ITEM NO 2
MEETING DATE October 23, 2017
STAFF Ryan Mounce

ADMINISTRATIVE HEARING OFFICER

STAFF REPORT

PROJECT: 2601 Canton Ct, FDP160033

APPLICANT: Daniel R. Bernth
Doberstein Lemburg
1401 Riverside Avenue
Fort Collins, CO 80524

OWNER Daniel R. Bernth, Donna L Martemucci, Michael J Puleo
1401 Riverside Avenue
Fort Collins, CO 80524

PROJECT DESCRIPTION:
This is a request for consideration of a consolidated Project Development Plan/Final Plan to construct a 1-story, 9,000 square foot office and warehouse building on a vacant lot. The development proposes a 14-space vehicle parking lot in front of the building with a driveway leading to a rear equipment and storage yard. The yard will be gated and fenced for security and screening. The project site is located at 2601 Canton Court on a 1.01-acre lot in the Industrial (I) zone district.

RECOMMENDATION:
Staff recommends approval of 2601 Canton Court, FDP160033.

EXECUTIVE SUMMARY:
The 2601 Canton Ct consolidated Project Development Plan/Final Plan complies with the applicable requirements of the City of Fort Collins Land Use Code, more specifically:

- The consolidated Project Development Plan/Final Plan complies with process located in Division 2.2 – Common Development Review Procedures for Development Applications of Article 2 – Administration.

- The consolidated Project Development Plan/Final Plan complies with relevant standards of Article 3 – General Development Standards.

- The consolidated Project Development Plan/Final Plan complies with relevant standards located in Division 4.28 Industrial District (I) of Article 4 – Districts.

COMMENTS:

1. Background

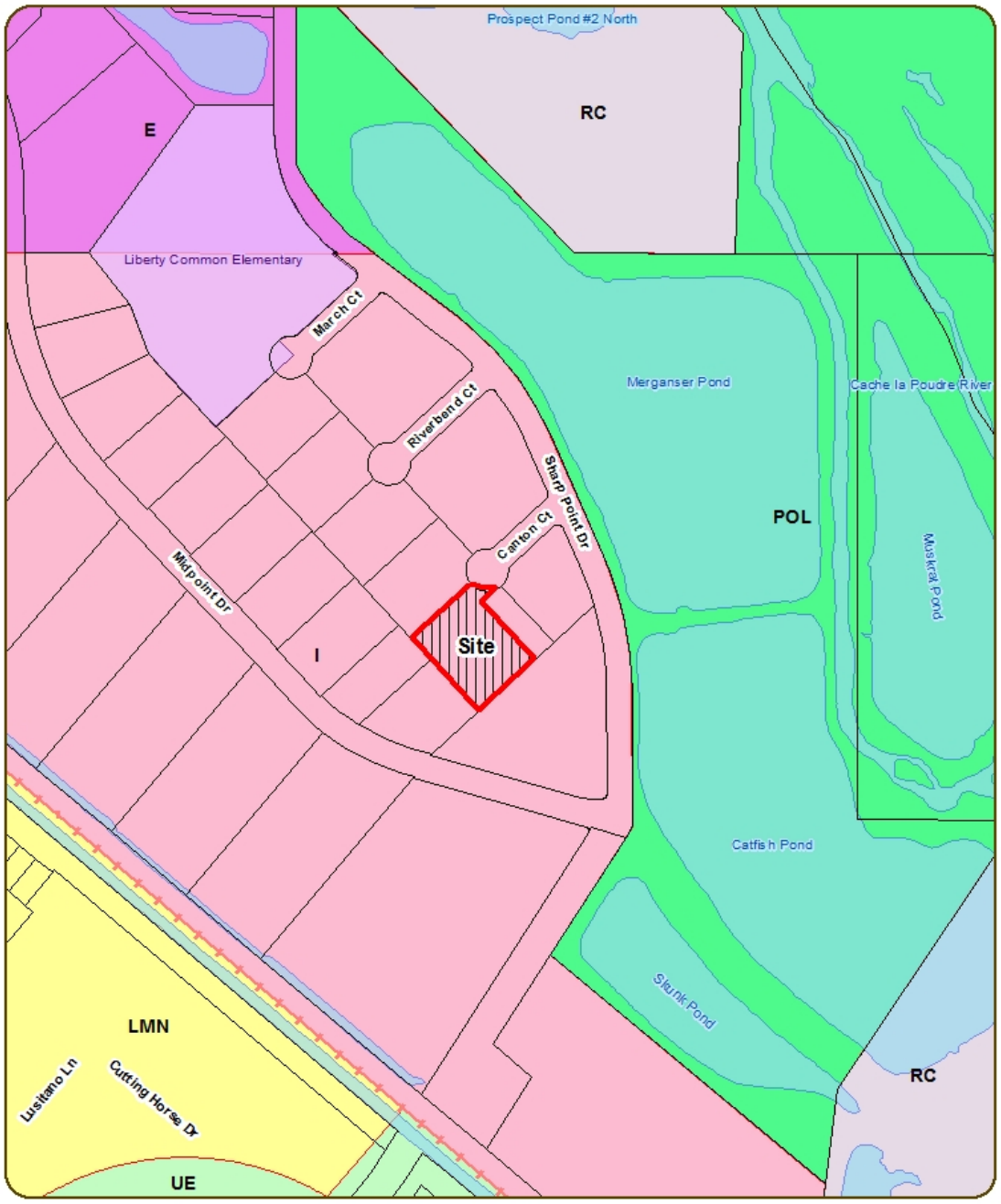
The project location was annexed into the City of Fort Collins in 1973 as part of the East Prospect Street First Annexation. In 1978, the Prospect Industrial Park subdivision was approved, establishing multiple lots for light industrial development. The project site is located on Lot 11, which has been undeveloped since the subdivision was first approved, and represents one of the last remaining vacant development sites within the Prospect Industrial Park.

The surrounding zoning and land uses are as follows:

Direction	Zone District	Existing Land Uses
North	Industrial (I)	Print shop, Office, Warehouse
South	Industrial (I)	Office, Warehouse
East	Industrial (I) & Public Open Lands (P-O-L)	Office, Warehouse, Prospect Ponds Natural Area
West	Industrial (I)	Office, Warehouse, Storage

A zoning vicinity map is presented on the following page:

Site & Zoning Vicinity Map



1 inch = 300 feet

2601 Canton Ct.

2. <u>Compliance with Article 4 of the Land Use Code – Industrial District (I), Division 4.28:</u>

The project complies with all applicable Article 4 standards as follows:

A. Section 4.28(B) – Permitted Uses

The project proposes a new building for office and warehouse space, along with a rear fenced yard for accessory storage of equipment. The proposed land uses are consistent with the intent of the Industrial (I) zone district and are permitted uses in the zone district subject to Administrative (Type 1) review.

B. Section 4.28(D)(1)(a) – Land Use Standards

The proposed building is one-story, below the four-story maximum in the Industrial (I) District.

C. Section 4.28(E)(2)(c) – Building character and color

Industrial District standards require new buildings to feature neutral color shades with a medium or dark range, and prohibits white, bright or reflective finishes. The proposed building features a mixture of split-face masonry block and standing seam metal facings featuring earth-toned colors, meeting this code standard.

D. Section 4.28(E)(3)(a) – Screening

Storage and operational areas for the project are screened from public streets and district boundary lines. In compliance with this section, the storage area has also been located behind the rear of the building, while the front of the lot is dedicated to vehicular parking.

No buffer yards are required for the project as it is not located adjacent to residential land uses, along a zone district boundary, or along an arterial street.

E. Section 4.28(E)(3)(b) – Storage and Operational Areas

The storage and operational areas of the project are located behind the proposed building and will be ringed by a solid six-foot fence and landscaping, meeting code requirements that storage and work operation areas are screened from zone district boundary lines and public streets.

3. Compliance with Article 3 of the Land Use Code – General Development Standards:

The project complies with all applicable General Development Standards as detailed below.

A. Section 3.2.1 – Landscaping and Tree Protection

The proposed landscaping plan is consistent with the applicable requirements of Land Use Code Division 3.2.1*, Landscaping and Tree Protection*, with additional explanation for specific subsections below:

3.2.1(D) – Tree Planting Standards

A total of 13 new trees will be planted as part of the project, including four street trees along Midpoint Drive associated with offsite improvements for a detention pond. The nine trees to be planted on-site feature a mixture of deciduous and evergreen trees, primarily along the site perimeter for screening, as well as several within the front half of the site associated with parking lot landscaping. The new site trees meet requirements for size, species diversity, and tree-stocking.

3.2.1(D)(2) – Street Trees

No street trees will be planted along the main site frontage along Canton Court due to the unique geography of the circumference of the cul-de-sac, interruption of the street frontage for driveway access, utilities, and street lighting. As part of the project's stormwater and detention requirements, an offsite detention pond is proposed to the southwest. As part of this offsite improvement, frontage improvements to Midpoint Drive along the length of detention pond are included in the proposal, including new sidewalk and the planting of four canopy shade trees. The new street trees meet requirements for size and spacing.

3.2.1(E)(2) – Landscape Area Treatment

All site areas not covered by buildings or paving will feature landscaping in compliance with landscaping treatment requirements, including:

- Shrub and foundation plantings in front of the building and along the eastern face visible from the public right of way along Canton Court.

- Shrubs and trees within a landscape island and perimeter garden beds adjacent to the parking lot meeting interior and perimeter landscaping requirements for parking areas. The landscaping is consistent with requirements to block headlights and extends along a minimum of 70% of the perimeter of parking lot side yard setbacks

- Evergreen shrubs around the proposed trash enclosure to provide year-round screening to an area of low visual interest.

- A mixture of shrubs and trees along portions of the western and southern property lines to provide screening and visual transition to a solid six-foot fence which screens the storage yard.

- A natural upland seed mix within areas for stormwater detention, both on and offsite.

B. *Section 3.2.2(C)(4) – Bicycle Facilities*

The project proposes four bicycle parking spaces, meeting the minimum requirement of four spaces for industrial land uses.

C. *Section 3.2.2(C)(5) – Walkways*

A direct sidewalk connection from each entryway of the building to Canton Court meets code requirements for connectivity and connection to the public street sidewalk network.

D. *Section 3.2.2(J) – Setbacks*

The development's parking and equipment storage areas meet or exceed minimum setback requirements of 10-feet from the street right of way and 5-feet from side property lines.

E. *Section 3.2.2(K)(2) – Nonresidential Parking Requirements*

Parking requirements for industrial land uses are intended to cover employee need, with a minimum parking requirement of one vehicle space for every two employees. The 14 vehicles spaces proposed meet minimum parking requirements for up to 28 employees, which is anticipated to exceed requirements for a low-intensity industrial office/storage building occupied largely for storage.

The building will feature multiple tenant spaces for multiple users, however, it is anticipated a landscaping company will be one of the first and largest building occupants. Employees of this business will be primarily working at off-site locations and only need occasional parking for short durations at infrequent periods throughout the day or week.

F. *Section 3.2.2(L) – Parking Stall Dimensions*

All site parking spaces meet code standards for minimum width and depth for standard vehicle spaces, as well as access widths for drive aisles. In addition, the walkway in front of the building entrance has been widened to six-feet to meet code requirements to account for vehicular overhang.

G. *Section 3.2.4 – Site Lighting*

Proposed site lighting is limited to wall-mounted fixtures on the building, which meet minimum required lighting levels for building surrounds, walkways, and parking areas. All light fixtures meet code standards to be fully-shielded and down-directional.

H. *Section 3.2.5 – Trash and Recycling Enclosures*

The proposal includes a new trash enclosure located along the west end of the parking lot. The enclosure meets code requirements for separate walk-in access and will be designed with high-quality materials matching the proposed building.

I. *Section 3.3.1(D)(5) – Stormwater Drainage*

The project site generally sits lower than nearby properties and does not discharge runoff. As part of the proposal, the site will be shaped to drain to the southwest through a rain garden to an off-site detention pond located at 2025 Sharp Point Drive, and then conveyed to Midpoint Drive and then the nearby Prospect Ponds. Drainage has been reviewed by the City's Stormwater Department and conforms to the City's Stormwater Criteria Manual.

As part of meeting drainage and stormwater criteria, the off-site detention pond and discharge into Prospect Ponds require off-site easements, to be completed by separate document. Letters of intent for the granting of easements from the owners of 2025 Sharp Point Drive and Prospect Ponds are attached to this staff report.

J. *Section 3.5.1 – Building and Project Compatibility*

This section of the Land Use Code contains standards relating to building form (size, height, bulk, mass, scale), materials, and outdoor storage. The proposed building meets these standards through design of the new building, which features a building mass, scale, height, and bulk that are of a similar size or smaller than other nearby structures.

Compatibility with the surrounding context is also achieved through the use of similar building design and materials with other nearby development. The front building face features multiple tenant bays with separate doorway entrances, windows, and metal canopies. The rear is lined with separate tenant garage doors and rear entrances Building materials include a split-face block base and columns in the front, with a wrap-around section as a building base facing Canton Court. On the sides and rear and section of the front, the building will feature standing seam metal facing. Building colors will be earth-toned. Both building colors and materials are similar to surrounding development.

The proposed outdoor storage areas also meet requirements to be located at least 20-feet from the public street and sidewalk, and that such areas are fully screened. For this development, a solid six-foot metal fence will surround the storage area with additional landscaping along the outer perimeter.

K. *Section 3.5.3 Mixed-Use, Institutional and Commercial Buildings*

Per Section 4.28(E)(2)(a) of the Industrial Zone District, a majority of the Industrial District's permitted uses, including office and warehouses, are exempt from the standards contained in Section 3.5.3 of the Land Use Code, and were not applied to this proposal.

4. Neighborhood Meeting:

As an Administrative (Type 1) review, no neighborhood meeting was required for the project, and no meeting was held.

5. Findings of Fact / Conclusion:

In evaluating the request for the 2601 Canton Ct consolidated Project Development Plan/Final Plan, FDP160033, staff makes the following findings of fact:

A. The consolidated Project Development Plan/Final Plan complies with the applicable procedural and administrative requirements of Article 2 of the Land Use Code.

B. The consolidated Project Development Plan/Final Plan complies with relevant standards located in Article 3 – General Development Standards.

C. The consolidated Project Development Plan/Final Plan complies with relevant standards located in Division 4.28 Industrial District (I) of Article 4 – Districts.

RECOMMENDATION:

Staff recommends approval of 2601 Canton Ct, consolidated Project Development Plan/Final Plan, FDP160033.

ATTACHMENTS:

1. Planning Document Set (Site Plan, Landscape Plan, Elevations, Photometric Plan)
2. Utility Plans
3. Drainage Report
4. Letters of Intent for drainage easements from 2025 Sharp Point Drive and Prospect Ponds property owners

PROJECT DATA

PARCEL SIZE: 53,236 S.F 1.22 ACRES.

EXISTING ZONING: I– INDUSTRIAL

RESIDENTIAL CONSTRUCTION: NONE

PROPOSED LAND USES: 9,000SF OFFICE/WAREHOUSE

PARKING: AUTO: 24 EMPLOYEES (4 PER SUITE)
MIN: .5/EMPLOYEE = 12 SPACES MINIMUM
MAX: .75/EMPLOYEE = 18 SPACES MAXIMUM
(15)– 9'X17' STANDARD SPACES PROVIDED
(1) ACCESSIBLE SPACE

PARKING: BICYCLE: 4 SPACES PROVIDED

SITE DATA:

SECTION:	AREA (S.F.)	AREA (ACRES)
SITE:	53,236	1.22
BUILDING:	9,000	(17.0%)
LANDSCAPING:	9,800	(18.5%)
PAVING:	34,436	(64.5%)

1. REFER TO FINAL UTILITY PLANS FOR EXACT LOCATIONS OF STORM DRAINAGE STRUCTURES, UTILITY MAINS AND SERVICES.
2. REFER TO THE FINAL CIVIL ENGINEERING PLANS FOR DETAILED INFORMATION REGARDING PROPOSED TOPOGRAPHY, UTILITY AND STREET IMPROVEMENTS.
3. REFER TO THE SUBDIVISION PLAT AND UTILITY PLANS FOR EXACT LOCATIONS, AREAS AND DIMENSIONS OF ALL EASEMENTS, LOTS, TRACTS, STREETS, WALKS AND OTHER SURVEY INFORMATION.
4. ALL CONSTRUCTION WITH THIS DEVELOPMENT PLAN MUST BE COMPLETED IN ONE PHASE UNLESS A PHASING PLAN IS SHOWN WITH THESE PLANS.
5. DEVELOPER SHALL ENSURE THAT THE FINAL LANDSCAPE PLAN IS COORDINATED WITH ALL OTHER FINAL PLAN ELEMENTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, AND OTHER DEVELOPMENT IMPROVEMENTS DO NOT CONFLICT WITH NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS ON THIS PLAN.
6. PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF FORT COLLINS. NO STRUCTURES OR LANDSCAPE ELEMENTS GREATER THAN 24" SHALL BE ALLOWED WITHIN THE SIGHT DISTANCE TRIANGLE OR EASEMENTS WITH THE EXCEPTION OF DECIDUOUS TREES PROVIDED THAT THE LOWEST BRANCH IS AT LEAST 6' FROM GRADE. ANY FENCES WITHIN THE SIGHT DISTANCE TRIANGLE OR EASEMENT MUST BE NOT MORE THAN 42" IN HEIGHT AND OF AN OPEN DESIGN.
7. COMMON OPEN SPACE AREAS AND LANDSCAPING WITHIN ADJACENT RIGHT OF WAYS, STREET MEDIANS, AND TRAFFIC CIRCLES ARE REQUIRED TO BE MAINTAINED BY A PROPERTY OWNER. THE PROPERTY OWNER IS RESPONSIBLE FOR SNOW REMOVAL ON ALL ADJACENT STREET SIDEWALKS.
8. ALL ROOFTOP AND GROUND MOUNTED MECHANICAL EQUIPMENT MUST BE SCREENED FROM VIEW FROM ADJACENT PROPERTY AND PUBLIC STREETS. IN CASES WHERE BUILDING PARAPETS DO NOT ACCOMPLISH SUFFICIENT SCREENING, THEN FREE–STANDING SCREEN WALLS MATCHING THE PREDOMINANT COLOR OF THE BUILDING SHALL BE CONSTRUCTED. OTHER MINOR EQUIPMENT SUCH AS CONDUIT, METERS AND PLUMBING VENTS SHALL BE SCREENED OR PAINTED TO MATCH SURROUNDING BUILDING SURFACES.
9. LIGHTING FIXTURE ILLUMINATION LEVELS PROVIDED SHALL COMPLY WITH THE FOOT–CANDLE REQUIREMENTS IN SECTION 3.2.4 OF THE LAND USE CODE AND WITH CITY OF FORT COLLINS LIGHT AND POWER UTILITY REQUIREMENTS. ALL LIGHTING FIXTURES PROVIDED WITH THE PROJECT SHALL USE A CONCEALED, FULLY SHIELDED LIGHT SOURCE AND SHALL FEATURE SHARP CUT–OFF CAPABILITY SO AS TO MINIMIZE UP–LIGHT, SPILL LIGHT, GLARE AND UNNECESSARY DIFFUSION.
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LOT 11, PROSPECT INDUSTRIAL PARK

2601 CANTON COURT
FORT COLLINS, CO 80525

LOT 11, PROSPECT INDUSTRIAL PARK, CITY OF FORT COLLINS, COUNTY OF LARIMER, STATE OF COLORADO EXCEPT THAT PORTION CONVEYED BY DEED RECORDED OCTOBER 18, 2012 AT RECEPTION NO. 20120073332.

