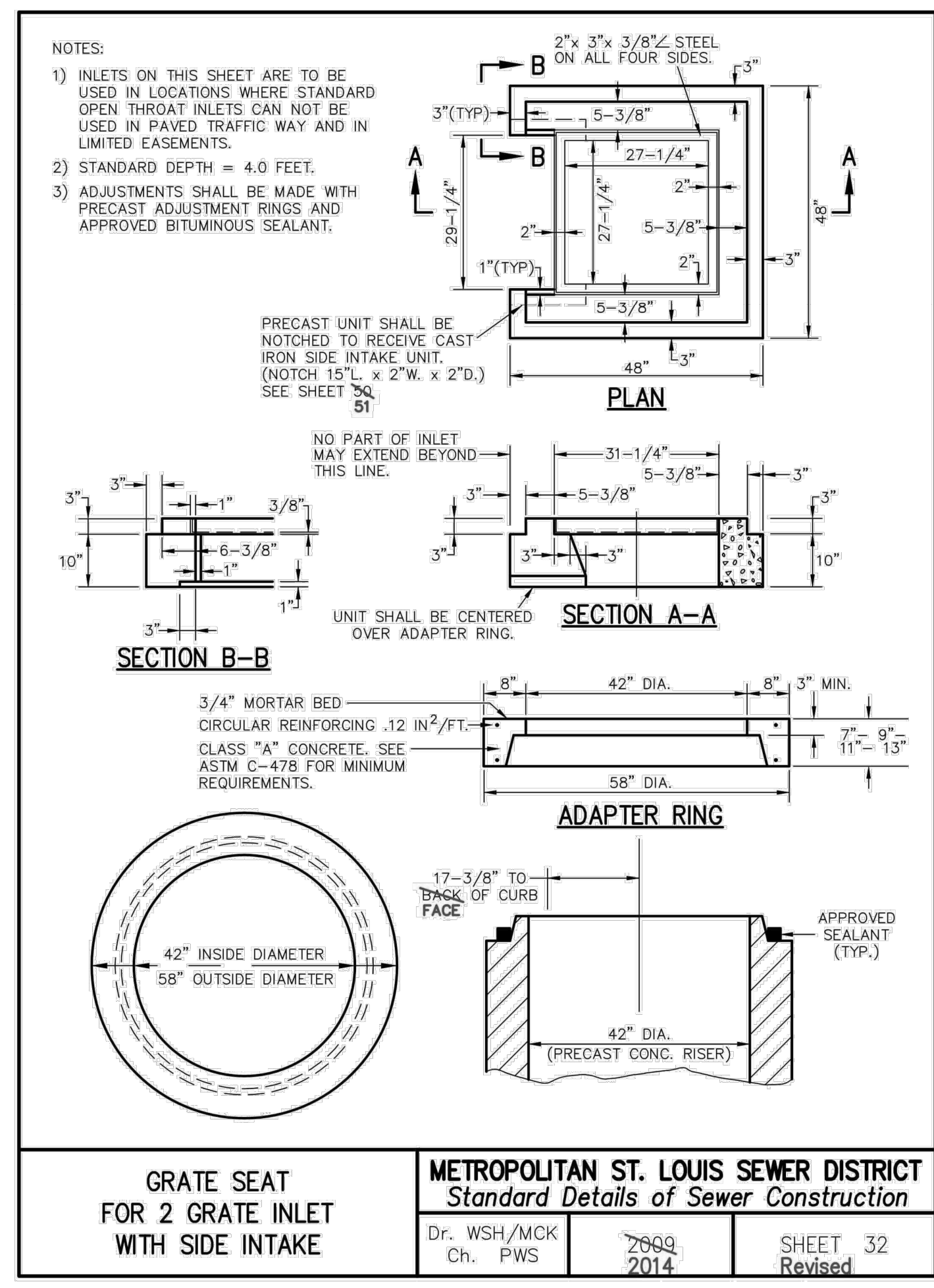
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| PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE) | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. W.S.H.<br>Ch. J.C.K. | 2009 | SHEET 5 |
|--|---|--------------------------|------|---------|



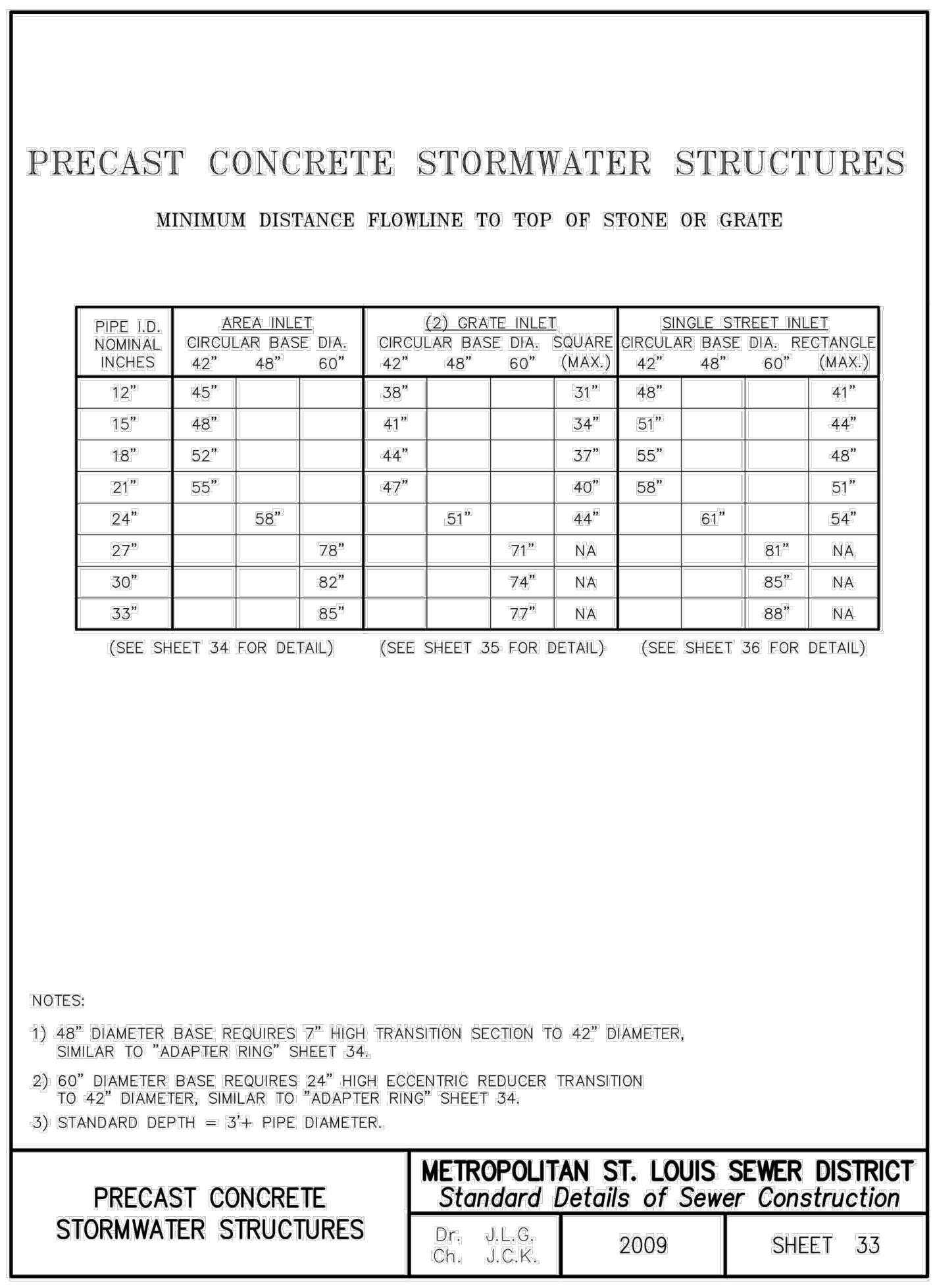
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|---|---|--------------------------|------|---------|
| SPECIAL PIPE BEDDING DETAIL FOR UNSUITABLE SUBGRADE REPLACEMENT 12" DEPTH OR MORE | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. S.A.M.<br>Ch. P.W.S. | 2009 | SHEET 7 |
|---|---|--------------------------|------|---------|



