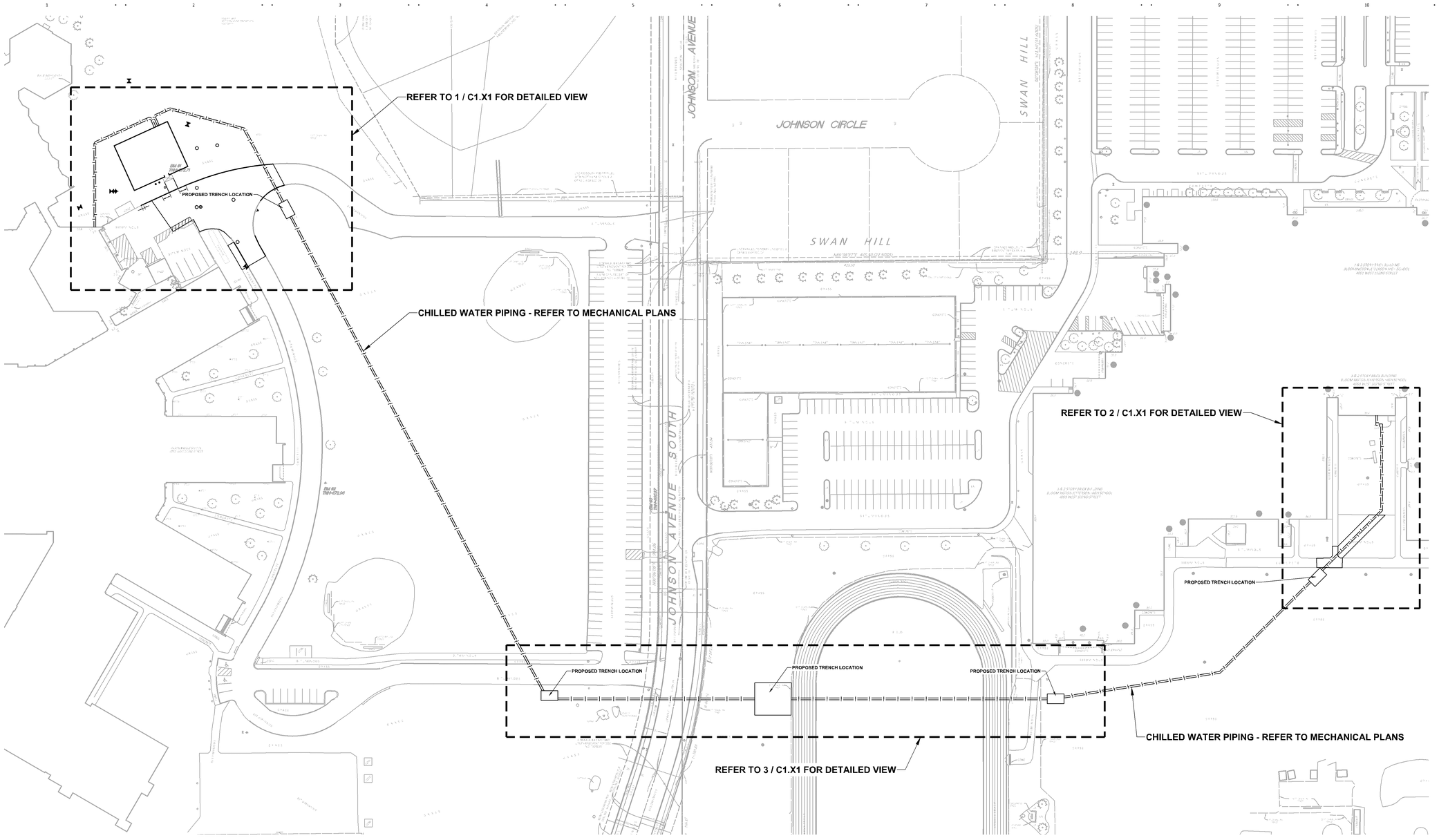


MN

C

NOTES:

1. REFER TO SHEET C1.31, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. REFER TO MECHANICAL PLANS FOR CHILLED WATER PIPING INFORMATION.

0 25 50

Jefferson-Olson Mechanical Plant
4001 West 102nd Street
Bloomington, MN 55437

Independent School District 271
1350 West 106th Street
Bloomington, MN 55431

Wold

WOLD ARCHITECTS AND ENGINEERS
332 Minnesota Street, Suite W2000
Saint Paul, MN 55101
woldae.com | 651.227.7773

AJA
ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA

DAVID A. REY
Registration Number 40180 Date 03/31/2021

Revisions		
Description	Date	Num

Comm: 202115
Date: 03/31/2021
Drawn: MET
Chock: DAR

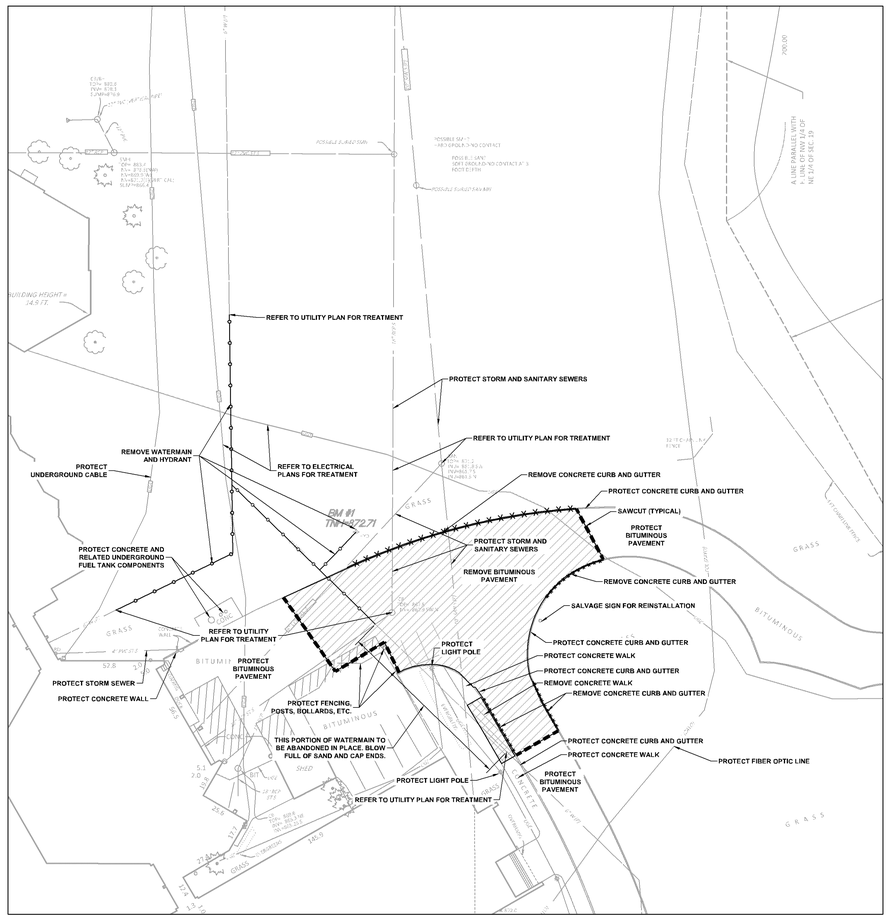
North

OVERALLL SITE PLAN

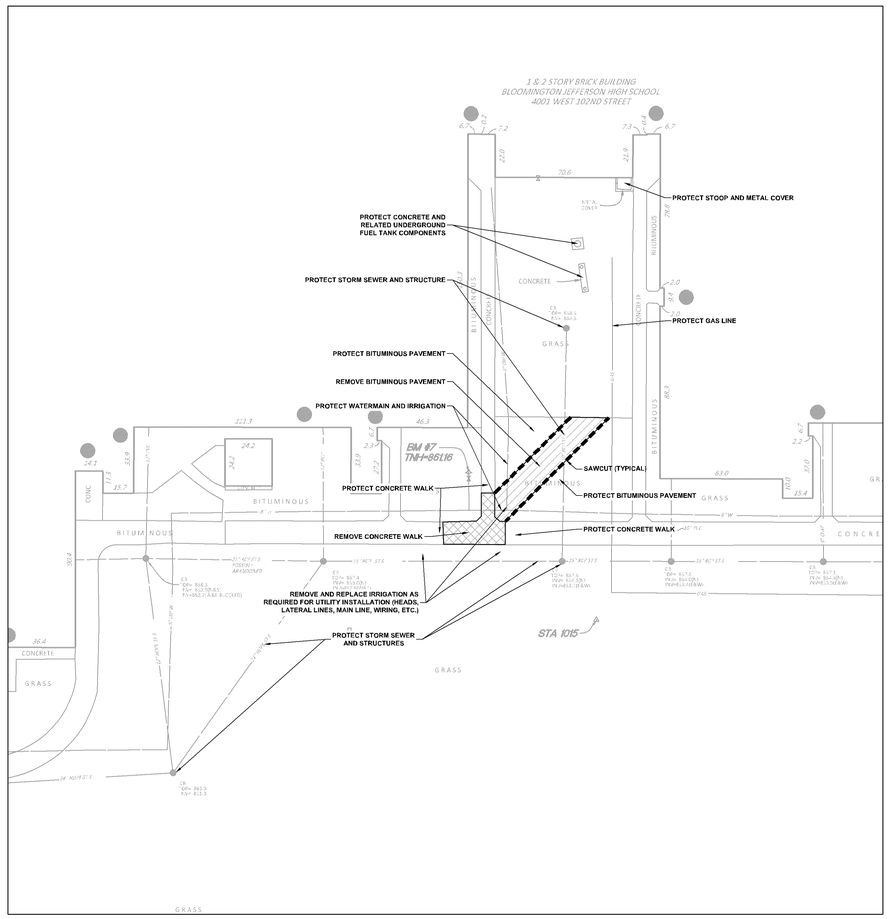
Scale: 1" = 50'