PROJECT CONSULTANTS

ARCHITECT:
WG ARCHITECTS 1449
RIVERSIDE AVENUE FORT
COLLINS, CO 80524
TELEPHONE: 970–493–2025
FAX: 970–493–2026
CONTACT: DON SHIELDS

OWNER:
DANIEL BERNTH
1401 RIVERSIDE AVENUE
FORT COLLINS, CO 80524

TELEPHONE: 970–221–1965
CONTACT: DANIEL BERNTH
EMAIL: dan@DLCCo,COM

ENGINEER:
NORTH STAR DESIGN
700 AUTOMATION WAY
WINDSOR, CO 80550

TELEPHONE: 970–686–6939
CONTACT: TRICIA KREOTCH

OWNER'S CERTIFICATION

THE UNDERSIGNED DO HEREBY CERTIFY THAT WE ARE THE LAWFUL OWNERS OF THE REAL PROPERTY DESCRIBED IN THESE SITE PLANS AND DO HEREBY CERTIFY THAT WE ACCEPT THE CONDITIONS AND RESTRICTIONS SET FORTH ON SAID SITE PLANS.

EXECUTED THIS _____ DAY OF _____, A.D., 20_____

DANIEL R BERNTH

_____

DONNA MARTEMUCCI

_____

MICHAEL PULEO

_____

(STATE OF COLORADO)
(COUNTY OF LARIMER) S.S.
(CITY OF FORT COLLINS)

THE FOREGOING DEDICATION WAS ACKNOWLEDGED BEFORE ME THIS

_____ DAY OF _____, A.D. 20_____,

BY _____,

MY COMMISSION EXPIRES _____,

WITNESS MY HAND AND SEAL

_____
NOTARY PUBLIC

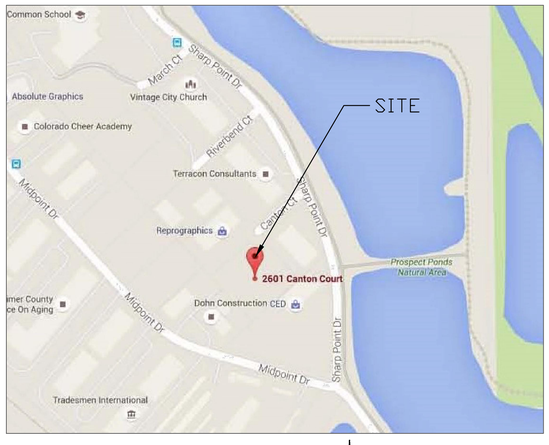
COMMUNITY DEVELOPMENT & NEIGHBORHOOD SERVICES

APPROVED BY THE DIRECTOR OF DEVELOPMENT AND NEIGHBORHOOD SERVICES OF THE CITY OF FORT COLLINS, COLORADO, THIS

_____ DAY OF _____, A.D. 20_____,

_____
DIRECTOR OF DEVELOPMENT & NEIGHBORHOOD SERVICES

VICINITY MAP



VICINITY MAP
NOT TO SCALE

N

DRAWING INDEX

ARCHITECTURAL

NO	DATE	REVISION	BY
.			

PREPARED BY:
WG ARCHITECTS
p.o. box 270788
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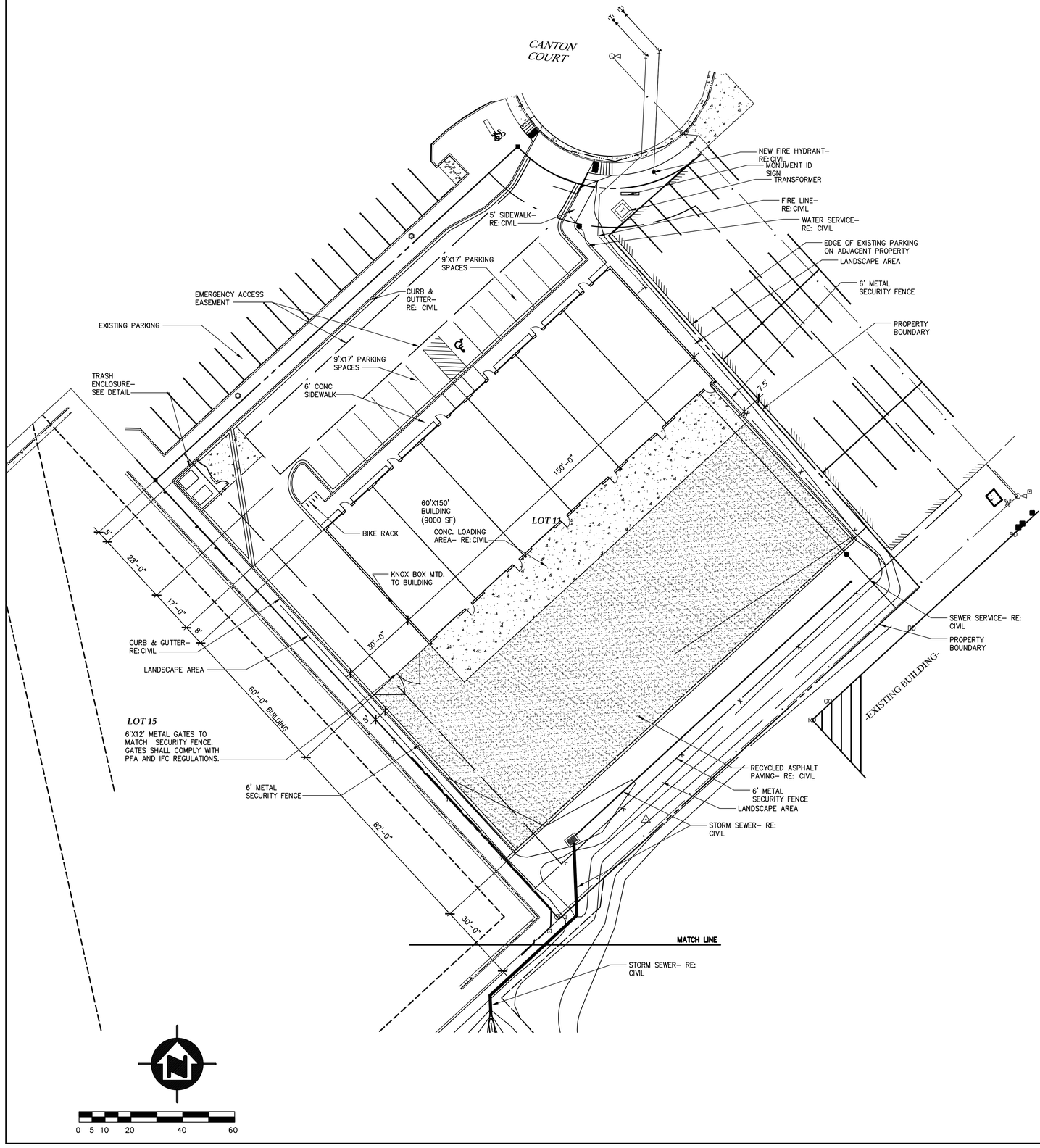
tele 970.493.2025 fax 970.493.2026

DRAWN BY: RG
CHECKED BY: RG
DATE: 07–12–16
SCALE: NTS
DRAWING NUMBER: 3077–16
SHEET NUMBER: 1 of 8

COVER SHEET

2601 CANTON COURT
2601 CANTON COURT
FORT COLLINS, COLORADO

PREPARED FOR:
DAN BERNTH
1401 RIVERSIDE AVENUE
FORT COLLINS, CO 80524



STANDARD SITE NOTES

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NO	DATE	REVISION	BY

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DRAWN BY: RG
CHECKED BY: RG
DATE: 06-15-16
SCALE: 1" = 20'-0"
DRAWING NUMBER: 3077-16
SHEET NUMBER: 2 OF 8

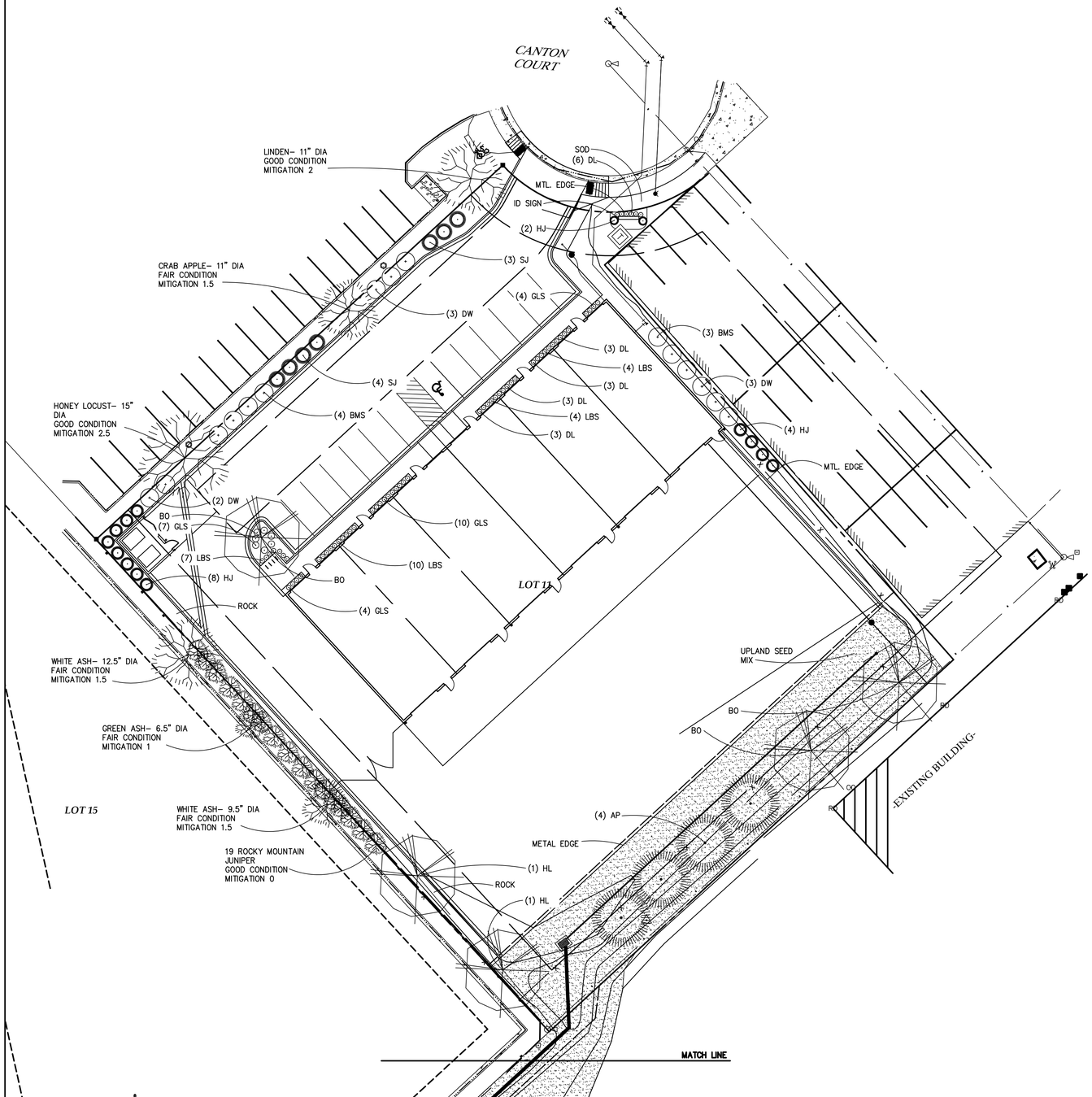
SITE PLAN

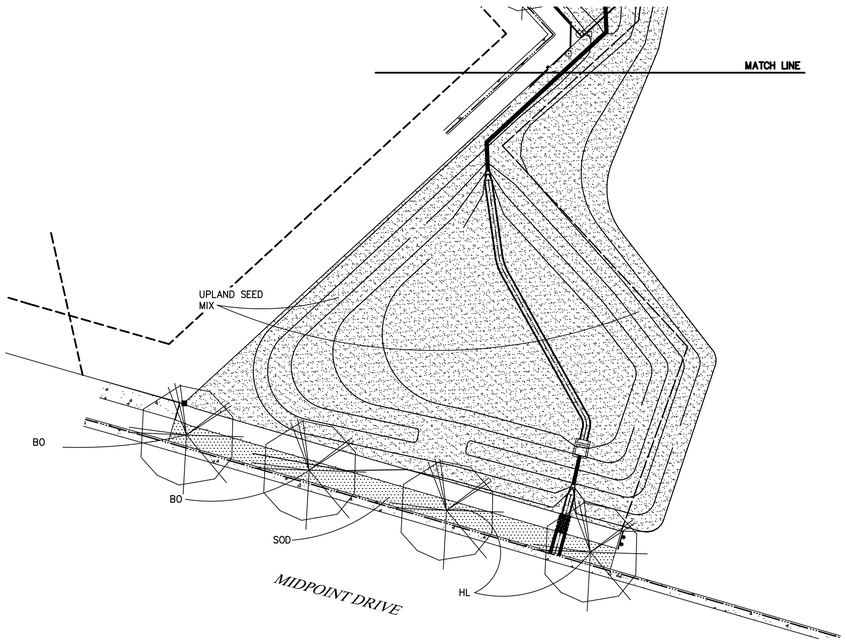
2601 CANTON COURT
2601 CANTON COURT
FORT COLLINS, COLORADO

PREPARED FOR:
DAN BERNTH
1401 RIVERSIDE AVENUE
FORT COLLINS, CO 80524

PLANT SCHEDULE

ABB	BOTANICAL NAME	COMMOM NAME	QUAN	SIZE	TYPE
HL	GLEDITSIA TRIACANTHOS INERMIS	HONEYLOCUST	4	2" CAL.	B&B
BO	QUERCUS MACROCARPA	BURR OAK	5	2" CAL.	B&B
AP	PINUS NIGRA	AUSTRIAN PINE	4	6'	B&B
HJ	JUNIPERUS CHINENSIS "HETZI"	HETZI JUNIPER	14	5 GAL.	CONT
GLS	RHUS AROMATICA "GRO-LOW"	GRO-LOW SUMAC	25	1 1/2 GAL.	CONT
DW	CORNUS STOLONIFERA	RED TWIG DOGWOOD	8	5 GAL.	CONT
SJ	JUNIPERUS CHINENSIS "SPARTAN"	SPARTAN JUNIPER	7	5 GAL.	CONT
BMS	CARTOPTERIS INCANA	BLUE MIST SPIREA	7	5 GAL.	CONT
LBS	ANDROPOGAN SCOPARIUS	LITTLE BLUESTEM	25	1 1/2 GAL.	CONT
DL	HEMEROCALLIS	DAY LILLY	18	1 1/2 GAL.	CONT
SOD		TALL FESCUE SOD			SOD
ROCK		WASHED RIVER ROCK (6" - 8" DIA.)			
MULCH		CEDAR POLE PEELINGS			





NO	DATE	REVISION	BY

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2601 CANTON COURT
2601 CANTON COURT
FORT COLLINS, COLORADO

LANDSCAPE PLAN

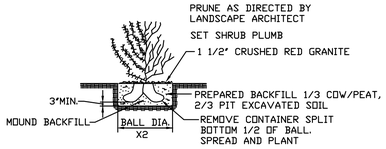
DRAWN BY: RG
CHECKED BY: RG
DATE: 06-15-16
SCALE: 1" = 20'-0"
DRAWING NUMBER: 3077-16
SHEET NUMBER: 3 OF 8

PREPARED FOR:
DAN BERNTH
1401 RIVERSIDE AVENUE
FORT COLLINS, CO 80524

LEGEND

- DECIDUOUS TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- EXISTING TREE
- UPLAND SEED MIX

EVERGREEN SHRUB | DECIDUOUS SHRUB



SHRUB PLANTING DETAIL

N.T.S.

EVERGREEN TREE | DECIDUOUS TREE

TREE PLANTING DETAIL

N.T.S.