|                          |   |                           |      |                |
|--------------------------|---|---------------------------|------|----------------|
| PRECAST CONCRETE MANHOLE | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. WSH/SAM<br>Ch. J.C.K. | 2009 | SHEET 21 (REV) |
|--------------------------|---|---------------------------|------|----------------|



|   |   |                        |              |                     |
|---|---|------------------------|--------------|---------------------|
| GRATE SEAT FOR 2 GRATE INLET WITH SIDE INTAKE | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. WSH/MCK<br>Ch. PWS | 2009<br>2014 | SHEET 32<br>Revised |
|---|---|------------------------|--------------|---------------------|



|  |   |                          |      |          |
|--|---|--------------------------|------|----------|
| PRECAST CONCRETE STORMWATER STRUCTURES | METROPOLITAN ST. LOUIS SEWER DISTRICT<br>Standard Details of Sewer Construction | Dr. J.L.G.<br>Ch. J.C.K. | 2009 | SHEET 33 |
|--|---|--------------------------|------|----------|

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DEPARTMENT OF  
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STORMWATER IMPROVEMENTS  
SPECIAL ACRES STATE SCHOOL  
519 8TH STREET  
PARK HILLS, MISSOURI 63601

PROJECT # E2323-01  
SITE # 2032  
ASSET # 5012032004

REVISION:  
DATE:  
REVISION:  
DATE:  
REVISION:  
DATE:  
ISSUE DATE: 10/03/2023

CAD DWG FILE: C-501.DWG  
DRAWN BY: JMA  
CHECKED BY: ZAY  
DESIGNED BY: ZAY

SHEET TITLE:  
**STORMWATER  
DETAILS**

SHEET NUMBER:

**C-501**

08 OF 09 SHEETS  
10/03/2023





ZACHARIAH A. YORK - ENGINEER  
MO# PE-2005001068

SIGNATURE

10-03-2023

DATE

12-31-2023

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Hurst-Rosche, Inc.

PROFESSIONAL DESIGN NUMBER: 000372

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519 8TH STREET  
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PROJECT # E2323-01

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ASSET # 5012032004

REVISION: \_\_\_\_\_

DATE: \_\_\_\_\_

REVISION: \_\_\_\_\_

DATE: \_\_\_\_\_

REVISION: \_\_\_\_\_

DATE: \_\_\_\_\_

ISSUE DATE: 10/03/2023

CAD DWG FILE: C-502.DWG

DRAWN BY: JMA

CHECKED BY: ZAY

DESIGNED BY: ZAY

SHEET TITLE:

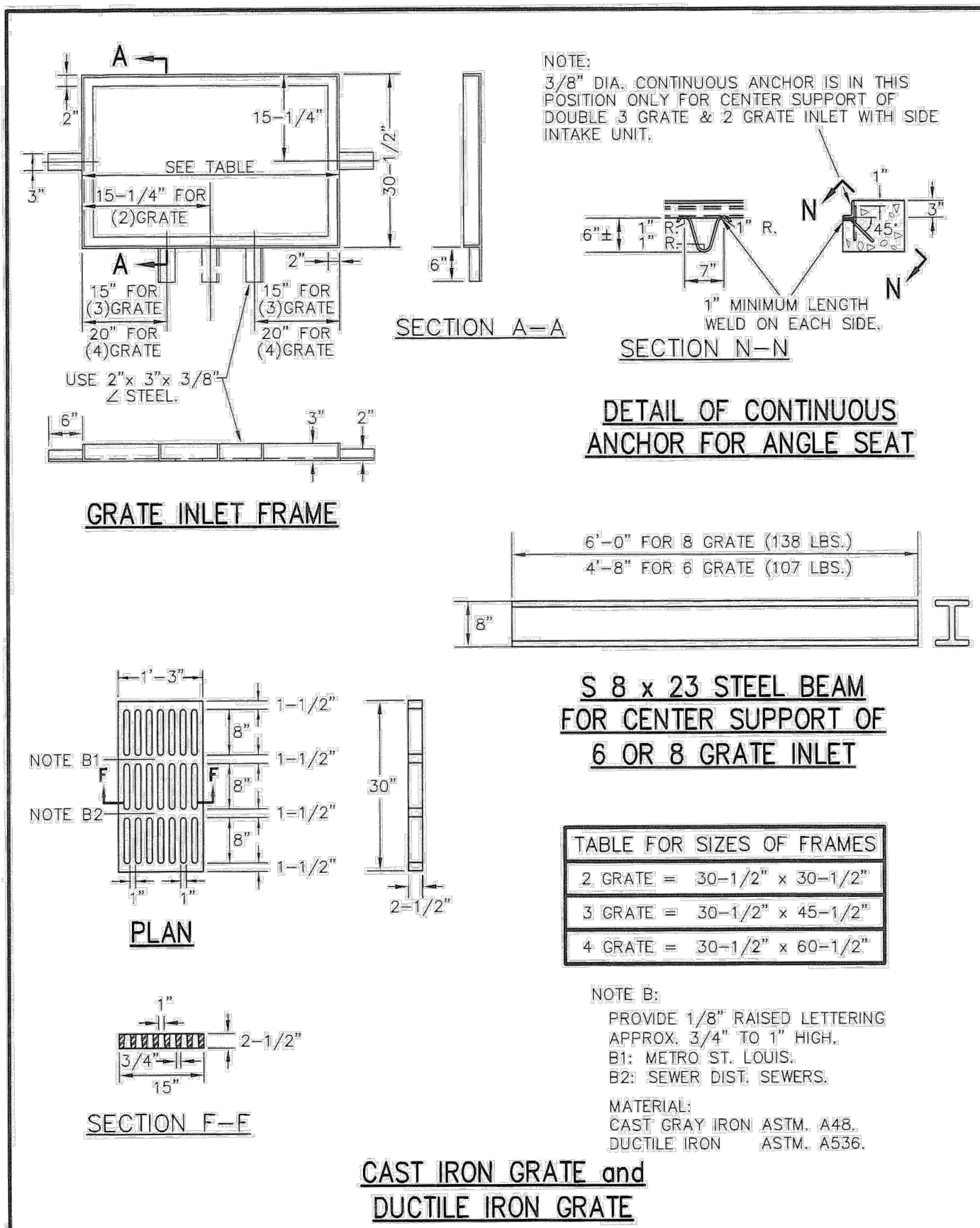
STORMWATER  
DETAILS

SHEET NUMBER:

C-502

09 OF 09 SHEETS

10/03/2023



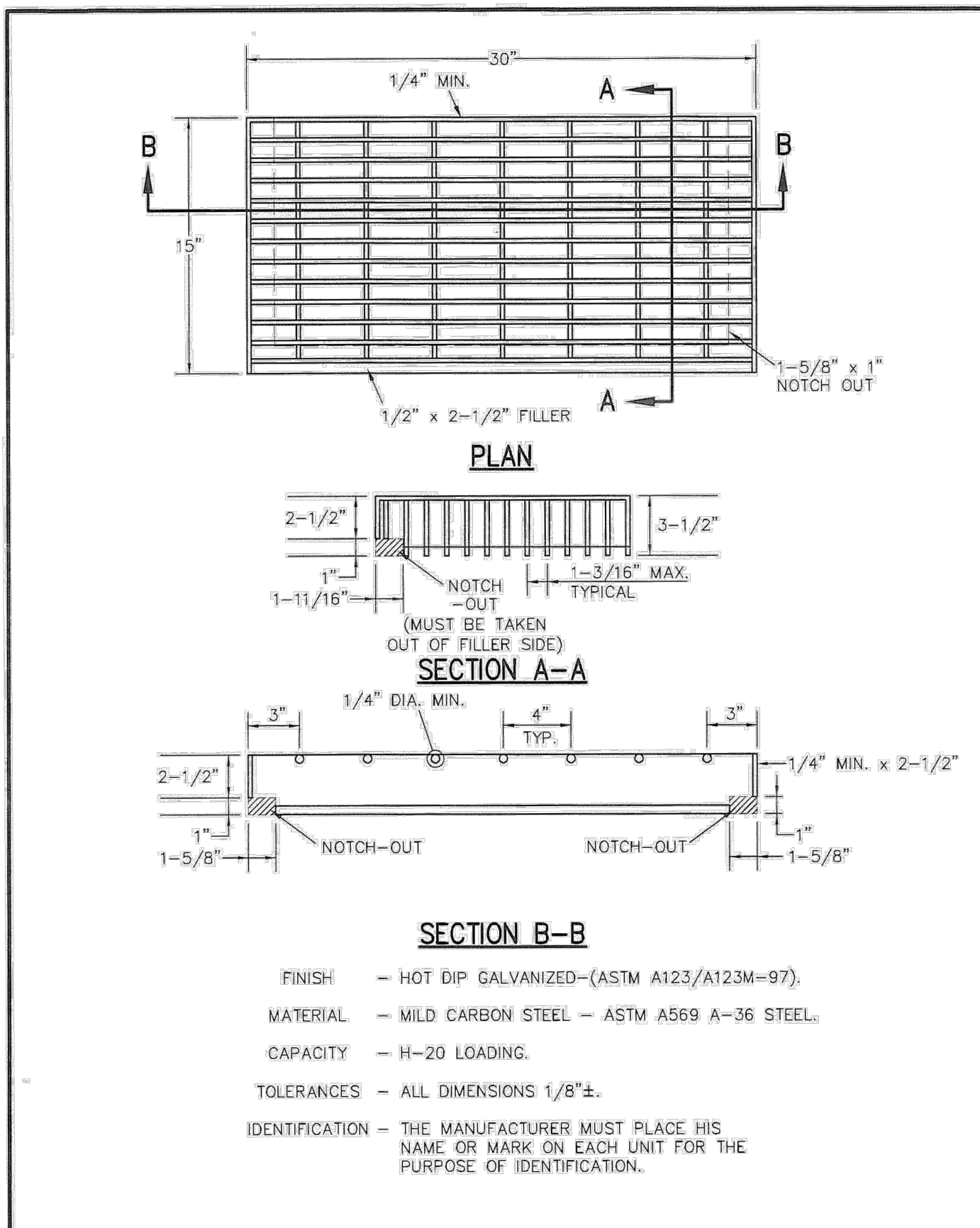
DETAILS OF INLET FRAME AND GRATES

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction

Dr. RGW/SAM  
Ch. J.C.K.