C1.00

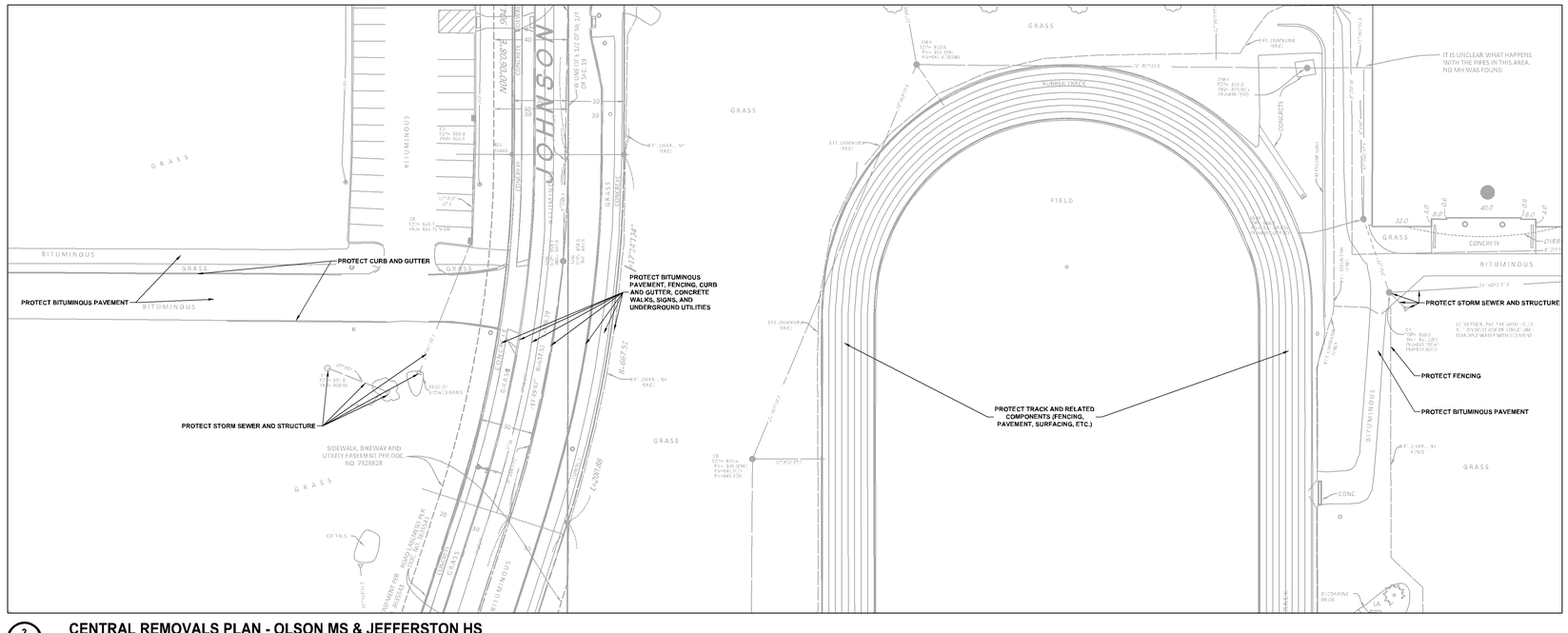
MN



1 C1.11 **WEST REMOVALS PLAN - OLSON MS**



2 C1.11 **EAST REMOVALS PLAN - JEFFERSTON HS**



3 C1.11 **CENTRAL REMOVALS PLAN - OLSON MS & JEFFERSTON HS**

NOTES:

1. REFER TO SHEET C1.31, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. MINIMIZE DISTURBANCE TO SITE AND PROTECT EXISTING VEGETATION AND SITE FEATURES (CURBS, WALKS, PAVEMENTS, OVERHEAD AND UNDERGROUND UTILITIES, SIGNAGE, FENCING, ROADWAYS, ETC.) WHICH ARE TO REMAIN.
3. REPAIR OR REPLACE EXISTING PROPERTY AND SITE FEATURES, INCLUDING GRASS AND VEGETATION, WHICH IS TO REMAIN THAT IS DAMAGED BY THE WORK, TO OWNER'S SATISFACTION AND AT NO ADDITIONAL COST TO THE OWNER.
4. VISIT THE SITE PRIOR TO BIDDING; BE FAMILIAR WITH ACTUAL CONDITIONS IN THE FIELD. EXTRA COMPENSATION WILL NOT BE ALLOWED FOR CONDITIONS WHICH COULD HAVE BEEN DETERMINED OR ANTICIPATED BY EXAMINATION OF THE SITE, THE CONTRACT DRAWINGS AND THE INFORMATION AVAILABLE PERTAINING TO EXISTING SOILS, UTILITIES AND OTHER SITE CHARACTERISTICS.
5. THE CONTRACTOR SHALL HIRE THE SERVICES OF A UTILITY LOCATOR COMPANY TO LOCATE ALL PRIVATELY OWNED UTILITIES THAT MAY BE DISTURBED BY CONSTRUCTION OPERATIONS.

LEGEND

- CONCRETE PAVEMENT REMOVALS
- CONCRETE CURB AND GUTTER REMOVALS
- BITUMINOUS PAVEMENT REMOVALS
- SAWCUT
- UTILITY REMOVALS
- PROPERTY LINE

0 15 30

Jefferson-Olson Mechanical Plant
4001 West 102nd Street
Bloomington, MN 55437

Independent School District 271
1350 West 106th Street
Bloomington, MN 55431

WOLD ARCHITECTS AND ENGINEERS
332 Minnesota Street, Suite W2000
Saint Paul, MN 55101
woldae.com | 651.227.7773

ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA
DAVID A. REY
Registration Number 40180 Date 03/31/2021

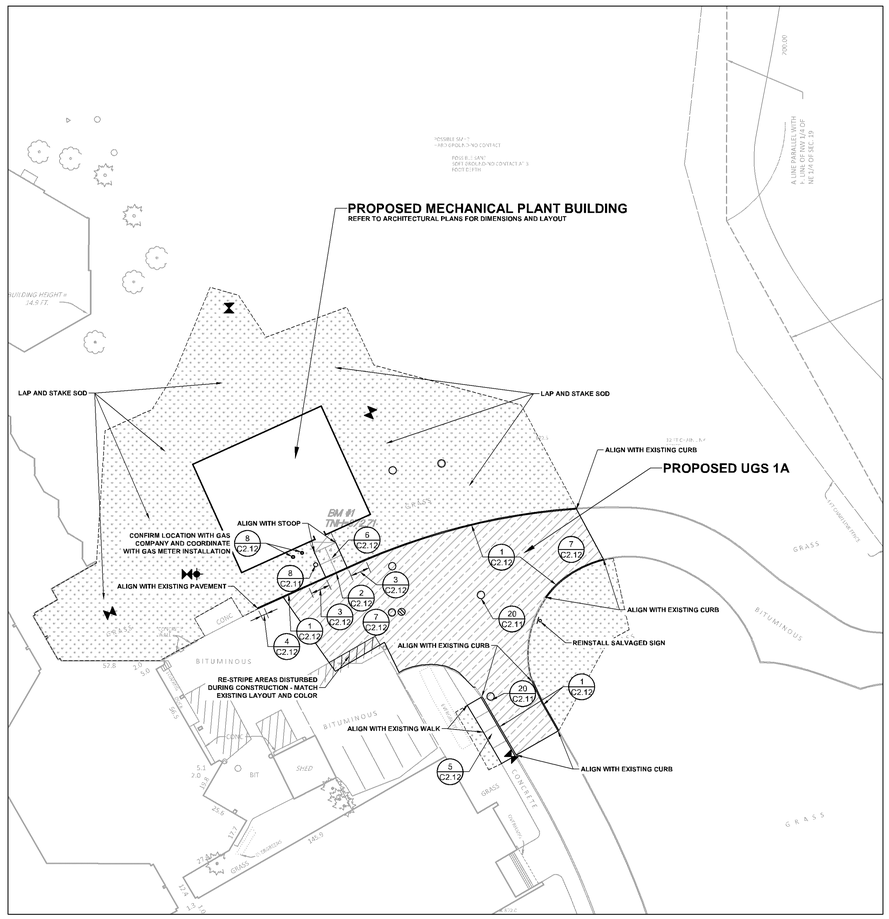
Revisions		
Description	Date	Num.