WATER BUDGET CHART

HYDROZONE	AREA (S.F.)	WATER NEED (GAL./ S.F.)	ANNUAL WATER USE (GALLONS)
HIGH	0	0	0
MODERATE	475	10	4,750
LOW	1,200	3	3,600
VERY LOW	8,130	0	0
TOTAL	9,805	1.2	8,350

PLANT SCHEDULE

ABB	BOTANICAL NAME	COMMOM NAME	QUAN	SIZE	TYPE
HL	GLEDITSIA TRIACANTHOS INERMIS	HONEYLOCUST	4	2" CAL.	B&B
BO	QUERCUS MACROCARPA	BURR OAK	5	2" CAL.	B&B
AP	PINUS NIGRA	AUSTRIAN PINE	4	6'	B&B
HJ	JUNIPERUS CHINENSIS "HETZI"	HETZI JUNIPER	14	5 GAL.	CONT
GLS	RHUS AROMATICA "GRO-LOW"	GRO-LOW SUMAC	25	1 1/2 GAL.	CONT
DW	CORNUS STOLONIFERA	RED TWIG DOGWOOD	8	5 GAL.	CONT
SJ	JUNIPERUS CHINENSIS "SPARTAN"	SPARTAN JUNIPER	7	5 GAL.	CONT
BMS	CARTOPTERIS INCANA	BLUE MIST SPIREA	7	5 GAL.	CONT
LBS	ANDROPOGAN SCOPARIUS	LITTLE BLUESTEM	25	1 1/2 GAL.	CONT
DL	HEMEROCALLIS	DAY LILLY	18	1 1/2 GAL.	CONT
SOD		TALL FESCUE SOD			SOD
ROCK		WASHED RIVER ROCK (6" - 8" DIA.)			
MULCH		CEDAR POLE PEELINGS			

UPLAND SEED MIX (UPSM)

COMMON NAME	SCIENTIFIC NAME	SEED PER POUND (x1000)	SEEDS PER SQUARE FOOT	POUNDS (PLS) PER ACRE
Achnatherum hymenoides 'Paloma'	Indian ricegrass	141	5	1.54
Amorpha canescens	Leadplant	187	5	1.16
Artemisia ludoviciana	Prairie Sagebrush	4400	5	0.05
Bouteloua curtipendula	Sideoats grama	190	10	2.29
Bouteloua gracilis 'Hachita'	Blue grama	825	20	1.06
Buchloe dactyloides (burr)	Buffalo grass	56	20	15.56
Pascopyrum smithii 'Arriba'	Western wheatgrass	120	10	3.63
		TOTAL	**75**	**25.29**

1. SEED APPLICATION IS FOR DRILLED SEED APPLICATION. FOR BROADCAST SEED METHOD DOUBLE THIS RATE.

2. GROUND SHALL BE CULTIVATED LIGHTLY THEN SEEDED IN TWO DIRECTIONS TO DISTRIBUTE SEED EVENLY OVER ENTIRE AREA.

3. IF CHANGES ARE TO BE MADE TO SEED MIX BASED ON SITE CONDITIONS APPROVAL MUST BE PROVIDED BY CITY ENVIRONMENTAL PLANNER.

4. APPROPRIATE NATIVE SEEDING EQUIPMENT SHALL BE USED (STANDARD TURF OR AGRICULTURE EQUIPMENT SHALL NOT BE USED).

5. APPLY SEED TO NO MORE THAN 1/2" DEPTH.

6. TREAT NATIVE SEED MIX AREA PRIOR TO INSTALLATION OF SEED WITH APPROPRIATE HERBICIDE TO HELP CONTROL HERBACEOUS WEED SPECIES AND ONLY AFTER APPROPRIATE TIME PERIOD THEN APPLY SEED MIX.

7. AFTER SEEDING, THE AREA SHALL BE COVERED WITH CRIMPED STRAW, OR OTHER APPROPRIATE METHODS, AND PROVIDED TEMPORARY IRRIGATION UNTIL SEED IS ESTABLISHED.

8. CONTRACTOR SHALL MONITOR SEEDED AREA FOR PROPER IRRIGATION, EROSION CONTROL, GERMINATION AND RESEEDING AS NEEDED TO ESTABLISH COVER.

Tree Diameter at Breast Height (inches)	*Auger Distance From Face of Tree (feet)*
0-2	1
3-4	2
5-9	5
10-14	10
15-19	12
Over 19	15

Tree Protection Specifications.

THE FOLLOWING TREE PROTECTION SPECIFICATIONS SHOULD BE FOLLOWED TO THE MAXIMUM EXTENT FEASIBLE FOR ALL PROJECTS WITH PROTECTED EXISTING TREES.

1. WITHIN THE DRIP LINE OF ANY PROTECTED EXISTING TREE, THERE SHALL BE NO CUT OR FILL OVER A FOUR-INCH DEPTH UNLESS A QUALIFIED ARBORIST OR FORESTER HAS EVALUATED AND APPROVED THE DISTURBANCE.
2. ALL PROTECTED EXISTING TREES SHALL BE PRUNED TO THE CITY OF FORT COLLINS FORESTRY STANDARDS. TREE PRUNING AND REMOVAL SHALL BE PERFORMED BY A BUSINESS THAT HOLDS A CURRENT CITY OF FORT COLLINS ARBORIST LICENSE.
3. PRIOR TO AND DURING CONSTRUCTION, BARRIERS SHALL BE ERECTED AROUND ALL PROTECTED TREES WITH SUCH BARRIERS TO BE OF ORANGE FENCING A MINIMUM OF FOUR (4) FEET IN HEIGHT, SECURED WITH METAL T-POSTS, NO CLOSER THAN SIX (6) FEET FROM THE TRUNK OR ONE-HALF (½) OF THE DRIP LINE, WHICHEVER IS GREATER. THERE SHALL BE NO STORAGE OR MOVEMENT OF EQUIPMENT, MATERIAL, DEBRIS OR FILL WITHIN THE FENCED TREE PROTECTION ZONE.
4. DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE APPLICANT SHALL PREVENT THE CLEANING OF EQUIPMENT OR MATERIAL OR THE STORAGE AND DISPOSAL OF WASTE MATERIAL SUCH AS PAINTS, OILS, SOLVENTS, ASPHALT, CONCRETE, MOTOR OIL OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF A TREE WITHIN THE DRIP LINE OF ANY PROTECTED TREE OR GROUP OF TREES.
5. NO DAMAGING ATTACHMENT, WIRES, SIGNS, OR PERMITS MAY BE FASTENED TO ANY PROTECTED TREE.
6. LARGE PROPERTY AREAS CONTAINING PROTECTED TREES AND SEPARATED FROM CONSTRUCTION OR LAND CLEARING AREAS, ROAD RIGHTS-OF-WAY AND UTILITY EASEMENTS MAY BE "RIBBONED OFF," RATHER THAN ERECTING PROTECTIVE FENCING AROUND EACH TREE AS REQUIRED IN SUBSECTION (G)(3) ABOVE. THIS MAY BE ACCOMPLISHED BY PLACING METAL T-POST STAKES A MAXIMUM OF FIFTY (50) FEET APART AND TYING RIBBON OR ROPE FROM STAKE-TO-STAKE ALONG THE OUTSIDE PERIMETERS OF SUCH AREAS BEING CLEARED.
7. THE INSTALLATION OF UTILITIES, IRRIGATION LINES OR ANY UNDERGROUND FIXTURE REQUIRING EXCAVATION DEEPER THAN SIX (6) INCHES SHALL BE ACCOMPLISHED BY BORING UNDER THE ROOT SYSTEM OF PROTECTED EXISTING TREES AT A MINIMUM DEPTH OF TWENTY-FOUR (24) INCHES. THE AUGER DISTANCE IS ESTABLISHED FROM THE FACE OF THE TREE (OUTER BARK) AND IS SCALED FROM TREE DIAMETER AT BREAST HEIGHT AS DESCRIBED IN THE CHART ABOVE.
8. ALL TREE REMOVAL SHOWN SHALL BE COMPLETED OUTSIDE OF THE SONGBIRD NESTING SEASON (FEB 1 – JULY 31) OR CONDUCT A SURVEY OF TREES ENSURING NO ACTIVE NESTS IN THE AREA.

A PERMIT MUST BE OBTAINED FROM THE CITY FORESTER BEFORE ANY TREES OR SHRUBS AS NOTED ON THIS PLAN ARE PLANTED, PRUNED OR REMOVED IN THE PUBLIC RIGHT-OF-WAY. THIS INCLUDES ZONES BETWEEN THE SIDEWALK AND CURB, MEDIANS AND OTHER CITY PROPERTY. THIS PERMIT SHALL APPROVE THE LOCATION AND SPECIES TO BE PLANTED. FAILURE TO OBTAIN THIS PERMIT IS A VIOLATION OF THE CITY OF FORT COLLINS CODE SUBJECT TO CITATION (SECTION 27-31) AND MAY RESULT IN REPLACING OR RELOCATING TREES AND A HOLD ON CERTIFICATE OF OCCUPANCY.

STREET TREE NOTES:

1. A PERMIT MUST BE OBTAINED FROM THE CITY FORESTER BEFORE ANY TREES OR SHRUBS AS NOTED ON THIS PLAN ARE PLANTED, PRUNED OR REMOVED IN THE PUBLIC RIGHT-OF-WAY. THIS INCLUDES ZONES BETWEEN THE SIDEWALK AND CURB, MEDIANS AND OTHER CITY PROPERTY. THIS PERMIT SHALL APPROVE THE LOCATION AND SPECIES TO BE PLANTED. FAILURE TO OBTAIN THIS PERMIT MAY RESULT IN REPLACING OR RELOCATING TREES AND A HOLD ON CERTIFICATE OF OCCUPANCY.
2. CONTACT THE CITY FORESTER TO INSPECT ALL STREET TREE PLANTINGS AT THE COMPLETION OF EACH PHASE OF THE DEVELOPMENT. ALL MUST BE INSTALLED AS SHOWN ON THE LANDSCAPE PLAN. APPROVAL OF STREET TREE PLANTING IS REQUIRED BEFORE FINAL APPROVAL OF EACH PHASE.
3. STREET LANDSCAPING, INCLUDING STREET TREES, SHALL BE SELECTED AND MAINTAINED IN ACCORDANCE WITH ALL CITY CODES AND POLICIES. STREET TREES SHALL BE SUPPLIED AND PLANTED BY THE DEVELOPER USING A QUALIFIED LANDSCAPE CONTRACTOR.
4. THE DEVELOPER SHALL REPLACE DEAD OR DYING STREET TREES AFTER PLANTING UNTIL FINAL MAINTENANCE INSPECTION AND ACCEPTANCE BY THE CITY OF FORT COLLINS FORESTRY DIVISION. ALL STREET TREES IN THE PROJECT MUST BE ESTABLISHED, WITH AN APPROVED SPECIES AND OF ACCEPTABLE CONDITION PRIOR TO ACCEPTANCE.
5. SUBJECT TO WRITTEN APPROVAL BY THE CITY -- STREET TREE LOCATIONS MAY BE ADJUSTED TO ACCOMMODATE DRIVEWAY LOCATIONS, UTILITY SEPARATIONS BETWEEN TREES, STREET SIGNS AND STREET LIGHTS. STREET TREES TO BE CENTERED IN THE MIDDLE OF THE LOT TO THE EXTENT FEASIBLE. QUANTITIES SHOWN ON PLAN MUST BE INSTALLED UNLESS A REDUCTION IS APPROVED BY THE CITY TO MEET SEPARATION STANDARDS.

GENERAL LANDSCAPE NOTES:

1. PLANT QUALITY: ALL PLANT MATERIAL SHALL BE A-GRADE OR NO. 1 GRADE – FREE OF ANY DEFECTS, OF NORMAL HEALTH, HEIGHT, LEAF DENSITY AND SPREAD APPROPRIATE TO THE SPECIES AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. ALL TREES SHALL BE BALL AND BURLAP OR EQUIVALENT.
2. IRRIGATION: ALL LANDSCAPE AREAS WITHIN THE SITE INCLUDING TURF, SHRUB BEDS AND TREE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM. THE IRRIGATION PLAN MUST BE REVIEWED AND APPROVED BY THE CITY OF FORT COLLINS WATER UTILITIES DEPARTMENT PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. ALL TURF AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES, INCLUDING IN NATIVE SEED AREAS, SHALL BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM, OR WITH AN ACCEPTABLE ALTERNATIVE APPROVED BY THE CITY WITH THE IRRIGATION PLANS. THE IRRIGATION SYSTEM SHALL BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL.
3. TOPSOIL: TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
4. SOIL AMENDMENTS: THE SOIL IN ALL LANDSCAPE AREAS, INCLUDING PARKWAYS AND MEDIANS, SHALL BE THOUGHLY LOOSENED TO A DEPTH OF NOT LESS THAN EIGHT(8) INCHES AND SOIL AMENDMENT SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL OF ALL LANDSCAPE AREAS TO A DEPTH OF AT LEAST SIX(6) INCHES BY TILLING, DISCING OR OTHER SUITABLE METHOD, AT A RATE OF AT LEAST THREE (3) CUBIC YARDS OF SOIL AMENDMENT PER ONE THOUSAND (1,000) SQUARE FEET OF LANDSCAPE AREA.
5. INSTALLATION AND GUARANTEE: ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND HORTICULTURAL PRACTICES IN A MANNER DESIGNED TO ENCOURAGE QUICK ESTABLISHMENT AND HEALTHY GROWTH. ALL LANDSCAPING FOR EACH PHASE MUST BE EITHER INSTALLED OR THE INSTALLATION MUST BE SECURED WITH AN IRREVOCABLE LETTER OF CREDIT, PERFORMANCE BOND, OR ESCROW ACCOUNT FOR 125% OF THE VALUATION OF THE MATERIALS AND LABOR PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY BUILDING IN SUCH PHASE.
6. Maintenance: Trees and vegetation, irrigation systems, fences, walls and other landscape elements WITH THESE FINAL PLANS shall be considered as elements of the project in the same manner as parking, building materials and other site details. The applicant, landowner or successors in interest shall be jointly and severally responsible for the regular maintenance of all landscaping elements in good condition. All landscaping shall be maintained free from disease, pests, weeds and litter, and all landscape structures such as fences and walls shall be repaired and replaced periodically to maintain a structurally sound condition.
7. REPLACEMENT: ANY LANDSCAPE ELEMENT THAT DIES, OR IS OTHERWISE REMOVED, SHALL BE PROMPTLY REPLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS.
8. THE FOLLOWING SEPARATIONS SHALL BE PROVIDED BETWEEN TREES/SHRUBS AND UTILITIES:
   - 40 FEET BETWEEN CANOPY TREES AND STREET LIGHTS
   - 15 FEET BETWEEN ORNAMENTAL TREES AND STREETLIGHTS
   - 10 FEET BETWEEN TREES AND PUBLIC WATER, SANITARY AND STORM SEWER MAIN LINES
   - 6 FEET BETWEEN TREES AND PUBLIC WATER, SANITARY AND STORM SEWER SERVICE LINES.
   - 4 FEET BETWEEN SHRUBS AND PUBLIC WATER AND SANITARY AND STORM SEWER LINES
   - 4 FEET BETWEEN TREES AND GAS LINES
9. ALL STREET TREES SHALL BE PLACED A MINIMUM EIGHT (8) FEET AWAY FROM THE EDGES OF DRIVEWAYS AND ALLEYS PER LUC 3.2.1(D)(2)(a).
10. PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF FORT COLLINS. NO STRUCTURES OR LANDSCAPE ELEMENTS GREATER THAN 24" SHALL BE ALLOWED WITHIN THE SIGHT DISTANCE TRIANGLE OR EASEMENTS WITH THE EXCEPTION OF DECIDUOUS TREES PROVIDED THAT THE LOWEST BRANCH IS AT LEAST 6' FROM GRADE. ANY FENCES WITHIN THE SIGHT DISTANCE TRIANGLE OR EASEMENT MUST BE NOT MORE THAN 42" IN HEIGHT AND OF AN OPEN DESIGN.
11. COMMON OPEN SPACE AREAS AND LANDSCAPING WITHIN RIGHT OF WAYS, STREET MEDIANS, AND TRAFFIC CIRCLES ADJACENT TO COMMON OPEN SPACE AREAS ARE REQUIRED TO BE MAINTAINED BY A PROPERTY OWNERS ASSOCIATION. THE PROPERTY OWNERS ASSOCIATION IS RESPONSIBLE FOR SNOW REMOVAL ON ALL ADJACENT STREET SIDEWALKS AND SIDEWALKS IN COMMON OPEN SPACE AREAS.
12. LANDSCAPING WITHIN RIGHT OF WAYS, STREET MEDIANS AND TRAFFIC CIRCLES ADJACENT TO RESIDENTIAL LOTS ARE REQUIRED TO BE MAINTAINED BY THE PROPERTY OWNER OF THE RESIDENTIAL LOT, AND THE PROPERTY OWNER IS RESPONSIBLE FOR SNOW REMOVAL ON ALL ADJACENT STREET SIDEWALKS.
13. THE DEVELOPER SHALL ENSURE THAT THE FINAL LANDSCAPE PLAN IS COORDINATED WITH ALL OTHER FINAL PLAN ELEMENTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, AND OTHER DEVELOPMENT IMPROVEMENTS DO NOT CONFLICT WITH NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS ON THIS PLAN.
14. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION -- AS REQUIRED BY SITE CONDITIONS OR PLANT AVAILABILITY. OVERALL QUANTITY, QUALITY, AND DESIGN CONCEPT MUST BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES ILLUSTRATED SHALL BE PROVIDED. ALL CHANGES OF PLANT SPECIES AND LOCATION MUST HAVE WRITTEN APPROVAL BY THE CITY PRIOR TO INSTALLATION.
15. ALL PLANTING BEDS SHALL BE MULCHED TO A MINIMUM DEPTH OF THREE INCHES.
16. IRRIGATED TURF SHALL BE TEXAS BLUEGRASS/KENTUCKY BLUEGRASS HYBRID REVEILLE OR APPROVED EQUAL.
17. EDGING BETWEEN GRASS AND SHRUB BEDS SHALL BE 18" X 4" STEEL SET LEVEL WITH TOP OF SOD OR APPROVED EQUAL.