2009

SHEET 47  
(REVISED)



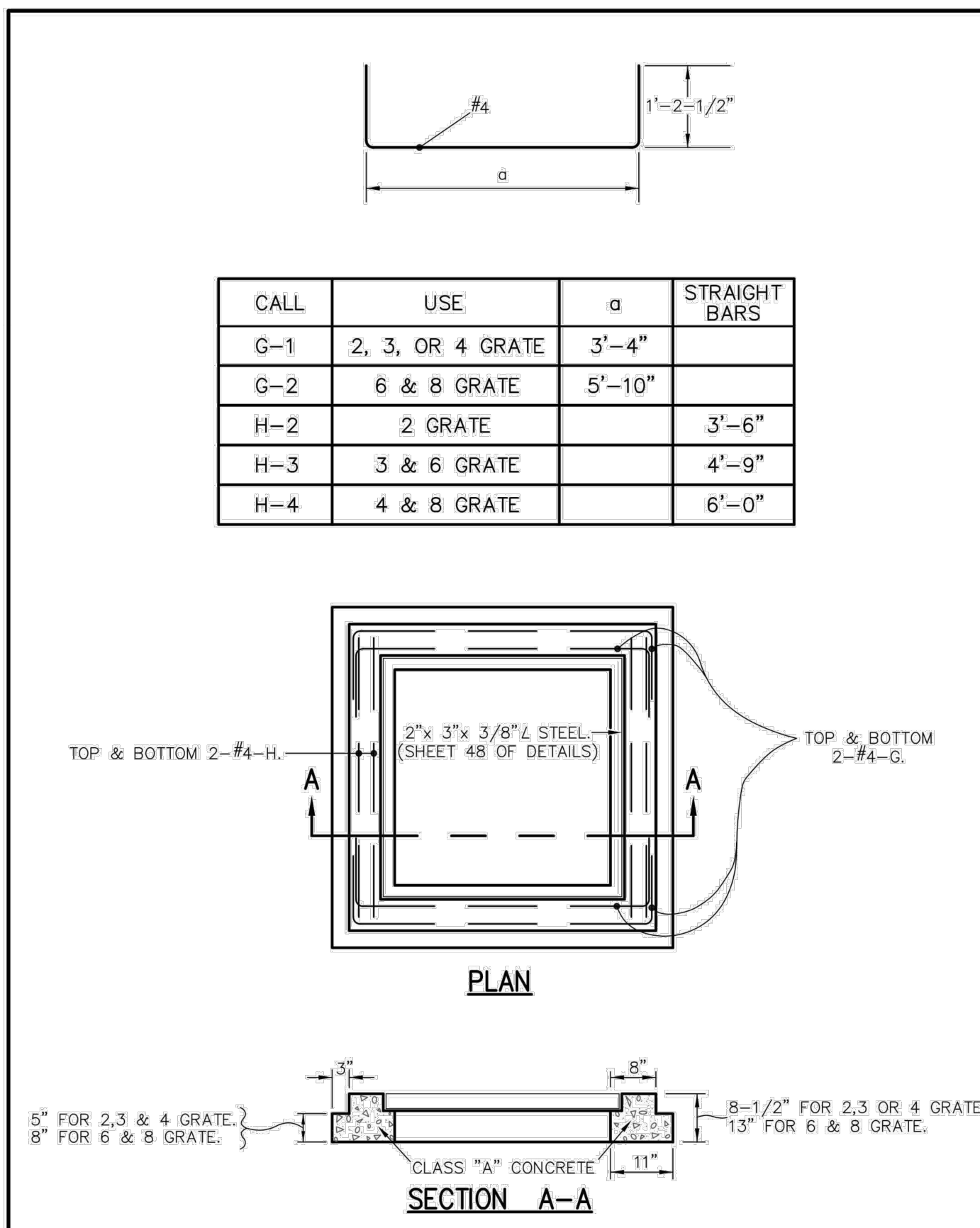
DETAIL OF STEEL GRATE

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction

Dr. RGW/SAM  
Ch. J.C.K.

2009

SHEET 48  
(REV.)