Comm: 202115
Date: 03/31/2021
Drawn: MET
Check: DAR
North

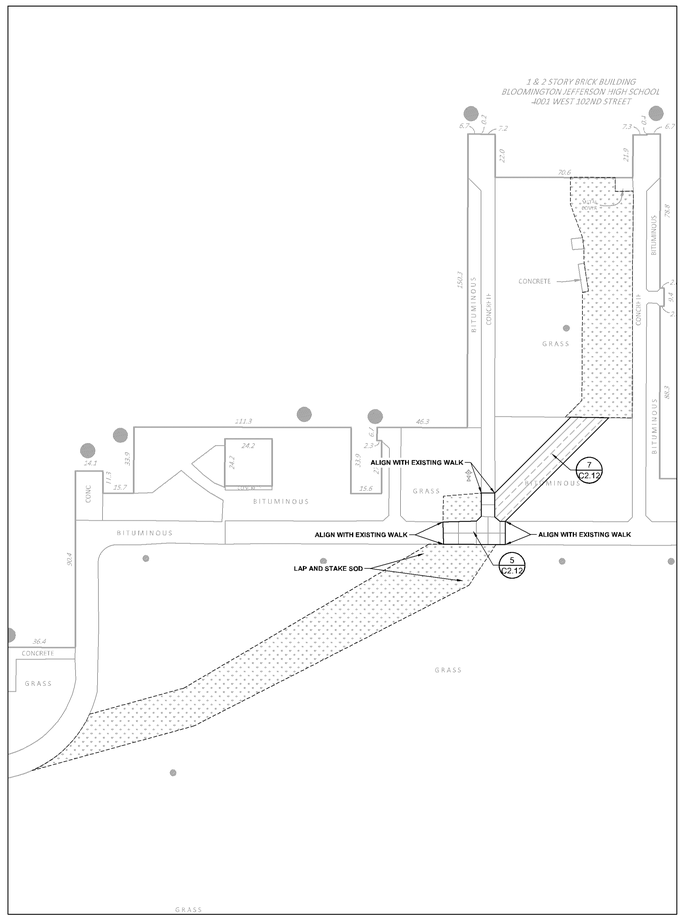
REMOVALS PLAN

Scale: 1" = 30'

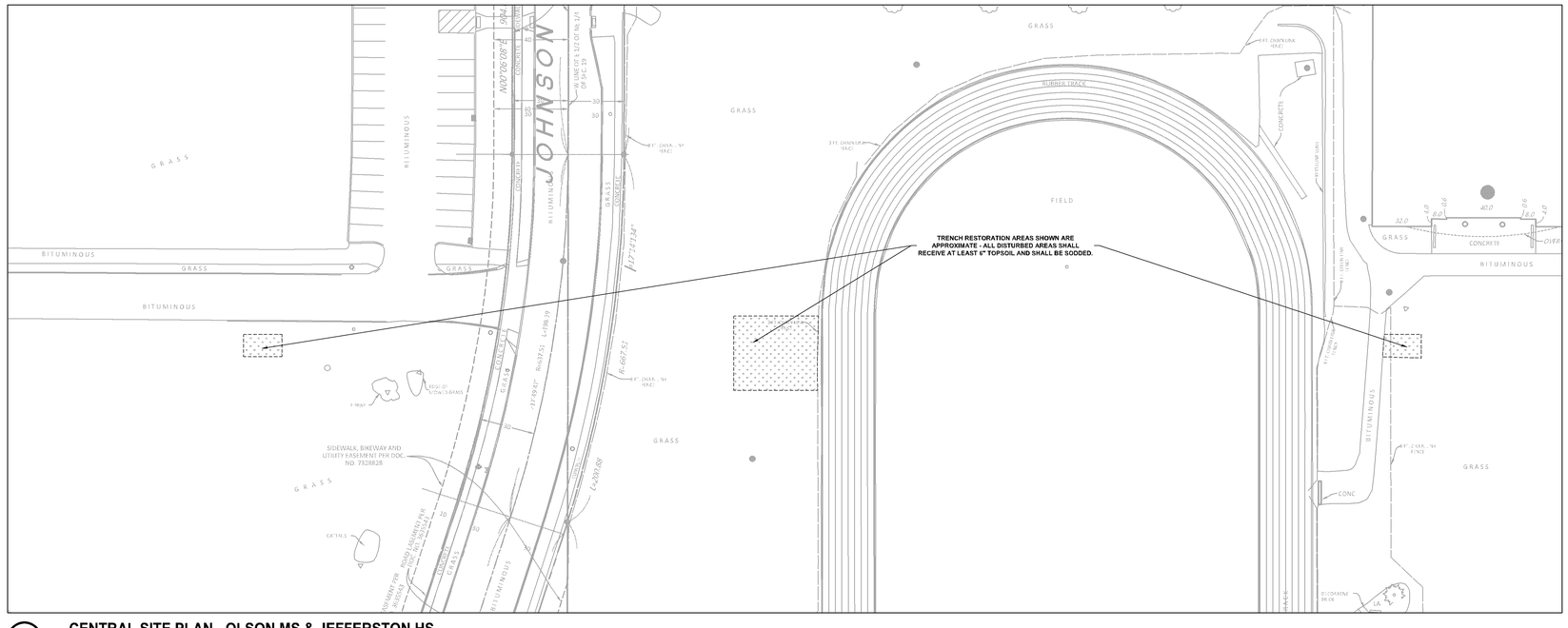
C1.11



1 C1.11 **WEST SITE PLAN - OLSON MS**



2 C1.11 **EAST SITE PLAN - JEFFERSON HS**



3 C1.11 **CENTRAL SITE PLAN - OLSON MS & JEFFERSTON HS**

NOTES:

1. REFER TO SHEET C1.31, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. CHECK ALL PLAN AND DETAIL DIMENSIONS AND VERIFY SAME BEFORE FIELD LAYOUT.
3. ALL DISTURBED AREAS OUTSIDE THE BUILDING PAD WHICH ARE NOT DESIGNATED TO BE PAVED SHALL RECEIVE AT LEAST 6" OF TOPSOIL AND SHALL BE SODDED.
4. WHERE NEW SOD MEETS EXISTING TURF, EXISTING TURF EDGE SHALL BE CUT TO ALLOW FOR A CONSISTENT, UNIFORM STRAIGHT EDGE. JAGGED OR UNEVEN EDGES WILL NOT BE ACCEPTABLE. REMOVE TOPSOIL AT JOINT BETWEEN EXISTING AND NEW AS REQUIRED TO ALLOW NEW SOD SURFACE TO BE FLUSH WITH EXISTING.
5. FAILURE OF TURF DEVELOPMENT: IN THE EVENT THE CONTRACTOR FAILS TO PROVIDE AN ACCEPTABLE TURF, THE CONTRACTOR SHALL RE-SOD ALL APPLICABLE AREAS, AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE ENGINEER.

LEGEND

- REFERENCE KEY TO SITE DETAILS — DETAIL I.D NUMBER (TOP) / DETAIL SHEET NUMBER (BOTTOM)
- PROPOSED CONCRETE WALK (5 / C2.12)
- PROPOSED CONCRETE SLAB (6 / C2.12)
- PROPOSED BITUMINOUS PAVEMENT (7 / C2.12)
- APPROXIMATE SOD LIMITS
- PROPOSED BOLLARD (7 / C2.12)
- PROPOSED MANHOLE (MH) (12 / C2.11) (14 / C2.11)
- PROPOSED CATCH BASIN (CB) (15 / C2.11)
- PROPOSED HYDRANT (HYD) (9 / C2.11)
- PROPOSED GATE VALVE (GV) (10 / C2.11)
- PROPOSED BUILDING STOOP - REFER TO ARCHITECTURAL PLANS
- PROPERTY LINE

0 15 30

Jefferson-Olson Mechanical Plant
4001 West 102nd Street
Bloomington, MN 55437

Independent School District 271
1350 West 106th Street
Bloomington, MN 55431

WOLD ARCHITECTS AND ENGINEERS
332 Minnesota Street, Suite W2000
Saint Paul, MN 55101
woldae.com | 651.227.7773

ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA
DAVID A. REY
Registration Number 40180 Date 03/31/2021

Revisions		
Description	Date	Num.

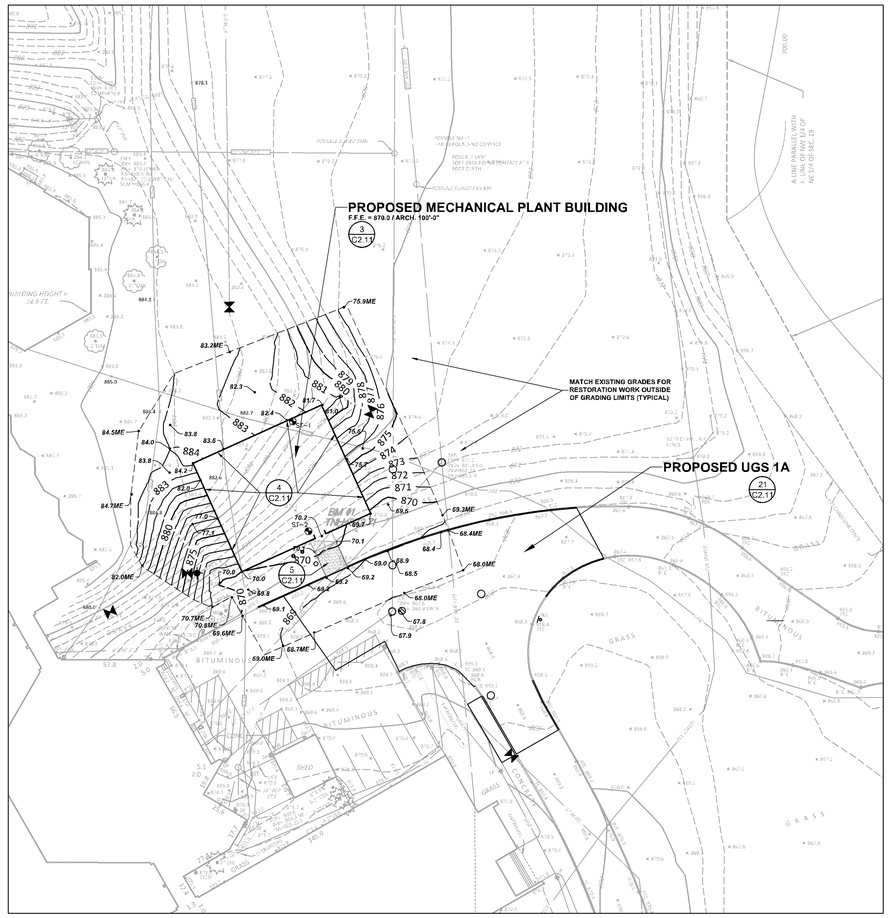
Comm: 202115
Date: 03/31/2021
Drawn: MET
Check: DAR