NO	DATE	REVISION	BY

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2601 CANTON COURT
2601 CANTON COURT
FORT COLLINS, COLORADO

PREPARED FOR:
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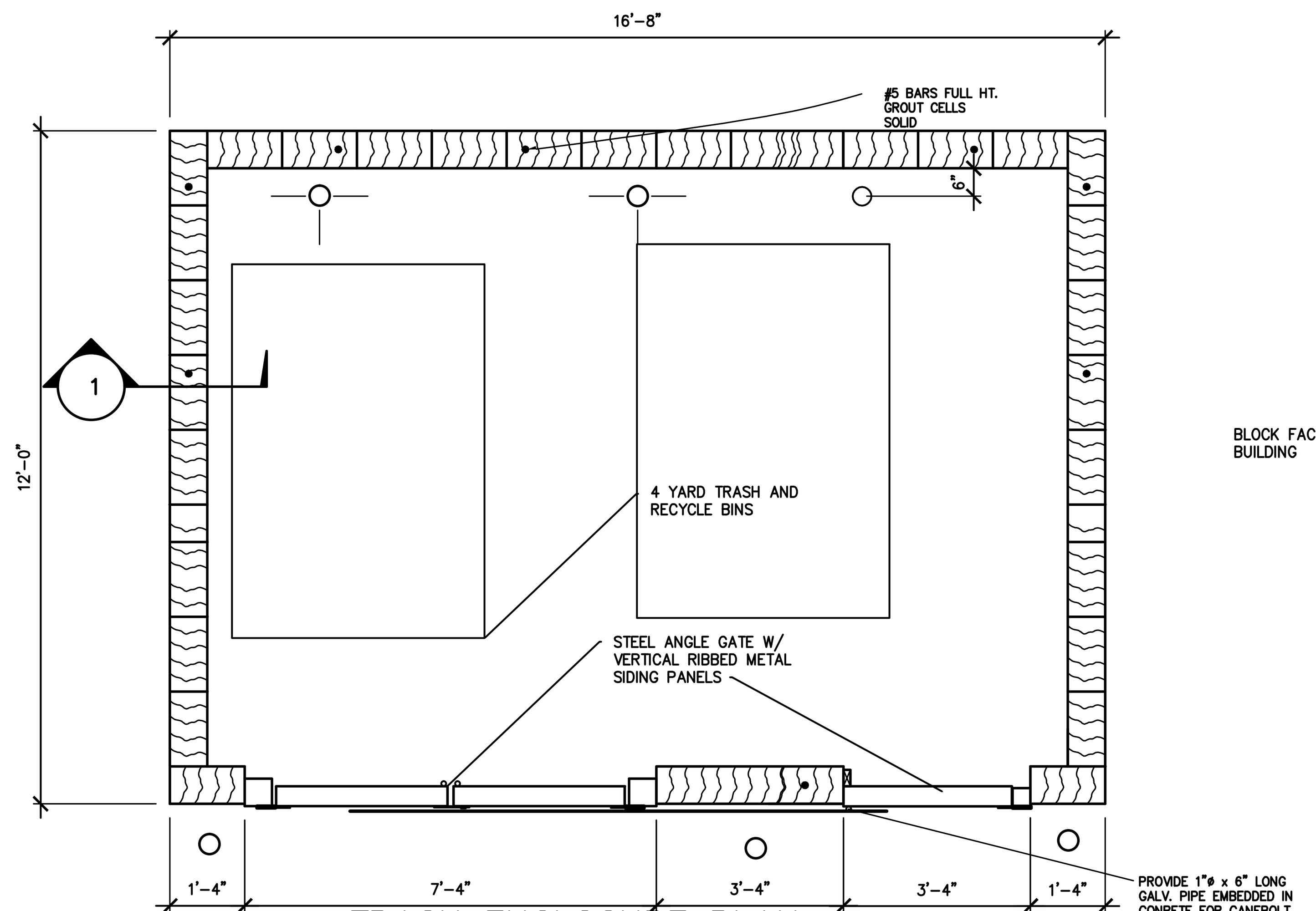
1401 RIVERSIDE AVENUE
FORT COLLINS, CO 80524

DRAWN BY: RG | CHECKED BY: RG
DATE: 06-15-16 | SCALE: 1" = 20'-0"
DRAWING NUMBER: 3077-16 | SHEET NUMBER: 4 OF 8

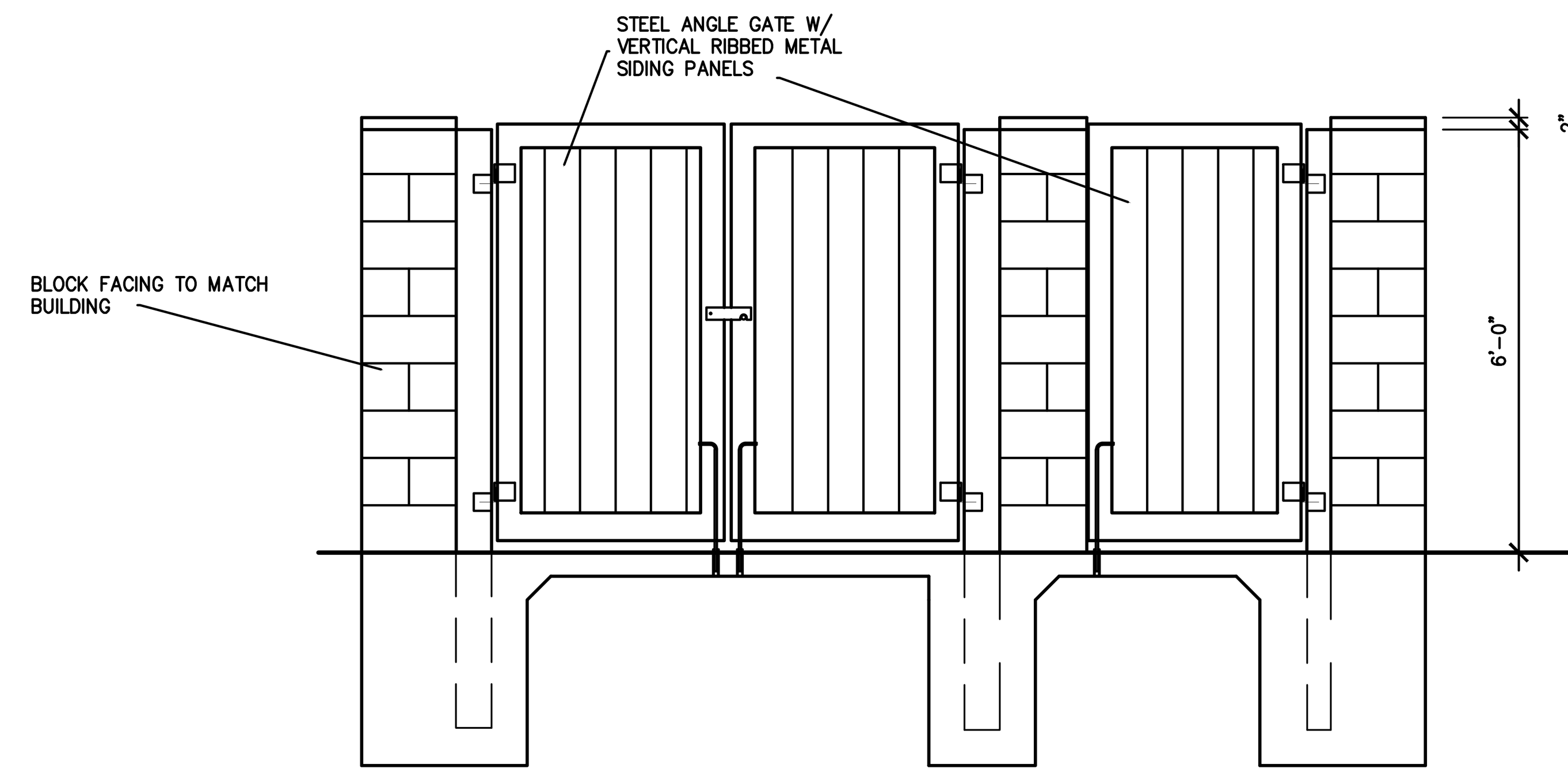
LANDSCAPE NOTES

DIF



TRASH ENCLOSURE PLAN

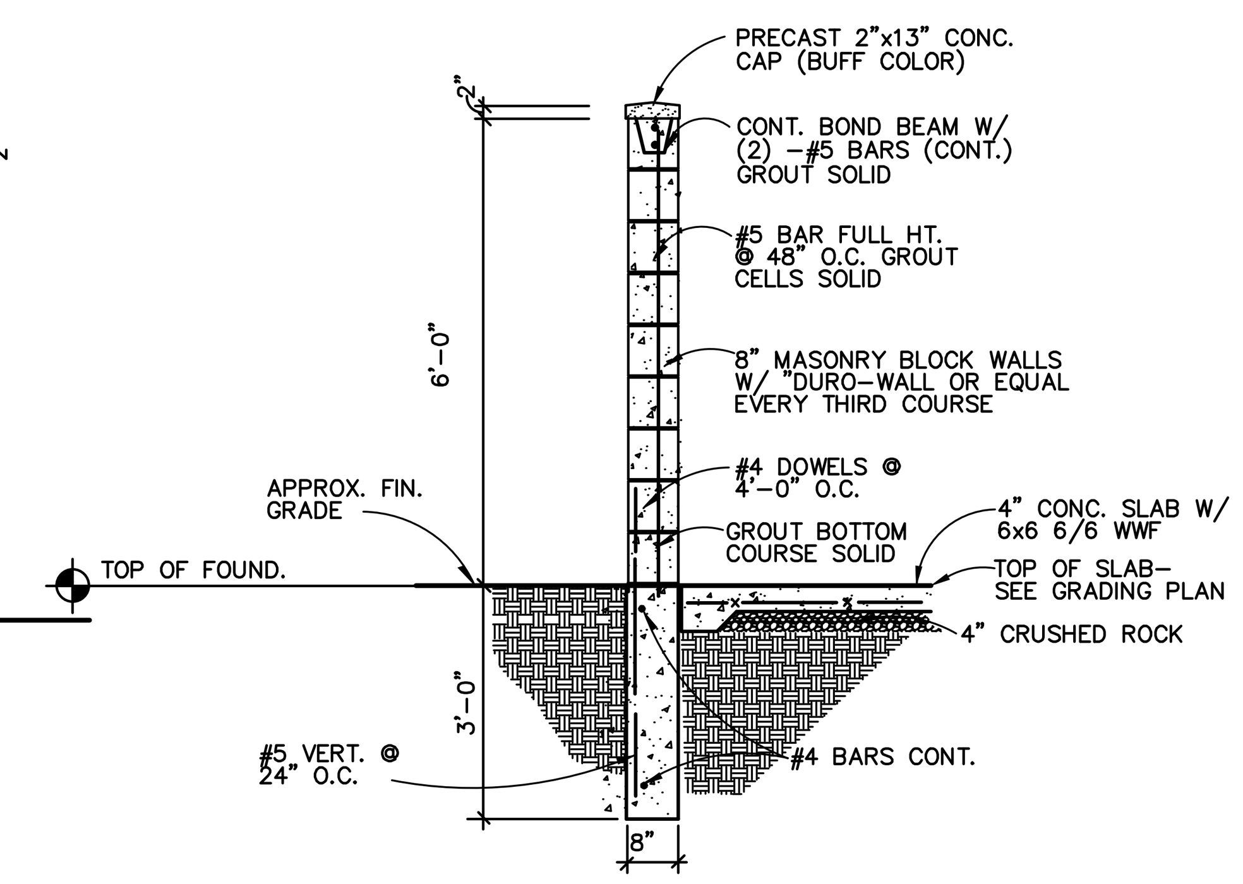
N.T.S.



FRONT ELEVATION

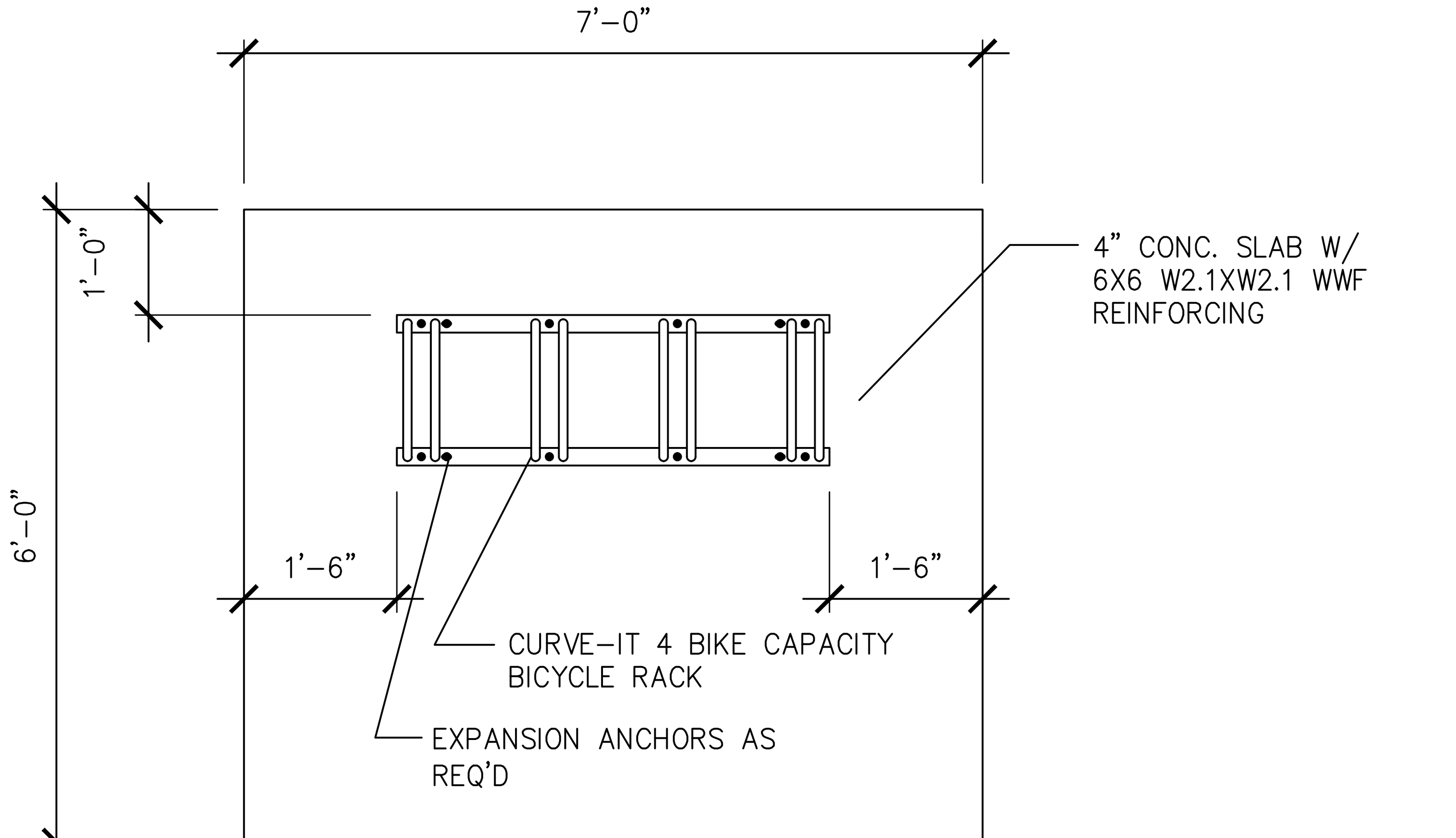
N.T.S.