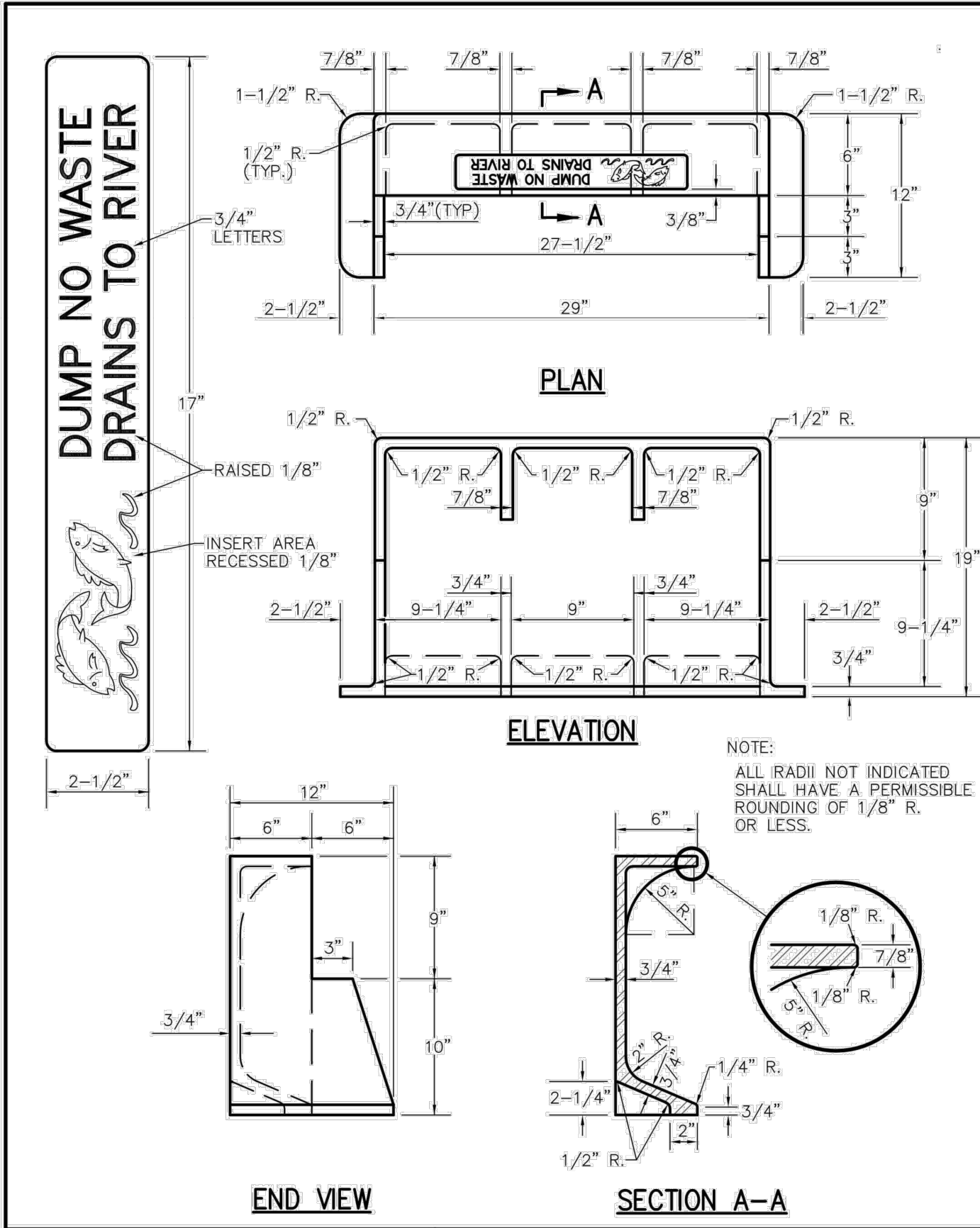
STEEL REQUIREMENTS FOR GRATE INLET SEAT

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction

Dr. WSH/SAM  
Ch. J.C.K.

2009

SHEET 50



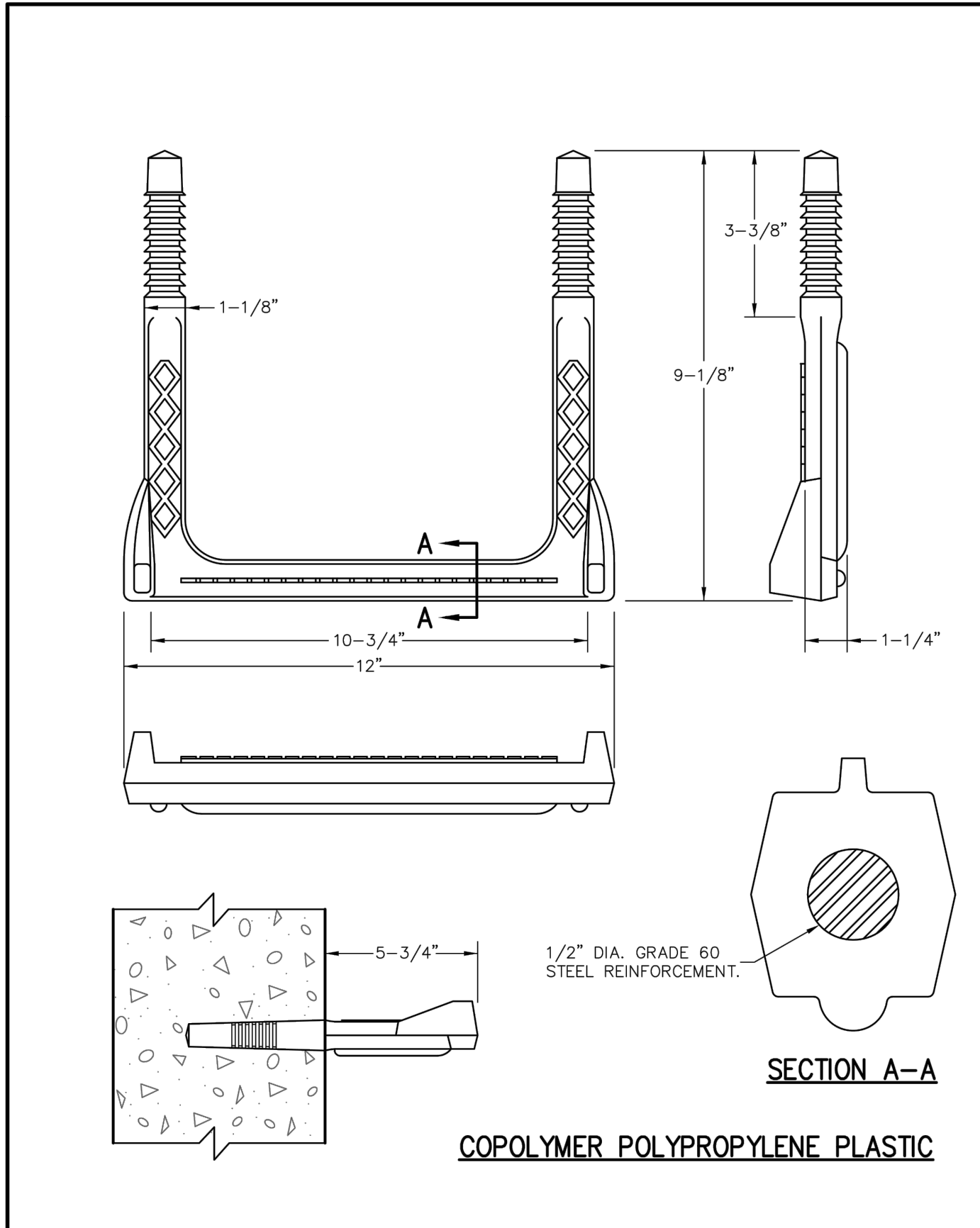
CAST IRON SIDE INTAKE UNIT FOR GRATED INLETS 249 LBS.

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction

Dr. RGW/SAM  
Ch. J.C.K.

