CITY OF WEST DES MOINES
STAFF REPORT COMMUNICATION

Meeting Date: May 16, 2022

ITEM: Fairmeadows Elementary, 807 23rd Street – Approve Major Modification to Site Plan to allow Building Addition and Parking Lot updates – West Des Moines Community Schools – MaM-005328-2021

Resolution: Approval of Major Modification to Site Plan

Background: Brian Steffens with Shive-Hattery, Inc., on behalf of the applicant and property owner, West Des Moines Community Schools, requests approval of a Major Modification to Site Plan for the approximately 11.8-acre property located at 807 23rd Street. The applicant proposes to construct approximately 10,580-square feet of building addition and site improvements including paving, landscaping and stormwater management. The proposed major modification includes an additional twenty-four (24) parking spaces and two building additions for a new gym/storm shelter and added space for music classrooms.

Staff Review & Comment:

- *Financial Impact:* No City funding of the project. There will be staff time for processing of development application and inspections during construction.
- *Traffic Impact Study Findings:* A traffic analysis for the site was completed in June 2021. A summary of the key findings is below:
  - The existing geometry and traffic control on the surrounding streets are expected to have adequate capacity to accommodate the school's planned enrollment. If enrollment changes in the future and additional traffic is generated by the site, modifications to the adjacent streets may become necessary to maintain adequate traffic progression and traffic safety.
  - Due to the number of parents dropping off/picking up students and the lack of on-site stacking space, the parent traffic queue was observed to occasionally spillover onto 23rd Street during the dismissal period. This backup affects the street's capacity and may lead to potential safety hazards on the public street system. Potential improvements to on-site circulation were detailed in the traffic analysis and have been given to the school for incorporation into their school dismissal plan.
- *Conditions of Approval:*
  - *Alternative Landscaping Plan.* The applicant is proposing to expand the existing parking area to the east. The zoning code requires landscape islands be installed every eighteen (18) parking spaces and tree diamonds every nine (9) parking spaces. These landscaping islands and diamonds are also required by the zoning code to include vegetative plantings to provide visual relief from large expanses of parking and provide shade. There are twenty-four (24) additional parking spaces proposed as part of this development that would require one landscape island and two tree pods. However, there is an existing underground storm water detention system beneath the proposed parking expansion, which would make it difficult for vegetation to thrive within the landscape islands and pods. The applicant is requesting approval of an alternative landscape plan which includes relocating the required parking lot plantings (i.e. trees and shrubs) outside the underground storm water detention system and installing landscape islands where pods would be required. As part of this alternative landscape plan, the applicant is also

proposing more trees than required by code within the interior of the site and along the property line to the south to further screen the school from adjacent residential uses. The landscape islands within the parking area will be sodded greenspace. Staff is recommending a condition of approval confirming Council acceptance of this alternative landscape plan.

- *Execution of Storm Sewer Easements.* Three storm sewer easements are proposed as part of this project. The proposed easements are scheduled to go before the West Des Moines School Board on May 9, 2022. Therefore, staff is recommending a condition of approval requiring the easements be executed by the School Board and be approved and accepted by the City Council prior to the issuance of any building permits for the building additions.

- *Storm Water Management Agreement.* There is on-site storm water detention area that requires an agreement with the city relating to how it is maintained. The Storm Water Management Facility Maintenance Agreement is scheduled to go before the West Des Moines School Board on May 9, 2022. Therefore, staff is recommending a condition of approval requiring the Agreement be executed by the School Board and approved and accepted by the City Council prior to the issuance of any building permits for the building additions. Additionally, staff is recommending a condition of approval that as-builts of the storm water improvements be provided prior to any occupancy, including temporary occupancy.

- *Vesting of Entitlement:* Per City Code, entitlement (approval to construct or implement) shall remain in effect so long as substantial site work has progressed beyond grading and completion of structural foundations and twenty-five percent (25%) of the total building area has occurred above grade within twenty-four (24) months of the effective date of the approval, unless a greater time period is authorized at time of the original entitlement, or by approval of an extension of the original entitlement. It is the responsibility of the developer to be aware of this deadline and request an extension of the approval prior to the expiration date.

Outstanding Issues: There are no outstanding issues.

Plan and Zoning Commission Action:

Date:	May 9, 2022
Vote:	6-0 for approval with Commissioner Conlin absent
Recommendation:	Approve Major Modification to Site Plan

Recommendation: Approve the Major Modification to Site Plan request, subject to the applicant meeting all City Code requirements, and the following conditions of approval:

1. The City Council approving the alternative landscape plan as proposed by the applicant.
2. All easements benefitted to the City shall be executed by the School Board and approved and accepted by the City Council prior to the issuance of any building permits for the building additions.
3. The Storm Water Management Facility Maintenance Agreement be executed by the School Board and approved and accepted by the City Council prior to the issuance of any building permits for the building additions. Additionally, the applicant providing as-built drawings of the storm water improvements prior to the issuance of any occupancy permit, including temporary occupancy.

Lead Staff Member: **Bryce Johnson**

Approval Meeting Dates:

Plan and Zoning Commission	May 9, 2022
City Council:	May 16, 2022

Staff Report Reviews:

Plan & Zoning Commission	☒ Development Coordinator (or) ☒ Director	☒ Legal Department
City Council	☒ Director ☐ Appropriations/Finance	☒ Legal Department ☒ Agenda Acceptance

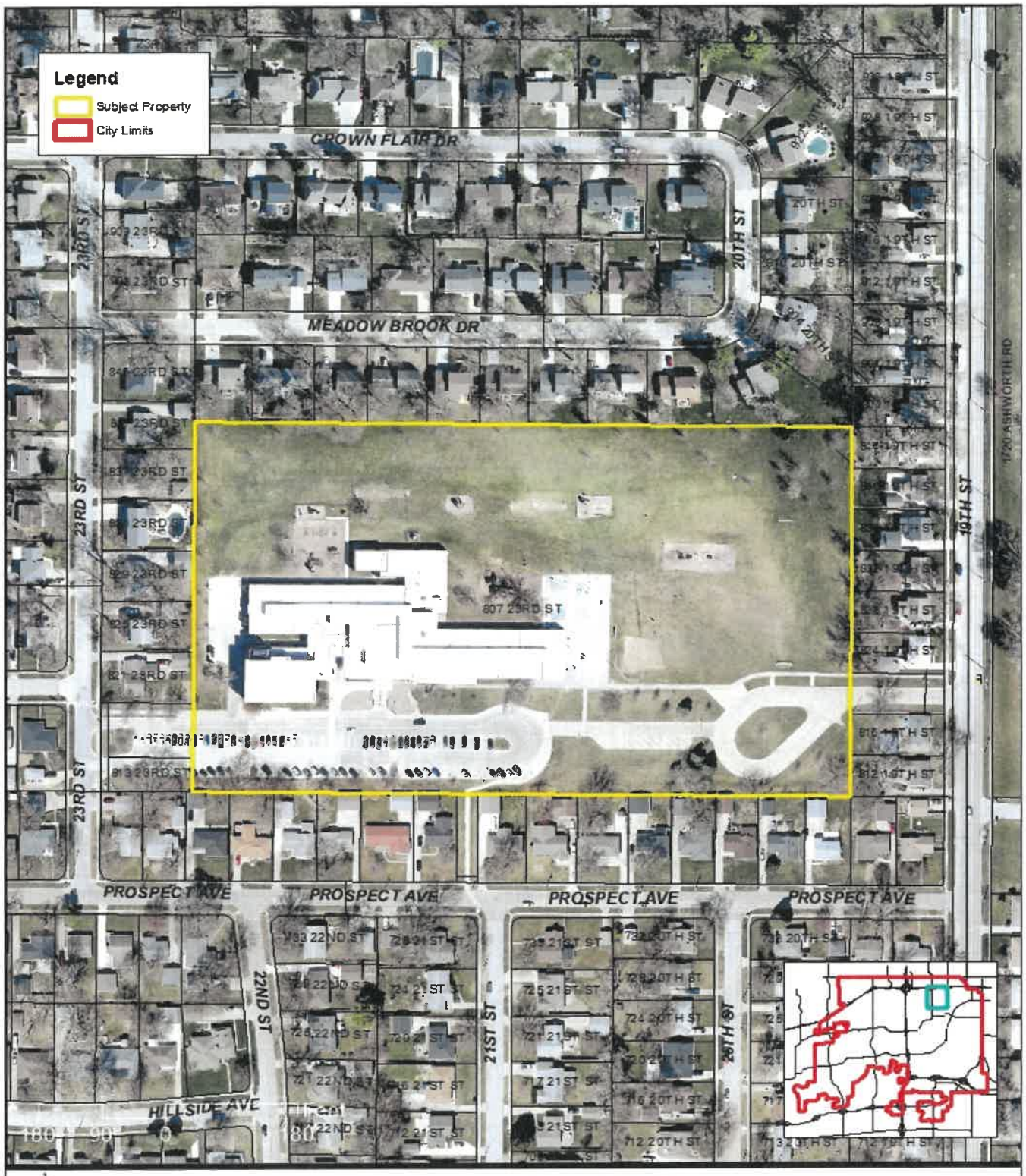
Publications (if applicable)

Published In:	Des Moines Register Community Section
Date(s) Published	n/a
Date(s) of Mailed Notices	n/a

Council Subcommittee Review (if applicable)

Subcommittee	Development & Planning
Date Reviewed	10/18/21
Recommendation	☒ Yes ☐ No ☐ Split

Location Map



Fairmeadows School MaM
Location Map

West Des Moines

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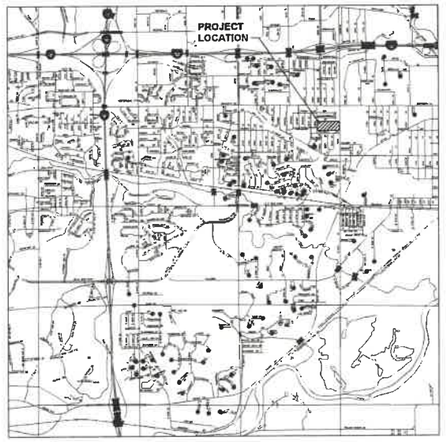
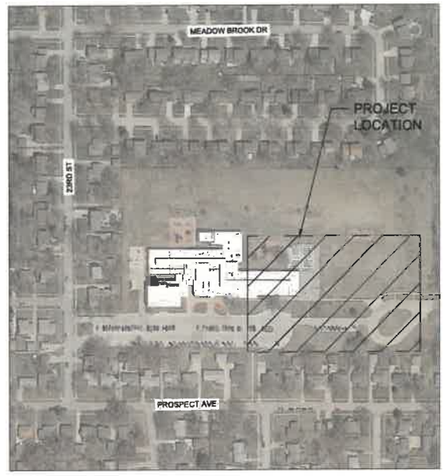
The City of West Des Moines makes no claim as to the accuracy, completeness or correctness of the City of West Des Moines digital maps and associate data and assumes no responsibility for their positional or content accuracy.

FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
807 23RD ST
WEST DES MOINES, IOWA 50265



VICINITY MAP
NTS



PROJECT MAP
NTS

Sheet List Table

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CD01	DEMOLITION PLAN
C100	OVERALL SITE PLAN
C101	SITE PLAN
C200	EROSION CONTROL SITE PLAN
C201	GRADING PLAN
C202	GRADING PLAN ENLARGEMENT
C203	GRADING PLAN ENLARGEMENT
C301	UTILITY PLAN
L101	LANDSCAPE PLAN
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C505	CONSTRUCTION DETAILS

OWNER:
WEST DES MOINES COMMUNITY SCHOOL DISTRICT
ATTN: KEVIN LONG
3550 MILLS CIVIC PKWY
WEST DES MOINES, IA 50265
(515) 633-5000

APPLICANT:
WEST DES MOINES COMMUNITY SCHOOL DISTRICT
ATTN: KEVIN LONG
3550 MILLS CIVIC PKWY
WEST DES MOINES, IA 50265
(515) 633-5000

ENGINEER
SHIVE-HATTERY, INC.
ATTN: KYLE LAWSON
4125 WESTOWN PARKWAY, SUITE 100
WEST DES MOINES, IA 50266
(515) 223-8104

ZONING:
EXISTING: R-1 SINGLE FAMILY RESIDENTIAL
PROPOSED: R-1 SINGLE FAMILY RESIDENTIAL
COMPREHENSIVE PLAN DESIGNATION: SINGLE FAMILY RESIDENTIAL (SF)

ELEMENTARY SCHOOLS ARE A PERMITTED (P) USE WITHIN THIS ZONING DISTRICT

THE IMPROVEMENTS SHALL CONFORM WITH THE R-1 RESIDENTIAL STANDARDS

SETBACKS:
FRONT: 50' (FROM THE ULTIMATE STREET RIGHT-OF-WAY)
REAR: 50'
SIDE: 25'
MAXIMUM BUILDING HEIGHT: 40'

PAVEMENT THICKNESS:
BUS DROP-OFF/PICK-UP AREA: 7 INCH PCC
DRIVE AISLES/PARKING AREAS: 6 INCH PCC
SIDEWALKS/PLAY COURTS: 5 INCH PCC

SITE ADDRESS:
807 23RD ST
WEST DES MOINES, IA 50265

LEGAL DESCRIPTION:
N 540F S 1560F W 915F E 1078F NE 1/4 SEC 9-78-25

TOTAL SITE AREA: 518, 727 SF (11.9 ACRES)

CITY BENCHMARK:
WDM #61
ELEVATION = 171.81 FEET (WDM DATUM), 945.82 FEET (NAVD88)

WDM #62
ELEVATION = 169.17 FEET (WDM DATUM), 943.18 (NAVD88)

SITE SUMMARY:
PROJECT USE / TYPE: BUILDING ADDITION AND ASSOCIATED SITE IMPROVEMENTS

EXISTING SITE: 518,727 SF
TOTAL PROJECT AREA: 122,698 SF (2.82 ACRES, PER CONSTRUCTION LIMITS)

EXISTING SITE IMPERVIOUS AREA: 179,163 SF (35%)
55,510 SF BUILDING
123,653 SF PAVING
EXISTING SITE PERVIOUS AREA: 339,564 SF (65%)

IMPERVIOUS AREA TO BE REMOVED: 45,656 SF
0 SF BUILDING
45,656 SF PAVING

IMPERVIOUS AREA TO BE ADDED: 64,378 SF
10,580 SF BUILDING
53,798 SF PAVING

PROPOSED SITE IMPERVIOUS AREA: 197,885 SF (38%)
66,090 SF BUILDING
131,795 SF PAVING

PROPOSED SITE PERVIOUS AREA: 320,842 SF (62%)

BUILDING SUMMARY:
EXISTING BUILDING FOOTPRINT: 55,510 SF
EXISTING BUILDING TOTAL AREA SF: 55,510 SF (ONE STORY)

ADDITION BUILDING FOOTPRINT: 10,580 SF (GYM/STORM SHELTER: 10,094 SF, MUSIC: 486 SF)
ADDITION BUILDING TOTAL SF: 12,440 SF

TOTAL PROPOSED BUILDING FOOTPRINT: 66,090 SF
TOTAL PROPOSED BUILDING AREA SF: 67,950 SF

BUILDING HEIGHT: 32'-4" FEET
1 STORY

PARKING SUMMARY:
REQUIRED PARKING:
1 SPACE PER EMPLOYEE = 78 SPACES
1 SPACE PER 5 SEATS IN GYMNASIUM AND AUDITORIUM = 0 SPACES
25 SPACE PICK UP/DROP OFF QUEUING LANE = 25 SPACES
TOTAL REQUIRED = 78 SPACES (INCLUDING 4 ADA) + 25 SPACE PICK UP/DROP OFF QUEUING LANE

EXISTING PARKING:
98 PARKING SPACES (INCLUDING 5 ADA) + 25 SPACE PICK UP/DROP OFF QUEUING LANE

PARKING TO BE REMOVED: 14 STALLS

PARKING TO BE ADDED: 24 STALLS

TOTAL PARKING AFTER CONSTRUCTION:
108 PARKING SPACES (INCLUDING 5 ADA) + 25 SPACE PICK UP/DROP OFF QUEUING LANE

LANDSCAPE SUMMARY:
-OFF STREET PARKING AREAS TO BE SCREENED FROM PUBLIC ROW TO A HEIGHT OF 3'
-ALL PARKING LOT ISLANDS NEED TREES PLANTED IN THEM
-2 TREES AND 3 SHRUBS REQUIRED PER 3,000 SF OF REQUIRED OPEN SPACE
-50% OF OPEN SPACE TREES SHALL BE EVERGREEN
-35% OF TOTAL SITE TREES SHALL BE EVERGREEN

REQUIRED OPEN SPACE: 129,682 SF (25%)
88 TREES REQUIRED
132 SHRUBS REQUIRED

EXISTING:
43 DECIDUOUS TREES (9 PARKING LOT TREES)
6 EVERGREEN TREES
20 SHRUBS

TO BE REMOVED:
14 DECIDUOUS TREES
1 EVERGREEN TREE

PROPOSED:
26 DECIDUOUS TREES (2 PARKING LOT TREES)
39 EVERGREEN TREES
165 SHRUBS

TOTAL OPEN SPACE:
44 DECIDUOUS + 44 EVERGREEN = 88 TREES
153 SHRUBS

PARKING LOT:
11 DECIDUOUS TREES
52 SHRUBS FOR SCREENING

GRAND TOTAL:
55 DECIDUOUS + 44 EVERGREEN = 99 TREES
205 SHRUBS

EVERGREEN TREE PERCENTAGES:
OPEN SPACE: 44 / 88 = 50%, MEETS REQUIREMENT OF 50%

TOTAL SITE: 55 / 99 = 55%, EXCEEDS REQUIREMENT OF 35%

PLANS INCLUDED ARE FOR ILLUSTRATIVE PURPOSES ONLY – APPROVED PLANS ON FILE WITH THE CITY

LANDSCAPE ARCHITECT
LICENSED LANDSCAPE ARCHITECT
HOLLY C. REID
00653
IOWA

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE. I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.

HOLLY C. REID
Printed or Typed name

Apr 28 2022 3:18 PM
Signature Date

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL:
"L" SHEETS

License Expires: 06/30/2023

CIVIL ENGINEER
LICENSED PROFESSIONAL ENGINEER
KYLE A. LAWSON
26414
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

4/27/2022
Signature Date

Printed or Typed name: KYLE A. LAWSON
License Number: 26414
My License Renewal Date is: DECEMBER 31, 2023

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL:
ALL SHEETS EXCEPT FOR "L" SHEETS

SHIVEHATTERY
ARCHITECTURE + ENGINEERING
4125 Westown Pkwy, Suite 100 | West Des Moines, Iowa 50266
515.223.8104 | www.shive-hattery.com
Iowa | Illinois | Indiana

WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 4210786
FIELD BOOK: --
CLIENT NO: --