TRASH ENCLOSURE DETAIL



1 SECTION

SCALE: NTS



BIKE RACK DETAIL

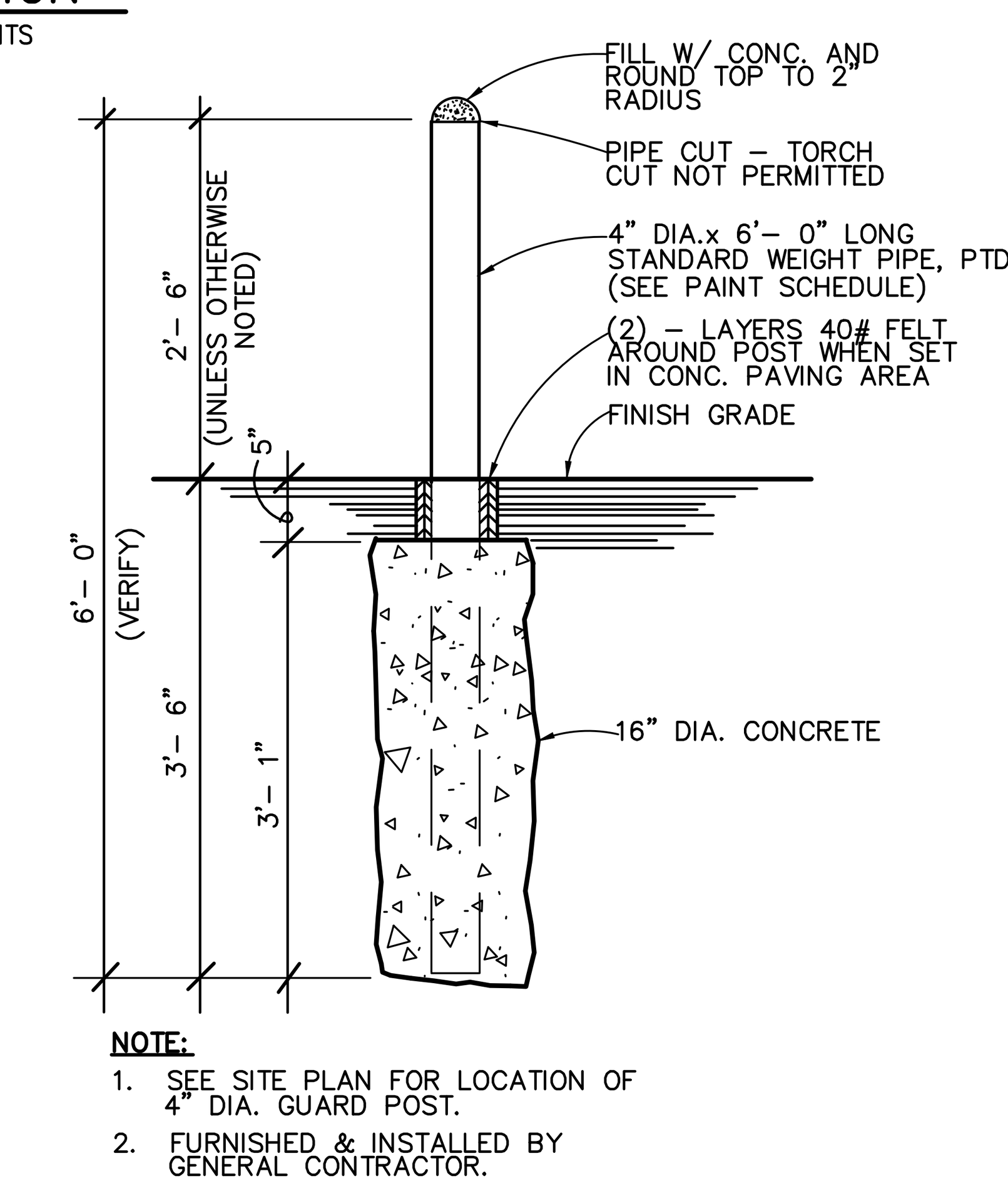
SCALE: 3/4" = 1'-0"

NOTES:

1. SIGN SHALL BE VERTICALLY MOUNTED ON A POST OR A WALL AT FRONT CENTER OF ACCESS AISLE, NO MORE THAN 5'-0" HORIZONTALLY FROM THE FRONT OF THE PARKING SPACE AND SET A MINIMUM OF 4'-0" ABOVE FINISH GRADE TO THE BOTTOM OF THE SIGN.
2. REFER TO SITE PLAN FOR LOCATION.
3. COLORS – LEGEND AND BORDER – GREEN
   WHITE SYMBOL ON BLUE BACKGROUND
   BACKGROUND – WHITE

HANDICAP PARKING SIGN

SCALE: 3" 1'-0"

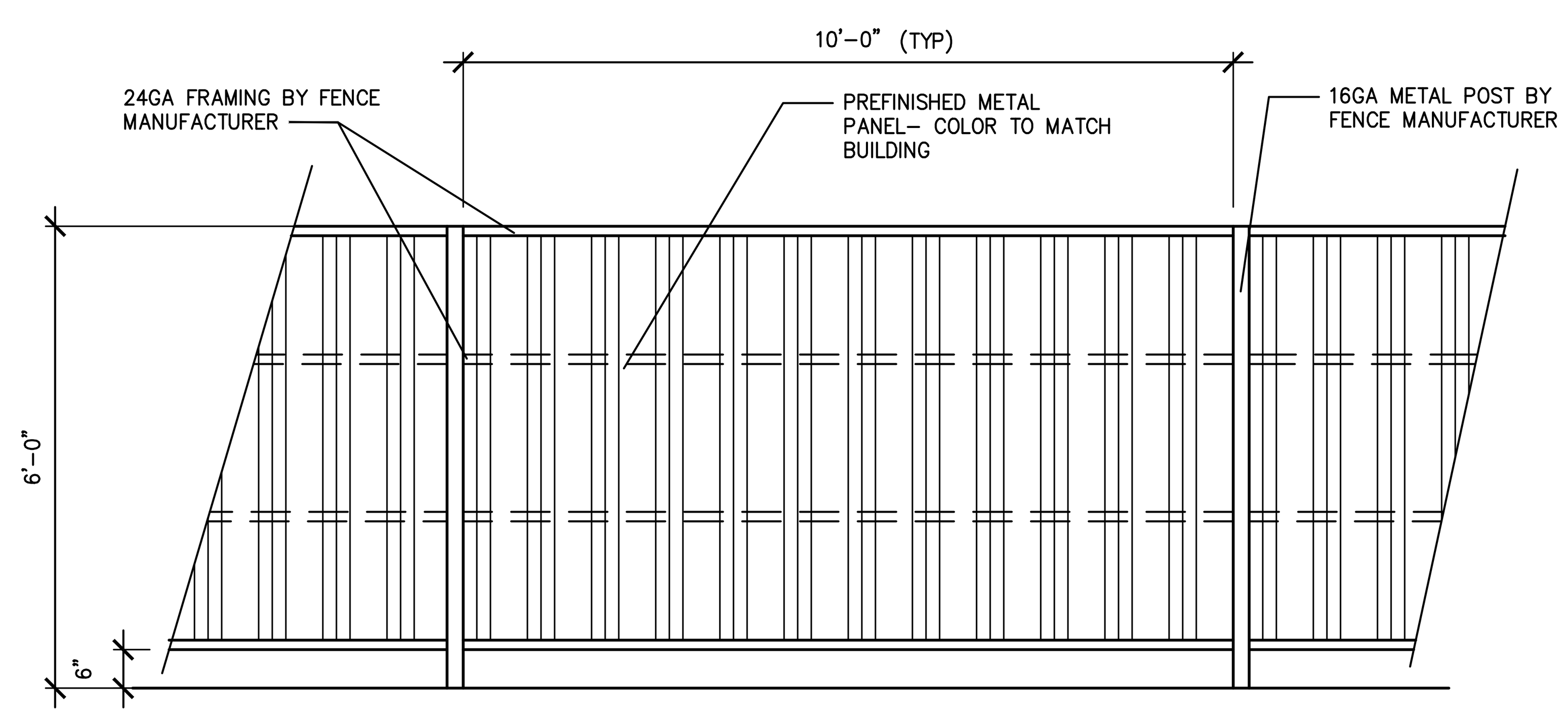


NOTE:

1. SEE SITE PLAN FOR LOCATION OF 4" DIA. GUARD POST.
2. FURNISHED & INSTALLED BY GENERAL CONTRACTOR.

4" DIA. GUARD POST

SCALE: 3/4"= 1'- 0"



FENCE TO BE MANUFACTURED BY BERRIDGE MANUFACTURING COMPANY, DENVER, CO
303-322-3703 (OR EQUAL)

FENCE DETAIL

SCALE: 1/2" = 1'-0"

NO	DATE	REVISION	BY
-			

PREPARED BY:

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2601 CANTON COURT

2601 CANTON COURT
FORT COLLINS, COLORADO

PREPARED FOR:
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SITE DETAILS

DRAWN BY: RG
CHECKED BY: .
DATE: 07-11-16
SCALE: AS NOTED
DRAWING NUMBER: 3077-16
SHEET NUMBER: 6 OF 8

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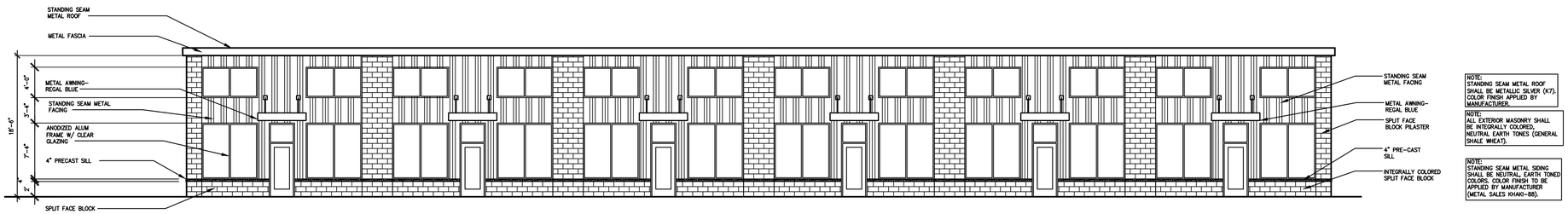
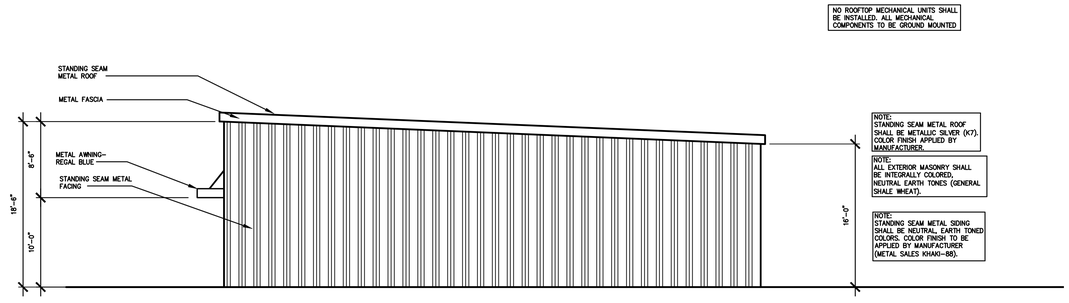


NORTH ELEVATION

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



WEST ELEVATION

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

NO	DATE	REVISION	BY
1			

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DRAFT

EXTERIOR ELEVATIONS

DRAWN BY: RG
CHECKED BY:
DATE: 07-12-16
SCALE: AS NOTED
DRAWING NUMBER: 3077-16
SHEET NUMBER: 7 OF 8

2601 CANTON COURT
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FORT COLLINS, COLORADO

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1401 RIVERSIDE AVENUE
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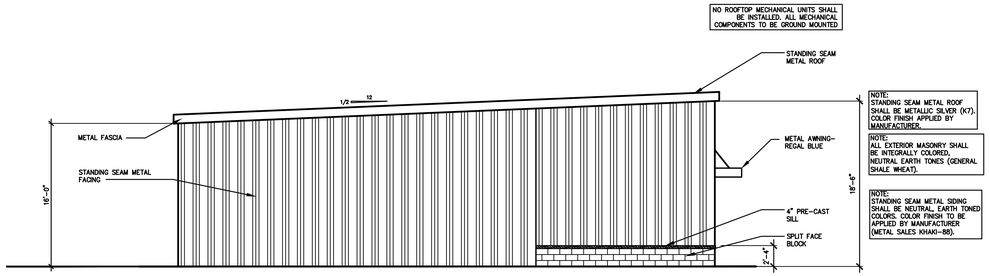
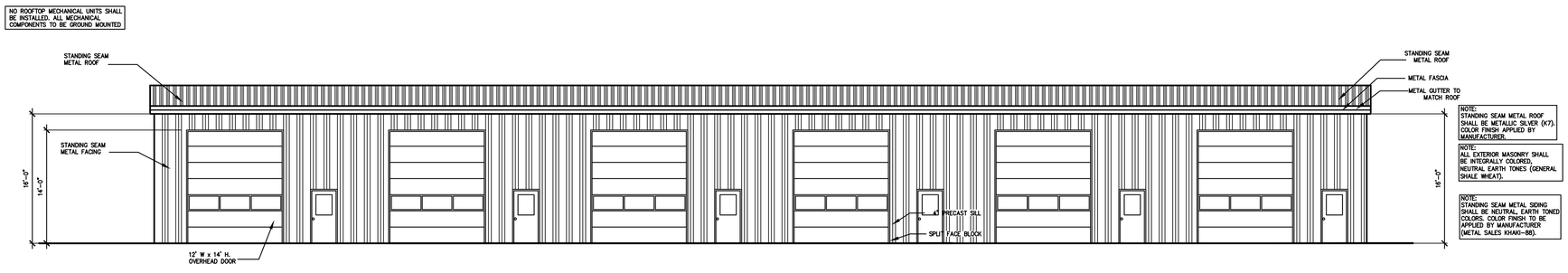


EAST ELEVATION

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



SOUTH ELEVATION

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

DRAFT

NO	DATE	REVISION	BY
1			

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2601 CANTON COURT

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EXTERIOR ELEVATIONS

DRAWN BY: RG	CHECKED BY:	SCALE: AS NOTED	SHEET NUMBER: 8 OF 8
DATE: 07-12-16			
DRAWING NUMBER: 3077-16			

TYPE: WW

D-Series Size 1
LED Wall Luminaire

d"series

Catalog Number

Notes

Type

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

Introduction

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

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

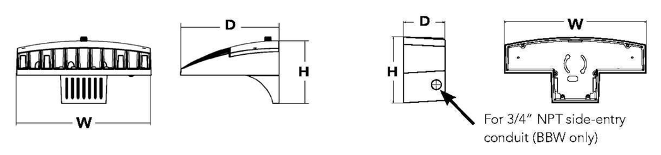
Specifications

Luminaire

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

Back Box (BBW, ELCW)

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



Ordering Information

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

DSXW1 LED

Series	LEDs	Drive Current	Color temperature	Distribution	Voltage	Mounting	Control Options	Other Options	Finish (required)
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines)	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A)	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium ASYDF Asymmetric diffuse	MVOLT [1] 120 [1] 208 [1] 240 [1] 277 [1] 347 [2] 480 [2]	**Shipped included** (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry) [3]	**Shipped installed** PE Photoelectric cell, button type [4] DMG 0-10V dimming driver (no controls) PIR 180° motion/ambient light sensor, <15' mtg ht [5] PIRH 180° motion/ambient light sensor, 15-30' mtg ht [5] ELCW Emergency battery backup (includes external component enclosure) [6]	**Shipped installed** SF Single fuse (120, 277 or 347V) [7] DF Double fuse (208, 240 or 480V) [7] HS House-side shield [8] SPD Separate surge protection [9] **Shipped separately** BSW Bird-deterrent spikes WG Wire guard VG Vandal guard DDL Diffused drop lens	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

NOTES
1 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
2 Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
3 Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
4 Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
5 PIR specifies the Sensor Switch SBGR-10-ODP control; PIRH specifies the Sensor Switch SBGR-6-ODP control; see Motion Sensor Guide for details. Includes ambient light sensor. Not available with "PE" option (button type photocell). Dimming driver standard. Not available with 20 LED/1000 mA configuration (DSXW1 LED 20C 1000).
6 Cold weather (-20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
7 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option. Not available with ELCW.
8 Also available as a separate accessory; see Accessories information.
9 See the electrical section on page 3 for more details.

Accessories
Ordered and shipped separately.

DSXWHS U	House-side shield (one per light engine)
DSXWBSW U	Bird-deterrent spikes
DSXW1WG U	Wire guard accessory
DSXW1VG U	Vandal guard accessory

LITHONIA LIGHTING. One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • Fax: 770.918.1209 • www.lithonia.com

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.98

Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A) 120V	208V	240V	277V	347V	480V
10C	350	14 W	0.13	0.07	0.06	0.06	-	-
	530	20 W	0.19	0.11	0.09	0.08	-	-
	700	27 W	0.25	0.14	0.13	0.11	-	-
	1000	40 W	0.37	0.21	0.19	0.16	-	-
20C	350	25 W	0.23	0.13	0.12	0.10	-	-
	530	36 W	0.33	0.19	0.17	0.14	-	-
	700	47 W	0.44	0.25	0.22	0.19	0.15	0.11
	1000	75 W	0.69	0.40	0.35	0.30	0.23	0.17

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW1 LED 20C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

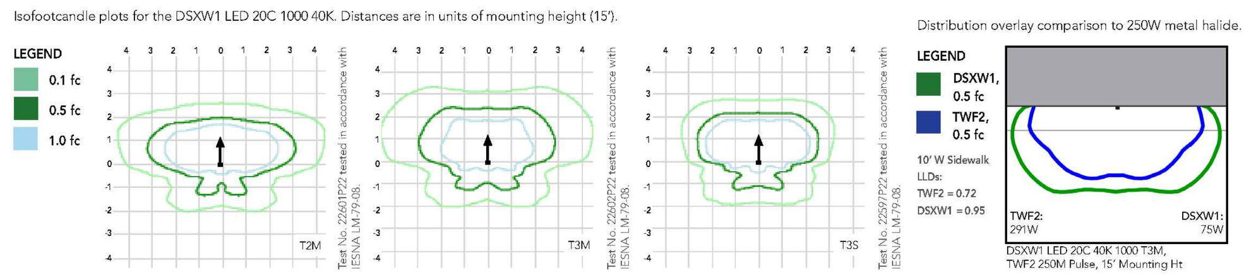
Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.93	0.88

Photometric Diagrams

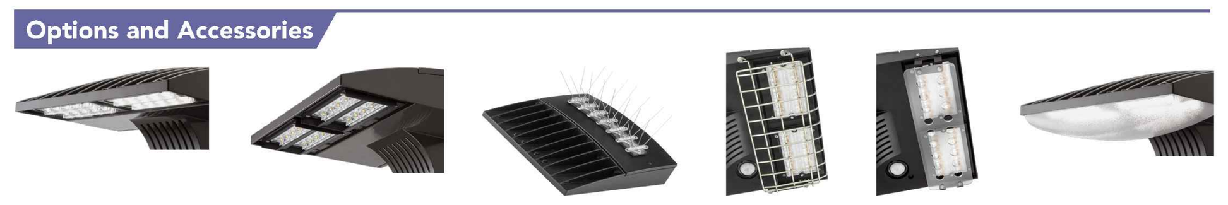
To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Wall Size 1 homepage.

Isofootcandle plots for the DSXW1 LED 20C 1000 40K. Distances are in units of mounting height (15').

Distribution overlay comparison to 250W metal halide.



Options and Accessories



T3M (left), ASYDF (right) lenses — HS - House-side shields — BSW - Bird-deterrent spikes — WG - Wire guard — VG - Vandal guard — DDL - Diffused drop lens

FEATURES & SPECIFICATIONS

INTENDED USE
The energy savings, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65).