2009

SHEET 51



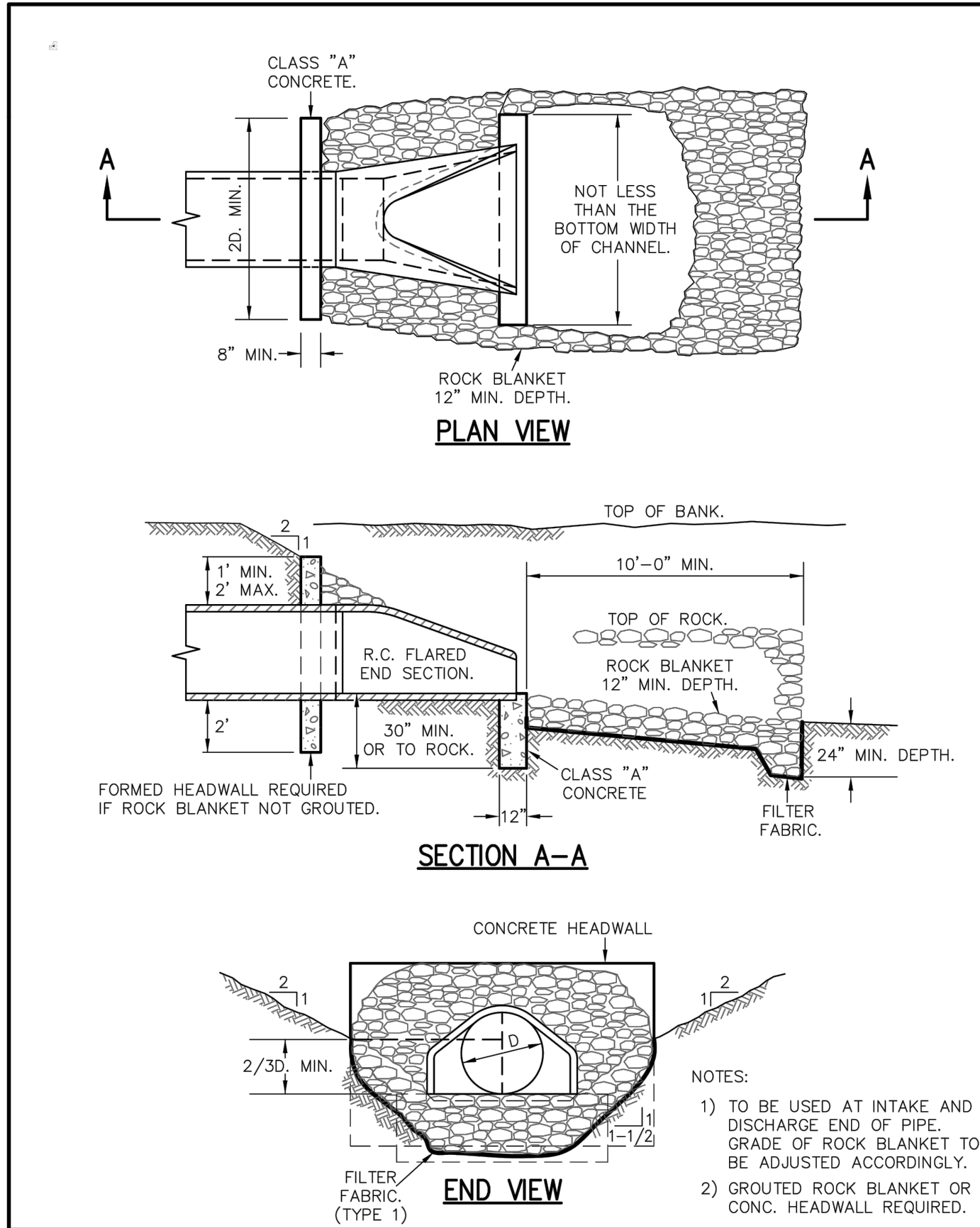
MANHOLE STEP FOR PRECAST & CAST-IN-PLACE MANHOLE

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction

Dr. D.A.B.  
Ch. J.C.K.