COVER SHEET

C000

GENERAL NOTES

1. THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS PLOTTED ON THE DRAWINGS ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SHIVE-HATTERY, INC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SHIVE-HATTERY, INC. AND NOT SHOWN ON THIS DRAWING. THE VERIFICATION OF EXISTENCE OF, AND THE DETERMINATION OF THE EXACT LOCATION OF, UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR(S).
2. PRIOR TO CONSTRUCTION, UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL PUBLIC AND PRIVATE UTILITY LOCATES.
4. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL BY CALLING 811 OR 1-800-292-8989, NOT LESS THAN 48 HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.
5. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
6. NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE OWNER'S REPRESENTATIVE.
7. PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
8. MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
9. SITE CLEAN-UP TO BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
10. PROTECT ALL OPEN EXCAVATIONS.
11. REPLACE ANY PROPERTY MONUMENTS REMOVED OR DESTROYED BY CONSTRUCTION. MONUMENTS SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF IOWA.
12. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT IS TO BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION TO BE ALLOWED FOR THE COMPLETION OF THIS WORK.
13. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY SHIVE-HATTERY, INC. AT THE CONTRACTOR'S EXPENSE. WORK DONE CONTRARY TO THE INSTRUCTIONS OF SHIVE-HATTERY, INC., WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
14. ALL DIMENSIONS TO BACK-OF-CURB UNLESS NOTED OTHERWISE.
15. CONTOURS AND SPOT ELEVATIONS SHOWN ARE TO FINISHED GRADE.
16. NO PONDING OF WATER WILL BE ACCEPTED ON ANY NEW PAVEMENT OR OVERLAY AREAS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY AREAS OF EXISTING OR PROPOSED PAVEMENTS THAT HAVE POTENTIAL TO POND WATER AND MAKE ANY ADJUSTMENTS NECESSARY TO ENSURE THAT WATER WILL POSITIVELY DRAIN ACROSS THE PAVING OR OVERLAY.
17. STAGING LOCATION FOR CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER.
18. THE CONTRACTOR TO PROVIDE EROSION CONTROL MEASURES NECESSARY TO PROTECT AGAINST SILTATION, EROSION, AND DUST POLLUTION ON THE PROJECT SITE AND ANY OFF SITE BORROW OR DISPOSAL AREAS USED FOR THIS PROJECT. COMPLY WITH SOIL EROSION CONTROL REQUIREMENTS OF IOWA CODE, FEDERAL REGULATIONS, AND LOCAL ORDINANCES.
19. ALL AREAS DISTURBED BY CONSTRUCTION, NOT DESIGNATED AS PLANTED, SHALL BE SEEDED OR SODDED PER LANDSCAPE PLAN. 6" OF TOPSOIL SHALL BE PROVIDED PER SPECIFICATIONS.
20. NOTIFY UTILITY COMPANIES WHO HAVE FACILITIES THAT ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS OF THE SCHEDULE PRIOR TO EACH STAGE OF CONSTRUCTION.
21. CONTROL DUST SPREADING FROM ALL WORK AND STAGING AREAS.
22. COORDINATE ANY GRADE ADJUSTMENTS WITH THE DESIGN ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
23. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED IN THE PROJECT.
24. SIGNING, STRIPING OR OTHER TRAFFIC CONTROL DEVICES ON THE DRIVEWAY APPROACHES TO PUBLIC STREETS SHOULD CONFORM TO THE (MUTCD) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (FEDERAL HIGHWAY ADMINISTRATION, 2009 EDITION).
25. ALL WATER WORK, PUBLIC OR PRIVATE, SHALL BE DONE IN ACCORDANCE WITH WEST DES MOINES WATER WORKS STANDARD SPECIFICATIONS.
26. CONTRACTOR SHALL NOTIFY WEST DES MOINES WATER WORKS AT LEAST ONE WEEK PRIOR TO BUILDING CONSTRUCTION.
27. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK OF ALL SUBCONTRACTOR(S) INVOLVED IN THE PROJECT.
28. CONTACT BUILDING INSPECTION (515-222-3630) A MINIMUM OF 24 HOURS IN ADVANCE FOR PRIVATE UTILITY INSTALLATION INSPECTIONS.
29. DESIGNATED BUFFERS SHALL BE LABELED AS A "NO BUILD AREA".
30. ALL LIGHTS ARE TO BE DOWNCAST CUTOFF VARIETY. WALLPACKS ARE PROHIBITED. THE MAXIMUM ILLUMINATION ALLOWED AT THE PROPERTY LINE IS 1 FOOTCANDLE.
31. AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC R.O.W. / EASEMENTS AND/OR ANY CONNECTION TO PUBLIC SEWER AND STREETS, THE CONTRACTOR SHALL CONTACT THE CITY OF WEST DES MOINES ENGINEERING SERVICES, 222-3475, TO OBTAIN APPLICABLE CITY PERMITS THAT MAY BE NECESSARY.
32. ALL WORK COMPLETED IN THE PUBLIC ROW SHALL BE DONE IN ACCORDANCE TO THE WEST DES MOINES STANDARD CONSTRUCTION SPECIFICATIONS FOR SUBDIVISIONS AND THE DES MOINES METROPOLITAN DESIGN STANDARDS MANUAL WITH WEST DES MOINES ADDENDA.
33. ALL JOINTING SHALL MEET IOWA DOT SPECIFICATIONS AND REQUIREMENTS. ALL LONGITUDINAL PAVEMENT JOINTS SHALL HAVE EITHER TYPE "BT", "KT", OR "L" JOINTS DEPENDING ON THE POURING SEQUENCE. ALL TRAVERSE JOINTS SHALL BE TYPE "C" WITH TYPE "DW" JOINTS USED BETWEEN POURS. MAXIMUM JOINT SPACING SHALL BE 12' ON ALL PAVEMENT AND SQUARE ON ALL SIDEWALKS WITH A MAXIMUM JOINT SPACING OF 10'. SEAL ALL PAVEMENT JOINTS. CONTRACTOR SHALL SUBMIT POURING SEQUENCE AND JOINTING PLANS FOR APPROVAL BY ENGINEER PRIOR TO BEGINNING PAVING OPERATIONS.
34. MATERIALS NOT SUITABLE FOR CONSTRUCTION, INCLUDING TRENCH BACKFILL AND SURFACE RESTORATION, AND EXCESS MATERIALS SHALL BE PROPERLY DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER.
35. ALL PEDESTRIAN SIDEWALK RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH SUDAS REQUIREMENTS AND SHALL MEET "AMERICANS WITH DISABILITIES ACT ACCESSIBILITIES GUIDELINES" (ADAAG) AND "PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN PUBLIC RIGHT-OF-WAY" (PROWAG) GUIDELINES. ANY RAMP NOT IN COMPLIANCE WILL NOT BE ACCEPTED AND WILL REQUIRE RECONSTRUCTION.
36. THE FOLLOWING INFORMATION HAS BEEN FORWARDS TO THE BUILDING ARCHITECT: "THE PROPOSED PROJECT EXCEEDS 3,000 SF AND WILL BE REQUIRED TO PROVIDE VESTIBULES FOR ENTRANCES AS REQUIRED BY THE STATE ADOPTED 2009 INTERNATIONAL ENERGY CONSERVATION CODE (SECTION 502.4.7)".
37. ALL ACCESSIBLE PARKING SPACES ARE LOCATED ON THE SHORTEST POSSIBLE ACCESSIBLE CIRCULATION ROUTE TO THE MAIN ENTRANCE OF THE BUILDING.
38. THERE ARE AT LEAST TWO ACCESSIBLE MEANS OF EGRESS WITH A CONTINUOUS EXIT PATH AWAY FROM THE BUILDING FOR TENANTS THAT WILL REQUIRE TWO EXITS.
39. A REPORT CERTIFIED BY A THIRD-PARTY RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE CITY, SHALL BE SUBMITTED TO DOCUMENT THE THICKNESS AND STRENGTH OF THE PAVEMENT, THE SUB-GRADE COMPACTION COMPLIANCE WITH THE METRO DESIGN STANDARDS FOR STREETS, AND THE STANDARDS LISTED IN THE WEST DES MOINES "OFF STREET PARKING ORDINANCE" FOR PRIVATE STREETS, PARKING LOTS, AND DRIVEWAYS.
40. IF ADDITIONAL PAVEMENT REMOVAL IS REQUIRED OTHER THAN A STANDARD BOX CUT, FULL PANEL REMOVAL WILL BE REQUIRED. NO HALF PANEL REMOVAL WILL BE ALLOWED.
41. AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC R.O.W./EASEMENTS AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, THE CONTRACTOR SHALL CONTACT THE WEST DES MOINES ENGINEERING SERVICES DEPARTMENT (222-3475) TO SCHEDULE INSPECTION.
42. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY OR EASEMENTS, AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, SHALL COMPLY WITH THE WEST DES MOINES STANDARD CONSTRUCTION SPECIFICATIONS.
43. THE PROJECT CIVIL ENGINEER OR DESIGN PROFESSIONAL SHALL PROVIDE AS-BUILT DOCUMENTATION THAT THE STORM WATER DRAINAGE SYSTEM HAS BEEN CONSTRUCTED AS DESIGNED. THE AS-BUILT SHALL BE FORWARDED TO THE CITY BEFORE ISSUANCE OF THE FINAL OCCUPANCY PERMIT, AND SHALL INCLUDE ELEVATIONS, DETENTION AND RETENTION POND CAPACITY, PIPING RESTRICTIONS, AND ANY PERTINENT ASPECTS OF THE STORM WATER SYSTEM.
44. ALL WATER WORK, PUBLIC OR PRIVATE, SHALL BE DONE IN ACCORDANCE WITH WEST DES MOINES WATER WORKS STANDARD SPECIFICATIONS.
45. CONTRACTOR SHALL NOTIFY WEST DES MOINES WATER WORKS (515-222-3465) AT LEAST ONE WEEK PRIOR TO BUILDING CONSTRUCTION.
46. ANY WATER USE FROM A HYDRANT, PUBLIC OR PRIVATE, REQUIRES THE USE OF A WEST DES MOINES WATER WORKS HYDRANT METER. CALL 515-222-3465 TO RESERVE A METER.
47. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE WEST DES MOINES WATER WORKS AND THE CITY'S CROSS CONNECTION CONTROL/CONTAINMENT PROVISIONS.
48. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION OF AN APPROVED BACKFLOW PREVENTION ASSEMBLY(IES) FOR CONTAINMENT IN ALL NEW CONSTRUCTION. BACKFLOW PREVENTION TO BE INSTALLED PER CITY ORDINANCE 1297, 54-1998. CONTRACTOR SHALL NOTIFY WEST DES MOINES WATER WORKS, RALPH RENTERIA, ENGINEERING TECHNICIAN (515-222-3465) A MINIMUM OF 24 HOURS AFTER INSTALLATION AND TESTING OF ALL BACKFLOW DEVICES TO SCHEDULE FINAL INSPECTION.
49. THE FOLLOWING INFORMATION HAS BEEN FORWARDED TO THE BUILDING ARCHITECT PRIOR TO SITE PLAN APPROVAL AND BUILDING SITE PLAN SUBMITTAL. THE PROPOSED PROJECT EXCEEDS 3,000 SF AND WILL BE REQUIRED TO PROVIDE VESTIBULES FOR ENTRANCES AS REQUIRED BY THE STATE ADOPTED 2009 INTERNATIONAL ENERGY CONSERVATION CODE (SECTION 502.4.7). FOR FOLLOW-UP QUESTIONS CONTACT THE CHIEF BUILDING OFFICIAL AT RYANGENDEREN@WDM-IA.COM OR 515-222-3630.
50. A REPORT CERTIFIED BY A THIRD-PARTY RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE CITY, SHALL BE SUBMITTED TO DOCUMENT THE THICKNESS AND STRENGTH OF THE PAVEMENT, THE SUB-GRADE COMPACTION, COMPLIANCE WITH THE METRO DESIGN STANDARDS FOR STREETS, AND THE STANDARDS LISTED IN THE WEST DES MOINES "OFF STREET PARKING ORDINANCE" FOR PRIVATE STREETS, PARKING LOTS AND DRIVEWAYS.

TRAFFIC AND PEDESTRIAN CONTROL NOTES

51. CONTRACTOR IS ALLOWED TO CLOSE DOWN LIMITED PARKING AND DRIVES DURING CONSTRUCTION. ACCESS TO ADJACENT BUILDINGS, DRIVES, PARKING, AND SIDEWALKS ARE TO BE MAINTAINED THROUGHOUT CONSTRUCTION. PHASING OF UTILITY CONSTRUCTION AND ROAD PATCHING WILL BE REQUIRED TO MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC TO ALL BUILDINGS AND SHALL BE COORDINATED WITH SCHEDULES OF OTHER TRADES, CONTRACTORS, AND UTILITY COMPANIES.
52. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTROL TRAFFIC DURING CONSTRUCTION AND PROVIDE ADEQUATE TRAFFIC AND PEDESTRIAN CONTROL AND SIGNAGE. AT A MINIMUM CONTRACTOR TO PROVIDE TYPE 4 BARRICADES AT EACH END OF CLOSED ROADS AND DRIVES.
53. CONTRACTOR TO INSTALL AND MAINTAIN ORANGE CONSTRUCTION FENCE AROUND ALL AREAS OF ACTIVE CONSTRUCTION. CONTRACTOR SHALL ASSUME PEDESTRIAN TRAFFIC WILL BE IN THE AREA THROUGHOUT THE PROJECT DURATION.
54. OWNER/CONSTRUCTION MANAGER TO INSTALL TEMPORARY GRANULAR SURFACING AND CHAIN LINK FENCE AND GATES AROUND PROPOSED CONSTRUCTION STAGING AREAS. CONTRACTORS TO COORDINATE WITH CONSTRUCTION MANAGER ON PORTIONS OF STAGING AREA THAT ARE REQUIRED FOR THEIR SCOPE OF WORK AND COORDINATE WITH ALL OTHER CONTRACTORS AND TRADES ONSITE.
55. PEDESTRIAN ACCESS MUST BE MAINTAINED TO ALL BUILDINGS THROUGHOUT CONSTRUCTION. PEDESTRIAN ACCESS MUST BE MAINTAINED AT ALL TIMES BETWEEN COTTAGES, GYM/SCHOOL, AND KITCHEN BUILDINGS. COORDINATE WITH FACILITY AND CONSTRUCTION MANAGER ON PHASING AND SHUT DOWN OF ALL DRIVES AND SIDEWALKS. TEMPORARY GRANULAR PATCHES WILL BE REQUIRED FOR ANY DRIVES AND SIDEWALKS WHICH ARE NOT PATCHED WITH CONCRETE IN A TIMELY MANNER TO LIMIT DISRUPTIONS TO CAMPUS TRAFFIC AND PEDESTRIAN FLOW.
56. CONTRACTOR TO COORDINATE CONSTRUCTION ACCESS, STAGING, AND PARKING AREAS WITH OWNER AND MINIMIZE IMPACTS TO OWNER'S OPERATIONS.
57. CONTRACTOR TO PROVIDE AND MAINTAIN PERIMETER SAFETY FENCING AROUND ALL AREAS WHEN UNDER CONSTRUCTION.
58. COORDINATE STAGING AND TRAFFIC CONTROL WITH WEST DES MOINES EMERGENCY SERVICES.
59. LANE CLOSURE NOTICES MUST BE SUBMITTED TO WEST DES MOINES PUBLIC WORKS FOR APPROVAL A MINIMUM OF 48 HOURS IN ADVANCE OF CLOSURE.
60. ALL SIGNING, STRIPING, AND OTHER TRAFFIC CONTROL DEVICES ON THE DRIVEWAY APPROACHES TO THE PUBLIC STREET SHOULD CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), FEDERAL HIGHWAY ADMINISTRATION 2009 EDITION.

GRADING AND EROSION CONTROL NOTES

1. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
2. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
3. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
4. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
5. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
6. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE SEEDED OR SODDED. THESE AREAS SHALL BE SEEDED OR SODDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
7. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
8. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
9. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, WATTLES, INLET PROTECTION, ETC.) TO PREVENT EROSION.
11. ALL STORM SEWER INTAKES THAT RECEIVE STORMWATER RUNOFF FROM DISTURBED AREAS SHALL BE PROVIDED WITH INLET PROTECTION. SEE DETAIL.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, PERIODIC CHECKING AND REINSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES.
13. OWNER SHALL ASSUME RESPONSIBILITY FOR ALL EROSION CONTROL UNTIL DELEGATED TO CONTRACTOR ONCE THE PROJECT CONSTRUCTION STARTS.
14. THE CONSTRUCTION SITE EXCEEDS AN ACRE OF DISTURBED GROUND. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND GENERAL PERMIT #2 WILL BE REQUIRED FOR CONSTRUCTION, AND PROVIDED BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROLS AS REQUIRED TO PREVENT THE RELEASE OF SEDIMENT INTO PUBLIC STORM SEWER.
15. THE OWNER WILL OBTAINED AN NPDES PERMIT FOR THE CAMPUS AND PREPARED AN EPA TEMPLATE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROPOSED CONSTRUCTION. ALL CONTRACTORS WILL BE REQUIRED TO BE CO-PERMITEES WITH THE OWNER .
16. THE OWNER/CONSTRUCTION MANAGER WILL BE RESPONSIBLE FOR EXECUTING THE SWPPP, REQUIRED INSPECTIONS, AND INSTALLING ALL REQUIRED STRUCTURAL CONTROLS. ALL CONTRACTORS ARE REQUIRED TO COORDINATE WITH AND FOLLOW THE PROJECT SWPPP AND NOTIFY THE CONSTRUCTION MANAGER OF ANY POTENTIAL CONCERNS OR RECOMMENDED CONTROLS AS PART OF THEIR SCOPE OF WORK.
17. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE IOWA DNR, US EPA AND LOCAL REGULATIONS DEALING WITH THE NPDES PERMIT, STORMWATER RUNOFF, AND EROSION CONTROL.

UTILITY NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATIONS AND DEPTHS OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES AND WHETHER ADDITIONAL UTILITIES EXIST.
2. ALL HDPE PIPE SHALL BE DUAL-WALLED UNLESS OTHERWISE SPECIFIED AS PERFORATED.
3. CONSTRUCTION NOT SPECIFICALLY DETAILED OR SPECIFIED WITHIN THE PLANS OR PROJECT SPECIFICATIONS SHALL CONFORM TO THE MOST RECENT EDITION OF THE DES MOINES METROPOLITAN STANDARDS WITH WEST DES MOINES ADDENDUM AND THE WEST DES MOINES CONSTRUCTION SPECIFICATIONS FOR SUBDIVISIONS.
4. ALL CLEANOUTS AND WATER VALVES IN LAWN OR LANDSCAPE BEDS SHALL HAVE CONCRETE COLLARS.
5. ALL EXISTING PUBLIC AND PRIVATE UTILITY STRUCTURES SHALL BE ADJUSTED TO FINAL FINISH GRADES.
6. ALL HDPE BENDS AND CONNECTIONS SHALL BE MANUFACTURED CONNECTIONS.
7. CONTRACTOR TO MODIFY EXISTING INVERTS TO ACCOMMODATE NEW PIPE CONNECTIONS.
8. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS, SPECIFICATIONS, PERMITS, AND FEES.
9. ALL EXISTING AND PROPOSED UTILITY CROSSINGS/CONFLICTS SHALL MEET OR EXCEED HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS OF THE IOWA DEPARTMENT OF PUBLIC HEATH AND OTHER REGULATING AGENCIES.
10. ALL UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED, AND APPROVED BEFORE BACKFILLING.
11. WATER TO BE INSTALLED WITH A MINIMUM COVER OF 5.5 FEET DEEP OR LOWER TO ACCOMMODATE UTILITY CROSSINGS.
12. SANITARY PIPE LENGTHS SHOWN ARE CENTERLINE TO CENTERLINE OF STRUCTURES.
13. STORM PIPE LENGTHS SHOWN ARE INSIDE EDGE TO INSIDE EDGE OF STRUCTURES.
14. AS-BUILT DOCUMENTATION OF THE STORM WATER DETENTION SYSTEM AND AN EXECUTED STORM WATER MANAGEMENT FACILITY MAINTENANCE AGREEMENT WILL BE REQUIRED AND FORWARDED TO THE CITY BEFORE ISSUANCE OF THE FINAL OCCUPANCY PERMIT AND SHALL INCLUDE ELEVATIONS, DETENTION BASIN CAPACITY, PIPING RESTRICTIONS, AND OTHER PERTINENT INFORMATION.
15. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE WEST DES MOINES WATER WORKS AND THE CITY'S CROSS CONNECTION CONTROL/CONTAINMENT PROVISION.
16. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION OF AN APPROVED BACKFLOW PREVENTION ASSEMBLY(IES) FOR CONTAINMENT IN ALL NEW CONSTRUCTION. BACKFLOW PREVENTION TO BE INSTALLED PER CITY ORDINANCE 1297, 54-1998. CONTRACTOR SHALL NOTIFY WEST DES MOINES WATER WORKS, RALPH RENTERIA, ENGINEERING TECHNICIAN (515-222-3465) A MINIMUM OF 24 HOURS AFTER INSTALLATION AND TESTING OF ALL BACKFLOW DEVICES TO SCHEDULE FINAL INSPECTION.
17. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH IOWA SUDAS STANDARD SPECIFICATIONS AND IOWA DOT SPECIFICATIONS AND STANDARD ROAD PLANS, AND ROAD DESIGN DETAILS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
18. ALL OPEN EXCAVATIONS SHALL BE PROTECTED WITH SAFETY FENCE, BARRIERS OR BARRICADES IN ACCORDANCE WITH OSHA.
19. CONTRACTOR TO IMPLEMENT TEMPORARY SHORING OR SUPPORT AT ALL UTILITY CROSSINGS AS REQUIRED BY CONTRACTORS MEANS AND METHODS. ALL DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
20. ALL CONNECTIONS TO PUBLIC SEWERS SHALL BE CORE DRILLED.

DEMOLITION NOTES

1. REMOVAL REQUIREMENTS SHOWN ON THE PLANS SHOULD BE CONSIDERED MINIMUM REMOVAL AND REPLACEMENT REQUIREMENTS. CONTRACTORS SHALL ADJUST REMOVAL LIMITS AND DIMENSIONS AS REQUIRED BY CONSTRUCTION MEANS AND METHODS AND ACTUAL SITE CONDITIONS. CONTRACTORS SHOULD FACTOR ADDITIONAL ANTICIPATED REMOVAL AND REPLACEMENT REQUIREMENTS INTO THEIR BIDS AS ADDITIONAL COMPENSATION REQUESTS FOR ADJUSTED OR EXPANDED REMOVAL LIMITS WILL NOT BE APPROVED.
2. CONTRACTOR SHALL REPLACE AT NO COST TO THE OWNER ALL DAMAGED STREETS, DRIVES, SIDEWALKS, CURB AND GUTTER, SIGNS, PAVEMENT MARKINGS, LIGHTS, FENCES AND ALL OTHER SURFACE STRUCTURES NOT SCHEDULED TO BE REMOVED DURING THE COURSE OF THE WORK.
3. ALL LANDSCAPING INCLUDING TREES, SHRUBS, PERENNIALS NOT CALLED OUT TO BE REMOVED OR APPROVED FOR REMOVAL BY CONSTRUCTION MANAGER SHALL BE PROTECTED AND REPLACED AT NO COST TO THE OWNER IF DAMAGED DURING CONSTRUCTION. REPLACE TREES WITH (1) EQUIVALENT TREE UP TO 6" CALIPER AND (1) ADDITIONAL TREE FOR EVERY 6" CALIPER BEYOND THAT. ALL PLANTS THAT ARE DESTROYED OR DAMAGED SHALL BE REPLACED WITH NEW PLANTS OF THE EQUIVALENT TYPE.
4. WHERE A SECTION OF PAVEMENT, CURB AND GUTTER, OR SIDEWALK IS CUT OR OTHERWISE DAMAGED BY THE CONTRACTOR, THE ENTIRE SECTION SHALL BE REMOVED AND REPLACED. PAVEMENT, CURBS, GUTTERS, AND SIDEWALKS SHALL BE REMOVED TO THE NEAREST JOINT A MINIMUM OF TWO FEET BEYOND THE EDGE OF ALL EXCAVATIONS. CONTRACTOR SHALL DOCUMENT (OR PHOTO) ALL CRACKED PCC PAVEMENT OR DAMAGED HMA PAVEMENT PRIOR TO CONSTRUCTION. IF NEW CRACKS IN PCC PAVEMENT DEVELOP OR HMA PAVEMENT IS DAMAGED DUE TO THE CONSTRUCTION TRAFFIC (EXTENDS BEYOND CONSTRUCTION LIMITS), CONTRACTOR SHALL REPLACE DAMAGED AREA AT NO ADDITIONAL COST TO OWNER.
5. FIRE PROTECTION ACCESS AND FIRE HYDRANTS SHALL BE MAINTAINED THROUGHOUT THE PROJECT. ALL EXISTING FIRE HYDRANTS WHICH ARE NOT CALLED OUT TO BE REMOVED SHALL BE PROTECTED AND MAINTAINED. AT THE REQUEST OF THE CONTRACTOR SELECT EXISTING FIRE HYDRANTS MAY BE ALLOWED TO BE REMOVED TO BETTER ACCOMMODATE THE PROPOSED SITE IMPROVEMENTS. REQUESTS TO REMOVE EXISTING FIRE HYDRANT ASSEMBLIES SHOULD BE SUBMITTED AND APPROVED BY THE ENGINEER AND LOCAL JURISDICTION.
6. TREE AND VEGETATION INDICATED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY INCLUDING ALL STUMPS AND ROOT STRUCTURES THAT ARE 2" DIAMETER AND LARGER. BACKFILL ALL EXCAVATIONS AND DEPRESSIONS WITH COMPACTED SUITABLE TOPSOIL MATERIAL.
7. PAVEMENT REMOVAL FOR THE PRIVATE DRIVEWAY CONNECTION TO THE PUBLIC STREET SHALL BE 18" FROM THE BACK OF CURB. IF A JOINT EXISTS 3 FEET FROM THE BACK OF CURB, THE REMOVAL LIMITS SHALL BE 3 FEET FROM THE BACK OF CURB. REMOVAL LIMITS SHALL ALSO BE TO THE NEAREST TRANSVERSE JOINT AT THE END OF RETURNS. VERIFY REMOVAL LIMITS WITH WDM CONSTRUCTION INSPECTOR PRIOR TO ANY REMOVAL.