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in 3000 K (80 min. CRI), 4000 K (70 min. CRI) or 5000 K (70 CRI) configurations.

ELECTRICAL
Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L88/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 2.5KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

INSTALLATION
Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

LISTINGS
CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY
Five year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C. Specifications subject to change without notice.

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DSXW1-LED Rev. 4/14/15

LUMINAIRE SCHEDULE

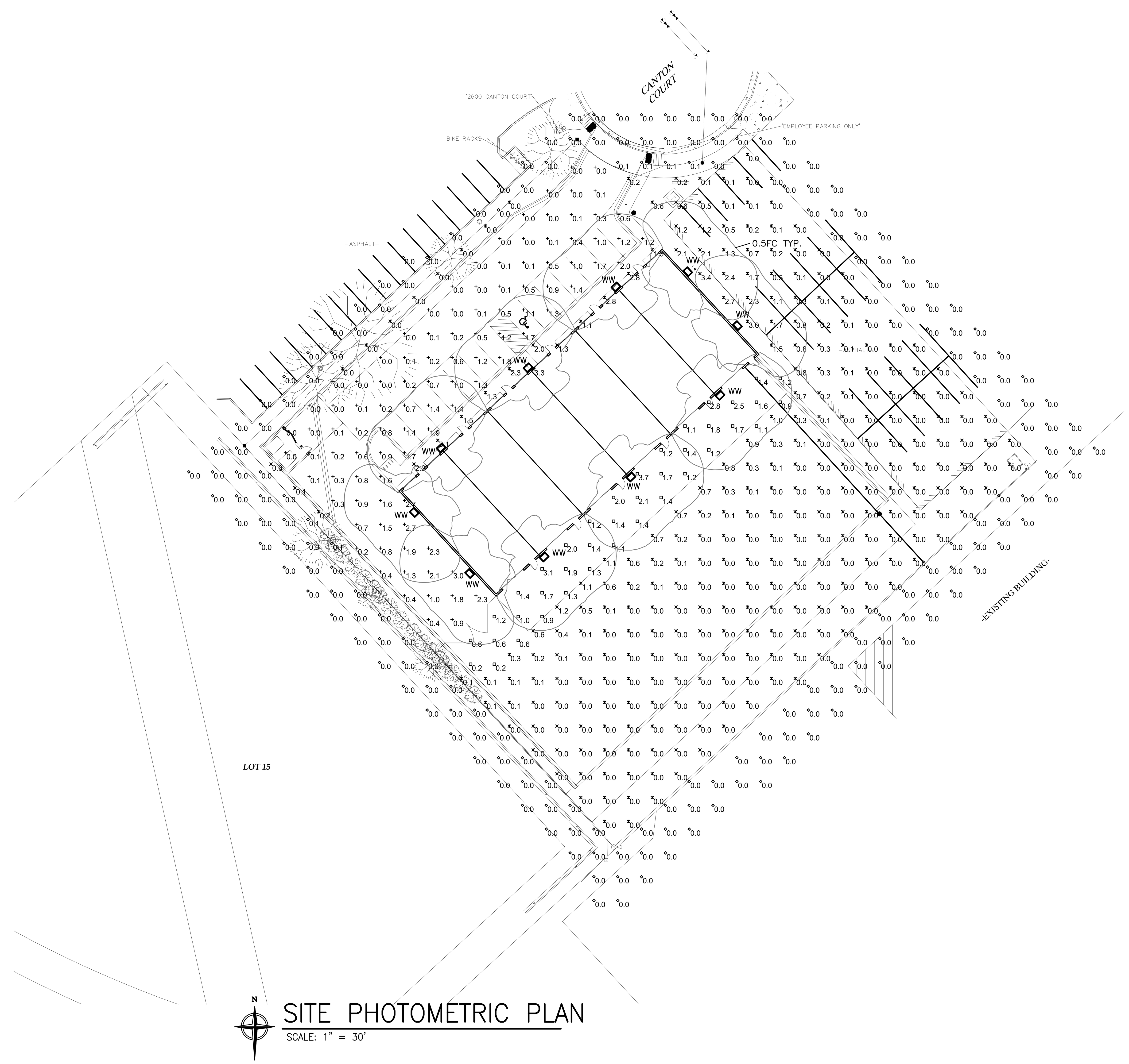
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
▭	WW	6	DSXW1 LED 20C 530 30K T4M MVOLT	DSXW1 LED WITH 2 LIGHT ENGINES, 20 LED's, 530mA DRIVER, 3000K LED, TYPE 4 MEDIUM OPTIC	LED	DSXW1_LED_20C_530_30K_T4M_MVOLT.ies	Absolute	1.00	36
▭	WW1	4	DSXW1 LED 20C 530 30K T3M MVOLT	DSXW1 LED WITH 2 LIGHT ENGINES, 20 LED's, 530mA DRIVER, 3000K LED, TYPE 3 MEDIUM OPTIC	LED	DSXW1_LED_20C_530_30K_T3M_MVOLT.ies	Absolute	1.00	36

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Bldg. Surrounds	✕	0.3 fc	3.4 fc	0.0 fc	N / A	N / A
Boundary Spill	◇	0.0 fc	0.1 fc	0.0 fc	N / A	N / A
Loading Area	□	1.4 fc	3.7 fc	0.2 fc	18.5:1	7.0:1
Parking / Drive	+	0.7 fc	3.0 fc	0.0 fc	N / A	N / A

LUMINAIRE LOCATIONS

Label	MH	Tilt
WW	10.0	0.0
WW1	10.0	0.0



SITE PHOTOMETRIC PLAN
SCALE: 1" = 30'

SRB CONSULTING ENGINEERING
MECHANICAL • ELECTRICAL • PLUMBING
37127 Collison Ridge Road
Windsor, CO 80550
Ph: 970.686.1004
Email: larrys@srbllc.net

NO.	REVISION	DATE
1	City Comments	9/14/17

SEAL:

CLIENT:

VWG ARCHITECTS
po box 270788
ft. collins, co 80527
tele 970·493·2025 fax 970·493·2026

PROJECT TITLE:

2601 CANTON COURT

2601 CANTON COURT
FORT COLLINS, CO 80524

DRAWING TITLE:

SITE PHOTOMETRIC PLAN

PDP/FCP

DRAWN BY:	CW/LS	SCALE:	AS NOTED
DESIGNED BY:	CW	DATE:	09/14/17
CHECKED BY:	LS	PROJECT NO:	16082
CADD FILENAME:			

DRAWING NO:

Sheet 5 of 8

2601 CANTON COURT

UTILITY PLANS FOR

LOT 11, PROSPECT INDUSTRIAL PARK
2601 CANTON COURT

SITUATED IN THE NORTHEAST ONE-QUARTER SECTION 20, TOWNSHIP 7 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN. CITY OF FORT COLLINS, COUNTY OF LARIMER, STATE OF COLORADO.

AUGUST 10, 2017

THE ENGINEER WHO HAS PREPARED THESE PLANS, BY EXECUTION AND/OR SEAL HEREOF DOES HEREBY AFFIRM RESPONSIBILITY TO THE COUNTY, AS A BENEFICIARY OF SAID ENGINEER'S WORK, FOR ANY ERRORS AND OMISSIONS CONTAINED IN THESE PLANS, AND APPROVAL OF THESE PLANS BY THE COUNTY ENGINEERING DEPARTMENT SHALL NOT RELIEVE THE ENGINEER WHO HAS PREPARED THESE PLANS OF ANY SUCH RESPONSIBILITY.

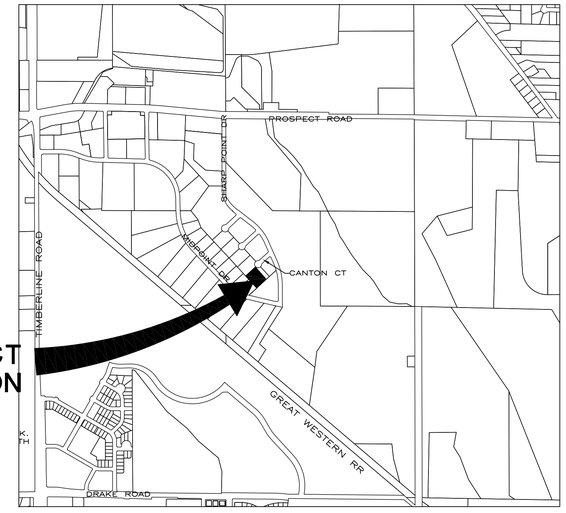
I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE CITY OF FORT COLLINS AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR THE ACCURACY OF ALL DESIGN, REVISIONS, AND RECORD CONDITIONS THAT I HAVE NOTED ON THESE PLANS.

COLORADO REGISTERED PATRICIA KROETCH 31306 PROFESSIONAL ENGINEER

PATRICIA KROETCH P.E.
NORTH STAR DESIGN, INC.

INDEMNIFICATION STATEMENT:

THESE PLANS HAVE BEEN REVIEWED BY THE LOCAL ENTITY FOR CONCEPT ONLY. THE REVIEW DOES NOT IMPLY RESPONSIBILITY BY THE REVIEWING DEPARTMENT, THE LOCAL ENTITY ENGINEER, OR THE LOCAL ENTITY FOR ACCURACY AND CORRECTNESS OF THE CALCULATIONS. FURTHERMORE, THE REVIEW DOES NOT IMPLY THAT QUANTITIES OF ITEMS ON THE PLANS ARE THE FINAL QUANTITIES REQUIRED. THE REVIEW SHALL NOT BE CONSTRUED IN ANY REASON AS ACCEPTANCE OF FINANCIAL RESPONSIBILITY BY THE LOCAL ENTITY FOR ADDITIONAL QUANTITIES OF ITEMS SHOWN THAT MAY BE REQUIRED DURING THE CONSTRUCTION PHASE.



VICINITY MAP

SHEET NO.	INDEX OF SHEETS
1	COVER SHEET
2	GENERAL NOTES
3	UTILITY PLAN
4	GRADING PLAN
5	DRAINAGE & EROSION CONTROL PLAN
6–9	DETAILS

ENGINEER:

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

ARCHITECT:
WG Architects
Bob Gustafson
FORT COLLINS, CO 80525
PH: (970) 493–2025

DEVELOPER
Doberstein Lemburg Commercial
1401 Riverside Avenue
FORT COLLINS, CO 80524
PH: (970) 221–1965

OWNER:
MICHAEL & DONNA MARTEMUCCI & DAN BERNTH
1401 Riverside Avenue, Unit
FORT COLLINS, CO 80524
PH: (970) 221–1965

BENCHMARK:
VERTICAL DATUM:
PROJECT DATUM: NAVD 88

BENCHMARK #1 CITY OF FORT COLLINS 3–07, DESCRIPTION: NORTHWEST CORNER OF TIMBERLINE RD. AND PROSPECT RD. ON THE NORTHWEST CORNER OF A LIGHT BASE
ELEVATION = 4919.13

BENCHMARK #2 CITY OF FORT COLLINS 4–07, DESCRIPTION: SOUTHWEST CORNER OF TIMBERLINE RD. AND BEAR MOUNTAIN DR. DUE NORTH OF NEW POLICE BUILDING ON THE SOUTHWEST CORNER OF A CATCH BASIN.
ELEVATION = 4942.84

PLEASE NOTE: THIS PLAN SET IS USING NAVD88 FOR A VERTICAL DATUM. SURROUNDING DEVELOPMENT HAVE USED NGVD29 UNADJUSTED FOR THEIR VERTICAL DATUMS.

IF NGVD29 UNADJUSTED DATUM IS REQUIRED FOR ANY PURPOSE, THE FOLLOWING EQUATION SHOULD BE USED: NGVD29 UNADJUSTED = NAVD88 –3.18'

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
CALL 2–BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

2601 CANTON COURT
PROJECT NO. 347–09
SHEET 1 OF 9
DATE: 8/10/17

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED: _____ _____
City Engineer Date

CHECKED BY: _____ _____
Water & Wastewater Utility Date

CHECKED BY: _____ _____
Stormwater Utility Date

CHECKED BY: _____ _____
Parks & Recreation Date

CHECKED BY: _____ _____
Traffic Engineer Date

CHECKED BY: _____ _____
Date

GENERAL NOTES

1. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE LARIMER COUNTY URBAN AREA STREET STANDARDS AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE LOCAL ENTITY. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF SANITARY SEWER AND WATERLINE IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS OF THE CITY OF FORT COLLINS.

2. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.

3. THESE PUBLIC IMPROVEMENT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF THREE YEARS FROM THE DATE OF APPROVAL BY THE LOCAL ENTITY ENGINEER. USE OF THESE PLANS AFTER THE EXPIRATION DATE WILL REQUIRE A NEW REVIEW AND APPROVAL PROCESS BY THE LOCAL ENTITY PRIOR TO COMMENCEMENT OF ANY WORK SHOWN IN THESE PLANS.

4. THE ENGINEER WHO HAS PREPARED THESE PLANS, BY EXECUTION AND/OR SEAL HEREOF, DOES HEREBY AFFIRM RESPONSIBILITY TO THE LOCAL ENTITY, AS BENEFICIARY OF SAID ENGINEER'S WORK, FOR ANY ERRORS AND OMISSIONS CONTAINED IN THESE PLANS, AND APPROVAL OF THESE PLANS BY THE LOCAL ENTITY ENGINEER SHALL NOT RELIEVE THE ENGINEER WHO HAS PREPARED THESE PLANS OF ALL SUCH RESPONSIBILITY. FURTHER, TO THE EXTENT PERMITTED BY LAW, THE ENGINEER HEREBY AGREES TO HOLD HARMLESS AND INDEMNIFY THE LOCAL ENTITY, AND ITS OFFICERS AND EMPLOYEES, FROM AND AGAINST ALL LIABILITIES, CLAIMS, AND DEMANDS WHICH MAY ARISE FROM ANY ERRORS AND OMISSIONS CONTAINED IN THESE PLANS.

5. ALL SANITARY SEWER, STORM SEWER, AND WATER LINE CONSTRUCTION, AS WELL AS POWER AND OTHER "DRY" UTILITY INSTALLATIONS, SHALL CONFORM TO THE LOCAL ENTITY STANDARDS AND SPECIFICATIONS CURRENT AT THE DATE OF APPROVAL OF THE PLANS BY THE LOCAL ENTITY ENGINEER.

6. THE TYPE, SIZE, LOCATION AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK BEFORE COMMENCING NEW CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR UNKNOWN UNDERGROUND UTILITIES.

7. THE ENGINEER SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1–800–922–1987, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION OR GRADING, TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. OTHER UNREGISTERED UTILITY ENTITIES (I.E. DITCH / IRRIGATION COMPANY) ARE TO BE LOCATED BY CONTACTING THE RESPECTIVE REPRESENTATIVE. UTILITY SERVICE LATERALS ARE ALSO TO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

8. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY FOR ANY UTILITY CROSSINGS REQUIRED.

9. IF A CONFLICT EXISTS BETWEEN EXISTING AND PROPOSED UTILITIES AND/OR A DESIGN MODIFICATION IS REQUIRED, THE DEVELOPER SHALL COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE LOCAL ENTITY PRIOR TO BEGINNING CONSTRUCTION.

10. THE DEVELOPER SHALL COORDINATE AND COOPERATE WITH THE LOCAL ENTITY, AND ALL UTILITY COMPANIES INVOLVED, TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING, IN ADVANCE, ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE AS WELL AS THE UTILITY COMPANIES.

11. NO WORK MAY COMMENCE WITHIN ANY PUBLIC STORM WATER, SANITARY SEWER OR POTABLE WATER SYSTEM UNTIL THE DEVELOPER NOTIFIES THE UTILITY PROVIDER. NOTIFICATION SHALL BE A MINIMUM OF 2 WORKING DAYS PRIOR TO COMMENCEMENT OF ANY WORK. AT THE DISCRETION OF THE WATER UTILITY PROVIDER, A PRE–CONSTRUCTION MEETING MAY BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORK.

12. THE DEVELOPER SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF THE WATER LINES AND DRY UTILITIES.

13. THE MINIMUM COVER OVER WATER LINES IS 4.5 FEET AND THE MAXIMUM COVER IS 5.5 FEET UNLESS OTHERWISE NOTED IN THE PLANS AND APPROVED BY THE WATER UTILITY.

14. A STATE CONSTRUCTION DEWATERING WASTEWATER DISCHARGE PERMIT IS REQUIRED IF DEWATERING IS REQUIRED IN ORDER TO INSTALL UTILITIES OR WATER IS DISCHARGED INTO A STORM SEWER, CHANNEL, IRRIGATION DITCH OR ANY WATERS OF THE UNITED STATES.

15. THE DEVELOPER SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF THE COLORADO PERMIT FOR STORM WATER DISCHARGE (CONTACT COLORADO DEPARTMENT OF HEALTH, WATER QUALITY CONTROL DIVISION, (303) 692–3590), THE STORM WATER MANAGEMENT PLAN, AND THE EROSION CONTROL PLAN.

16. THE LOCAL ENTITY SHALL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF STORM DRAINAGE FACILITIES LOCATED ON PRIVATE PROPERTY. MAINTENANCE OF ONSITE DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER(S).

17. PRIOR TO FINAL INSPECTION AND ACCEPTANCE BY THE LOCAL ENTITY, CERTIFICATION OF THE DRAINAGE FACILITIES, BY A REGISTERED ENGINEER, MUST BE SUBMITTED TO AND APPROVED BY THE STORMWATER UTILITY DEPARTMENT. CERTIFICATION SHALL BE SUBMITTED TO THE STORMWATER UTILITY DEPARTMENT AT LEAST TWO WEEKS PRIOR TO THE RELEASE OF A CERTIFICATE OF OCCUPANCY FOR SINGLE FAMILY UNITS. FOR COMMERCIAL PROPERTIES, CERTIFICATION SHALL BE SUBMITTED TO THE STORMWATER UTILITY DEPARTMENT AT LEAST TWO WEEKS PRIOR TO THE RELEASE OF ANY BUILDING PERMITS IN EXCESS OF THOSE ALLOWED PRIOR TO CERTIFICATION PER THE DEVELOPMENT AGREEMENT.