North

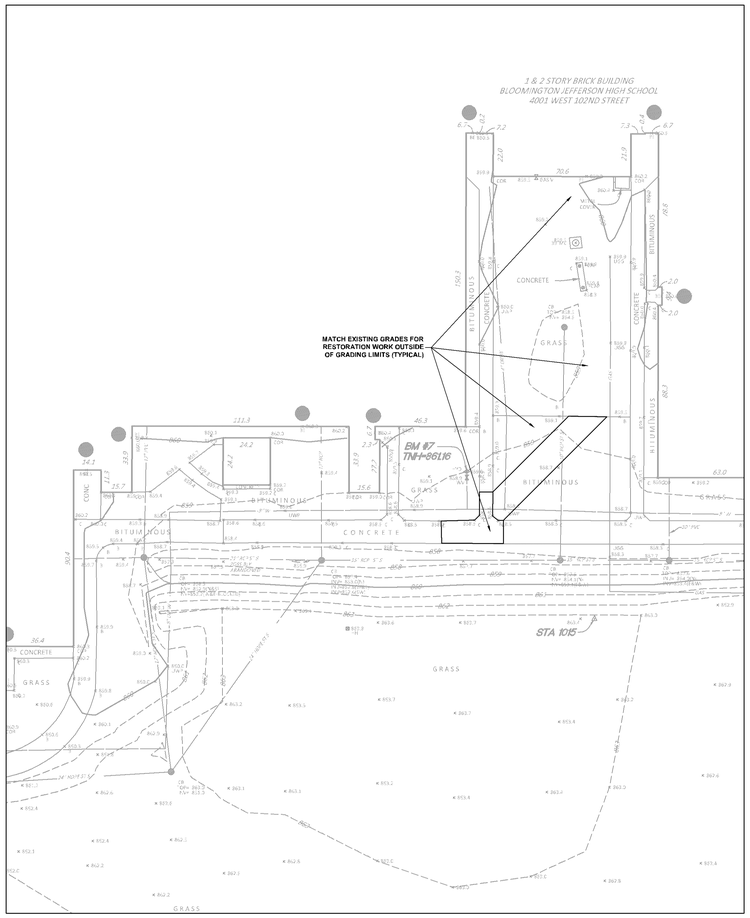
Scale: 1" = 30'

SITE PLAN

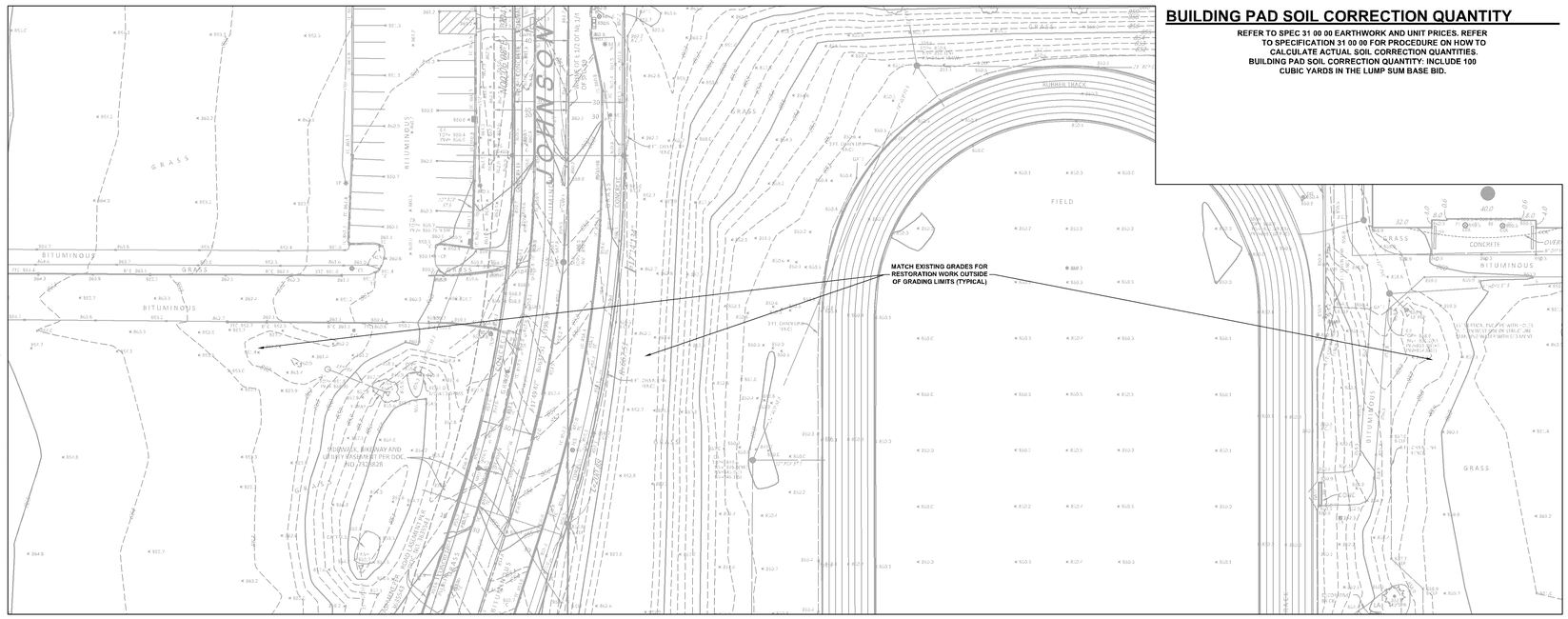
C1.21



1 C1.11 **WEST GRADING AND DRAINAGE PLAN - OLSON MS**



2 C1.11 **EAST GRADING AND DRAINAGE PLAN - JEFFERSON HS**



3 C1.11 **CENTRAL GRADING AND DRAINAGE PLAN - OLSON MS & JEFFERSTON HS**

BUILDING PAD SOIL CORRECTION QUANTITY

REFER TO SPEC 31 00 00 EARTHWORK AND UNIT PRICES. REFER TO SPECIFICATION 31 00 00 FOR PROCEDURE ON HOW TO CALCULATE ACTUAL SOIL CORRECTION QUANTITIES. BUILDING PAD SOIL CORRECTION QUANTITY: INCLUDE 100 CUBIC YARDS IN THE LUMP SUM BASE BID.