EXCAVATION NOTES

1. EXCAVATE TRENCH AND PROVIDE PIPE BEDDING AND BACKFILL MATERIAL PER IOWA SUDAS SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.
2. STRIP, STOCKPILE, AND RESPREAD A MINIMUM OF 6" OF TOPSOIL IN ALL SOD AREAS DISTURBED BY CONSTRUCTION. DISTURBED AREAS SHALL BE LEFT IN SMOOTH CONDITIONS READY FOR FINAL SEEDBED PREPARATION BY SITE RESTORATION CONTRACTOR. GRADE ALL DISTURBED ARES TO DRAIN AS PONDING OF WATER WILL NOT BE ACCEPTABLE.
3. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH AND FILL SETTLEMENT FOR THE PROJECT'S ONE YEAR WARRANTY PERIOD. CONTRACTOR SHALL PROVIDE ADDITIONAL FILL MATERIAL AND IS RESPONSIBLE FOR RESEEDING OF ALL SETTLEMENT AREAS AFTER SITE RESTORATION HAS BEEN COMPLETED.
4. OWNER WILL PROVIDE AN EXCESS SOIL AND UTILITY SPOILS DISPOSAL SITE AVAILABLE ONSITE. CONTRACTORS WILL BE RESPONSIBLE FOR STRIPPING AND RESPREADING TOPSOIL AND LEAVING THE WASTE SITE IN A SMOOTHLY GRADED CONDITION AT THE END OF CONSTRUCTION. ONLY CLEAN SOIL MATERIAL AND GRANULAR MATERIAL LESS THAN 1.5" DIAMETER WILL BE ALLLOWED TO BE PLACED ONSITE. ALL DEBRIS AND LARGER ROCK OR CONCRETE WASTE SHALL BE DISPOSED OF OFFSITE. POTHOLE MUD DISPOSAL WILL NOT BE PERMITTED ONSITE AND SHOULD BE DISPOSED OF OFFSITE.

PAVEMENT GENERAL NOTES

1. ALL PROPOSED PAVEMENT PATCHES ARE APPROXIMATE AND SHOULD BE CONSIDERED MINIMUM REMOVAL EXTENTS. EXTEND AND ADJUST PAVEMENT PATCHES AS REQUIRED BY CONSTRUCTION WITH PRIOR APPROVAL BY CONSTRUCTION MANAGER.
2. ASPHALT PAVEMENT SHALL BE REMOVED AS REQUIRED FOR UTILITY INSTALLATION AND REPLACED WITH PCC PAVEMENT UNLESS PRIOR APPROVAL IS PROVIDED BY ENGINEER TO REPLACE WITH ASPHALT PATCHES.
3. ALL SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING. ANY PONDING ON PAVEMENT PATCHES OR ADJACENT TO PATCHES WILL BE CONSIDERED UNACCEPTABLE AND SHALL BE REPLACED.
4. SALVAGE ALL SIGNS WITHIN THE CONSTRUCTION LIMITS AND REINSTALL IN THE SAME LOCATION AND CONDITION AFTER CONSTRUCTION. ANY STREET SIGNS OR POLES DAMAGED DURING THE COURSE OF WORK TO BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
5. USE TYPE "A" COMPACTION ON SUBGRADE AND SUBBASE, TYPE "A" COMPACTION PER IOWA DOT STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGE CONSTRUCTION.
6. IN THE EVENT THAT PAVEMENT PATCHES ON ROADS AND SIDEWALKS CANNOT BE COMPLETED BEFORE THE COLD WEATHER SEASON BEGINS, CONTRACTOR MAY INSTALL TEMPORARY ROCK PATCHES IN AREAS WHERE PAVEMENT HAS BEEN REMOVED RATHER THAN COMPLETE PAVEMENT PATCHES IN LESS THAN IDEAL WEATHER CONDITIONS. TEMPORARY ROCK PATCHES SHALL BE A MINIMUM OF 8" DEEP AND COMPACTED. CONTRACTOR TO MAINTAIN TEMPORARY ROCK PATCHES THROUGHOUT THE WINTER SEASON INCLUDING SUPPLEMENTING WITH ADDITIONAL ROCK AS REQUIRED AND INSTALL PERMANENT PAVEMENT PATCHES AS SHOWN IN PLANS IN ACCEPTABLE WEATHER CONDITIONS.

CONSTRUCTION STAGING NOTES

1. CONTRACTOR SHALL COORDINATE ALL STAGING AREAS WITH OWNER.
2. CONTRACTOR SHALL REPLACE ALL PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES AT THE END OF CONSTRUCTION. CONTRACTOR TO PROVIDE PHOTO DOCUMENTATION OF EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS NOT TO BE PAVED TO THEIR ORIGINAL CONDITION AT THE END OF CONSTRUCTION. ALL DISTURBED AREAS SHALL BE SCARIFIED, TILLED AND SEEDED. CONTRACTOR TO PROVIDE PHOTO DOCUMENTATION PRIOR TO BEGINNING WORK.
4. CONTRACTOR SHALL PROVIDE BARRICADES, FENCING OR OTHER DEVICES TO KEEP UNAUTHORIZED PERSONNEL AND STUDENTS OUT OF PROJECT SITE.

Legend

EXISTING	DESCRIPTION	PROPOSED
CP	CONTROL POINT/BENCHMARK	
	HANDICAPPED PARKING	
	SHRUB	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	EXISTING TREE LINE	
	TREE REMOVAL	
	PAVEMENT MARKING	
	LIGHT POST	
	UTILITY POLE	
	SINGLE POLE SIGN	
	BOLLARD	
	FLAGPOLE	
	FIRE HYDRANT	
	UTILITY END CAP	
	VALVE	
	CLEANOUT	
	CURB INTAKE	
	STORM INTAKE	
	FLARED END SECTION	
	MANHOLE	
	DRAINAGE MANHOLE	
	SANITARY MANHOLE	
	TRANSFORMER	
	VAULT BOX	
	CURB AND GUTTER (PCC)	
910	MAJOR CONTOUR	910
909	MINOR CONTOUR	909
G	GAS MAIN	G
	SANITARY SEWER	
	STORM SEWER	
	SUBDRAIN	
FO	FIBER OPTIC	FO
W	WATER MAIN	W
	UTILITY DEMO	
	SILT FENCE OR FILTER SOCK	
	CONSTRUCTION LIMITS	
	BUILDING	
	PCC PAVING	
	SIDEWALK PAVING	
	PCC PAVING DEMO	
	SIDEWALK PAVING DEMO	

AUTOMATED GATE CONTROLS

1. CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING AUTOMATED GATE LOOP DETECTORS AS REQUIRED FOR THE PAVEMENT REMOVAL AND REPLACEMENT.
2. CONTRACTOR SHALL VERIFY EXISTING AUTOMATED GATE LOOP DETECTORS ARE OPERATING CORRECTLY BEFORE DISCONNECTING.
3. CONTRACTOR SHALL INSTALL NEW AUTOMATIC GATE LOOP DETECTORS ON BOTH SIDES OF THE GATE AND CONNECT TO THE GATE OPERATOR AS REQUIRED SO GATE IS FULLY FUNCTIONAL. REMOVAL AND REPLACEMENT OF ANY ADJACENT CONDUIT WHICH IS DAMAGED BY PAVEMENT REMOVAL SHALL BE REPLACED AS REQUIRED.
4. LOOP DETECTORS SHALL BE INSTALLED UNDER THE PROPOSED SLAB AND WILL NOT BE PERMITTED TO BE INSTALLED IN THE SLAB.

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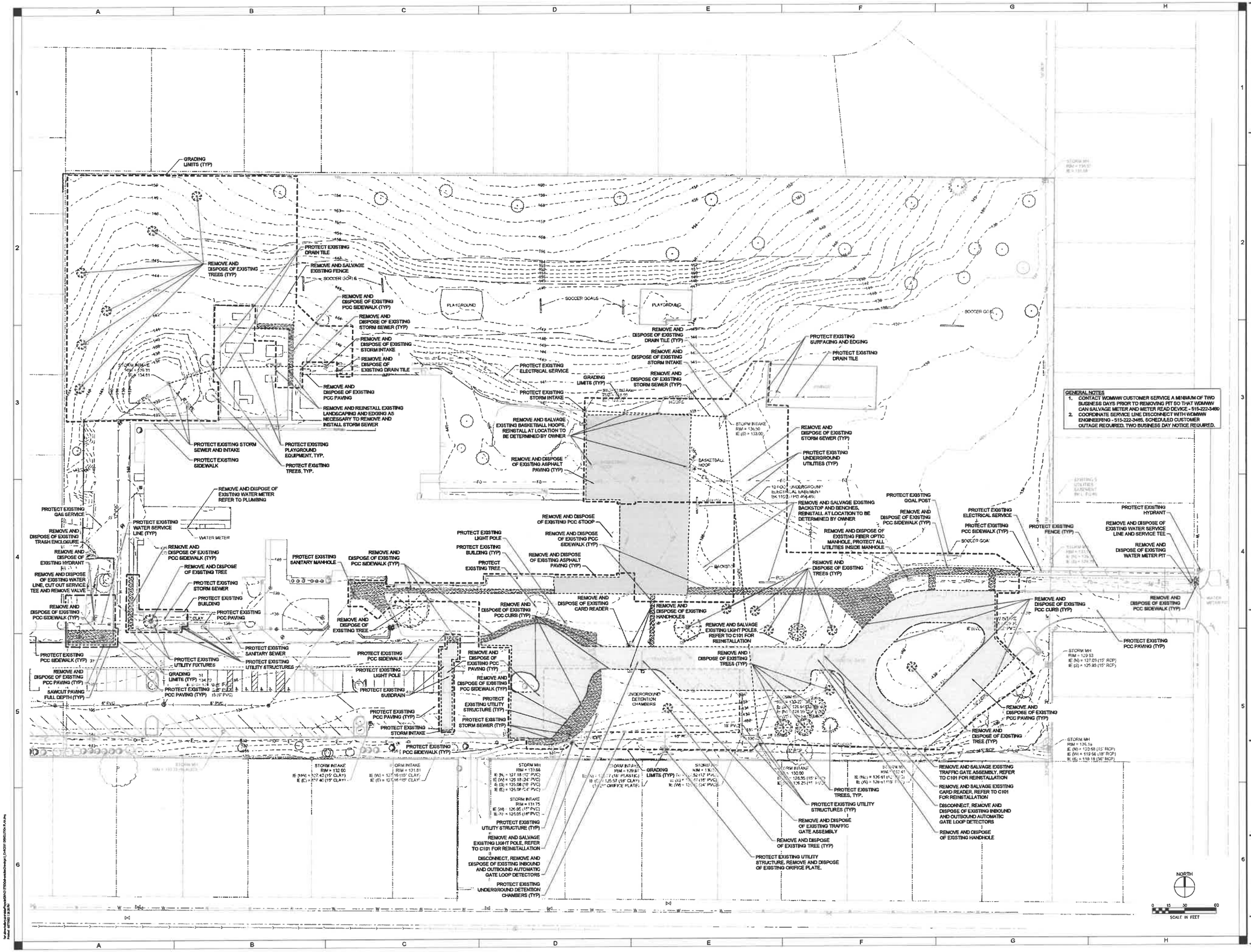
WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 4212780
FIELD BOOK: —
CLIENT NO: —

CONSTRUCTION NOTES

C001



GENERAL NOTES

1. CONTACT WOMWW CUSTOMER SERVICE A MINIMUM OF TWO BUSINESS DAYS PRIOR TO REMOVING PIT SO THAT WOMWW CAN SALVAGE METER AND METER READ DEVICE - 515-222-3460
2. COORDINATE SERVICE LINE DISCONNECT WITH WOMWW ENGINEERING - 515-222-3465, SCHEDULED CUSTOMER OUTAGE REQUIRED. TWO BUSINESS DAY NOTICE REQUIRED.

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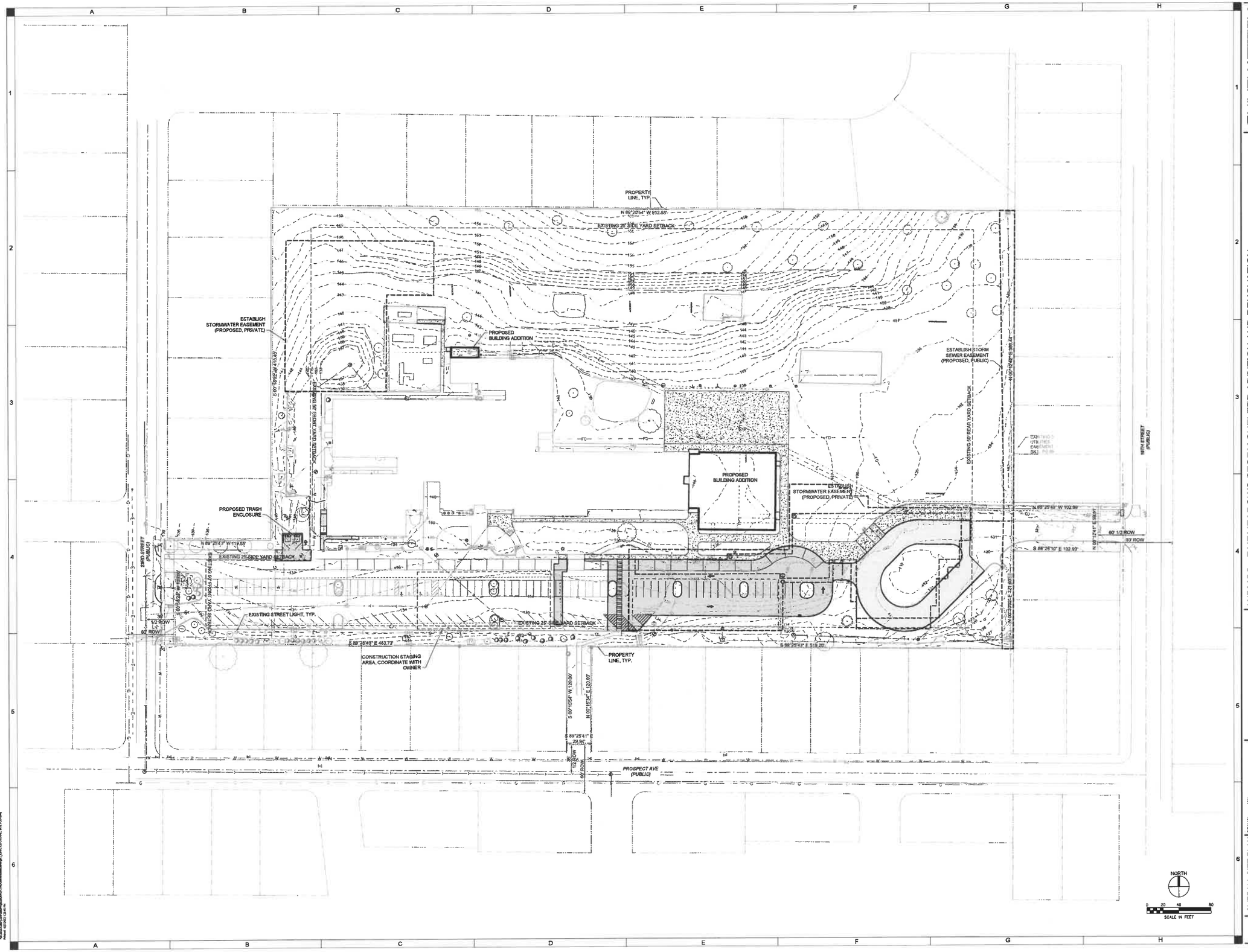
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 4232780
FIELD BOOK: --
CLIENT NO: --

DEMOLITION PLAN

CD01



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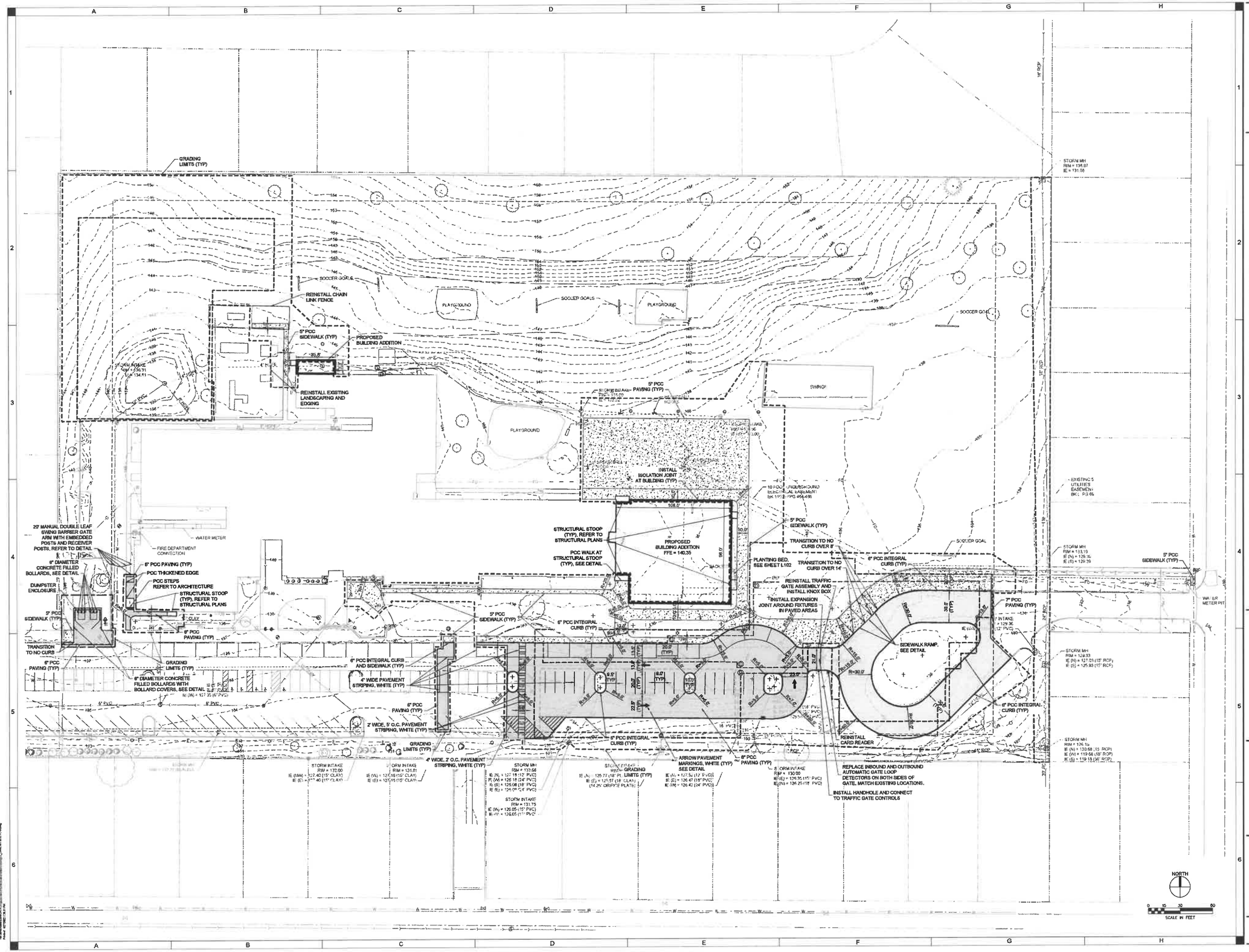
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

OVERALL SITE PLAN

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2025-01-17
PROJECT NO: 4132678
FIELD BOOK: —
CLIENT NO: —

C100



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FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
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ISSUED FOR: CONSTRUCTION DOCUMENTS
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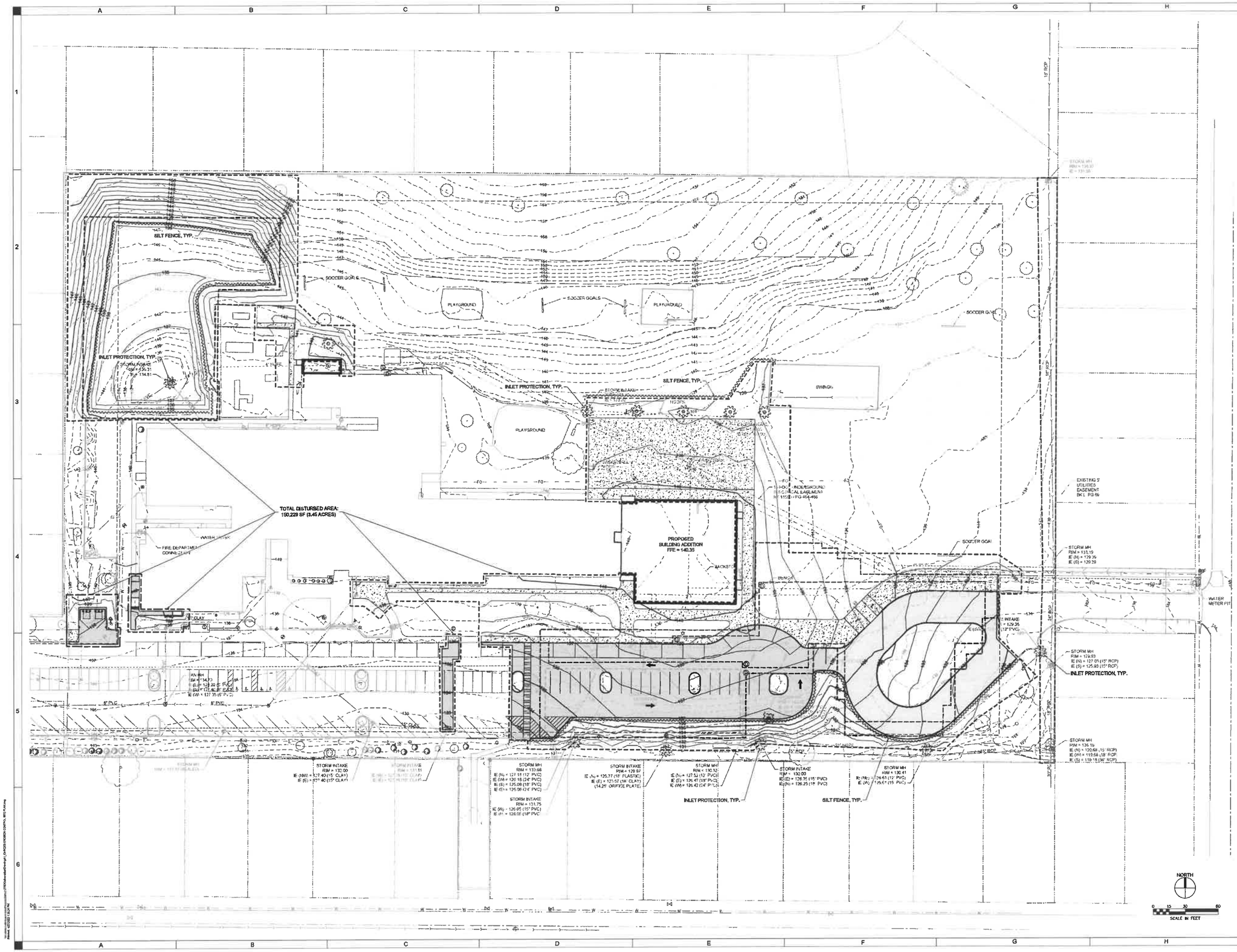
PROJECT NO: 4123782
FIELD BOOK: —
CLIENT NO: —