2009

SHEET 58



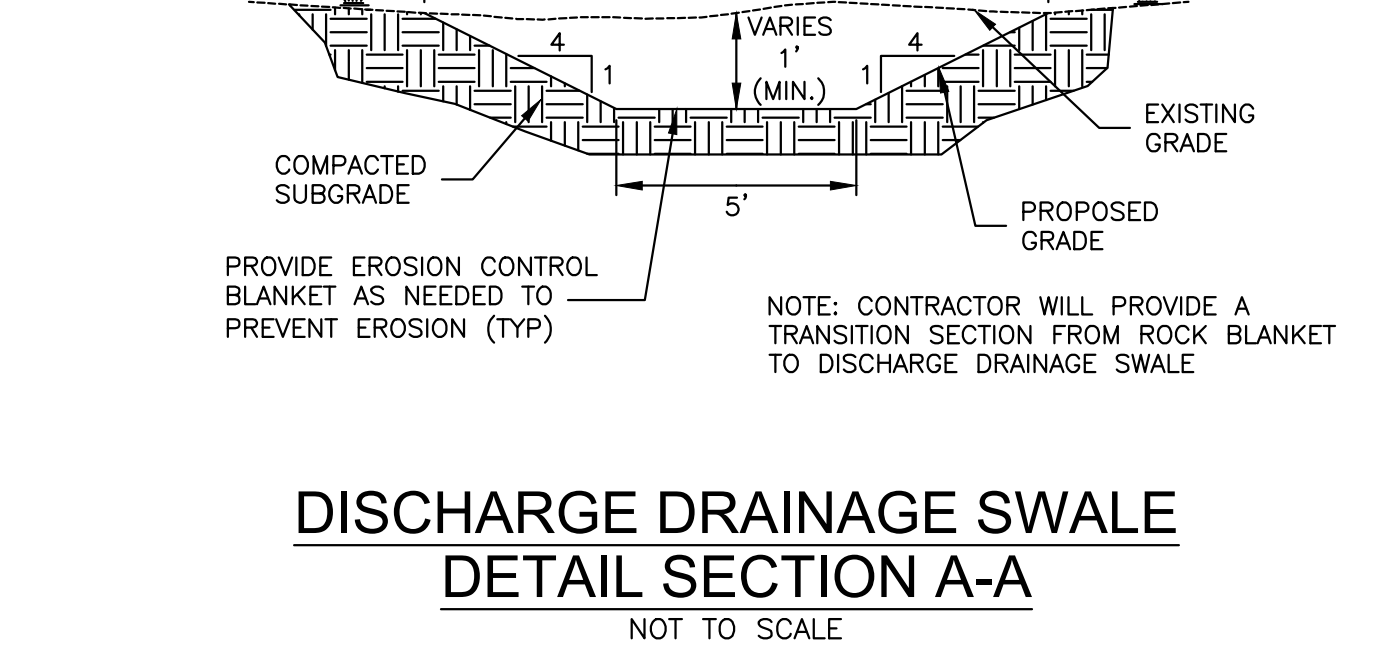
FLARED END SECTION

METROPOLITAN ST. LOUIS SEWER DISTRICT  
Standard Details of Sewer Construction

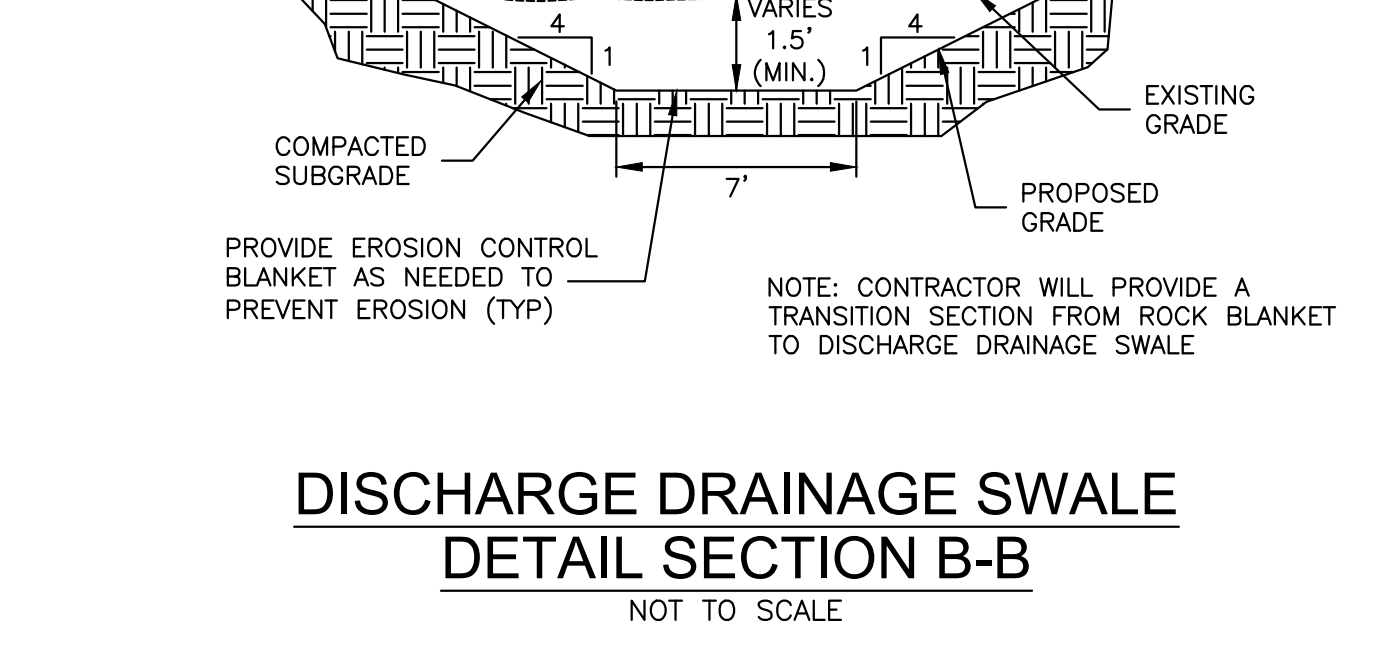
Dr. WSH/SAM  
Ch. J.C.K.