GENERAL NOTES

1. ALL CONSTRUCTION MUST COMPLY WITH APPLICABLE STATE AND LOCAL ORDINANCES.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR AND SHALL PAY FOR ALL CONSTRUCTION STAKING / LAYOUT.
3. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL RELATED CONSTRUCTION PERMITS, INCLUDING THE NPDES PERMIT FROM THE MPCA. SUBMIT A COPY OF ALL PERMITS TO THE CITY.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL SIGNAGE (CONSTRUCTION ZONES) NECESSARY TO CONSTRUCT PROPOSED IMPROVEMENTS. ALL SIGNAGE LAYOUTS MUST BE DESIGNED BY THE CONTRACTOR AND APPROVED BY LOCAL AUTHORITIES.
5. INSTALL CONTROL FENCING AND BARRICADING AS NECESSARY TO PROTECT THE PUBLIC.
6. INSPECT SITE AND REVIEW SOIL BORINGS TO DETERMINE EXTENT OF WORK AND NATURE OF MATERIALS TO BE HANDLED.
7. REFER TO SPECIFICATIONS FOR DEWATERING REQUIREMENTS.
8. CHECK ALL PLAN AND DETAIL DIMENSIONS AND VERIFY SAME BEFORE FIELD LAYOUT.
9. REFER TO ARCHITECTURAL PLANS FOR BUILDING AND STOOP DIMENSIONS AND LAYOUT.
10. REFER TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE, PART OF SECTION 01 89 13, FOR EROSION CONTROL REQUIREMENTS. SECTION 31 00 00 SHALL BE RESPONSIBLE FOR FULL IMPLEMENTATION OF THE SWPPP.
11. MAINTAIN ADJACENT PROPERTY AND PUBLIC STREETS CLEAN FROM CONSTRUCTION CAUSED DIRT AND DEBRIS ON A DAILY BASIS. PROTECT DRAINAGE SYSTEMS FROM SEDIMENTATION AS A RESULT OF CONSTRUCTION RELATED DIRT AND DEBRIS.
12. MAINTAIN DUST CONTROL DURING GRADING OPERATIONS.
13. ALL EROSION CONTROL METHODS SHALL COMPLY WITH MPCA AND LOCAL REGULATIONS.
14. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO SITE AND PROTECT EXISTING SITE FEATURES (INCLUDING TURF AND VEGETATION) WHICH ARE TO REMAIN.
15. PROPOSED CONTOURS AND SPOT ELEVATIONS ARE SHOWN TO FINISH GRADE UNLESS OTHERWISE NOTED.
16. PROPOSED ELEVATIONS SHOWN TYPICALLY AS 60.1 OR 60 SHALL BE UNDERSTOOD TO MEAN 860.1 OR 860.
17. SPOT ELEVATIONS SHOWN IN PARKING LOTS, DRIVES AND ROADS INDICATE GUTTER GRADES, UNLESS NOTED OTHERWISE. SPOT ELEVATIONS WITH LABELS OUTSIDE THE BUILDING PERIMETER INDICATE PROPOSED GRADES OUTSIDE THE BUILDING. SPOT ELEVATIONS WITH LABELS INSIDE THE BUILDING PERIMETER INDICATE PROPOSED FINISH FLOOR ELEVATIONS.
18. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES OF CUT, FILL AND WASTE MATERIALS TO BE HANDLED, AND FOR AMOUNT OF GRADING TO BE DONE IN ORDER TO COMPLETELY PERFORM ALL WORK INDICATED ON THE DRAWINGS. IMPORT SUITABLE MATERIAL AND EXPORT UNSUITABLE / EXCESS / WASTE MATERIAL AS REQUIRED. ALL COSTS ASSOCIATED WITH IMPORTING AND EXPORTING MATERIALS SHALL BE INCIDENTAL TO THE CONTRACT.
19. NO FINISHED SLOPES SHALL EXCEED 3' HORIZONTAL TO 1' VERTICAL (3:1), UNLESS OTHERWISE NOTED.
20. ALL DISTURBED AREAS OUTSIDE THE BUILDING PAD WHICH ARE NOT DESIGNATED TO BE PAVED SHALL RECEIVE AT LEAST 6" OF TOPSOIL AND SHALL BE SODDED.
21. WHERE NEW SOD MEETS EXISTING SOD, EXISTING SOD EDGE SHALL BE CUT TO ALLOW FOR A CONSISTENT, UNIFORM STRAIGHT EDGE. JAGGED OR UNEVEN EDGES WILL NOT BE ACCEPTABLE. REMOVE TOPSOIL AT JOINT BETWEEN EXISTING AND NEW AS REQUIRED TO ALLOW NEW SOD SURFACE TO BE FLUSH WITH EXISTING.
22. FAILURE OF TURF DEVELOPMENT: IN THE EVENT THE CONTRACTOR FAILS TO PROVIDE AN ACCEPTABLE TURF, THE CONTRACTOR SHALL RE-SOD ALL APPLICABLE AREAS, AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE ENGINEER.
23. ANY MANHOLE, CATCH BASIN, STORM SEWER, SANITARY SEWER, DRAINTILE OR OTHER POTENTIAL SOURCE FOR CONTAMINATION SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM ANY WATERMAIN PER MINNESOTA PLUMBING CODE. THIS ISOLATION DISTANCE SHALL BE MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE (OUTER EDGE OF STRUCTURES OR PIPING OR SIMILAR).
24. LOCATE ALL EXISTING UTILITIES, VERIFY LOCATION, SIZE AND INVERT ELEVATION OF ALL EXISTING UTILITIES. VERIFY LOCATIONS, SIZES AND ELEVATIONS OF SAME BEFORE BEGINNING CONSTRUCTION.

LEGEND

- REFERENCE KEY TO SITE DETAILS — DETAIL I.D NUMBER (TOP), DETAIL SHEET NUMBER (BOTTOM)
- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION — ME = MATCH EXISTING, EOF = EMERGENCY OVERFLOW
- PROPOSED GRADING LIMITS
- PROPOSED SAND SUBBASE AT FROST FOOTED STOOPS (5 / C2.17)
- APPROXIMATE SOIL BORING LOCATION
- PROPOSED MANHOLE (MH) (12 / C2.17) (14 / C2.17)
- PROPOSED CATCH BASIN (CB) (15 / C2.17)
- PROPOSED HYDRANT (HYD) (9 / C2.17)
- PROPOSED GATE VALVE (GV) (10 / C2.17)
- PROPOSED BUILDING STOOP - REFER TO ARCHITECTURAL PLANS
- PROPERTY LINE

BENCHMARKS - OLSON MS (FIELD VERIFY BEFORE USING)

1.) Top of top nut of fire hydrant northeast of loading dock, north of ring road, 120± feet from Olson Middle School. Elevation = 872.71 feet

2.) Top of top nut of fire hydrant on east side of ring road, 50± feet east of Olson Middle School, north of southwest baseball diamond. Elevation = 872.96 feet

3.) Top of top nut of fire hydrant west side of Johnson Avenue South near west drive entrance to Jefferson High School. Elevation = 865.87 feet

BENCHMARKS - JEFFERSON HS (FIELD VERIFY BEFORE USING)

1.) Top of top nut of fire hydrant 45 feet +/- westerly of a northwest corner of Jefferson High School. Elevation = 874.47 feet

2.) Top of top nut of fire hydrant west of Jefferson High School and northeast of track. Elevation = 866.37 feet

3.) Top of top nut of fire hydrant west side of Johnson Avenue South near west drive entrance to Jefferson High School. Elevation = 865.87 feet

4.) Top of top nut of fire hydrant south of the southwest corner of the northeast parking lot and 95 feet +/- northwesterly of building entrance #2. Elevation = 872.62 feet

5.) Top of top nut of the first fire hydrant south of West 102nd Street on the west side of France Avenue South. Elevation = 875.58 feet

6.) Top of top nut of fire hydrant 10 feet +/- south of the southeast corner of Jefferson High School. Elevation = 861.13 feet

7.) Top of top nut of fire hydrant lying 50 feet +/- southeast of building entrance #18. Elevation = 861.16 feet

0 15 30

Jefferson-Olson Mechanical Plant
4001 West 102nd Street
Bloomington, MN 55437

Independent School District 271
1350 West 106th Street
Bloomington, MN 55431

WOLD ARCHITECTS AND ENGINEERS
332 Minnesota Street, Suite W2000
Saint Paul, MN 55101
woldae.com | 651.227.7773

ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA
DAVID A. REY
Registration Number 40180 Date: 03/31/2021