SITE PLAN

C101



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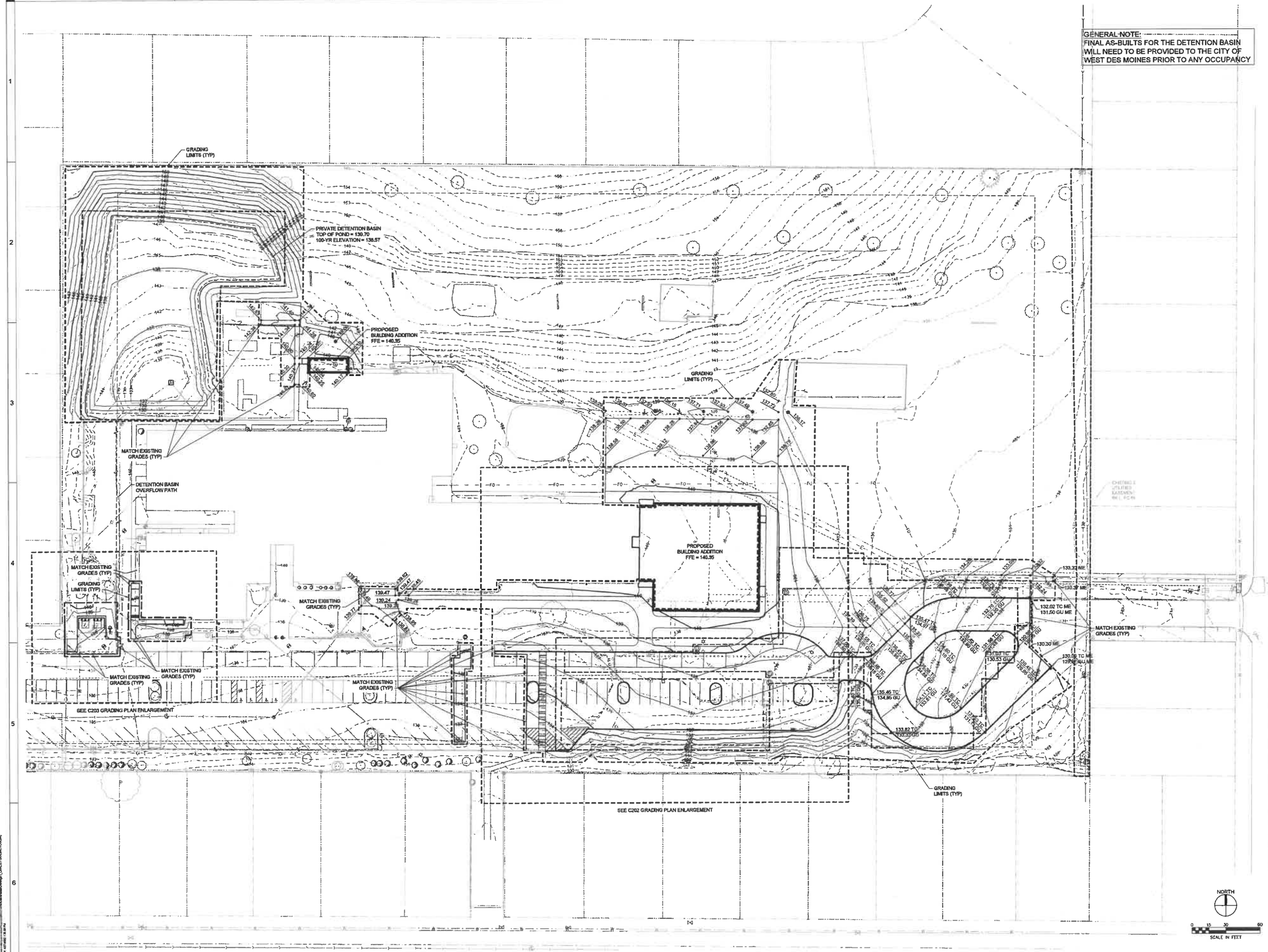
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 42.2788
FIELD BOOK: --
CLIENT NO: --

EROSION CONTROL SITE PLAN

C200

GENERAL NOTE:
FINAL AS-BUILTS FOR THE DETENTION BASIN WILL NEED TO BE PROVIDED TO THE CITY OF WEST DES MOINES PRIOR TO ANY OCCUPANCY



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WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
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DRAWN: MAL
APPROVED: MAL
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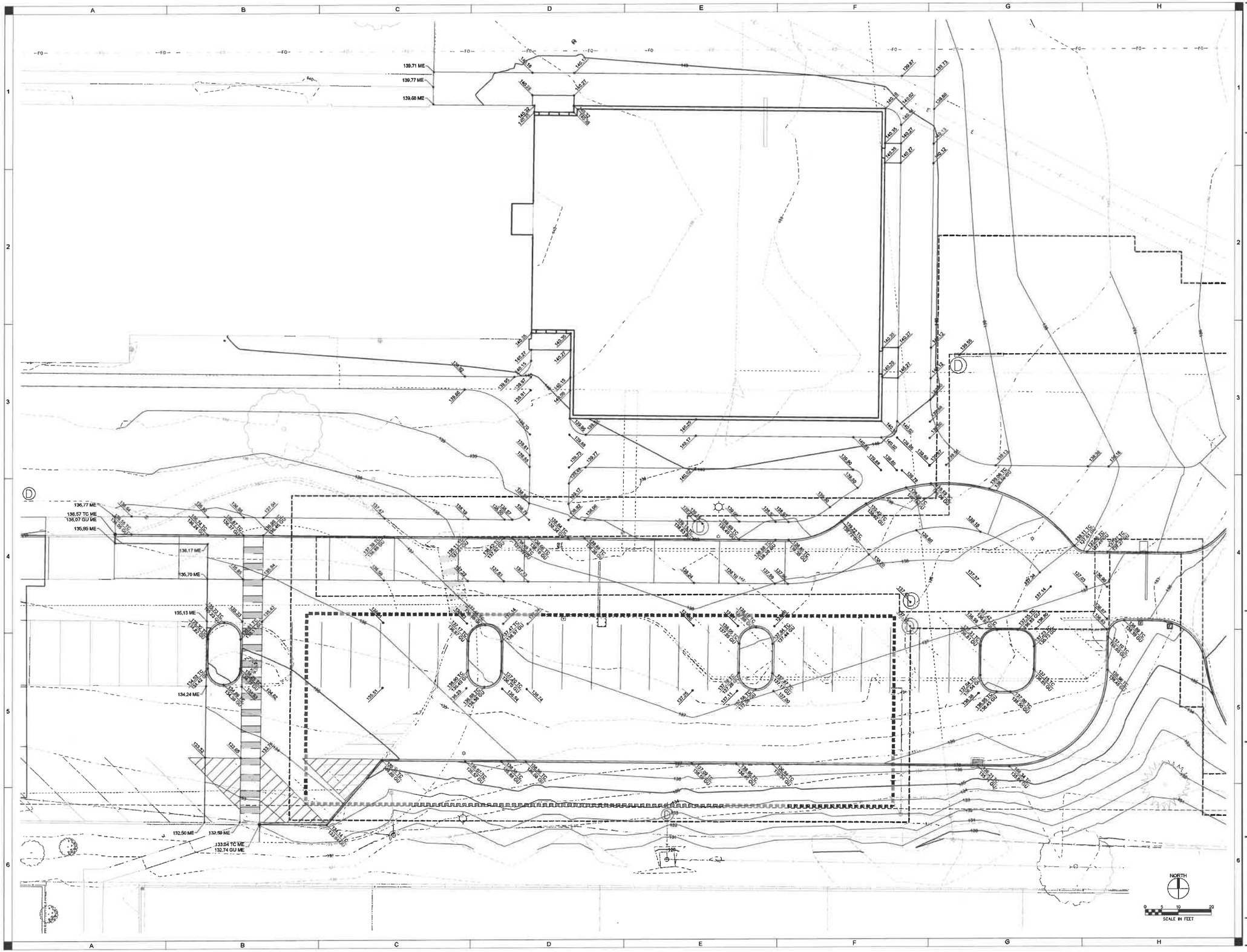
PROJECT NO: 0121783
FIELD BOOK: --
CLIENT NO: --

GRADING PLAN

C201



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FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 42527B
FIELD BOOK: –
CLIENT NO: –

GRADING PLAN ENLARGEMENT

C202

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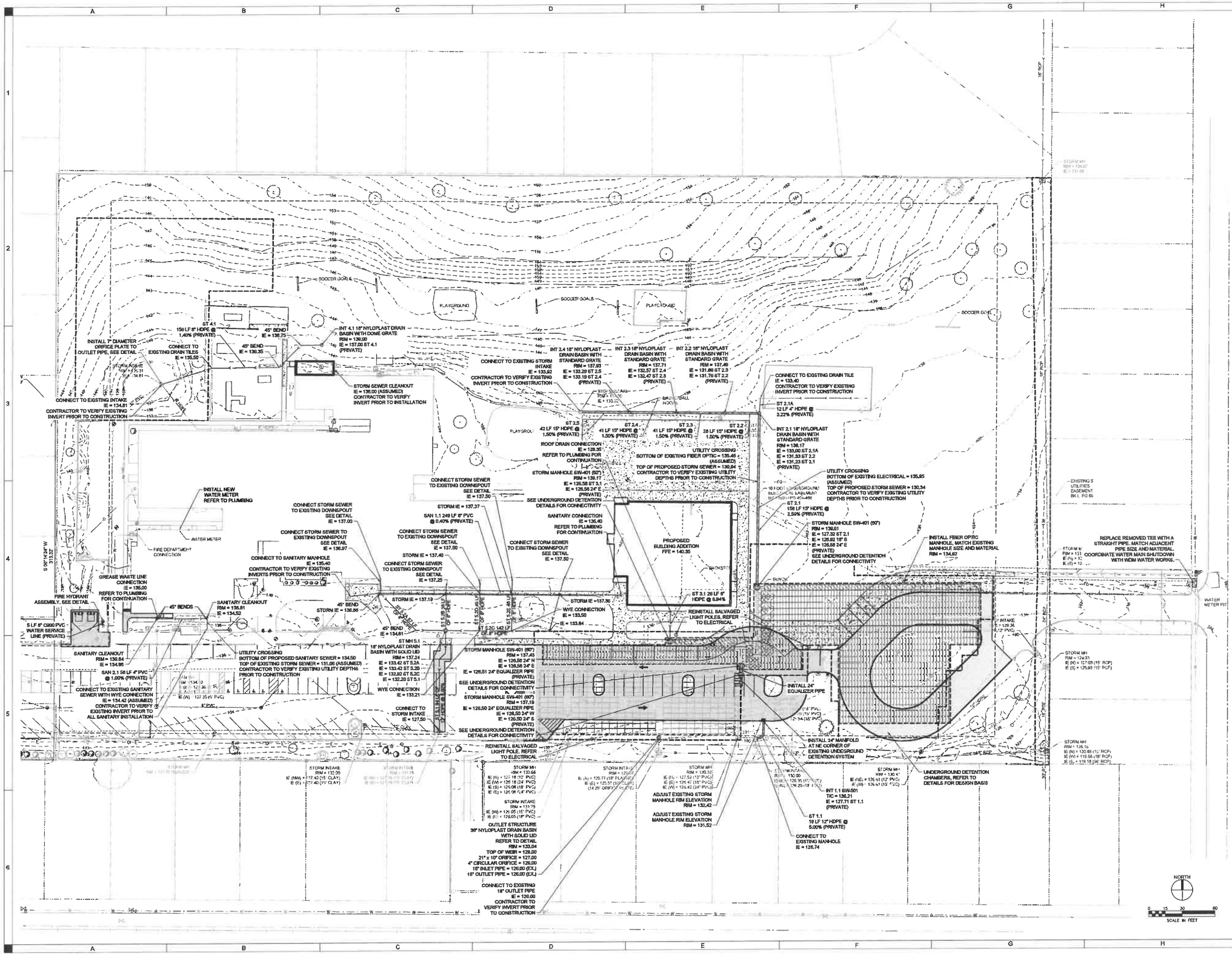
WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 4212276
FIELD WORK: —
CLIENT NO: —

GRADING PLAN ENLARGEMENT

C203



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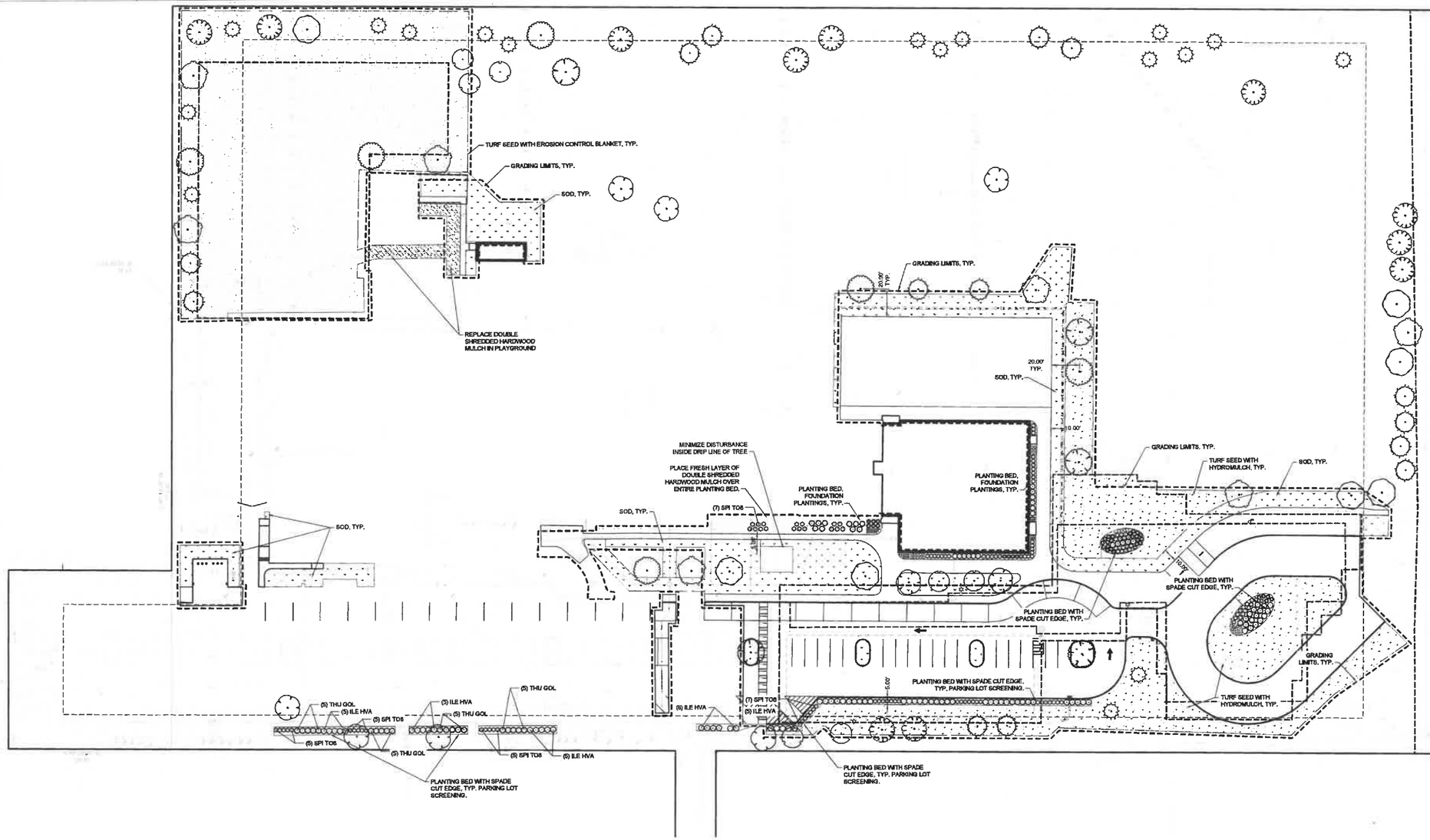
WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2023-01-17
PROJECT NO: 412276
FIELD BOOK: —
CLIENT NO: —

UTILITY PLAN

C301



PLANT SCHEDULE SITE

DECIDUOUS TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE
	CEL OCC	7	Celtis occidentalis	Common Hackberry	B & B	1.75"Cal
	CER CAN	7	Cercis canadensis Single Trunk	Eastern Redbud Single Trunk	B & B	1.5"Cal
	GIN PSG	5	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Maidenhair Tree	B & B	1.75"Cal
	LIQ HAS	7	Liquidambar styraciflua 'Happdell' TM	Happidaze Sweet Gum	B & B	1.75"Cal
	QUE RUB	6	Quercus rubra	Northern Red Oak	B & B	1.75"Cal
	SYR IVO	9	Syringa reticulata 'Ivory Silk' Single Stem	Ivory Silk Japanese Tree Lilac Single St	B & B	1.75"Cal
EVERGREEN TREES	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**
	ABI CON	14	Abies concolor	White Fir	B & B	6' HT.
	PIC GLA	17	Picea glauca 'Densata'	Black Hills Spruce	B & B	6' HT.
	PIN STR	11	Pinus strobus	White Pine	B & B	6' HT.

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE
	ILE HVA	53	Ilex verticillata 'NCIV3' TM	Little Goblin Guy Winterberry	CONT.	3 gal
	JUN PFI	27	Juniperus chinensis 'Kallays Compact'	Kallay Compact Pfitzer Juniper	CONT.	3 gal
	PHY LIT	20	Physocarpus opulifolius 'Little Devil' TM	Little Devil Dwarf Ninebark	CONT.	3 gal
	SPI TOS	98	Spiraea betulifolia 'Tor Gold' TM	Glow Girl Birchleaf Spirea	CONT.	3 gal
	THU GOL	45	Thuja occidentalis 'Golden Globe'	Golden Globe Arborvitae	CONT.	3 gal
ORNAMENTAL GRASS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**
	PAN VIR	26	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	CONT.	1 gal
	PEN DPL	39	Pennisetum alopecuroides 'Desert Plains'	Desert Plains Fountain Grass	CONT.	1 gal
PERENNIALS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**
	ECH EVA	8	Echinacea x 'Evan Saul' TM	Big Sky Sundown Coneflower	CONT.	1 gal
	HEM HAP	54	Hemerocallis x 'Happy Returns'	Happy Returns Daylily	CONT.	1 gal
GROUND COVERS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	
	SOD S11	22,680 sf	Sod	Sod	SF	
	TUR BLA	37,414 sf	Turf Seed with Erosion Control Blanket	Turf Seed with Erosion Control Blanket	SF	
	TUR SEE	22,013 sf	Turf Seed with Hydromulch	Turf Seed with Hydromulch	SF	

LANDSCAPE SUMMARY

-OFF STREET PARKING AREAS TO BE SCREENED FROM PUBLIC ROW TO A HEIGHT OF 3'
-ALL PARKING LOT ISLANDS NEED TREES PLANTED IN THEM
-2 TREES AND 3 SHRUBS REQUIRED PER 3,000 SF OF REQUIRED OPEN SPACE
-50% OF OPEN SPACE TREES SHALL BE EVERGREEN
-35% OF TOTAL SITE TREES SHALL BE EVERGREEN

REQUIRED OPEN SPACE: 129,692 SF (25%)
88 TREES REQUIRED
132 SHRUBS REQUIRED

EXISTING:
43 DECIDUOUS TREES (9 PARKING LOT TREES)
4 EVERGREEN TREES
33 SHRUBS

TO BE REMOVED:
16 DECIDUOUS TREES
4 EVERGREEN TREE

PROPOSED:
41 DECIDUOUS TREES (5 PARKING LOT TREES, 10 PARKING LOT TREES RELOCATED TO OPEN SPACE)
42 EVERGREEN TREES
243 SHRUBS

TOTAL OPEN SPACE:
44 DECIDUOUS + 44 EVERGREEN = 88 TREES
132 SHRUBS

PARKING LOT:
21 DECIDUOUS TREES (10 PARKING LOT TREES RELOCATED TO OPEN SPACE)
144 SHRUBS FOR SCREENING

GRAND TOTAL:
88 DECIDUOUS + 44 EVERGREEN = 122 TREES
276 SHRUBS

EVERGREEN TREE PERCENTAGES:
OPEN SPACE: 44 / 88 = 50%, MEETS REQUIREMENT OF 50%

TOTAL SITE: 44 / 112 = 40%, EXCEEDS REQUIREMENT OF 35%

LANDSCAPE NOTES

1. ALL TREES SHALL BE PER THE RECOMMENDATIONS AND REQUIREMENTS OF THE CURRENT ANSI 'AMERICAN STANDARDS FOR NURSERY STOCK'.
2. PROTECT ALL EXISTING AND NEW STRUCTURES AND UTILITY SERVICES DURING INSTALLATION OF ALL PLANT MATERIAL. NOTIFY ENGINEER IMMEDIATELY UPON CONFLICT OF PLANTS, STRUCTURES, AND UTILITIES.
3. ALL PLANTING BEDS SHALL RECEIVE 3" DOUBLE SHREDDED HARDWOOD MULCH, UNLESS OTHERWISE NOTED.
4. REPAIR ALL AREAS OF DISTURBANCE WITH TURF SEED WITH HYDROMULCH UNLESS NOTED OTHERWISE.
5. PLANTING BEDS SHALL BE TILLED TO A DEPTH OF 12" TO DECOMPACT SOILS.
6. ALL AREAS TO BE SEEDED SHALL RECEIVE TURF SEED WITH HYDROMULCH.
7. TREES SHALL NOT BE PLANTED WITHIN 6' OF ANY VEHICLE DRIVE AREA OR 4' OF SIDEWALKS OR OTHER PAVING, PER WEST DES MOINES CODE.
8. ISLANDS SHALL BE CORED OUT TO REMOVE ALL GRANULAR AND COMPACTED SUBBASE TO A DEPTH OF 36" BELOW FINISH PAVING SURFACE.