18. THE LOCAL ENTITY SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES OR INJURIES SUSTAINED IN THIS DEVELOPMENT AS A RESULT OF GROUNDWATER SEEPAGE, WHETHER RESULTING FROM GROUNDWATER FLOODING, STRUCTURAL DAMAGE OR OTHER DAMAGE UNLESS SUCH DAMAGE OR INJURIES ARE SUSTAINED AS A RESULT OF THE LOCAL ENTITY FAILURE TO PROPERLY MAINTAIN ITS WATER, WASTEWATER, AND/OR STORM DRAINAGE FACILITIES IN THE DEVELOPMENT.

19. ALL RECOMMENDATIONS OF THE The "Drainage and Erosion Control Report for Lot 11, Prospect Industrial Park (2601 Canton Court)" dated June 15, 2017 by North Star Design, Inc. SHALL BE FOLLOWED AND IMPLEMENTED.

20. TEMPORARY EROSION CONTROL DURING CONSTRUCTION SHALL BE PROVIDED AS SHOWN ON THE EROSION CONTROL PLAN. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE DEVELOPER, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS IS STABILIZED WITH HARD SURFACE OR LANDSCAPING.

21. THE DEVELOPER SHALL BE RESPONSIBLE FOR INSURING THAT NO MUD OR DEBRIS SHALL BE TRACKED ONTO THE EXISTING PUBLIC STREET SYSTEM. MUD AND DEBRIS MUST BE REMOVED WITHIN 24 HOURS BY AN APPROPRIATE MECHANICAL METHOD (I.E. MACHINE BROOM SWEEP, LIGHT DUTY FRONT–END LOADER, ETC.) OR AS APPROVED BY THE LOCAL ENTITY STREET INSPECTOR.

22. NO WORK MAY COMMENCE WITHIN ANY IMPROVED OR UNIMPROVED PUBLIC RIGHT–OF–WAY UNTIL A RIGHT–OF–WAY PERMIT OR DEVELOPMENT CONSTRUCTION PERMIT IS OBTAINED, IF APPLICABLE.

23. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR ALL APPLICABLE AGENCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE DEVELOPER SHALL NOTIFY THE LOCAL ENTITY ENGINEERING INSPECTOR AND THE LOCAL ENTITY EROSION CONTROL INSPECTOR AT LEAST 2 WORKING DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS. IF THE LOCAL ENTITY ENGINEER IS NOT AVAILABLE AFTER PROPER NOTICE OF CONSTRUCTION ACTIVITY HAS BEEN PROVIDED, THE DEVELOPER MAY COMMENCE WORK IN THE ENGINEER'S ABSENCE. HOWEVER, THE LOCAL ENTITY RESERVES THE RIGHT NOT TO ACCEPT THE IMPROVEMENT IF SUBSEQUENT TESTING REVEALS AN IMPROPER INSTALLATION.

24. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING SOILS TESTS WITHIN THE PUBLIC RIGHT–OF–WAY AFTER RIGHT–OF–WAY GRADING AND ALL UTILITY TRENCH WORK IS COMPLETE AND PRIOR TO THE PLACEMENT OF CURB, GUTTER, SIDEWALK AND PAVEMENT. IF THE FINAL SOILS/PAVEMENT DESIGN REPORT DOES NOT CORRESPOND WITH THE RESULTS OF THE ORIGINAL GEOTECHNICAL REPORT, THE DEVELOPER SHALL BE RESPONSIBLE FOR A RE–DESIGN OF THE SUBJECT PAVEMENT SECTION OR, THE DEVELOPER MAY USE THE LOCAL ENTITY'S DEFAULT PAVEMENT THICKNESS SECTION(S). REGARDLESS OF THE OPTION USED, ALL FINAL SOILS/PAVEMENT DESIGN REPORTS SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER. THE FINAL REPORT SHALL BE SUBMITTED TO THE INSPECTOR A MINIMUM OF 10 WORKING DAYS PRIOR TO PLACEMENT OF BASE AND ASPHALT. PLACEMENT OF CURB, GUTTER, SIDEWALK, BASE AND ASPHALT SHALL NOT OCCUR UNTIL THE LOCAL ENTITY ENGINEER APPROVES THE FINAL REPORT.

25. THE CONTRACTOR SHALL HIRE A LICENSED ENGINEER OR LAND SURVEYOR TO SURVEY THE CONSTRUCTED ELEVATIONS OF THE STREET SUBGRADE AND THE GUTTER FLOWLINE AT ALL INTERSECTIONS, INLETS, AND OTHER LOCATIONS REQUESTED BY THE LOCAL ENTITY INSPECTOR. THE ENGINEER OR SURVEYOR MUST CERTIFY IN A LETTER TO THE LOCAL ENTITY THAT THESE ELEVATIONS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS. ANY DEVIATIONS SHALL BE NOTED IN THE LETTER AND THEN RESOLVED WITH THE LOCAL ENTITY BEFORE INSTALLATION OF BASE COURSE OR ASPHALT WILL BE ALLOWED ON THE STREETS.

26. ALL UTILITY INSTALLATIONS WITHIN OR ACROSS THE ROADBED OF NEW RESIDENTIAL ROADS MUST BE COMPLETED PRIOR TO THE FINAL STAGES OF ROAD CONSTRUCTION. FOR THE PURPOSES OF THESE STANDARDS, ANY WORK EXCEPT C/G ABOVE THE SUBGRADE IS CONSIDERED FINAL STAGE WORK. ALL SERVICE LINES MUST BE STUBBED TO THE PROPERTY LINES AND MARKED SO AS TO REDUCE THE EXCAVATION NECESSARY FOR BUILDING CONNECTIONS.

27. PORTIONS OF LARIMER COUNTY ARE WITHIN OVERLAY DISTRICTS. THE LARIMER COUNTY FLOOD PLAIN RESOLUTION SHOULD BE REFERRED TO FOR ADDITIONAL CRITERIA FOR ROADS WITHIN THESE DISTRICTS.

28. ALL ROAD CONSTRUCTION IN AREAS DESIGNATED AS WILD FIRE HAZARD AREAS SHALL BE DONE IN ACCORDANCE WITH THE CONSTRUCTION CRITERIA AS ESTABLISHED IN THE WILD FIRE HAZARD AREA MITIGATION REGULATIONS IN FORCE AT THE TIME OF FINAL PLAT APPROVAL.

29. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE LOCAL ENTITY FORESTER TO SCHEDULE A SITE INSPECTION FOR ANY TREE REMOVAL REQUIRING A PERMIT.

30. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.

31. THE DEVELOPER SHALL SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH MUTCD, TO THE APPROPRIATE RIGHT–OF–WAY AUTHORITY. (LOCAL ENTITY, COUNTY OR STATE), FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT–OF–WAY. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.

32. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION THAT WILL AFFECT TRAFFIC SIGNS OF ANY TYPE, THE CONTRACTOR SHALL CONTACT LOCAL ENTITY TRAFFIC OPERATIONS DEPARTMENT, WHO WILL TEMPORARILY REMOVE OR RELOCATE THE SIGN AT NO COST TO THE CONTRACTOR; HOWEVER, IF THE CONTRACTOR MOVES THE TRAFFIC SIGN THEN THE CONTRACTOR WILL BE CHARGED FOR THE LABOR, MATERIALS AND EQUIPMENT TO REINSTALL THE SIGN AS NEEDED.

33. THE DEVELOPER IS RESPONSIBLE FOR ALL COSTS FOR THE INITIAL INSTALLATION OF TRAFFIC SIGNING AND STRIPING FOR THE DEVELOPMENT RELATED TO THE DEVELOPMENT'S LOCAL STREET OPERATIONS. IN ADDITION, THE DEVELOPER IS RESPONSIBLE FOR ALL COSTS FOR TRAFFIC SIGNING AND STRIPING RELATED TO DIRECTING TRAFFIC ACCESS TO AND FROM THE DEVELOPMENT.

34. THERE SHALL BE NO SITE CONSTRUCTION ACTIVITIES ON SATURDAYS, UNLESS SPECIFICALLY APPROVED BY THE LOCAL ENTITY ENGINEER, AND NO SITE CONSTRUCTION ACTIVITIES ON SUNDAYS OR HOLIDAYS, UNLESS THERE IS PRIOR WRITTEN APPROVAL BY THE LOCAL ENTITY.

35. THE DEVELOPER IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS, SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.

36. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE DESIGNER FOR CLARIFICATION, AND ANNOTATE THE DIMENSION ON THE AS–BUILT RECORD DRAWINGS.

37. THE DEVELOPER SHALL HAVE, ONSITE AT ALL TIMES, ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB.

38. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE DEVELOPER SHALL CONTACT THE DESIGNER AND THE LOCAL ENTITY ENGINEER IMMEDIATELY.

39. THE DEVELOPER SHALL BE RESPONSIBLE FOR RECORDING AS–BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE LOCAL ENTITY'S INSPECTOR AT ALL TIMES. UPON COMPLETION OF THE WORK, THE CONTRACTOR(S) SHALL SUBMIT RECORD DRAWINGS TO THE LOCAL ENTITY ENGINEER.

40. BENCHMARK:

VERTICAL DATUM:
PROJECT DATUM: NAVD 88

BENCHMARK #1 CITY OF FORT COLLINS 3–07, DESCRIPTION: NORTHWEST CORNER OF TIMBERLINE RD. AND PROSPECT RD. ON THE NORTHWEST CORNER OF A LIGHT BASE
ELEVATION = 4919.13

BENCHMARK #2 CITY OF FORT COLLINS 4–07, DESCRIPTION: SOUTHWEST CORNER OF TIMBERLINE RD. AND BEAR MOUNTAIN DR. DUE NORTH OF NEW POLICE BUILDING ON THE SOUTHWEST CORNER OF A CATCH BASIN.
ELEVATION = 4942.84

PLEASE NOTE: THIS PLAN SET IS USING NAVD88 FOR A VERTICAL DATUM. SURROUNDING DEVELOPMENTS HAVE USED NGVD29 UNADJUSTED FOR THEIR VERTICAL DATUMS.

IF NGVD29 UNADJUSTED DATUM IS REQUIRED FOR ANY PURPOSE, THE FOLLOWING EQUATION SHOULD BE USED: NGVD29 UNADJUSTED = NAVD88 – 3.18'

41. ALL STATIONING IS BASED ON CENTERLINE OF ROADWAYS UNLESS OTHERWISE NOTED.

42. DAMAGED CURB, GUTTER AND SIDEWALK EXISTING PRIOR TO CONSTRUCTION, AS WELL AS EXISTING FENCES, TREES, STREETS, SIDEWALKS, CURBS AND GUTTERS, LANDSCAPING, STRUCTURES, AND IMPROVEMENTS DESTROYED, DAMAGED OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT, SHALL BE REPLACED OR RESTORED IN LIKE KIND AT THE DEVELOPER'S EXPENSE, UNLESS OTHERWISE INDICATED ON THESE PLANS, PRIOR TO THE ACCEPTANCE OF COMPLETED IMPROVEMENTS AND/OR PRIOR TO THE ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY.

43. WHEN AN EXISTING ASPHALT STREET MUST BE CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BY THE LOCAL ENTITY CONSTRUCTION INSPECTOR BEFORE ANY CUTS ARE MADE. PATCHING SHALL BE DONE IN ACCORDANCE WITH THE LOCAL ENTITY STREET REPAIR STANDARDS. THE FINISHED PATCH SHALL BLEND IN SMOOTHLY INTO THE EXISTING SURFACE. ALL LARGE PATCHES SHALL BE PAVED WITH AN ASPHALT LAY–DOWN MACHINE. IN STREETS WHERE MORE THAN ONE CUT IS MADE, AN OVERLAY OF THE ENTIRE STREET WIDTH, INCLUDING THE PATCHED AREA, MAY BE REQUIRED. THE DETERMINATION OF NEED FOR A COMPLETE OVERLAY SHALL BE MADE BY THE LOCAL ENTITY ENGINEER AND/OR THE LOCAL ENTITY INSPECTOR AT THE TIME THE CUTS ARE MADE.

44. UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO, OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION, OR TO THE GRADES AND CONDITION AS REQUIRED BY THESE PLANS.

45. STANDARD HANDICAP RAMPS ARE TO BE CONSTRUCTED AT ALL CURB RETURNS AND AT ALL "T" INTERSECTIONS.

46. AFTER ACCEPTANCE BY THE LOCAL ENTITY, PUBLIC IMPROVEMENTS DEPICTED IN THESE PLANS SHALL BE GUARANTEED TO BE FREE FROM MATERIAL AND WORKMANSHIP DEFECTS FOR A MINIMUM PERIOD OF TWO YEARS FROM THE DATE OF ACCEPTANCE.

47. THE LOCAL ENTITY SHALL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF PRIVATE ROADWAY AND APPURTENANT IMPROVEMENTS, INCLUDING STORM DRAINAGE STRUCTURES AND PIPES.

48. APPROVED VARIANCES ARE LISTED AS FOLLOWS: NONE.

STORM DRAINAGE NOTES

1. THE LOCAL ENTITY SHALL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF STORM DRAINAGE FACILITIES LOCATED ON PRIVATE PROPERTY. MAINTENANCE OF ONSITE DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER(S).

2. ALL RECOMMENDATIONS OF THE The "Drainage and Erosion Control Report for Lot 11, Prospect Industrial Park (2601 Canton Court)" dated June 15, 2017 by North Star Design, Inc. SHALL BE FOLLOWED AND IMPLEMENTED.

3. PRIOR TO FINAL INSPECTION AND ACCEPTANCE BY LOCAL ENTITY, CERTIFICATION OF THE DRAINAGE FACILITIES, BY A REGISTERED ENGINEER, MUST BY SUBMITTED TO AND APPROVED BY THE STORMWATER UTILITY DEPARTMENT. CERTIFICATION SHALL BE SUBMITTED TO THE STORMWATER UTILITY DEPARTMENT AT LEAST TWO WEEKS PRIOR TO THE RELEASE OF A CERTIFICATE OF OCCUPANCY FOR SINGLE FAMILY UNITS. FOR COMMERCIAL PROPERTIES, CERTIFICATION SHALL BY SUBMITTED TO THE STORMWATER UTILITY DEPARTMENT AT LEAST TWO WEEKS PRIOR TO THE RELEASE OF ANY BUILDING PERMITS IN EXCESS OF THOSE ALLOWED PRIOR TO CERTIFICATION PER THE DEVELOPMENT AGREEMENT.

TRAFFIC SIGNING AND PAVEMENT MARKING CONSTRUCTION NOTES

1. ALL SIGNAGE AND MARKING IS SUBJECT TO THE GENERAL NOTES ON THIS SHEET, AS WELL AS THE TRAFFIC SIGNING AND MARKING CONSTRUCTION NOTES LISTED HERE.

2. ALL SYMBOLS, INCLUDING ARROWS, ONLYS, CROSSWALKS, STOP BARS, ETC. SHALL BE PRE–FORMED THERMOPLASTIC

3. ALL SIGNAGE SHALL BE PER LOCAL ENTITY STANDARDS AND THESE PLANS OR AS OTHERWISE SPECIFIED IN MUTCD.

4. ALL LANE LINES FOR ASPHALT PAVEMENT SHALL RECEIVE TWO COATS OF LATEX PAINT WITH GLASS BEADS.

5. ALL LANE LINES FOR CONCRETE PAVEMENT SHOULD BE EPOXY PAINT.

6. PRIOR TO PERMANENT INSTALLATION OF TRAFFIC STRIPING AND SYMBOLS, THE DEVELOPER SHALL PLACE TEMPORARY TABS OR TAPE DEPICTING ALIGNMENT AND PLACEMENT OF THE SAME. THEIR PLACEMENT SHALL BE APPROVED BY THE CITY OF FORT COLLINS TRAFFIC ENGINEER PRIOR TO PERMANENT INSTALLATION OF STRIPING AND SYMBOLS.

7. PRE–FORMED THERMOPLASTIC APPLICATIONS SHALL BE AS SPECIFIED IN THESE PLANS AND/OR THESE STANDARDS.

8. EPOXY APPLICATIONS SHALL BE APPLIED AS SPECIFIED IN CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

9. ALL SURFACES SHALL BE THOROUGHLY CLEANED PRIOR TO INSTALLATION OF STRIPING OR MARKINGS.

10. ALL SIGN POSTS SHALL UTILIZE BREAK–AWAY ASSEMBLIES AND FASTENERS PER THE STANDARDS.

11. A FIELD INSPECTION OF LOCATION AND INSTALLATION OF ALL SIGNS SHALL BE PERFORMED BY THE CITY OF FORT COLLINS TRAFFIC ENGINEER. ALL DISCREPANCIES IDENTIFIED DURING THE FIELD INSPECTION MUST BE CORRECTED BEFORE THE 2–YEAR WARRANTY PERIOD WILL BEGIN.

12. THE DEVELOPER INSTALLING SIGNS SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES.

13. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATION TO ENSURE AN UNOBSTRUCTED VIEW OF EACH SIGN.

14. SIGNAGE AND STRIPING HAS BEEN DETERMINED BY INFORMATION AVAILABLE AT THE TIME OF REVIEW. PRIOR TO INITIATION OF THE WARRANTY PERIOD, THE CITY OF FORT COLLINS TRAFFIC ENGINEER RESERVES THE RIGHT TO REQUIRE ADDITIONAL SIGNAGE AND/OR STRIPING IF THE CITY OF FORT COLLINS TRAFFIC ENGINEER DETERMINES THAT AN UNFORESEEN CONDITION WARRANTS SUCH SIGNAGE ACCORDING TO THE MUTCD OR THE CDOT M AND S STANDARDS. ALL SIGNAGE AND STRIPING SHALL FALL UNDER THE REQUIREMENTS OF THE 2–YEAR WARRANTY PERIOD FOR NEW CONSTRUCTION (EXCEPT FAIR WEAR ON TRAFFIC MARKINGS).