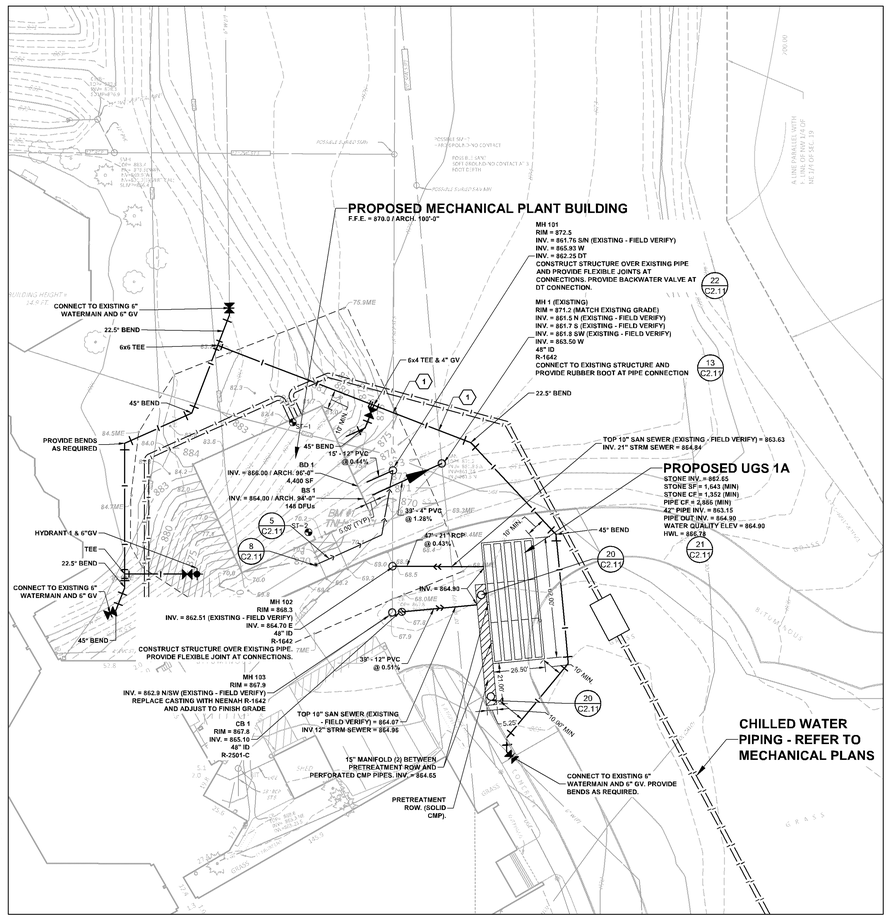
Revisions		
Description	Date	Num

Comm: 202115
Date: 03/31/2021
Drawn: MET
Check: DAR
North

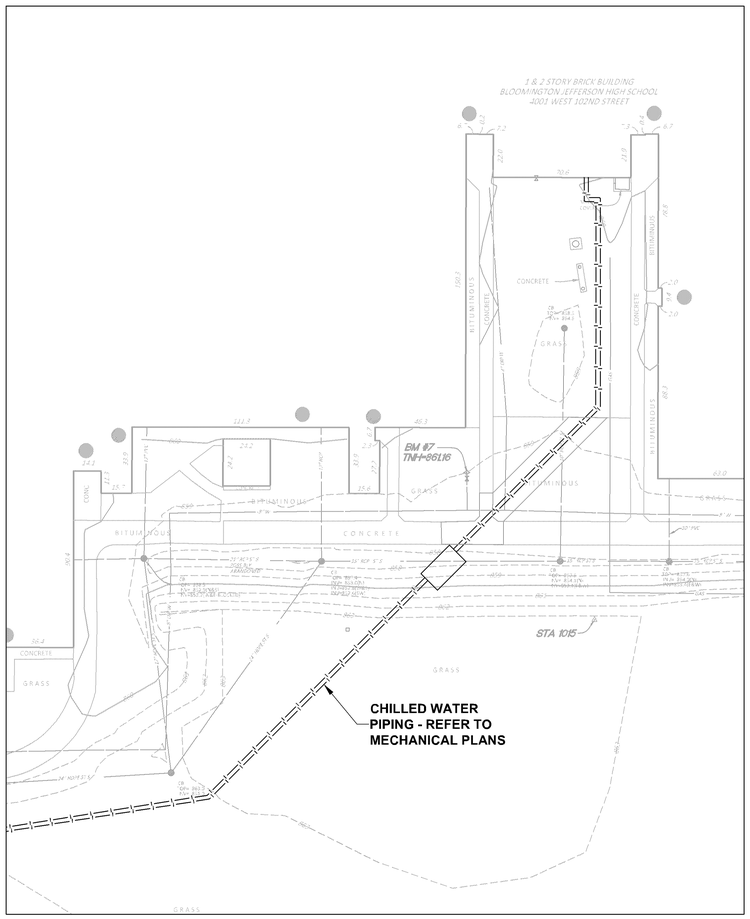
GRADING AND DRAINAGE PLAN

Scale: 1" = 30'

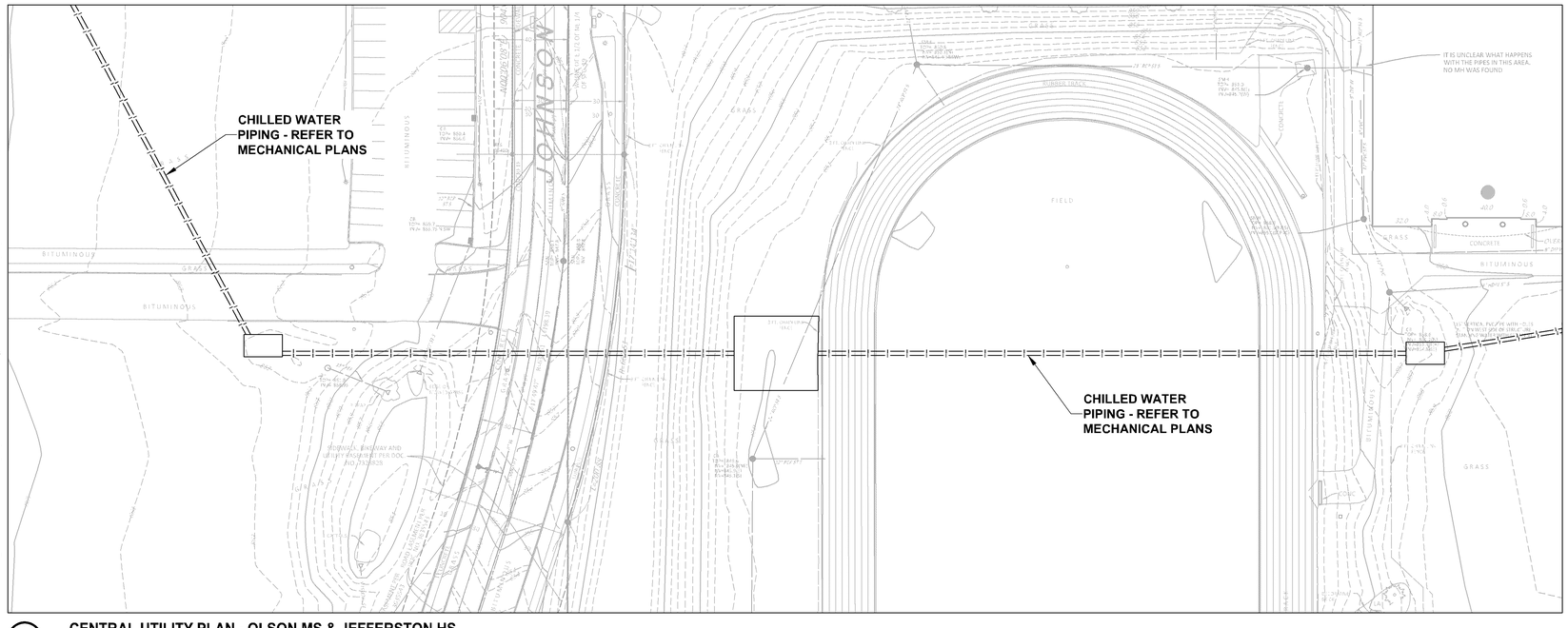
C1.31



1 C1.11 **WEST UTILITY PLAN - OLSON MS**



2 C1.11 **EAST UTILITY PLAN - JEFFERSON HS**



3 C1.11 **CENTRAL UTILITY PLAN - OLSON MS & JEFFERSTON HS**

NOTES

1. REFER TO SHEET C1.31, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. ALL WATERMAIN PIPE SHALL BE DIP, CLASS 52. ALL WATERMAIN SHALL HAVE MINIMUM 8'-0" BURY (TOP OF PIPE TO FINISH GRADE). DIP SHALL BE ENCASED WITH POLYETHYLENE FILM CONFORMING TO ASTM D 1248-889.
3. ALL SANITARY SEWER PIPE SHALL BE PVC PIPE (ASTM D 3034, SDR 26), UNLESS OTHERWISE NOTED. SANITARY SEWER INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321.
4. ALL STORM SEWER PIPE SHALL BE RCP, CLASS III (MIN.), WITH FLEXIBLE WATERTIGHT JOINTS IN ACCORDANCE WITH ASTM C-361 OR PVC PIPE (ASTM D3034, SDR 35) INSTALLED IN ACCORDANCE WITH ASTM D2321, UNLESS OTHERWISE NOTED.
5. FLEXIBLE JOINTS AT STORM SEWER PIPE CONNECTIONS TO STRUCTURES:
   a. IN ACCORDANCE WITH MINNESOTA PLUMBING CODE, PROVIDE FLEXIBLE JOINTS AT ALL PIPE CONNECTIONS TO ALL STORM SEWER STRUCTURES.
   b. ACCEPTABLE MANUFACTURERS / PRODUCTS:
      i. FERNCO, "CONCRETE MANHOLE ADAPTORS" OR "LARGE-DIAMETER WATERSTOPS"
      ii. PRESS-SEAL, WATERSTOP GROUTING RINGS"
      iii. OR APPROVED EQUAL.
6. WATERMAIN SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM ANY MANHOLE, CATCH BASIN, STORM SEWER, SANITARY SEWER, DRAINTILE OR OTHER POTENTIAL SOURCE FOR CONTAMINATION PER MINNESOTA PLUMBING CODE. THIS ISOLATION DISTANCE SHALL BE MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE (OUTER EDGE OF STRUCTURES OR PIPING OR SIMILAR).
7. ANY MANHOLE, CATCH BASIN, STORM SEWER, SANITARY SEWER, DRAINTILE OR OTHER POTENTIAL SOURCE FOR CONTAMINATION SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM ANY WATERMAIN PER MINNESOTA PLUMBING CODE. THIS ISOLATION DISTANCE SHALL BE MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE (OUTER EDGE OF STRUCTURES OR PIPING OR SIMILAR).
8. LOCATE ALL EXISTING UTILITIES, VERIFY LOCATION, SIZE AND INVERT ELEVATION OF ALL EXISTING UTILITIES. VERIFY LOCATIONS, SIZES AND ELEVATIONS OF SAME BEFORE BEGINNING CONSTRUCTION.
9. PRIOR TO CONSTRUCTION OF PROPOSED BUILDING UTILITY SERVICES (STORM, SANITARY SEWER, WATERMAIN), VERIFY ALL PROPOSED BUILDING UTILITY SERVICE PIPE SIZES, LOCATIONS AND ELEVATIONS WITH MECHANICAL PLANS. COORDINATE CONSTRUCTION AND CONNECTIONS WITH MECHANICAL CONTRACTOR.
10. CONTRACTOR SHALL STAKE LIMITS OF WALKS AND CURBING PRIOR TO INSTALLATION OF GATE VALVES, CATCH BASINS AND MANHOLES. GATE VALVE AND MANHOLE LOCATIONS SHALL BE ADJUSTED TO AVOID PLACEMENT OF THESE STRUCTURES IN WALKS AND CURB AND GUTTER. CURB AND GUTTER SHALL BE STAKED TO ALLOW CURB INLET TYPE CATCH BASINS TO BE PROPERLY LOCATED IN LINE WITH CURBING.