NORTH

0 15 30 60
SCALE IN FEET

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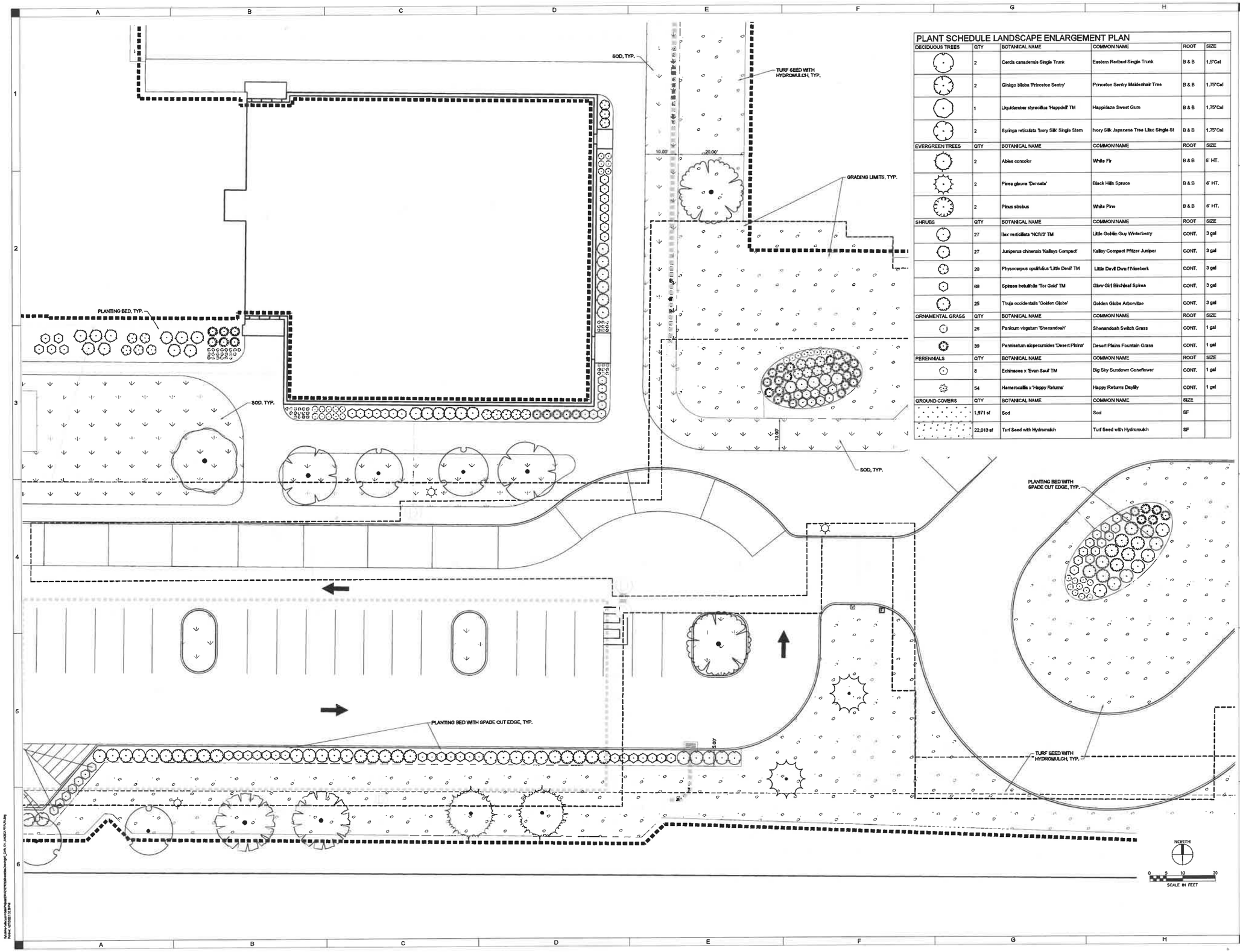
WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: EBR
APPROVED: NCR
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2025-01-17
PROJECT NO: 4123790
FIELD BOOK: —
CLIENT NO: —

LANDSCAPE PLAN

L101



PLANT SCHEDULE LANDSCAPE ENLARGEMENT PLAN

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE
	2	Cercis canadensis Single Trunk	Eastern Redbud Single Trunk	B & B	1.5"Cal
	2	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Maidenhair Tree	B & B	1.75"Cal
	1	Liquidambar styraciflua 'Happdell' TM	Happidaze Sweet Gum	B & B	1.75"Cal
	2	Syringa reticulata 'Ivory Silk' Single Stem	Ivory Silk Japanese Tree Lilac Single St	B & B	1.75"Cal
EVERGREEN TREES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**
	2	Abies concolor	White Fir	B & B	6' HT.
	2	Picea glauca 'Densata'	Black Hills Spruce	B & B	6' HT.
	2	Pinus strobus	White Pine	B & B	6' HT.
SHRUBS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**
	27	Ilex verticillata 'NCIV3' TM	Little Goblin Guy Winterberry	CONT.	3 gal
	27	Juniperus chinensis 'Kallays Compact'	Kallay Compact Pfitzer Juniper	CONT.	3 gal
	20	Physocarpus opulifolius 'Little Devil' TM	Little Devil Dwarf Ninebark	CONT.	3 gal
	69	Spiraea betulifolia 'Tor Gold' TM	Glow Girl Birchleaf Spirea	CONT.	3 gal
	25	Thuja occidentalis 'Golden Globe'	Golden Globe Arborvitae	CONT.	3 gal
ORNAMENTAL GRASS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**
	26	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	CONT.	1 gal
	39	Pennisetum alopecuroides 'Desert Plains'	Desert Plains Fountain Grass	CONT.	1 gal
PERENNIALS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**
	8	Echinacea x 'Evan Saulr' TM	Big Sky Sundown Coneflower	CONT.	1 gal
	54	Hemerocallis x 'Happy Returns'	Happy Returns Daylily	CONT.	1 gal
GROUND COVERS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	
	1,971 sf	Sod	Sod	SF	
	22,013 sf	Turf Seed with Hydromulch	Turf Seed with Hydromulch	SF	

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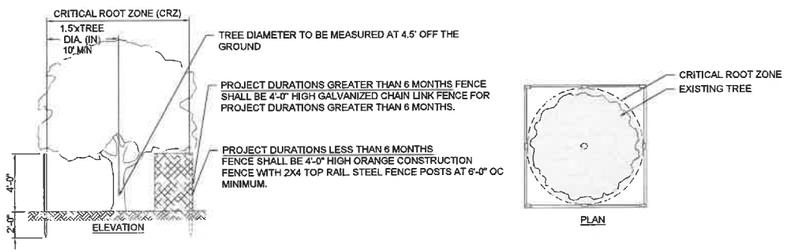
WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: EDR
APPROVED: HCR
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 421270.0
FIELD BOOK: --
CLIENT NO: --

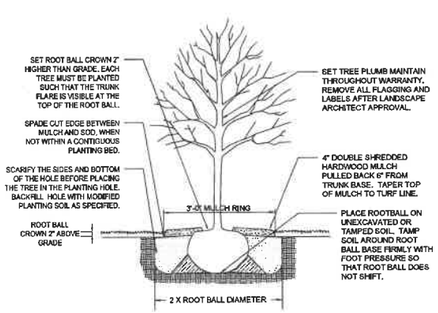
LANDSCAPE PLAN ENLARGEMENT

L102



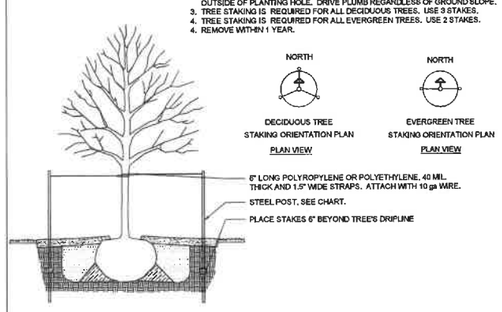
NOTES:
1. TYPICAL ALL TREES INSIDE WORK AREA
2. FENCE LOCATION TO BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION ACTIVITIES.
3. THE SOIL WITHIN THE CRZ SHALL NOT BE DISTURBED IN ANY MANNER DURING CONSTRUCTION. NO EQUIPMENT, MATERIALS, SUPPLIES, AND/ORSALVAGE SHALL BE STORED OR PLACED WITHIN THE ZONE. NO VEHICULAR OR EQUIPMENT TRAFFIC SHALL BE PERMITTED WITHIN THE CRZ. NO FILLING OR CURING OF EXISTING SOILS SHALL BE PERMITTED WITHIN THE CRZ. THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE SERVICES MUST APPROVE ANY DEVIATION FROM THE STANDARD.

A5 TREE PROTECTION DETAIL
NTS

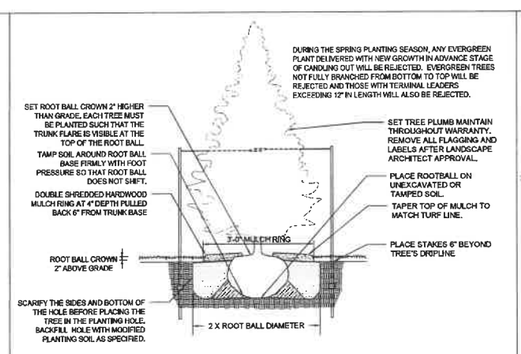


A6 DECIDUOUS TREE PLANTING
NTS

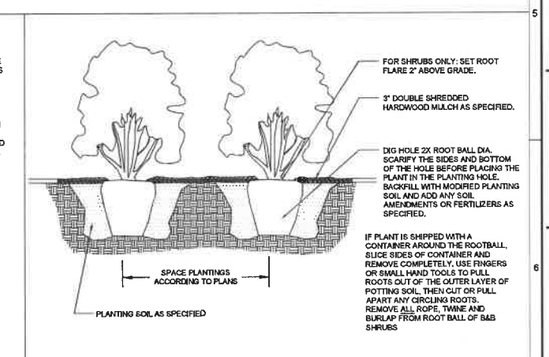
NOTES:
1. STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF PLANTING HOLE. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
3. TREE STAKING IS REQUIRED FOR ALL DECIDUOUS TREES. USE 3 STAKES.
4. TREE STAKING IS REQUIRED FOR ALL EVERGREEN TREES. USE 2 STAKES.
4. REMOVE WITHIN 1 YEAR.



C6 TREE STAKING DETAIL
NTS



E6 CONIFEROUS TREE PLANTING
NTS



G6 PERENNIAL AND SHRUB PLANTING BED
NTS

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WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

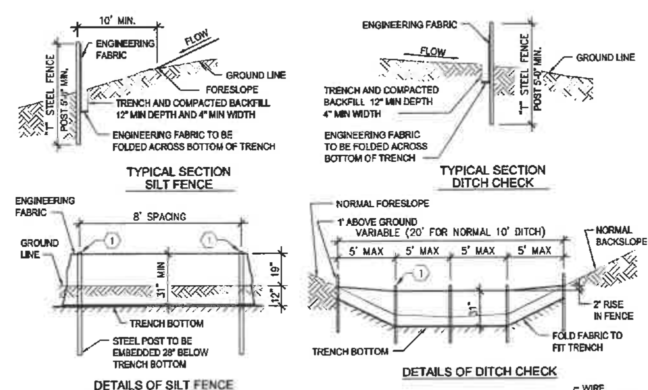
WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 28RD ST | WEST DES MOINES, IA 50265

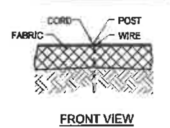
DRAWN: EDR
APPROVED: HCR
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2024-01-17
PROJECT NO: 4215780
FIELD BOOK: --
CLEV/ NO: --

LANDSCAPE DETAILS

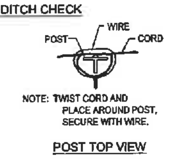
L103

A2 SILT FENCE
NTS

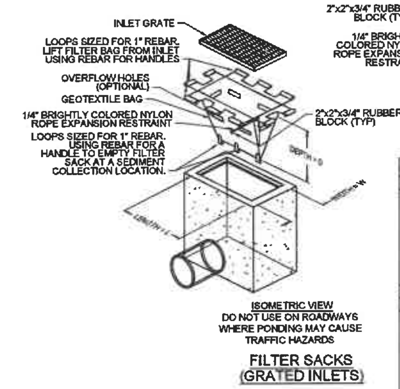


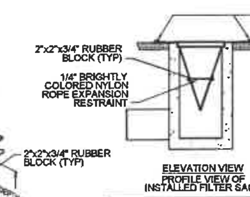


NOTES:
1. SECURE TOP OF ENGINEERING FABRIC TO STEEL POST.
2. ENGINEERING FABRIC TO BE PLACED TO BOTTOM OF TRENCH.
3. ENGINEERING FABRIC SHALL HAVE A MINIMUM 36" WIDTH.



D2 FILTER SACKS
NOT TO SCALE

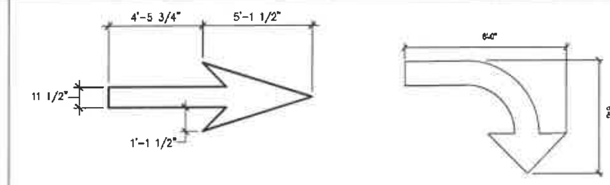




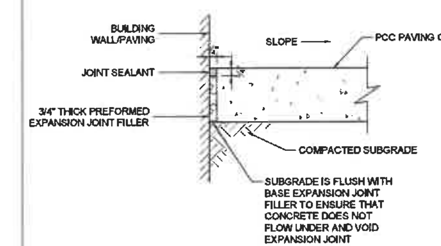
1. EMPTY FILTER SACK WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE WILL BE WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS.
3. AN OIL ADSORBENT PAD OR PILLOW CAN BE PURCHASED WHEN OILS SPILLS ARE A CONCERN.
4. INSPECT PER REGULARTORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK WILL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK WILL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK WILL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	8420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

G1 ARROW PAVEMENT MARKINGS
NTS

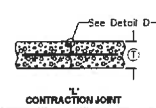


G2 ISOLATION JOINT
NOT TO SCALE



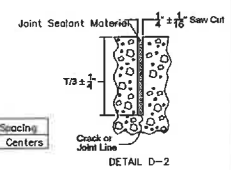
NOTE:
ALL PREFORMED JOINT MATERIAL SHALL BE INSTALLED PERPENDICULAR TO THE PAVEMENT SURFACE AND CARE SHALL BE EXERCISED THROUGHOUT THE CONSTRUCTION OF THE PAVEMENT TO ENSURE THAT SUCH JOINT MATERIAL REMAINS IN PROPER POSITION UPON COMPLETION OF PAVING OPERATION.

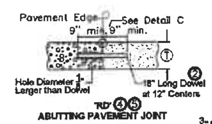
A4 JOINTING DETAILS
NOT TO SCALE



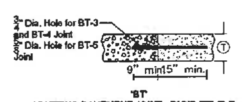
Joint	Bars	Bar Length and Spacing
'L-1'	#4	36" Long at 30" Centers

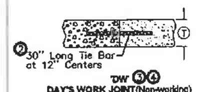
LEGEND
- Existing Pavement
- Proposed Pavement



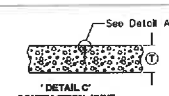


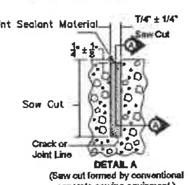
'RD' & 'DW' BAR SIZE TABLE		
(T)	Dowel Diameter	Tie Bar Size
< 8"	3/4	#6



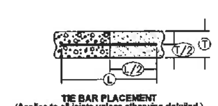


Joint	Bars	Bar Length and Spacing
'BT-5'	#4	24" Long at 30" Centers

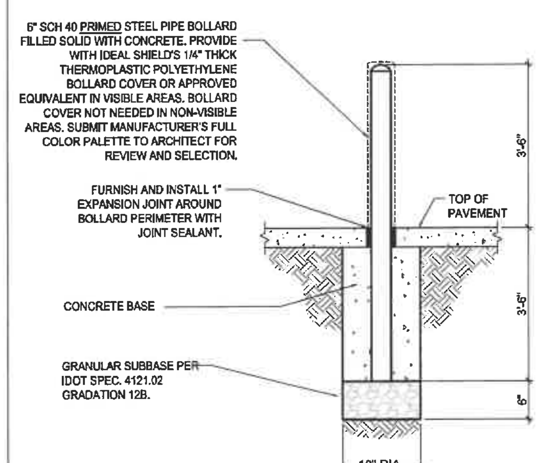




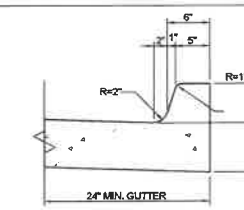
1. See dowel assemblies for fabrication details.
2. See Bar Size Table.
3. Locate 'DW' joint at a mid-panel location between future 'C' joints. Place no closer than 5 feet to a 'C' joint.
4. Place bars within the limits shown under dowel assemblies.
5. Edge with 1/8 inch tool for length of joint.



D4 6" CONCRETE FILLED BOLLARD - STANDARD
NTS

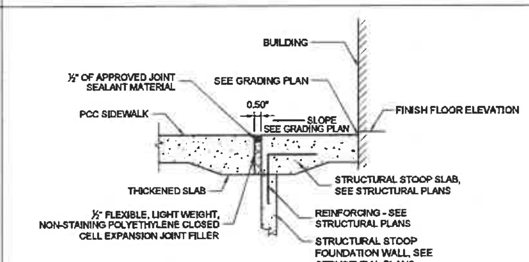


F3 PCC INTEGRAL CURB
NOT TO SCALE



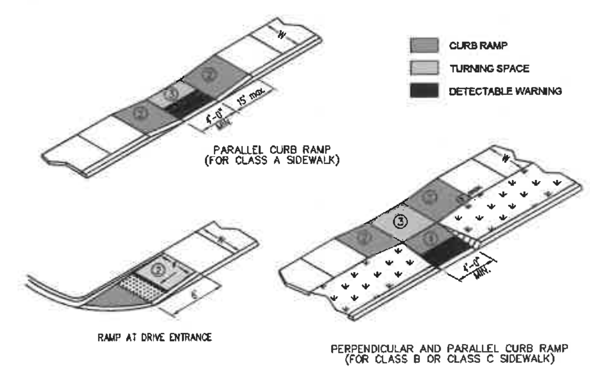
NOTE: CURB MAY BE POURED INTEGRALLY WITH PAVEMENT IN PLACE OF CURB AND GUTTER SECTION.

G3 PCC WALK @ STRUCTURAL STOOP
NOT TO SCALE

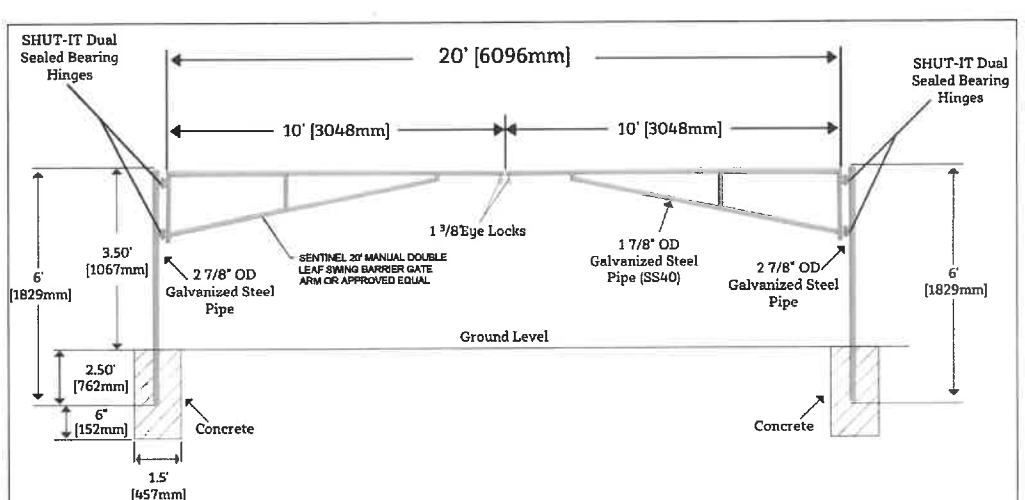


F5 SIDEWALK RAMPS
NOT TO SCALE

1. PERPENDICULAR CURB RAMP: TARGET RUNNING SLOPE OF 6.25% WITH MAXIMUM RUNNING SLOPE OF 8.3%. MATCH PEDESTRIAN STREET CROSSING CROSS SLOPE AT BACK OF CURB. AT MID-BLOCK CROSSINGS, CROSS SLOPE MAY EXCEED 2.0% TO MATCH ROADWAY GRADE.
2. PARALLEL CURB RAMP: TARGET CROSS SLOPE OF 1.5% WITH A MAXIMUM CROSS SLOPE OF 2.0%. THE LENGTH OF THE PARALLEL RAMP IS NOT REQUIRED TO EXCEED 15 FEET, REGARDLESS OF THE RESULTING SLOPE. DO NOT EXCEED 8.3% SLOPE FOR PARALLEL RAMPS SHORTER THAN 15 FEET.
3. TURNING SPACE: TARGET SLOPE OF 1.5%, WITH A MAXIMUM SLOPE PERPENDICULAR TO THE TRAVEL DIRECTIONS OF 2.0%. AT MID-BLOCK CROSSINGS, CROSS SLOPE OF LANDING MAY EXCEED 2.0% TO MATCH ROADWAY GRADE. MINIMUM 4 FEET BY 4 FEET.
4. FLARE (10:1 MAX) REQUIRED IF RAMP IS CONTIGUOUS WITH SIDEWALK.



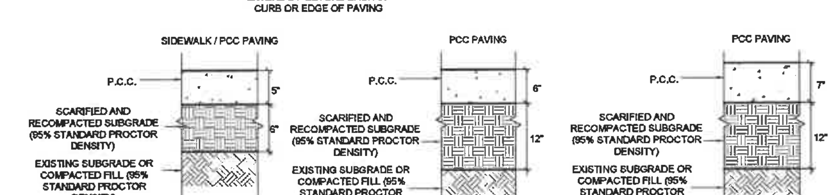
A6 DOUBLE SWING BARRIER GATE
NOT TO SCALE



DOUBLE SWING BARRIER GATE NOTES
1. GENERAL
   A. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PROCURING FENCE MATERIALS.
   A. INSTALL PLUMB, LEVEL, AND FREE SWINGING THROUGH FULL OPENING WITHOUT INTERFERENCE.
   B. INSTALL ALL HARDWARE.
   C. ADJUST AND LUBRICATE AS NECESSARY FOR SMOOTH OPERATION.
   D. DETAILS ARE SHOWN TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT METHOD OF INSTALLATION TO ONE MANUFACTURER.
2. POSTS:
   A. CORNER AND RECEIVER POSTS SHALL BE EMBEDDED IN CONCRETE. TROWEL FINISH TOPS OF FOOTINGS AND DOME TO DIRECT WATER AWAY FROM POSTS.
   B. INSTALL PLUMB AND IN STRAIGHT ALIGNMENT.
   C. INSTALL SENTINEL SWING BARRIER RECEIVER POSTS OR APPROVED EQUAL 10' SOUTH OF CORNER POSTS. PROVIDE (2) 2' LENGTHS OF 3/16" WELDED GALVANIZED STEEL CHAIN AND (2) MATCHING PADLOCKS WITH (2) SETS OF KEYS.
3. CONCRETE:
   A. CONCRETE SHALL BE 4000 PSI MIX AND COMPLY WITH IOWA DOT CLASS C MIX MEETING THE REQUIREMENTS OF MATERIALS I.M. 529 AND IOWA SUDAS SECTION 7010.