2009

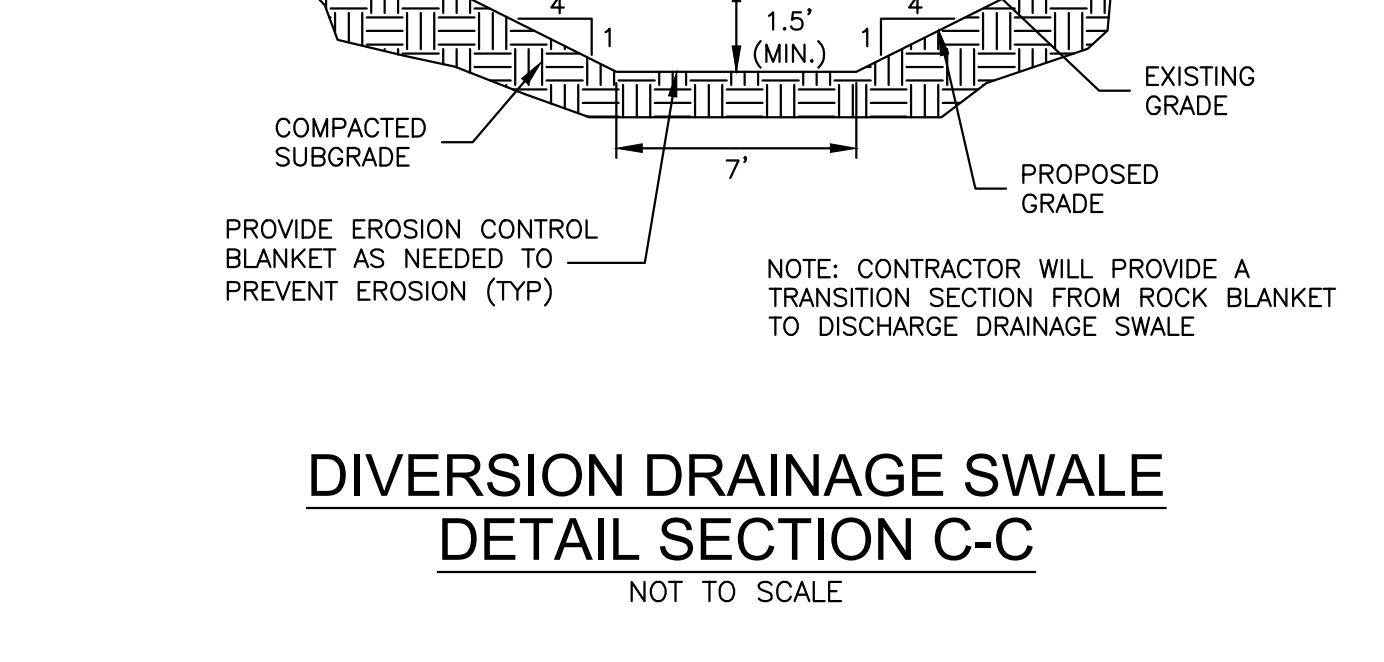
SHEET 61



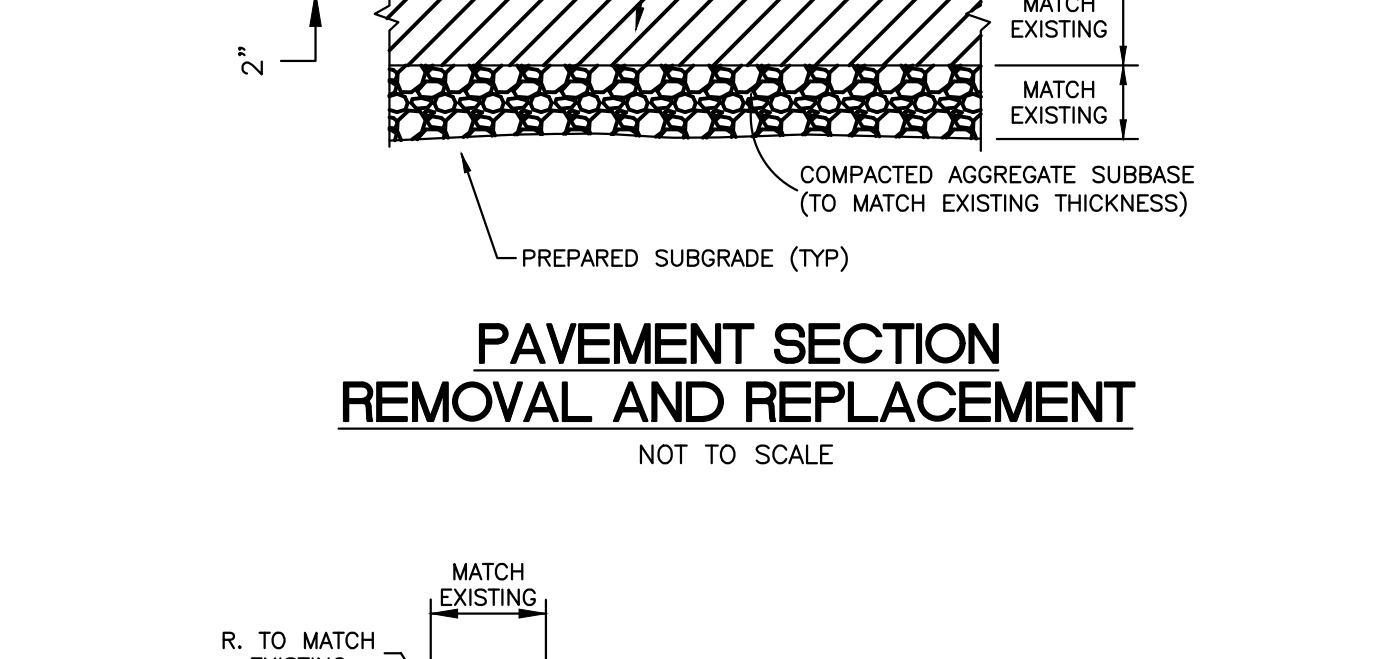
DISCHARGE DRAINAGE SWALE  
DETAIL SECTION A-A  
NOT TO SCALE



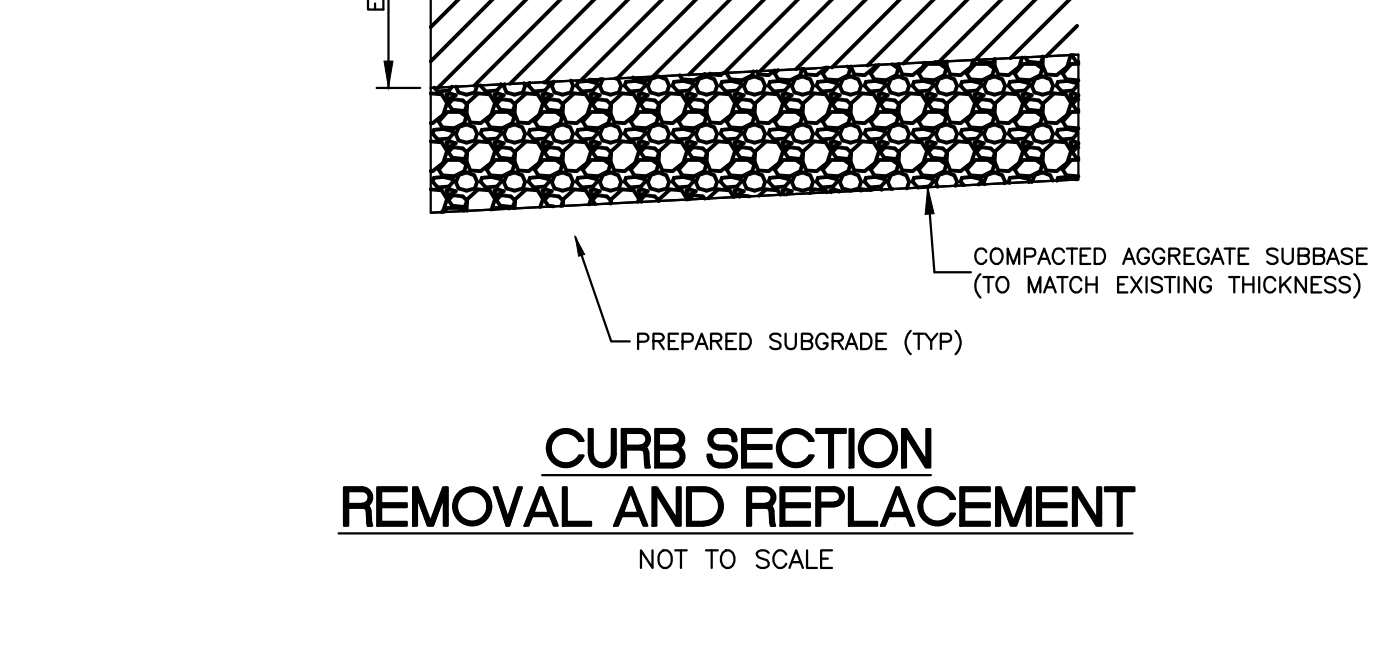
DISCHARGE DRAINAGE SWALE  
DETAIL SECTION B-B  
NOT TO SCALE



DIVERSION DRAINAGE SWALE  
DETAIL SECTION C-C  
NOT TO SCALE



PAVEMENT SECTION REMOVAL AND REPLACEMENT  
NOT TO SCALE



CURB SECTION REMOVAL AND REPLACEMENT  
NOT TO SCALE