LEGEND

- EXISTING CONTOUR
- 850 PROPOSED CONTOUR
- 94.6 PROPOSED SPOT ELEVATION ME = MATCH EXISTING
- PROPOSED GRADING LIMITS
- ST-1 APPROXIMATE SOIL BORING LOCATION
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED WATERMAIN
- PROPOSED DRAINTILE (9 / C2.11)
- PROPOSED MANHOLE (MH) (12 / C2.11) (14 / C2.11)
- PROPOSED CATCH BASIN (CB) (15 / C2.11)
- PROPOSED HYDRANT (HYD) (9 / C2.11)
- PROPOSED GATE VALVE (GV) (10 / C2.11)
- 1 PROVIDE MINIMUM 18" VERTICAL SEPARATION AT CROSSING - PROVIDE VERTICAL BENDS IN WATERMAIN AS REQUIRED TO ACCOMPLISH. CENTER ONE LENGTH WATERMAIN PIPE ON CROSSING.
- PROPOSED CHILLED WATER PIPING - REFER TO MECHANICAL PLANS
- PROPOSED BUILDING STOOP - REFER TO ARCHITECTURAL PLANS
- PROPERTY LINE
- PROPOSED UNDERGROUND SYSTEM (UGS) (25 / C2.11)

0 15 30

Jefferson-Olson Mechanical Plant
4001 West 102nd Street
Bloomington, MN 55437

Independent School District 271
1350 West 106th Street
Bloomington, MN 55431

WOLD ARCHITECTS AND ENGINEERS
332 Minnesota Street, Suite W2000
Saint Paul, MN 55101
woldae.com | 651.227.7773

ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA

DAVID A. REY
Registration Number 40180 Date 03/31/2021

Revisions		
Description	Date	Num.

Comm: 202115
Date: 03/31/2021
Drawn: MET
Chock: DAR

North

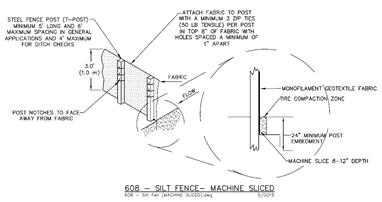
UTILITY PLAN

Scale: 1" = 30'

C1.41

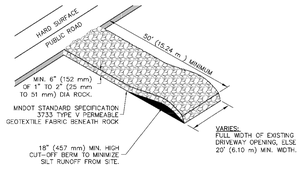
MN

C



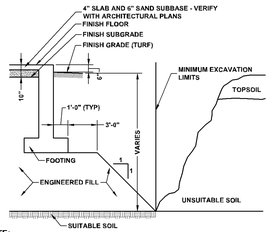
608 – SILT FENCE– MACHINE SLICED
608 – Silt Fen (MACHINE SLICED).dwg 5/2015

1 C2.11 SILT FENCE CITY PLATE 608



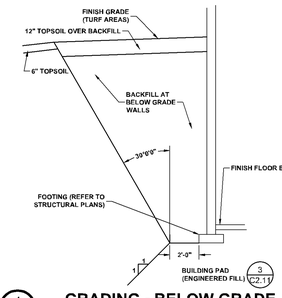
600 – ROCK CONSTRUCTION ENTRANCE AT ACCESS ROADS
600 – Rock Const. Ent.dwg 5/2015

2 C2.11 ROCK CONSTRUCTION ENTRANCE CITY PLATE 600

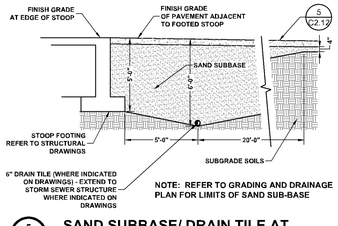


NOTE:
BOTTOM OF EXCAVATION MUST BE APPROVED BY THE SOILS ENGINEER PRIOR TO PLACEMENT OF ANY FILL.

3 C2.11 ENGINEERED FILL

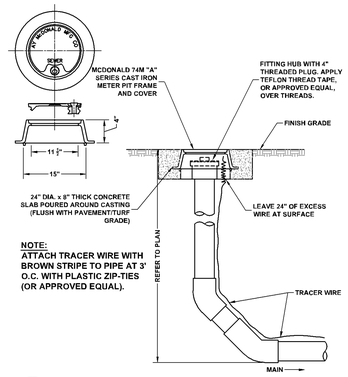


4 C2.11 GRADING - BELOW GRADE BUILDING WALLS



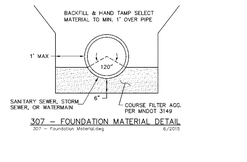
NOTE: REFER TO GRADING AND DRAINAGE PLAN FOR LIMITS OF SAND SUB-BASE

5 C2.11 SAND SUBBASE/ DRAIN TILE AT DOORS & FROST FOOTED STOOPS



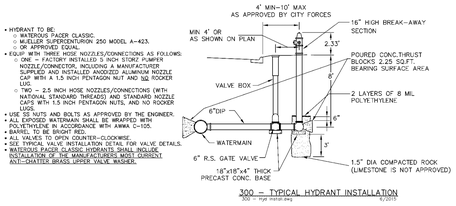
NOTE:
ATTACH TRACER WIRE WITH BROWN STRIPE TO PIPE AT 3' O.C. WITH PLASTIC ZIP-TIES (OR APPROVED EQUAL).

7 C2.11 PVC PIPE BEDDING CITY PLATE 307



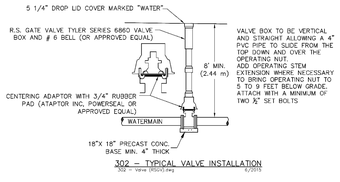
307 – FOUNDATION MATERIAL DETAIL
307 – Foundation Material.dwg 6/2015

8 C2.11 CLEANOUT ASSEMBLY



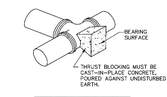
300 – TYPICAL HYDRANT INSTALLATION
300 – Typ Hydrant.dwg 9/2015

9 C2.11 HYDRANT INSTALLATION CITY PLATE 300



302 – TYPICAL VALVE INSTALLATION
302 – Valve (Misc).dwg 9/2015

10 C2.11 GATE VALVE INSTALLATION CITY PLATE 302

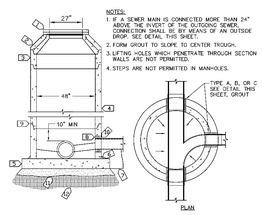


PIPE SIZE	BEARING AREA
6"	2.25 SF
8"	4 SF

NOTES:
1. THRUST BLOCKS TO BE USED FOR BENDS 22 1/2° AND OVER, INCLUDING HYDRANTS AND HYDRANT TEES.
2. THRUST BLOCKS ARE REQUIRED REGARDLESS OF ANY OTHER RESTRAINT METHODS USED ON WATERMAIN LESS THAN 12" IN DIA.
3. RESTRAINT METHODS ON WATERMAIN LARGER THAN 12" SHALL BE MECHANICAL JOINT RESTRAINT OR APPROVED EQUAL. THE LENGTH OF RESTRAINT SHALL BE AS COMPUTED BY DIPRA.

310 – STANDARD THRUST BLOCK
310 – Thrust Blk. (Std).dwg 6/2015

11 C2.11 THRUST BLOCK CITY PLATE 310

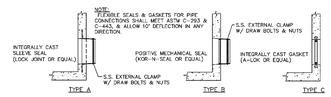


NOTES:
1. IF A SEWER MAIN IS CONNECTED MORE THAN 24" ABOVE THE INVERT OF THE OUTGOING SEWER, CONNECTION SHALL BE BY MEANS OF AN OUTSIDE DROP. SEE DETAIL THIS SHEET.
2. FORM GROUT TO SLOPE TO CENTER TROUGH.
3. LIFTING HOLES WHICH PENETRATE THROUGH SECTION WALLS ARE NOT PERMITTED.
4. STEPS ARE NOT PERMITTED IN MANHOLES.