F6 PAVEMENT CROSS-SECTIONS
NTS

NOTE: SUBGRADE PREPARATION SHALL EXTEND 24" BEYOND BACK OF CURB OR EDGE OF PAVING



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WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 4212780
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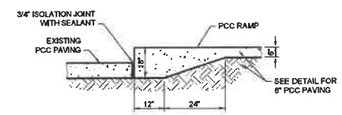
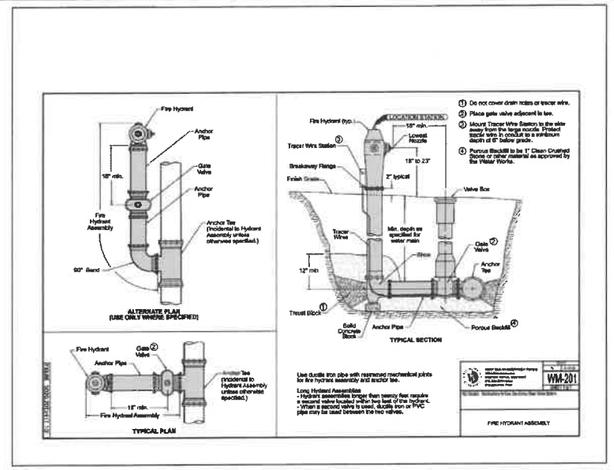
CLIENT NO: —

CONSTRUCTION DETAILS

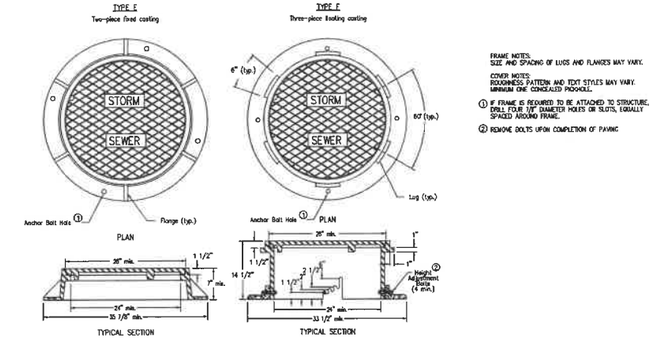
C501



A2 PCC THICKENED EDGE
NOT TO SCALE



C2 FIRE HYDRANT ASSEMBLY
NTS



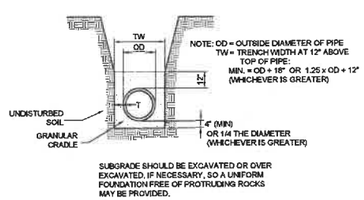
FRAME NOTES:
SIZE AND SPACING OF LUGS AND FLANGES MAY VARY.

COVER NOTES:
ROUGHNESS PATTERN AND TEXT STYLES MAY VARY.
MINIMUM ONE CONCEALED PICKHOLE.

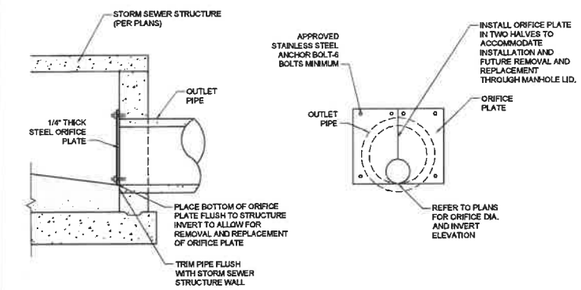
① IF FRAME IS REQUIRED TO BE ATTACHED TO STRUCTURE, DRILL FOUR 1/8" DIAMETER HOLES OR SLOTS, EQUALLY SPACED AROUND FRAME.

② REMOVE BOLTS UPON COMPLETION OF PAVING

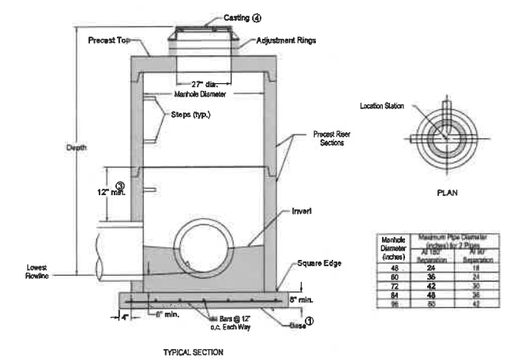
F2 CASTINGS FOR STORM SEWER MANHOLES (SW-602)
NTS



A4 FLEXIBLE PIPE BEDDING
NTS



C4 ORIFICE PLATE
NTS



Manhole Diameter (inches)	Maximum Pipe Diameter Permitted for 2 Pipes	
	At 180° Separation	90 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

① Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.

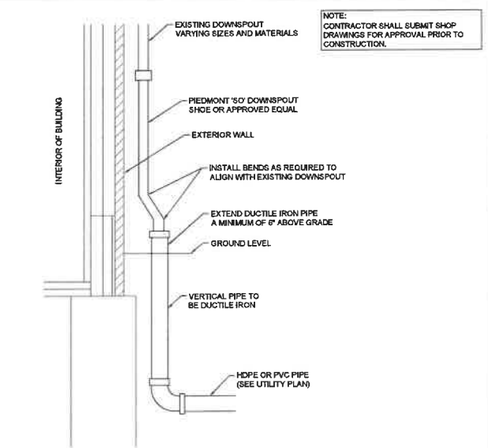
② For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.

③ 12 inch minimum riser height above all pipe openings, or less as required and approved by engineer.

④ Solid Lid - SW-602 Casting
Area Inlake - SW-604 Casting

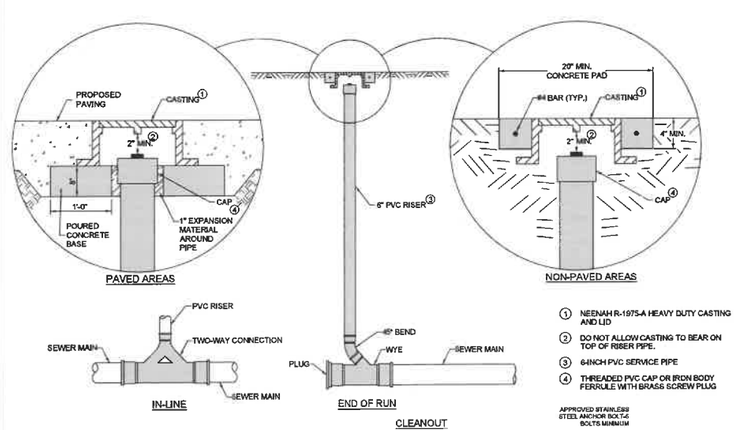
⑤ Provide sump below lowest pipe invert where specified on plans.

F4 CIRCULAR STORM SEWER MANHOLE, (SW-401)
NTS

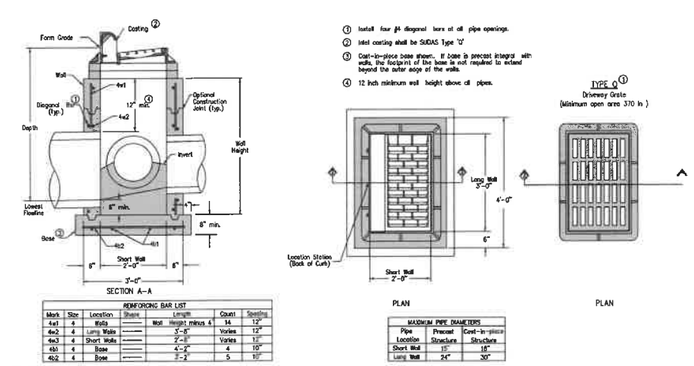


NOTE:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.

A6 DOWNSPOUT SHOE DETAIL
NTS



C6 SANITARY SEWER CLEANOUT
NOT TO SCALE



① Install four #4 diagonal bars at all pipe openings.

② Inlet casting shall be SuDAS Type 'G'

③ Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

④ 12 inch minimum wall height above all pipes.

REINFORCING BAR LIST							
Mark	Size	Location	Shape	Length		Count	Spacing
				Mat	Height minus 4		
4x1	4	Walls	——		14	14	12"
4x2	4	Long Walls	——	3'-8"		Varies	12"
4x3	4	Short Walls	——	2'-8"		Varies	12"
4b1	4	Base	——	4'-2"		4	10"
4b2	4	Base	——	2'-2"		5	10"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

F6 SINGLE CURB INTAKE, (SW-501)
NOT TO SCALE

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WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL, 1807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2025-01-17
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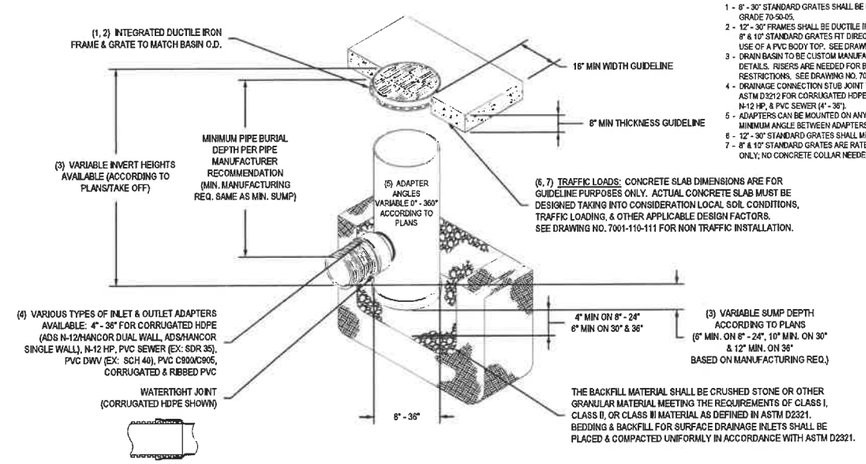
FIELD BOOK: --
CLIENT NO: --

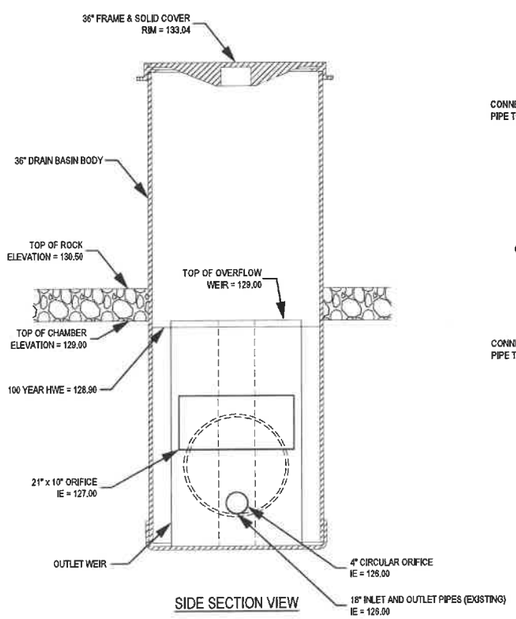
CONSTRUCTION DETAILS

C502

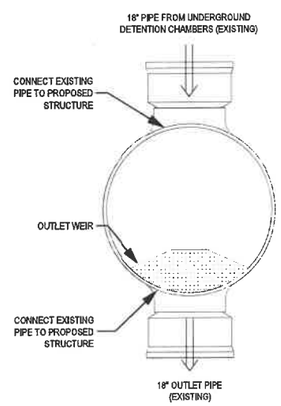


1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

E3 DRAIN BASIN WITH STANDARD GRATE
NOT TO SCALE



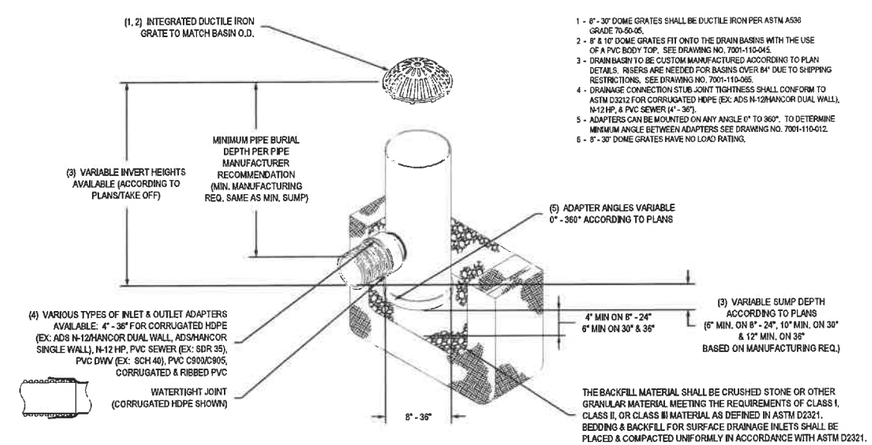
SIDE SECTION VIEW



TOP VIEW W/ FRAME & COVER REMOVED

1 - INVERT ELEVATIONS & LOCATIONS OF INCOMING PIPES TO BE DETERMINED BY MANUFACTURER AND CONFIRMED BY ENGINEER.
2 - WEIR MANUFACTURED TO MINIMIZE LOSS OF OUTLET PIPE OPEN AREA SEE DRAWING NO. 7004-110-058 FOR DETAILS.

A6 OUTLET STRUCTURE - 36" DRAIN BASIN WITH SOLID COVER
NOT TO SCALE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (EX: ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

E6 DRAIN BASIN WITH DOME GRATE
NOT TO SCALE

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WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

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ISSUED FOR: CONSTRUCTION DOCUMENTS
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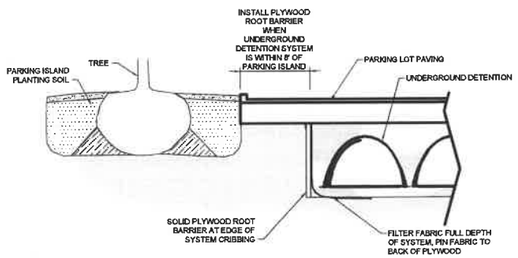
CONSTRUCTION DETAILS

C503



A3 UNDERGROUND DETENTION ADJACENT TO PARKING LOT ISLAND TREE
NTS

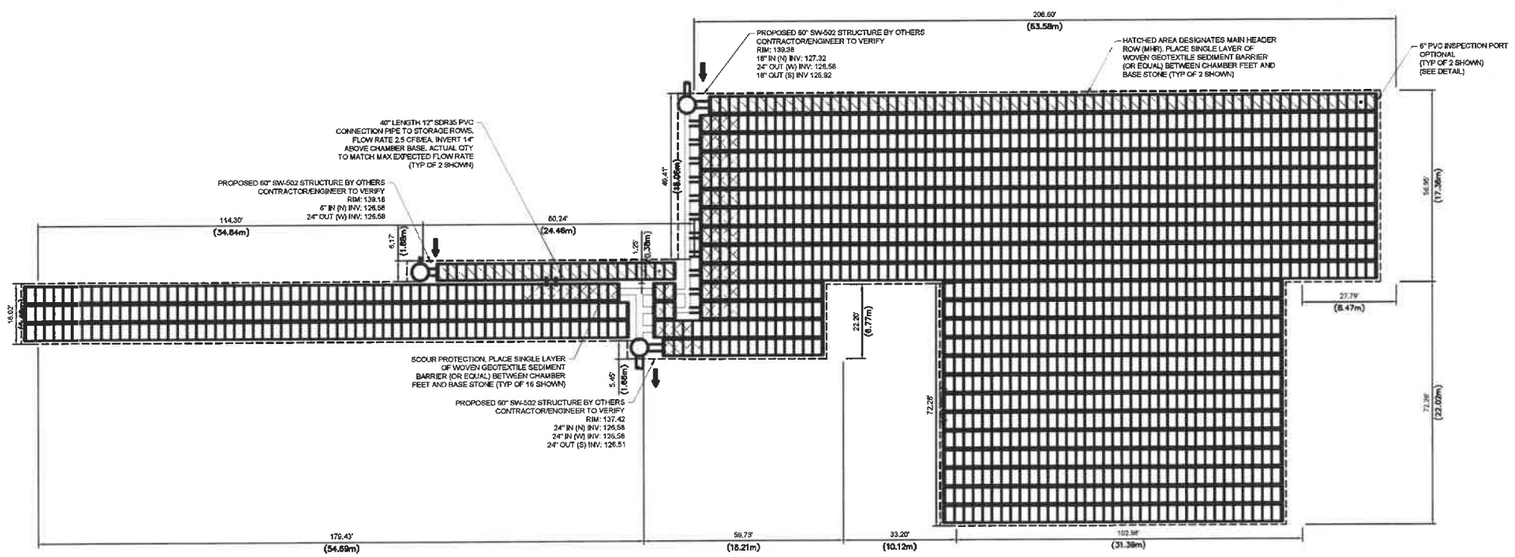
PROPOSED LAYOUT HYDROCHAIN S29 CHAMBER		
		SYSTEM
BASE STONE	IN	9
TOP STONE	IN	15
SECTION HEIGHT	FT	5.00
AREA	SF	24,383
PERIMETER	FT	1,109
CHAMBERS	EA	1,474
END CAPS	EA	66
EXCAVATION REQUIRED*	CY	4,517
NON-WOVEN FABRIC REQUIRED**	SY	6,037
MHR AND SCOUR PROTECTION LENGTH (WOVEN FABRIC)	LF	460
STONE REQUIRED	CY	3,022
TOTAL STORAGE***	CF	73,015

*EXCAVATION CALCULATION IS FOR DISPLACED EARTH. IT IS SYSTEM SECTION HEIGHT MULTIPLIED BY SYSTEM AREA. IT DOES NOT INCLUDE EXCAVATION NEEDED FROM TOP OF STONE TO BASE OF PAVEMENT.
**FABRIC REQUIRED ON TOP, SIDE AND BOTTOM OF SYSTEM
***ASSUMES STONE VOID SPACE OF 40% (PER DESIGN NOTES)

NOTES:
(1) QUANTITIES GIVEN ARE NEATLINE AND DO NOT INCLUDE WASTE OR EXCESS NEEDED FOR OVERLAP

(2) THIS PROPOSED DESIGN IS BASED ON THE ASSUMPTION OF A 4.1 KSF SOIL BEARING PRESSURE. ACTUAL SITE SPECIFIC SOIL BEARING MUST BE PROVIDED TO SHAWCOR PRIOR TO THE START OF ANY PROJECT. ACTUAL SITE SPECIFIC SOIL BEARINGS MAY IMPACT SHAWCOR'S FINAL DESIGN AND MAY AFFECT THE FINAL COST OF THE OVERALL PROJECT. THE DESIGN ENGINEER IS SOLELY RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND DETERMINING THE DEPTH OF FOUNDATION STONE. SUBGRADE BEARING RESISTANCE SHOULD BE ASSESSED WITH CONSIDERATION FOR THE RANGE OF SOIL MOISTURE CONDITIONS EXPECTED UNDER A STORMWATER SYSTEM.

PROPOSED ELEVATIONS	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	173.50
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	131.50
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)	131.00
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT)	131.00
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	131.00
TOP OF STONE	130.75
TOP OF CHAMBER	129.50
BOTTOM OF CHAMBER	126.50
BOTTOM OF STONE	125.75



A6 CHAMBER LAYOUT
NOT TO SCALE

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CLIENT NO: --

CONSTRUCTION DETAILS

C504

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACT/DENSITY REQUIREMENT
D. FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SOIL/ROCK MATERIALS, NATIVE SOILS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C. FILL MATERIAL FOR 6" (150mm) TO 18" (457mm) ELEVATION ABOVE CHAMBERS 24" (610mm) FOR UNPAVED INSTALLATIONS	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES. MOST PAVEMENT SUB-BASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1 A-2 A-3	COMPACT IN 6" (154mm) LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs. (5443 kg) DYNAMIC FORCE NOT TO EXCEED 20,000 lbs. (9072 kg).
B. EMBEDMENT STONE SURROUNDING AND TO A 6" (154mm) ELEVATION ABOVE CHAMBERS	3/4" - 2" (20-50mm) CLEAN, CRUSHED, ANGULAR STONE (IGNEOUS RECOMMENDED)	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED IF MIXED STONE IS USED.
A. FOUNDATION STONE BELOW CHAMBERS	3/4" - 2" (20-50mm) CLEAN, CRUSHED, ANGULAR STONE (IGNEOUS RECOMMENDED)	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY.

NOTE:

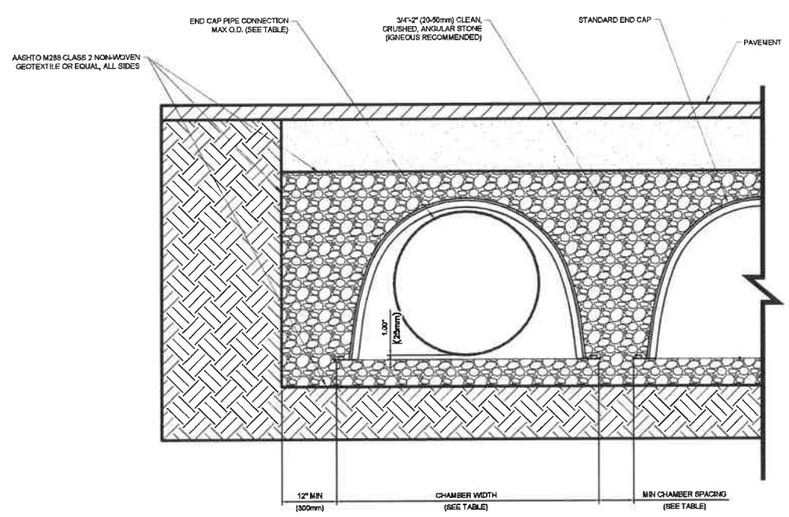
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE."

2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, TRITON SWS COMPACTION REQUIREMENTS ARE MET FOR "A" LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (229mm) (MAX.) LIFTS USING TWO FULL PASSES WITH AN APPROPRIATE COMPACTOR.