KEY NOTES:
1. MN/DOT S.P.4010 2" ADJUSTING RINGS AS NEEDED (6" MIN. TO 12" MAX.). SET EACH RING IN A FULL BED OF MORTAR.
2. MN/DOT S.P.4010 STD. SHORT CONE SECTION.
3. 12" TOP SECTION REQUIRED.
4. USE ONLY PRECAST SECTIONS. NO BRICK OR BLOCK
5. 8" CAST IN–PLACE CONCRETE OR 6" PRECAST REINFORCED CONCRETE (6A" MINIMUM OD)
6. CEMENT MORTAR ALL AROUND
7. LEAN CONCRETE TO BEAR AGAINST FIRM UNDISTURBED SOIL
8. PROVIDE WATER TIGHT PIPE CONNECTIONS SEE DETAIL THIS SHEET
9. O–RING GASKET
10. FOR CONNECTION TO EXISTING MH'S, CORE DRILL OPENING AND PROVIDE TYPE B WATER TIGHT CONNECTOR
11. 6" SAND OR FOUNDATION MATERIAL
12. UNDISTURBED SOIL OR COMPACTED SUBGRADE

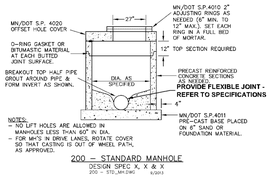
400 – STD. SANITARY SEWER MH
400 – Std San MH.dwg 6/2015

12 C2.11 SANITARY MANHOLE CITY PLATE 400



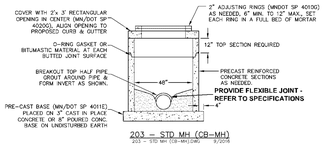
409 – WATER TIGHT PIPE CONNECTIONS
409 – MH Pipe Connect.dwg 6/2015

13 C2.11 WATER TIGHT PIPE CONNECTION CITY PLATE 409



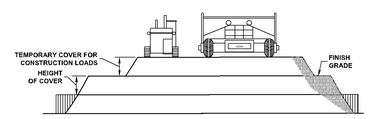
200 – STANDARD MANHOLE
DESIGN SPEC X, Y & X
200 – STD_MH.DWG 9/2015

14 C2.11 STORM MANHOLE CITY PLATE 200



203 – STD MH (CB–MH)
203 – STD MH (CB–MH).DWG 9/2015

15 C2.11 CATCH BASIN CITY PLATE 203



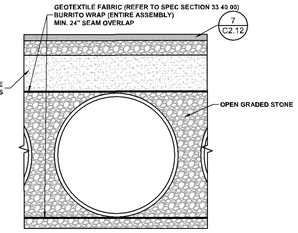
CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	16-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	2.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

***MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.**

16 C2.11 CONSTRUCTION LOADING DIAGRAM



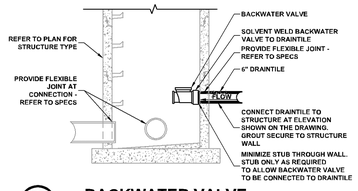
FOUNDATION/BEDDING PREPARATION

PRIOR TO PLACING THE GEOTEXTILE FABRIC AND OPEN GRADED STONE, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE SUBGRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO SUBGRADE WITH GRANULAR BEDDING.

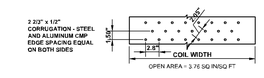
BACKFILL

WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

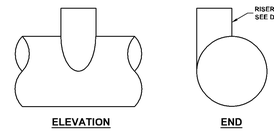
17 C2.11 BACKFILL DETAIL



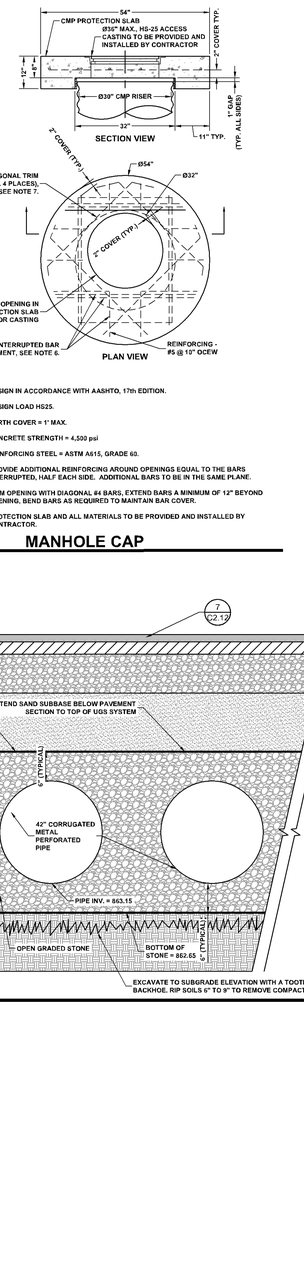
22 C2.11 BACKWATER VALVE



18 C2.11 TYPICAL PERFORATION DETAIL



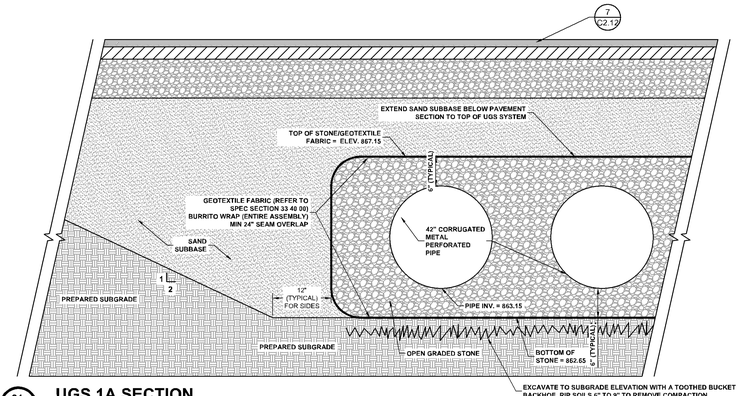
19 C2.11 TYPICAL RISER DETAIL



NOTES

1. **DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.**
2. **DESIGN LOAD HS25.**
3. **EARTH COVER = 1' MAX.**
4. **CONCRETE STRENGTH = 4,500 psi**
5. **REINFORCING STEEL = ASTM A615, GRADE 60.**
6. **PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.**
7. **TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.**
8. **PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.**

20 C2.11 MANHOLE CAP



21 C2.11 UGS 1A SECTION

Jefferson-Olson Mechanical Plant
4001 West 102nd Street
Bloomington, MN 55437

Independent School District 271
1350 West 106th Street
Bloomington, MN 55431

Wold

WOLD ARCHITECTS AND ENGINEERS
332 Minnesota Street, Suite W2000
Saint Paul, MN 55101
woldae.com | 651.227.7773

AJA
ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed
PROFESSIONAL ENGINEER
under the laws of the State of **MINNESOTA**
DAVID A. REY
Registration Number **40180** Date: **03/31/2021**

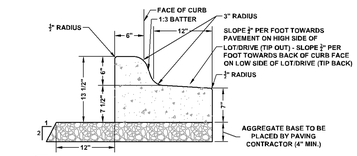
Revisions		
Description	Date	Num

Comm: 202115
Date: 03/31/2021
Drawn: MET
Chock: DAR
North

SITE DETAILS

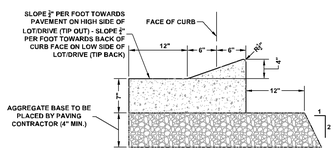
Scale: **Not To Scale**

C2.11



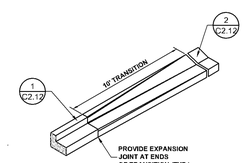
NOTE:
1. DIRECTION OF TRANSVERSE GUTTER SLOPE TO MATCH DIRECTION OF ADJACENT PAVEMENT SLOPE. CONSTRUCT WITH CURBING MACHINE.
2. AT CURB INLET CATCH BASINS, ADJUST CASTING TO BE 1" BELOW GUTTER GRADE. SLOPE GUTTER 0' EACH SIDE OF CATCH BASIN. PROVIDE POSITIVE DRAINAGE TO CATCH BASINS.

1 C2.12 **B-612 CURB AND GUTTER**

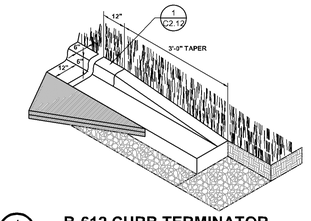


NOTE:
1. DIRECTION OF TRANSVERSE GUTTER SLOPE TO MATCH DIRECTION OF ADJACENT PAVEMENT SLOPE. CONSTRUCT WITH CURBING MACHINE.

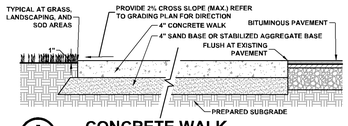
2 C2.12 **D-412 CURB & GUTTER**



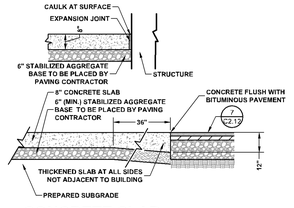
3 C2.12 **CURB TRANSITION D-412 TO B-612**



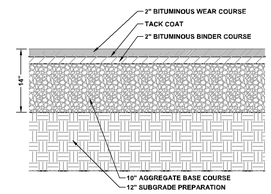
4 C2.12 **B-612 CURB TERMINATOR**



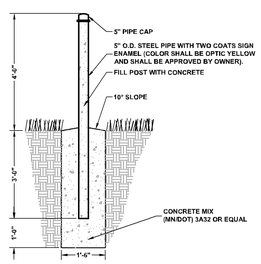
5 C2.12 **CONCRETE WALK**



6 C2.12 **CONCRETE SLAB**



7 C2.12 **BITUMINOUS PAVEMENT**



8 C2.12 **BOLLARD**

Jefferson-Olson Mechanical Plant
4001 West 102nd Street
Bloomington, MN 55437

Independent School District 271
1350 West 106th Street
Bloomington, MN 55431

WOLD ARCHITECTS AND ENGINEERS
332 Minnesota Street, Suite W2000
Saint Paul, MN 55101
woldae.com | 651.227.7773

ANDERSON - JOHNSON ASSOCIATES, INC.
A BOLTON & MENK COMPANY

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed PROFESSIONAL ENGINEER under the laws of the State of MINNESOTA

DAVID A. REY
Registration Number 40180 Date: 03/31/2021

Revisions		
Description	Date	Num

Comm: 202115
Date: 03/31/2021
Drawn: MET
Check: DAR

North

SITE DETAILS

Scale: Not To Scale

C2.12