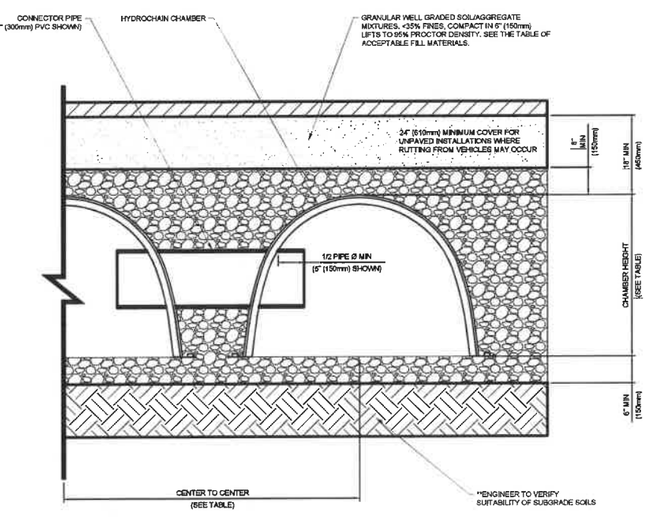
	CHAMBER WIDTH	CHAMBER SPACING* (SEE TABLE)	CENTER TO CENTER** (SEE TABLE)	CHAMBER HEIGHT	MAX END CAP CONNECTION
629	59" (1499mm)	6.0" (150mm) 7.5" (190mm)	66.0" (1600mm) 66.0" (1600mm)	36" (914mm)	32" (813mm)
622	55" (1397mm)	6.0" (150mm)	61.0" (1549mm)	30" (762mm)	30" (762mm)
C10	39.7" (1008mm)	6.0" (150mm)	45.7" (1161mm)	20" (508mm)	20" (508mm)
UM	33.6" (853mm)	6.0" (150mm)	39.6" (1006mm)	17.5" (445mm)	14" (356mm)

*7.5" (190mm) SPACING OF DISTRIBUTION ROWS IS REQUIRED ONLY WHEN A PERPENDICULAR MAIN HEADER ROW IS USED. IF AN INLINE MAIN HEADER ROW IS USED, THEN THE MIN SPACING CAN BE 6" (150mm).

**THE DESIGN ENGINEER IS SOLELY RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND DETERMINING THE DEPTH OF FOUNDATION STONE. SUBGRADE BEARING RESISTANCE SHOULD BE ASSESSED WITH CONSIDERATION FOR THE RANGE OF SOIL MOISTURE CONDITIONS EXPECTED UNDER A STORMWATER SYSTEM.



TYPICAL CHAMBER CROSS SECTION
SCALE: NTS



TYPICAL CHAMBER CROSS SECTION WITH CONNECTOR PIPE
SCALE: NTS

A6 CHAMBER CROSS SECTION
NOT TO SCALE

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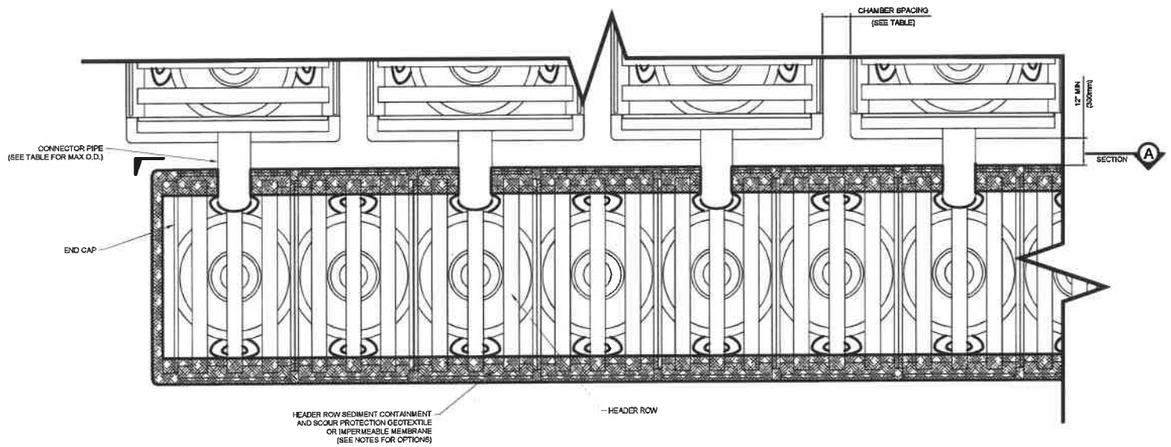
WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2026-01-17
PROJECT NO: 4212780
FIELD BOOK: —
CLIENT NO: —

CONSTRUCTION DETAILS

C505

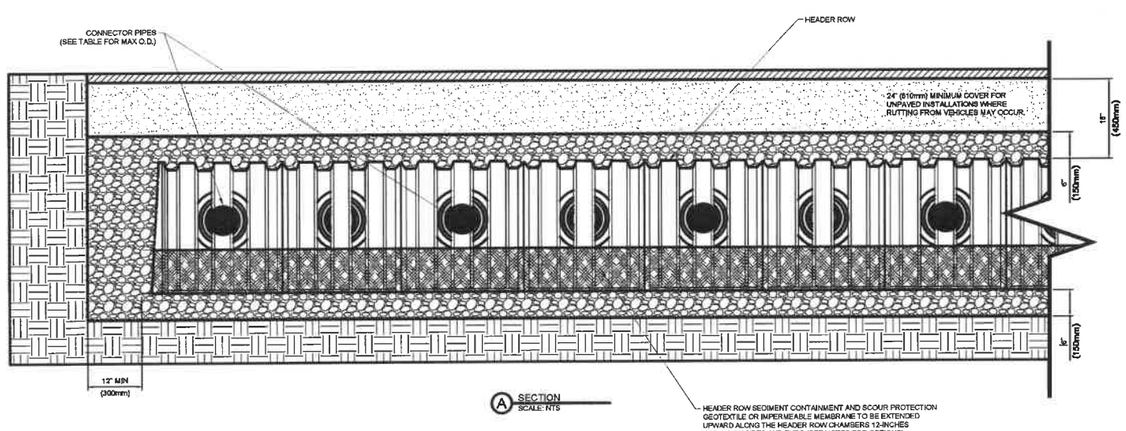


PLAN VIEW
SCALE: NTS

	MAX DIAMETER FOR CONNECTOR PIPE	CHAMBER SPACING
S29	18" (450mm)	7.0' (210mm) 7.2' (185mm)
S22	18" (450mm)	6.0" (150mm)
C10	12" (300mm)	6.0" (150mm)
M6	8" (200mm)	6.0" (150mm)
*7.5' (190mm) SPACING OF DISTRIBUTION ROWS IS REQUIRED ONLY WHEN A PERPENDICULAR MAIN HEADER ROW IS USED. IF AN INLINE MAIN HEADER ROW IS USED, THEN THE MIN SPACING CAN BE 6" (150mm).		

NOTES:

1. HYDROCHAIN HEADER ROW SEDIMENT CONTAINMENT AND SCOUT PROTECTION OPTIONS:
   A. SEDIMENT FLOORS PLACED ABOVE ONE LAYER OF AASHTO M288 CLASS NON-WOVEN GEOTEXTILE OR EQUAL.
   B. IMPERMEABLE MEMBRANE.
   C. TWO LAYERS OF AASHTO M288 CLASS 1 WOVEN GEOTEXTILE OR EQUAL.
2. GEOTEXTILE OR IMPERMEABLE MEMBRANE TO BE PLACED AS ONE PIECE.
   S-29 CHAMBERS: 7.0' (210mm) WIDTH
   S-22 CHAMBERS: 7.0' (210mm) WIDTH
   C-10 CHAMBERS: 5.9' (180mm) WIDTH
   M-6 CHAMBERS: 5.0' (150mm) WIDTH
3. SEE ACCESS DETAIL FOR HYDROCHAIN HEADER ROW ACCESS.



A SECTION
SCALE: NTS

A6 CHAMBER MAIN HEADER ROW
NOT TO SCALE

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FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

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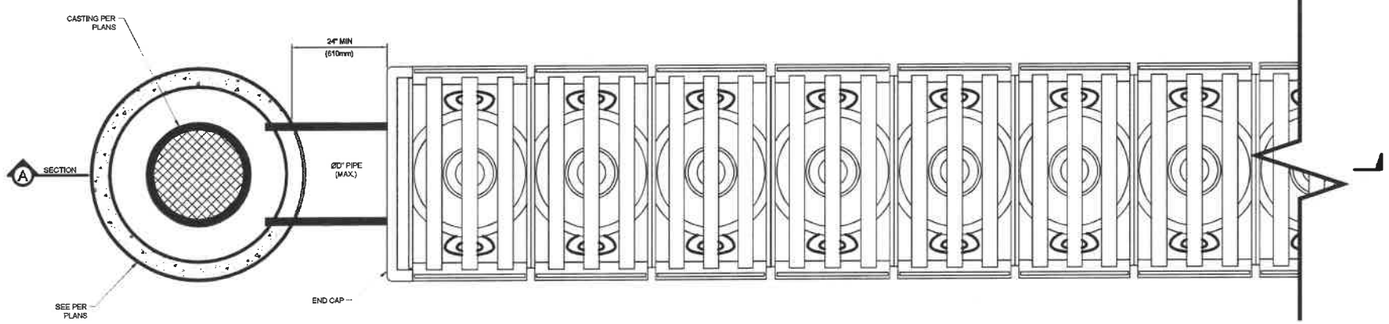
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 421780
FIELD BOOK: --
CLIENT NO: --

CONSTRUCTION DETAILS

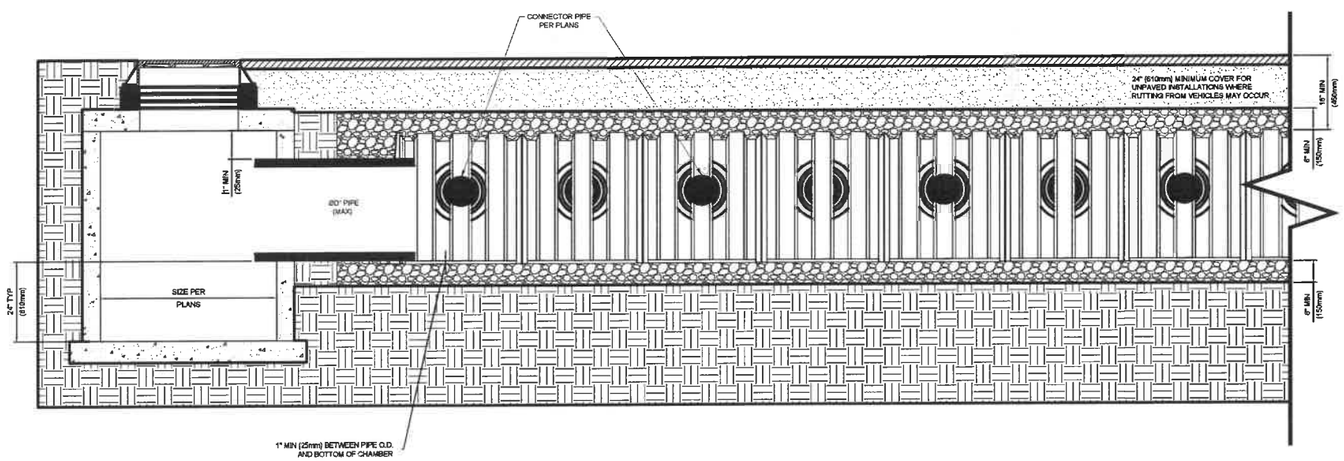
C506



PLAN VIEW
SCALE: NTS

NOTES:
1. PIPE/MANHOLE CONNECTIONS TO BE GROUTED.
2. PIPE/CHAMBER CONNECTIONS PER LATEST INSTALLATION INSTRUCTIONS.

MAX PIPE DIAMETER (D) (IN):
S-29 CHAMBERS: 24" (610mm)
S-22 CHAMBERS: 24" (610mm)
C-10 CHAMBERS: 18" (460mm)
M-6 CHAMBERS: 12" (300mm)



A SECTION
SCALE: NTS

A6 CHAMBER MAIN HEADER ROW STANDARD MANHOLE CONNECTION
NOT TO SCALE

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FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

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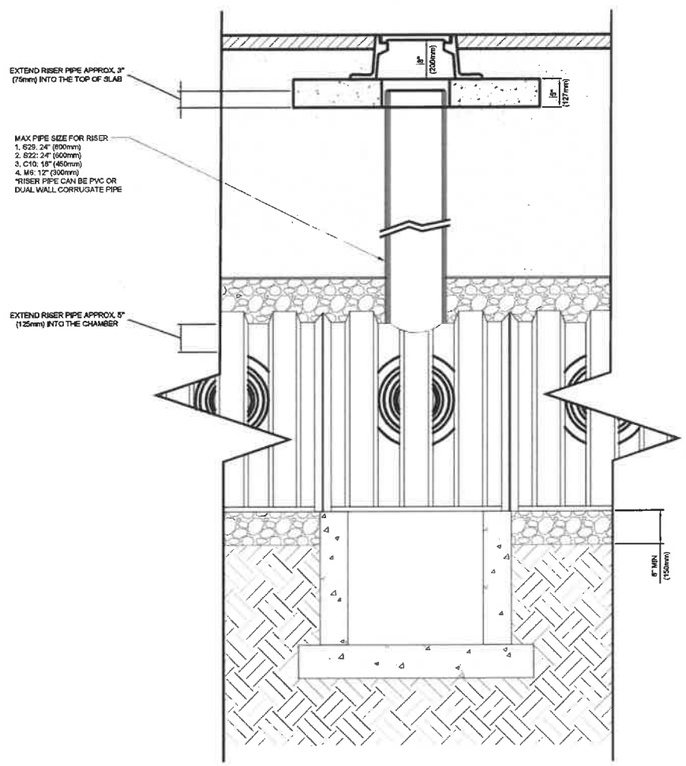
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 421276
FIELD BOOK: --
CLIENT NO: --

CONSTRUCTION DETAILS

C507

NOTES:
1. CONNECT RISER TO CHAMBER PER LATEST INSTALLATION INSTRUCTIONS.



A6 TOP ACCESS INSPECTION PORT
NOT TO SCALE

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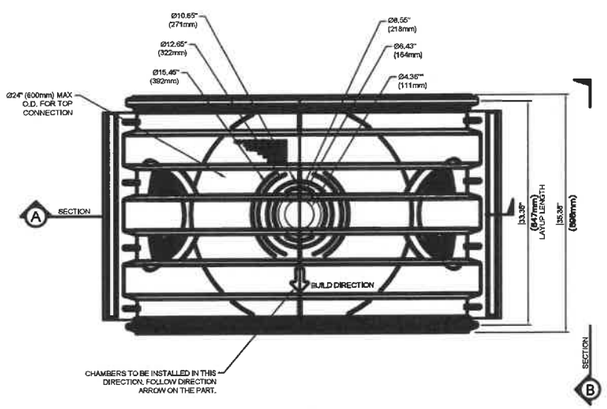
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

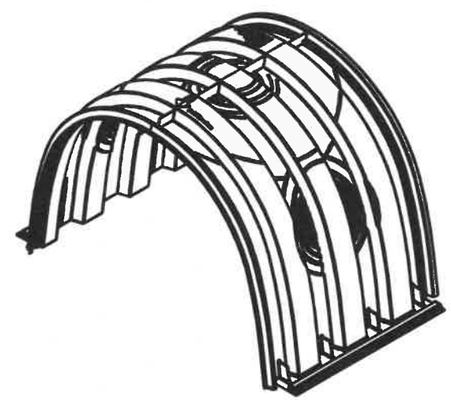
DRAWN: IAL
APPROVED: IAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2022-01-17
PROJECT NO: 42128780
FIELD BOOK: --
CLIENT NO: --

CONSTRUCTION DETAILS

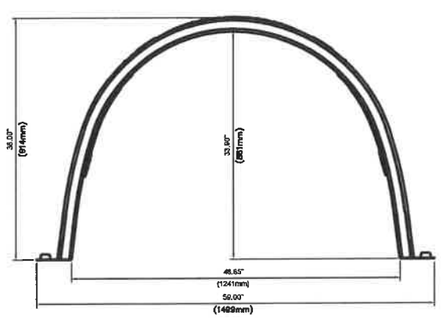
C508



PLAN VIEW
SCALE: NTS



ISOMETRIC
SCALE: NTS



A SECTION
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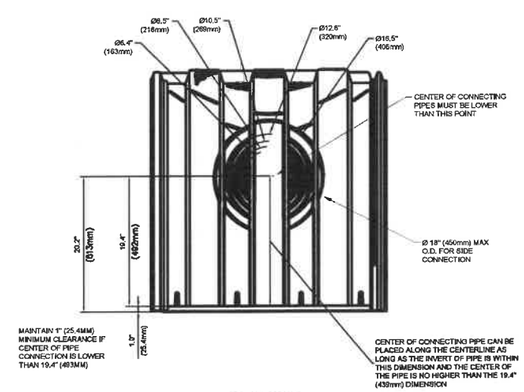

B SECTION
SCALE: NTS

S-29 CHAMBER PROPERTIES	
NOMINAL DIMENSIONS (LAYUP LENGTH × WIDTH × HEIGHT)	33.35" × 59.00" × 36.00" (847mm × 1499mm × 914mm)
BARE CHAMBER STORAGE	27.35 CUBIC FEET (0.774 CUBIC METERS)
*MIN INSTALLED STORAGE	41.05 CUBIC FEET (1.162 CUBIC METERS)
CHAMBER WEIGHT	32 lbs (14.515 kg)
STORAGE PER LINEAR UNIT WITHOUT STONE	9.84 FT^3/FT (0.914 M^3/M)
STORAGE PER LINEAR UNIT WITH STONE	14.77 FT^3/FT (1.372 M^3/M)

*ASSUMES A MIN OF 6" (152mm) STONE ABOVE AND BELOW AND 7.5" (191mm) BETWEEN ROWS WITH 40% STONE POROSITY (DOES NOT INCLUDE 12" (305mm) PERIMETER STONE VOLUME)

NOTE: S-29 CHAMBERS ARE RATED FOR HS-25 LOADING WITH 18" (457mm) OF COVER WITHOUT PAVEMENT.

HYDROCHAIN S-29 PRODUCT SPECIFICATIONS

1.0 GENERAL

1.1 HYDROCHAIN CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF, AS A SUBSURFACE RETENTION OR DETENTION SYSTEM. HYDROCHAIN CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL, AS A SUBSURFACE DETENTION SYSTEM, HYDROCHAIN CHAMBERS DETAIN AND ALLOW FOR THE CONTROLLED FLOW OF WATER TO AN OUTFALL.

2.0 CHAMBER PARAMETERS

2.1 THE CHAMBER SHALL BE INJECTION COMPRESSION MOLDED STRUCTURAL GRADE 1010 GREEN SOY RESIN COMPOSITE THAT IS INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESCR), AND CREEP. THE CHAMBER SHALL MAINTAIN PROPER STIFFNESS THROUGH TEMPERATURE RANGES OF -40 DEGREES FAHRENHEIT TO 180 DEGREES FAHRENHEIT (-40 DEGREES CELSIUS TO 82.2 DEGREES CELSIUS).

2.2 THE NOMINAL CHAMBER DIMENSION OF THE HYDROCHAIN S-29 SHALL BE 36.0 INCHES TALL (914 MILLIMETERS), 59.0 INCHES WIDE (1499 MILLIMETERS AND 35.36 INCHES LONG (898 MILLIMETERS). LAY-UP LENGTH IS 33.35 INCHES (847 MILLIMETERS).

2.3 THE CHAMBER SHALL HAVE AN ELLIPTICAL CURVED SECTION PROFILE.

2.4 THE CHAMBER SHALL BE OPEN BOTTOMED.

2.5 THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS TO BE CONSTRUCTED.

2.6 THE NOMINAL STORAGE VOLUME SHALL BE 41.05 CUBIC FEET (1.162 CUBIC METERS) PER CHAMBER WHEN INSTALLED PER SHAWCOR'S TYPICAL DETAILS. THIS EQUATES TO 2.67 CUBIC FEET (0.075 CUBIC METERS) OF STORAGE PER SQUARE FOOT OF BED, THIS DOES NOT INCLUDE PERIMETER STONE.

2.7 THE CHAMBER SHALL HAVE BOTH OF ITS ENDS OPEN TO ALLOW FOR UNIMPEDED HYDRAULIC FLOW AND VISUAL INSPECTIONS DOWN A ROW'S LENGTH.

2.8 THE CHAMBER SHALL HAVE FIVE CORRUGATIONS TO ACHIEVE STRENGTHS DEFINED ABOVE.

2.9 THE CHAMBER SHALL HAVE FIVE CIRCULAR AND ELLIPTICAL, INDENTED AND RAISED, SURFACES ON THE TOP OF THE CHAMBER FOR A MAXIMUM OF 24 INCHES (610 MILLIMETERS) DIAMETER OPTIONAL TOP FEED INLETS, INSPECTION PORTS AND/OR CLEAN-OUT ACCESS PORTS.

2.10 THE CHAMBER SHALL HAVE FIVE ELLIPTICAL, INDENTED, SURFACES ON EITHER SIDE OF THE CHAMBER FOR OPTIONAL FEED INLETS, OUTLETS, CAPABLE OF ACCEPTING PIPE O.D. UP TO 18 INCHES (450 MILLIMETERS).

2.11 THE CHAMBER SHALL BE ANALYZED, DESIGNED, AND FIELD TESTED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5. DESIGN LIVE LOAD SHALL MEET OR EXCEED AASHTO HS-25 OR A REAR AXLE LOAD OF 40,000 POUNDS (18,143 KG). DESIGN SHALL CONSIDER EARTH AND LIVE LOADS WITHOUT PAVEMENT AS APPROPRIATE FOR THE MINIMUM 18 INCHES (457 MILLIMETERS) OF TOTAL COVER TO A MAXIMUM TOTAL COVER OF 50 FEET (15.24 METERS).

2.12 THE CHAMBER SHALL BE MANUFACTURED BY AN ISO 9001:2008 CERTIFIED FACILITY.

2.13 THE DESIGN SERVICE LIFE OF THE PRODUCT IS GREATER THAN 50 YEARS UNDER A CONSTANT SUSTAINED LOAD OF 10,000 PSI (68.95 MPA) WHICH IS EQUAL TO A H-20 LOAD. UNDER DESIGN LOADING CONDITIONS THE CHAMBER AND END CAP HAVE A SERVICE LIFE OF 120 YEARS FROM THE MANUFACTURING DATE.

3.0 INSTALLATION

3.1 INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST SHAWCOR HYDROCHAIN CHAMBER INSTALLATION MANUAL.

A6 S29 CHAMBER
NOT TO SCALE

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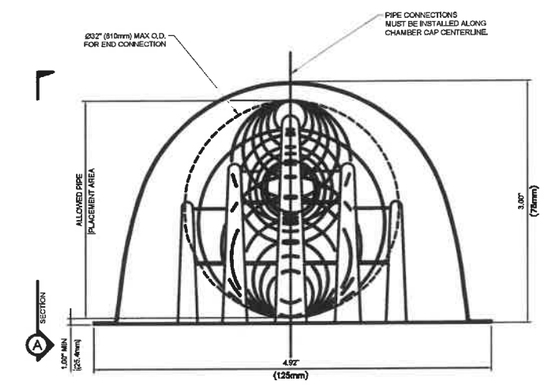
WDMCS - FAIRMEADOWS STORM SHELTER ADDITION AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

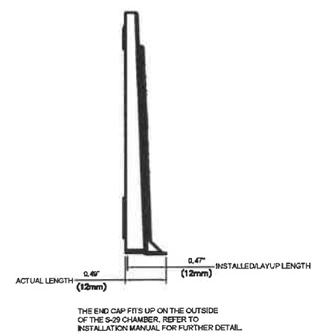
DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2024-01-17
PROJECT NO: 42127B
FIELD BOOK: --
CLIENT NO: --

CONSTRUCTION DETAILS

C509



S-29 END CAP: ALLOWED PIPE PLACEMENT AREA
SCALE: NTS



A SECTION
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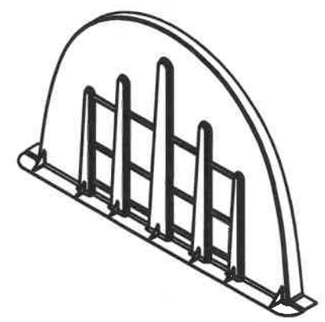


ISOMETRIC
SCALE: NTS

S-29 END CAP PROPERTIES	
NOMINAL DIMENSIONS (LAYUP LENGTH × WIDTH × HEIGHT)	5.90" × 59.00" × 36.00" (150mm × 1498mm × 914mm)
BARE END CAP STORAGE	1.031 CUBIC FEET (0.029 CUBIC METERS)
*MIN INSTALLED STORAGE	4.98 CUBIC FEET (0.141 CUBIC METERS)
*ASSUMES A MIN OF 8" (152mm) STONE ABOVE AND BELOW AND 7.5" (191mm) BETWEEN ROWS WITH 40% STONE POROSITY (DOES NOT INCLUDE 12" (305mm) PERIMETER STONE VOLUME)	

HYDROCHAIN S-29 PRODUCT SPECIFICATIONS

1.0 GENERAL

1.1 HYDROCHAIN CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF, AS A SUBSURFACE RETENTION OR DETENTION SYSTEM. HYDROCHAIN CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL, AS A SUBSURFACE DETENTION SYSTEM, HYDROCHAIN CHAMBERS DETAIN AND ALLOW FOR THE CONTROLLED FLOW OF WATER TO AN OUTFALL.

2.0 END CAP PARAMETERS

2.1 THE END CAP SHALL BE INJECTION COMPRESSION MOLDED OF 1010 GREEN EOY RESIN THAT IS INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESCR), AND CREEP. THE CHAMBER SHALL MAINTAIN PROPER STIFFNESS THROUGH TEMPERATURE RANGES OF -40 DEGREES FAHRENHEIT TO 180 DEGREES FAHRENHEIT (-40 DEGREE CELSIUS TO 82.2 DEGREES CELSIUS).

2.2 THE END CAP SHALL BE DESIGNED TO FIT OVER THE LAST CORRUGATION OF A CHAMBER, WHICH ALLOWS: THE CAPPING OF EACH END OF THE CHAMBER ROW.

2.3 THE END CAP SHALL HAVE SIX UPPER GUIDES CAPABLE OF ACCEPTING PIPE O.D. UP TO 17.81 INCHES (452 MILLIMETERS), FIVE MIDDLE SAW GUIDES CAPABLE OF ACCEPTING PIPE O.D. UP TO 15.99 INCHES (406 MILLIMETERS) AND EIGHT LOWER SAW GUIDES CAPABLE OF ACCEPTING PIPE O.D. UP TO 27.92 INCHES (709 MILLIMETERS) TO ALLOW EASY CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET OR OUTLET THE SYSTEM.

2.4 THE END CAP SHALL PROVIDE STRUCTURAL SUPPORT TO ALLOW CUTTING AN ORIFICE OF ANY SIZE AT ANY INVERT ELEVATION.

2.5 THE PRIMARY FACE OF AN END CAP SHALL HAVE FIVE CORRUGATIONS AND BE ANGLED OUTWARD TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS.

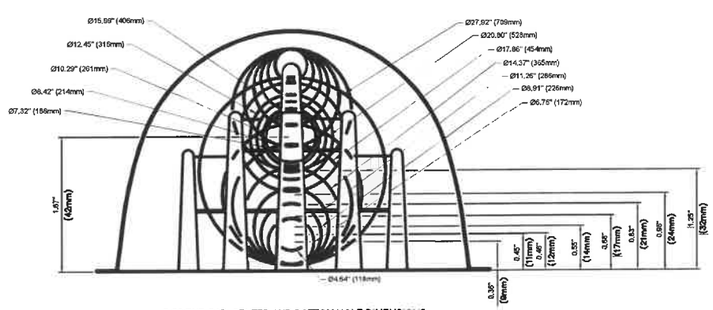
2.6 THE END CAP SHALL BE MANUFACTURED BY AN ISO 9001:2008 CERTIFIED FACILITY.

2.7 THE DESIGN SERVICE LIFE OF THE PRODUCT TO BE GREATER THAN 50 YEARS UNDER A SUSTAINED LOAD OF 10,000 PSI (68.95 MPA) WHICH IS EQUAL TO A H-20 LOADING CONDITION.

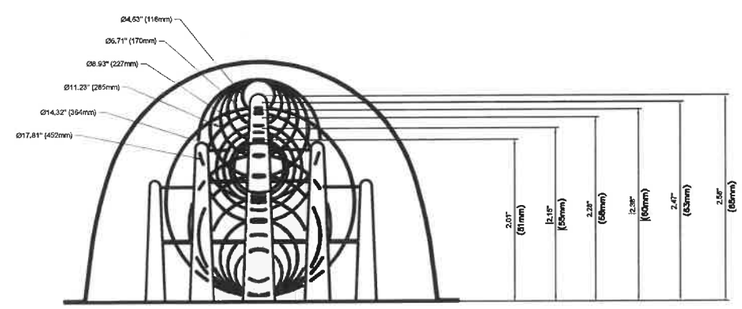
2.8 THE NOMINAL STORAGE VOLUME OF A HYDROCHAIN S-29 END CAP SHALL BE 4.98 CUBIC FEET (0.141 CUBIC METERS) PER END CAP WHEN INSTALLED PER SHAWCOR'S TYPICAL DETAILS. THIS EQUATES TO 1.83 CUBIC FEET (0.052 CUBIC METERS) OF STORAGE PER SQUARE FOOT OF BED.

3.0 INSTALLATION

3.1 INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST SHAWCOR HYDROCHAIN CHAMBER INSTALLATION MANUAL.



S-29 END CAP: CENTER AND BOTTOM HOLE DIMENSIONS
SCALE: NTS



S-29 END CAP: TOP HOLE DIMENSIONS
SCALE: NTS

A6 S29 CHAMBER END CAP
NOT TO SCALE

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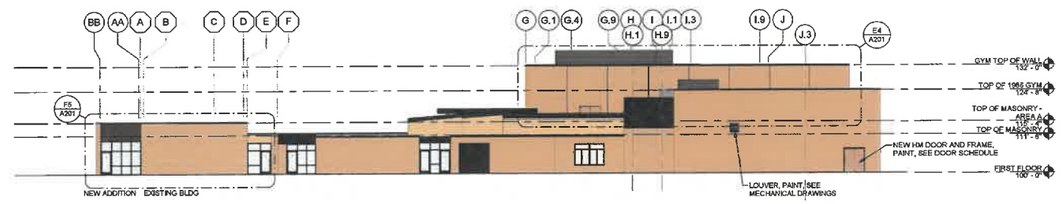
WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY SCHOOL | 807 23RD ST | WEST DES MOINES, IA 50265

DRAWN: KAL
APPROVED: KAL
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 2025-01-17
PROJECT NO: 4212718
FIELD BOOK: —
CLIENT NO: —

CONSTRUCTION DETAILS

C510

A2 OVERALL SOUTH ELEVATION
1/16" = 1'-0"

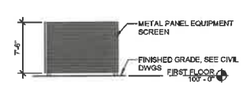


D3 OVERALL WEST ELEVATION
1/16" = 1'-0"

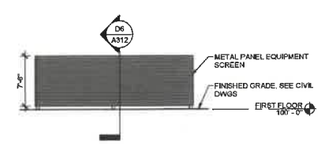
A4 OVERALL NORTH ELEVATION
1/16" = 1'-0"

D5 OVERALL EAST ELEVATION
1/16" = 1'-0"

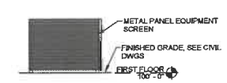
MATERIAL LEGEND		
MATERIAL	COLOR	BASIS OF DESIGN MANF
Thin Brick - Field Color	205 Marketplace	MetroBrick
Thin Brick - Accent Color	108 Brownstone	MetroBrick
Face Brick - Field Color	Desert Ironspot Light Velour	Endicott Brick
Metal Panels & Trim	Dark Bronze	Firestone Buildign Products
Aluminum Frames	Dark Bronze	Kawneer
Hollow Metal Doors	Painted Dark Bronze	Sherwin Williams
Insulated Glazing Units, Typ.	Match Existing	Match Existing
Gymnasium IGUs	Frosted White	N/A



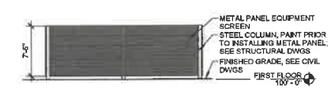
C6 DUMPSTER ENCLOSURE - EAST ELEVATION
1/8" = 1'-0"



D6 DUMPSTER ENCLOSURE - NORTH ELEVATION
1/8" = 1'-0"



F6 DUMPSTER ENCLOSURE - WEST ELEVATION
1/8" = 1'-0"



G6 DUMPSTER ENCLOSURE - SOUTH ELEVATION
1/8" = 1'-0"

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FAIRMEADOWS 2022 STORM SHELTER AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY, 807 23RD ST.
WEST DES MOINES, IA 50265

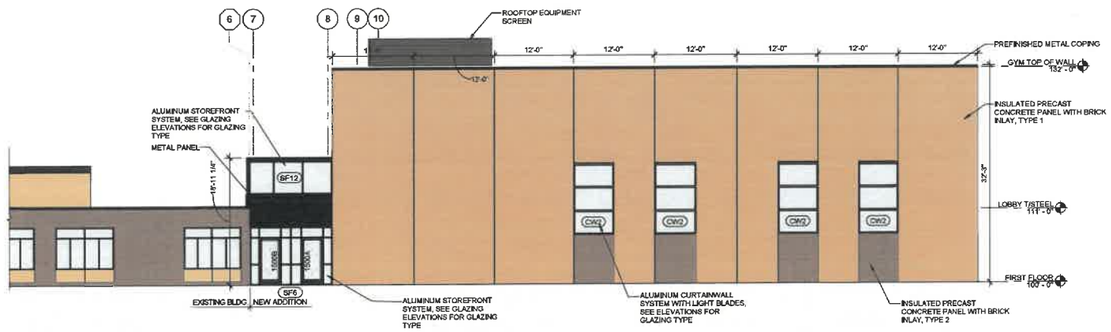
PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN: BCB
APPROVED: MJK
ISSUED FOR: CITY SUBMITTAL
DATE: 08/1/21
PROJECT NO: 4212780
FIELD BOOK:

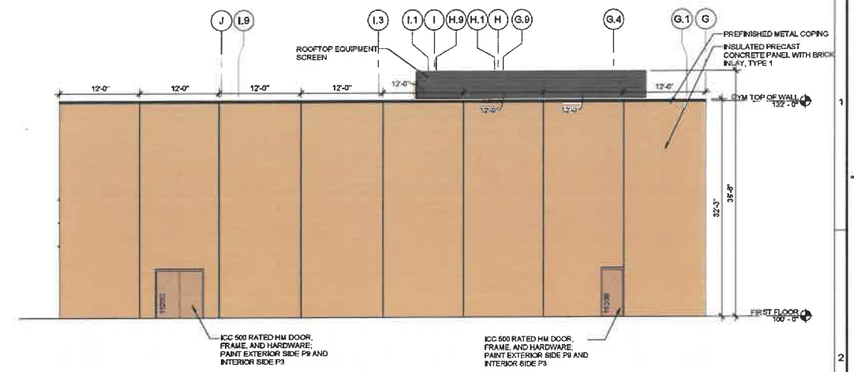
EXTERIOR ELEVATIONS

A200

Autodesk Revit 2020

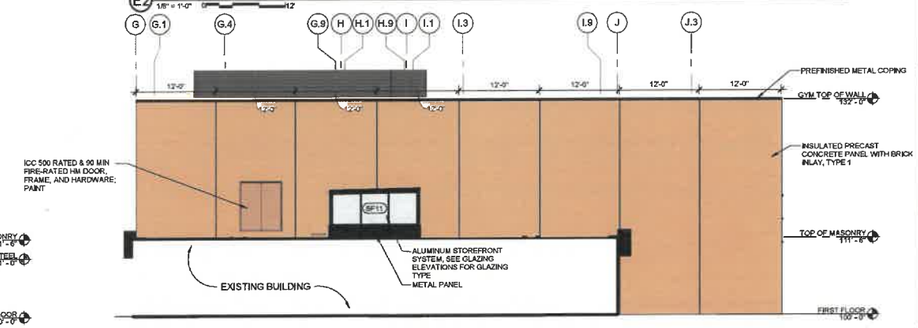


A2 SOUTH EXTERIOR ELEVATION - AREA C
1/8" = 1'-0"

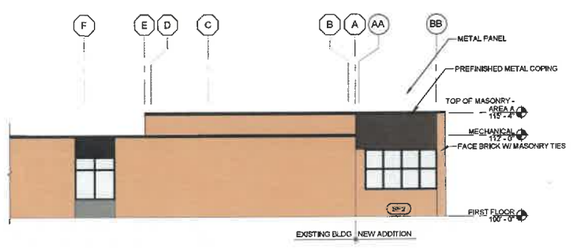


E2 EAST EXTERIOR ELEVATION - AREA C
1/8" = 1'-0"

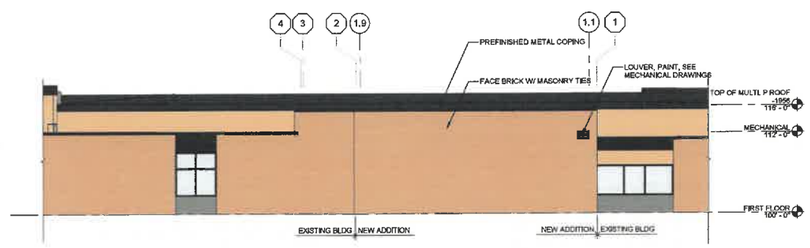
A4 NORTH EXTERIOR ELEVATION - AREA C
1/8" = 1'-0"



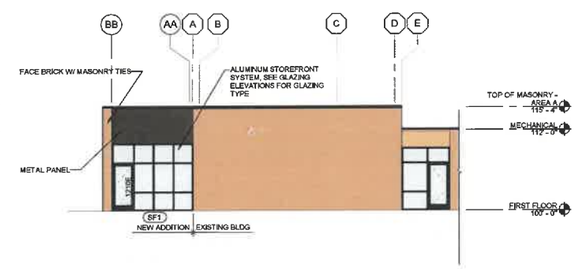
E4 WEST EXTERIOR ELEVATION - AREA C
1/8" = 1'-0"



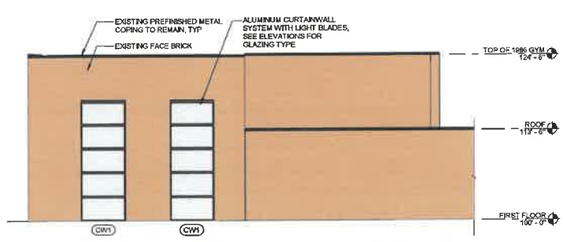
A5 EAST EXTERIOR ELEVATION - AREA B
1/8" = 1'-0"



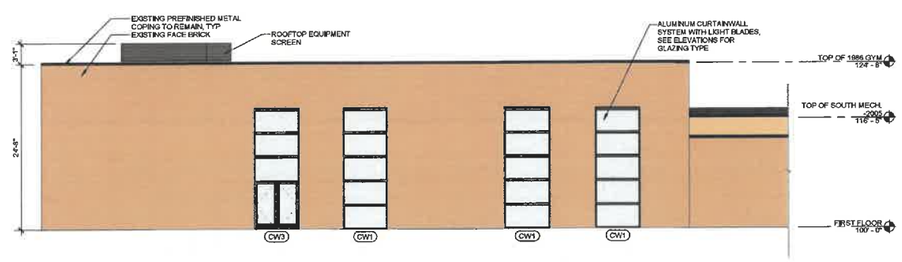
C5 NORTH EXTERIOR ELEVATION - AREA B
1/8" = 1'-0"



F5 WEST EXTERIOR ELEVATION - AREA B
1/8" = 1'-0"



A6 EAST EXTERIOR ELEVATION - AREA A
1/8" = 1'-0"



C6 SOUTH EXTERIOR ELEVATION - AREA A
1/8" = 1'-0"

MATERIAL LEGEND

MATERIAL	COLOR	BASIS OF DESIGN MANF
Thin Brick - Field Color	206 Masterpiece	MetroBrick
Thin Brick - Accent Color	106 Brownstone	MetroBrick
Face Brick - Field Color	Desert Ironspot Light Velour	Endicott Brick
Metal Panels & Trim	Dark Bronze	Firestone Building Products
Aluminum Frames	Dark Bronze	Kawneer
Hollow Metal Doors	Painted Dark Bronze	Sherwin Williams
Insulated Glazing Units, Typ.	Match Existing	Match Existing
Gymnasium ISUs	Frosted White	N/A

SHIVEHATTERY
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4125 Westown Pkwy, Suite 100 | West Des Moines, IA 50266
515.223.9194 | www.shivehattery.com
Iowa | Illinois | Indiana | Nebraska

FAIRMEADOWS 2022 STORM SHELTER AND RENOVATION

WEST DES MOINES COMMUNITY SCHOOLS
FAIRMEADOWS ELEMENTARY, 807 23RD ST.
WEST DES MOINES, IA 50265

PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN: RCB
APPROVED: MJK
ISSUED FOR: CITY SUBMITTAL
DATE: 2022-01-28
PROJECT NO: -021760
FIELD BOOK:

EXTERIOR ELEVATIONS

A201

A RESOLUTION OF THE PLAN AND ZONING COMMISSION
NO. PZC-22-048

WHEREAS, pursuant to the provisions of Title 9, Zoning of the West Des Moines Municipal Code, the applicant and property owner, West Des Moines Community Schools, requests approval of the Major Modification to Site Plan for the approximately 11.8-acre property located at 807 23rd Street as depicted on the location map included in the staff report. The applicant requests approval to construct approximately 10,580-square feet of building additions and associated site improvements; and

WHEREAS, the Major Modification to Site Plan request complies with the findings stated in the applicable provisions of Title 9, the Comprehensive Plan and City Code.

NOW THEREFORE, the Plan and Zoning Commission of the City of West Des Moines recommends the City Council approve the Major Modification to Site Plan (MaM-005328-2021), subject to compliance with all the conditions of approval as stated in the staff report, including conditions added at the meeting, and attached hereto as Exhibit "A", if applicable.

PASSED AND ADOPTED on May 9, 2022.

Jennifer Drake, Chair
Plan and Zoning Commission

I HEREBY CERTIFY that the foregoing resolution was duly adopted by the Plan and Zoning Commission of the City of West Des Moines, Iowa, at a regular meeting on May 9, 2022, by the following vote:

AYES: Costa, Crowley, Davis, Drake, Hatfield, Shaw

NAYS:

ABSTENTIONS:

ABSENT: Conlin

ATTEST: Michelle Riesenberg
Recording Secretary

Prepared by: Bryce Johnson, City of West Des Moines Development Services Dept., PO Box 65320, West Des Moines, Iowa 50265-0320 515-222-3620
When Recorded, Return to: City Clerk, City of West Des Moines, PO Box 65320, West Des Moines, IA 50265-0320

RESOLUTION

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WEST DES MOINES, APPROVING A MAJOR MODIFICATION TO ALLOW CONSTRUCTION OF BUILDING ADDITIONS AND ASSOCIATED SITE IMPROVEMENTS

WHEREAS, pursuant to the provisions of Title 9, Zoning of the West Des Moines Municipal Code, the applicant and property owner, West Des Moines Community Schools, requests approval of the Major Modification to Site Plan for the approximately 11.8-acre property located at 807 23rd Street and legally described in attached Exhibit 'B' for the purpose of constructing approximately 10,580-square feet of building additions and associated site improvements; and

WHEREAS, studies and investigations were made, and staff reports, and recommendations were submitted which is made a part of this record and herein incorporated by reference; and

WHEREAS, the Major Modification complies with findings stated in the applicable provisions of Title 9, Chapter 1, Subsection 8, the Comprehensive Plan and City Code.

WHEREAS, on May 9, 2022, the Plan and Zoning Commission recommended to the City Council, by a 6-0 vote, for approval of the Major Modification; and

WHEREAS, on this day the City Council held a duly noticed meeting to consider the application for the Major Modification.

NOW, THEREFORE, The City Council does approve the Fairmeadows Storm Shelter Additions and Renovations Major Modification (MaM-005328-2021), subject to compliance with all of the conditions of approval, including any conditions added at the meeting, attached hereto as Exhibit "A". Violation of any such conditions shall be grounds for revocation of the permit, as well as any other remedy which is available to the City.

PASSED AND ADOPTED on May 16, 2022.

_____
Russ Trimble, Mayor

ATTEST:

_____
Ryan Jacobson, City Clerk

I HEREBY CERTIFY that the foregoing resolution was duly adopted by the City Council of the City of West Des Moines, Iowa, at a regular meeting held on May 16, 2022, by the following vote.

Exhibit A: Conditions of Approval

1. The City Council approving the alternative landscape plan as proposed by the applicant.
2. All easements benefitted to the City shall be executed by the School Board and approved and accepted by the City Council prior to the issuance of any building permits for the building additions.
3. The Storm Water Management Facility Maintenance Agreement be executed by the School Board and approved and accepted by the City Council prior to the issuance of any building permits for the building additions. Additionally, the applicant providing as-built drawings of the storm water improvements prior to the issuance of any occupancy permit, including temporary occupancy.

Exhibit B: Legal Description

N 540F S 1860F W 915F E 1087F NE ¼ SEC 9-78-25 IN THE CITY OF WEST DES MOINES, POLK COUNTY, IOWA.