15. SLEEVES FOR SIGN POSTS SHALL BE REQUIRED FOR USE IN ISLANDS/MEDIANS. REFER TO CHAPTER 14, TRAFFIC CONTROL DEVICES, FOR ADDITIONAL DETAIL.

GRADING AND EROSION CONTROL NOTES

1. ALL GRADING AND EROSION CONTROL MEASURES ARE SUBJECT TO GENERAL NOTES ON THIS SHEET PLANS AS WELL AS THE GRADING AND EROSION CONTROL NOTES LISTED HERE.

2. AT ALL TIMES DURING CONSTRUCTION, THE DEVELOPER SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING ON–SITE EROSION DUE TO WIND AND RUNOFF, AS WELL AS VEHICLE TRACKING. THE DEVELOPER SHALL ALSO BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION CONTROL FACILITIES SHOWN HERE.

3. ALL PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL, PRIOR TO ANY OTHER EARTH–DISTURBING ACTIVITY. ALL OTHER STRUCTURAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS SOON AS THE FACILITIES, AROUND WHICH THEY ARE BASED, BECOME OPERATIONAL.

4. ANY EROSION CONTROL FACILITY DAMAGED OR DESTROYED PREMATURELY, BY ANY MEANS, SHALL BE IMMEDIATELY REPAIRED BY THE DEVELOPER.

5. THERE SHALL BE NO EARTH–DISTURBING ACTIVITY OUTSIDE THE LIMITS DESIGNATED ON THESE PLANS.

6. TOP SOIL SHALL BE REMOVED AND STOCK PILED PRIOR TO OVERLOT GRADING OPERATIONS.

7. A WATER TRUCK SHALL BE KEPT ON–SITE AT ALL TIMES DURING EARTHWORK ACTIVITIES FOR DUST ABATEMENT.

8. CONDITIONS IN THE FIELD MAY WARRANT EROSION CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THESE PLANS. THE DEVELOPER SHALL IMPLEMENT WHATEVER MEASURES ARE DETERMINED NECESSARY, AS DIRECTED BY THE LOCAL ENTITY ENGINEER.

9. SILT AND SEDIMENT, WITHIN RIGHT–OF–WAY, SHALL BE REMOVED AFTER EACH SUBSTANTIAL RAINFALL.

10. NEGATIVE IMPACTS TO DOWNSTREAM AREAS CAUSED BY OVERLOT GRADING ARE TO BE MONITORED AND CORRECTED BY THE DEVELOPER. ANY OFF–SITE CLEAN–UP, DIRECTED BY THE LOCAL ENTITY'S INSPECTOR, (INCLUDING STREET CLEANING), SHALL BE COMPLETED WITHIN 24–HOURS OF WRITTEN INSTRUCTION, OR RISK CONSTRUCTION STOPPAGE.

11. TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL SUCH TIME AS ALL TRIBUTARY–DISTURBED AREAS ARE SUFFICIENTLY STABILIZED IN THE OPINION OF THE LOCAL ENTITY ENGINEER, TO MINIMIZE EROSION POTENTIAL.

12. WHEN TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE CLEANUP AND REMOVAL OF ALL SEDIMENT AND DEBRIS FROM ALL DRAINAGE AND OTHER PUBLIC FACILITIES.

13. ALL AREAS DISTURBED BY THIS PROJECT, WHICH ARE NOT SCHEDULED FOR IMPROVEMENT OR DISTURBANCE WITHIN 90 DAYS, AND ARE NOT OTHERWISE STABILIZED BY HARD SURFACE OR LANDSCAPING, SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THESE SPECIFICATIONS WITHIN 10 WORKING DAYS OF RIGHT–OF–WAY GRADING COMPLETION.

A. ALL AREAS FOR SEEDING SHALL BE TILLED TO BREAK UP ROOTING RESTRICTIVE LAYERS, HAVE A MINIMUM OF 4 INCHES OF TOPSOIL REAPPLIED, AND THEN BE HARROWED, AND ROLLED OR PACKED, TO PREPARE THE REQUIRED FIRM SEED BED.

B. THE SEED BED SHALL BE WELL–SETTLED AND FIRM, BUT FRIABLE ENOUGH SO THAT SEED CAN BE PLACED AT THE SEEDING DEPTHS SPECIFIED. THE SEED BED SHALL BE REASONABLY FREE OF WEEDS.

C. ALL SEEDING AREAS SHALL BE FERTILIZED, UNLESS FIELD EVIDENCE OR LABORATORY SOIL ANALYSIS INDICATES SUFFICIENT AMOUNTS OF NITROGEN (N) AND 40 POUNDS AVAILABLE PHOSPHATE (P205) PER ACRE. TIME OF APPLICATION WILL BE AS APPLICABLE TO THE KIND OF FERTILIZER AND TYPE OF EQUIPMENT USED.

D. SEED SHALL BE PLANTED WITH A DRILL ON ALL SLOPES OF 3:1 OR FLATTER. THE DRILL MUST HAVE THE CAPABILITY OF HANDLING THE KIND AND RATE OF SEED BEING PLANTED. SEED MAY BE BROADCAST BY MECHANICAL SPREADER, OR BY HYDRAULIC EQUIPMENT ON AREAS THAT ARE SMALL, TOO STEEP, OR NOT ACCESSIBLE FOR SEED–OPERATIONS. BROADCAST RATES OF SEED ON 4:1 OR LESSER SLOPES WILL BE DOUBLE THE DRILLED RATES. FOR SLOPES GREATER THAN 4:1, BROADCAST RATES WILL BE FOUR TIMES THE DRILLED RATES.

E. SEED PLANTED WITH A DRILL SHALL BE COVERED WITH SOIL TO A DEPTH OF 1/4 TO 3/4 INCH. SEED PLANTED BY THE BROADCAST METHOD SHALL BE INCORPORATED INTO THE SURFACE SOIL, TO A MAXIMUM DEPTH OF 3/4 INCH, BY RAKING, HARROWING, OR OTHER PROVEN METHODS.

F. HYDRO–MULCHING SHALL BE ALLOWED. MULCH SHALL CONSIST OF EITHER CEREAL GRAIN STRAW OR GRASS HAY, AT LEAST 50% BY WEIGHT, BEING 10 INCHES OR LONGER. APPLICATION RATE TO BE 2000 LBS/ACRE TO ACHIEVE A STUBBLED SURFACE. ANCHORING WITH A MULCH CRIMPER IS ACCEPTABLE, OR WITH THE USE OF A DISC PLOW, SET VERTICAL TO THE GROUND WITH SUFFICIENT WEIGHT TO ACHIEVE A CRIMPING DEPTH OF AT LEAST 4 INCHES INTO THE SOIL. ALL MULCHED AREAS SHALL BE TACKIFIED AFTER CRIMPING. THE TACKIFIER SOLUTION SHALL BE IN ACCORDANCE WITH NOTE J BELOW.

G. ALL SEEDED AREAS SHALL BE MULCHED, CRIMPED, AND TACKIFIED WITHIN 24 HOURS AFTER SEEDING; OTHERWISE, AREAS SHALL BE RESEEDED, AT THE DEVELOPER'S EXPENSE, PRIOR TO THE MULCHING, CRIMPING, AND TACKIFYING.

H. ALL SLOPES STEEPER THAN 4:1 SHALL BE TACKIFIED (SEE NOTE J BELOW) AFTER THE COMPLETION OF SEEDING AND FERTILIZING. SLOPES SHALL THEN BE COVERED WITH A SOIL RETENTION BLANKET. THE SOIL RETENTION BLANKET SHALL BE A MACHINE–PRODUCED MAT CONSISTING OF 70% AGRICULTURAL STRAW (0.35 LB/SY) AND 30% COCONUT FIBER (0.15LB/SY). THE BLANKET SHALL BE OF CONSISTENT THICKNESS, WITH THE STRAW EVENLY DISTRIBUTED OVER THE ENTIRE AREA OF THE MAT. THE BLANKET SHALL BE COVERED ON THE TOP SIDE WITH POLYPROPYLENE NETTING HAVING AN APPROXIMATE 5/8" X 5/8" MESH (1.65 – 3.00 LB/KSF), AND ON THE BOTTOM WITH POLYPROPYLENE NETTING WITH AN APPROXIMATE 3" X 3" TO 2" X 2" MESH (1.00 – 1.65 LB/KSF). THE BLANKET SHALL BE SEWN TOGETHER WITH COTTON, BIODEGRADABLE OR PHOTO–DEGRADABLE THREAD. ALL NETTING SHALL BE PHOTO–DEGRADABLE. A SAMPLE OF THE BLANKET SHALL BE SUBMITTED AT LEAST TWO WEEKS IN ADVANCE OF ITS USE FOR APPROVAL BY THE LOCAL ENTITY ENGINEER. THE LOCAL ENTITY ENGINEER MAY REQUIRE BLANKETS FOR UNSTABLE SOILS WITH SLOPES UNDER 4:1 IF DEEMED NECESSARY.

I. SOIL RETENTION BLANKET SHALL BE PLACED SMOOTHLY, BUT LOOSELY, ON THE SOIL SURFACE, WITHOUT STRETCHING. THE UPSLOPE END SHALL BE BURIED IN A TRENCH 6 INCHES WIDE BY 6 INCHES DEEP BEYOND THE CREST OF THE SLOPE, TO AVOID UNDERCUTTING. THERE SHALL BE A 6–INCH OVERLAP WHEREVER ONE ROLL OF BLANKET ENDS AND ANOTHER BEGINS, WITH THE UPHILL BLANKET PLACED ON TOP OF THE DOWNHILL BLANKET. THERE SHALL BE A 4–INCH OVERLAP WHEREVER 2 WIDTHS OF BLANKET ARE APPLIED SIDE BY SIDE. INSERT STAPLES IN A PATTERN ACCORDING TO THE MANUFACTURER'S RECOMMENDATION, AT APPROXIMATELY 2 STAPLES PER SQUARE YARD. "T" SHAPED PINS SHALL NOT BE USED.

J. TACKIFIER, WHETHER PLACED ON SOIL OR MULCH, SHALL CONFORM TO THE COLORADO HIGHWAY SPECIFICATIONS, SECTION 213.02. APPLY TACKIFIER WITH A SPRAY NOZZLE, DISPENSING A MIST THAT WILL UNIFORMLY COVER THE SURFACE.

K. ALL SEEDED AREAS SHALL BE KEPT IN A DAMP CONDITION, FOR AT LEAST 14 DAYS AFTER SEEDING, TO AID IN GERMINATION. SOME FORM OF IRRIGATION MAY BE REQUIRED TO ACHIEVE THIS GOAL, AND IT IS THE RESPONSIBILITY OF THE DEVELOPER TO PERFORM ANY AND ALL NECESSARY OPERATIONS TO THAT END. THE MEANS OF IRRIGATION SHALL BE APPROVED BY THE LOCAL ENTITY ENGINEER PRIOR TO IMPLEMENTATION. DIRECTOR FLOWS FROM LARGE HOSES, WHICH COULD DAMAGE THE MULCH, WILL NOT BE PERMITTED. ADDITIONAL MAINTENANCE, AS REQUIRED BY THE STORM WATER UTILITY, IS ALSO REQUIRED.

STREET IMPROVEMENTS NOTES

1. ALL STREET CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THIS SHEET AS WELL AS THE STREET IMPROVEMENTS NOTES LISTED HERE.

2. A PAVING SECTION DESIGN, SIGNED AND STAMPED BY A COLORADO LICENSED ENGINEER, MUST BE SUBMITTED TO THE LOCAL ENTITY ENGINEER FOR APPROVAL, PRIOR TO ANY STREET CONSTRUCTION ACTIVITY, (FULL DEPTH ASPHALT SECTIONS ARE NOT PERMITTED AT A DEPTH GREATER THAN 8 INCHES OF ASPHALT). THE JOB MIX SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT OF ANY ASPHALT.

3. WHERE PROPOSED PAVING ADJOINS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE SAW CUT, A MINIMUM DISTANCE OF 12 INCHES FROM THE EXISTING EDGE, TO CREATE A CLEAN CONSTRUCTION JOINT. THE DEVELOPER SHALL BE REQUIRED TO REMOVE EXISTING PAVEMENT TO A DISTANCE WHERE A CLEAN CONSTRUCTION JOINT CAN BE MADE. WHEEL CUTS SHALL NOT BE ALLOWED UNLESS APPROVED BY THE CITY OF FORT COLLINS ENGINEER.

4. STREET SUBGRADES SHALL BE SCARIFIED THE TOP 12 INCHES AND RE–COMPACTED PRIOR TO SUBBASE INSTALLATION. NO BASE MATERIAL SHALL BE LAID UNTIL THE SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE LOCAL ENTITY ENGINEER.

5. VALVE BOXES AND MANHOLES ARE TO BE BROUGHT UP TO GRADE AT THE TIME OF PAVEMENT PLACEMENT OR OVERLAY. VALVE BOX ADJUSTING RINGS ARE NOT ALLOWED.

6. WHEN AN EXISTING ASPHALT STREET MUST BE CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BY THE INSPECTOR BEFORE ANY CUTS ARE MADE. CUTTING AND PATCHING SHALL BE DONE IN CONFORMANCE WITH CHAPTER 25 OF THE STANDARDS, RECONSTRUCTION AND REPAIR. THE FINISHED PATCH SHALL BLEND SMOOTHLY INTO THE EXISTING SURFACE. THE DETERMINATION OF NEED FOR A COMPLETE OVERLAY SHALL BE MADE BY THE LOCAL ENTITY ENGINEER. ALL OVERLAY WORK SHALL BE COORDINATED WITH ADJACENT LANDOWNERS SUCH THAT FUTURE PROJECTS DO NOT CUT THE NEW ASPHALT OVERLAY WORK.

7. ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH THESE PLANS OR AS OTHERWISE SPECIFIED IN M.U.T.C.D. (INCLUDING COLORADO SUPPLEMENT) AND AS PER THE RIGHT–OF–WAY WORK PERMIT TRAFFIC CONTROL PLAN.

8. THE DEVELOPER IS REQUIRED TO PERFORM A GUTTER WATER FLOW TEST IN THE PRESENCE OF THE LOCAL ENTITY INSPECTOR AND PRIOR TO INSTALLATION OF ASPHALT. GUTTERS THAT HOLD MORE THAN ¼ INCH DEEP OR 5 FEET LONGITUDINALLY, OF WATER, SHALL BE COMPLETELY REMOVED AND RECONSTRUCTED TO DRAIN PROPERLY.

9. PRIOR TO PLACEMENT OF H.B.P. OR CONCRETE WITHIN THE STREET AND AFTER MOISTURE/DENSITY TESTS HAVE BEEN TAKEN ON THE SUBGRADE MATERIAL (WHEN A FULL DEPTH SECTION IS PROPOSED) OR ON THE SUBGRADE AND BASE MATERIAL (WHEN A COMPOSITE SECTION IS PROPOSED), A MECHANICAL "PROOF ROLL" WILL BE REQUIRED. THE ENTIRE SUBGRADE AND/OR BASE MATERIAL SHALL BE ROLLED WITH A HEAVILY LOADED VEHICLE HAVING A TOTAL GVW OF NOT LESS THAN 50,000 LBS. AND A SINGLE AXLE WEIGHT OF AT LEAST 18,000 LBS. WITH PNEUMATIC TIRES INFLATED TO NOT LESS THAT 90 P.S.I.G. "PROOF ROLL" VEHICLES SHALL NOT TRAVEL AT SPEEDS GREATER THAN 3 M.P.H. ANY PORTION OF THE SUBGRADE OR BASE MATERIAL WHICH EXHIBITS EXCESSIVE PUMPING OR DEFORMATION, AS DETERMINED BY THE LOCAL ENTITY ENGINEER, SHALL BE REWORKED, REPLACED OR OTHERWISE MODIFIED TO FORM A SMOOTH, NON–YIELDING SURFACE. THE LOCAL ENTITY ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE "PROOF ROLL." ALL "PROOF ROLLS" SHALL BE PREFORMED IN THE PRESENCE OF AN INSPECTOR.

10. ALL RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT FOR THIS SITE, SHALL BE FOLLOWED AND IMPLEMENTED.

11. REFER TO THE FLOODPLAIN NOTES SECTION ON THIS NOTE SHEET FOR THE FLOODPLAIN REQUIREMENTS ASSOCIATED WITH STREET AND SITE WORK CONDUCTED IN THE FLOODPLAIN AND FLOODWAY. CONTACT FLOODPLAIN ADMINISTRATOR AT (970) 221–6700 PRIOR TO ANY WORK IN THE FLOODPLAIN.

STANDARD EROSION AND SEDIMENT CONTROL CONSTRUCTION PLAN NOTES

SEPTEMBER, 2003

(1.) THE EROSION CONTROL INSPECTOR MUST BE NOTIFIED AT LEAST TWENTY–FOUR (24) HOURS PRIOR TO ANY CONSTRUCTION ON THIS SITE.

(2.) THERE SHALL BE NO EARTH–DISTURBING ACTIVITY OUTSIDE THE LIMITS DESIGNATED ON THE ACCEPTED PLANS.

(3.) ALL REQUIRED PERIMETER SILT AND CONSTRUCTION FENCING SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY (STOCKPILING, STRIPPING, GRADING, ETC). ALL OTHER REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE APPROPRIATE TIME IN THE CONSTRUCTION SEQUENCE AS INDICATED IN THE APPROVED PROJECT SCHEDULE, CONSTRUCTION PLANS, AND EROSION CONTROL REPORT.

(4.) AT ALL TIMES DURING CONSTRUCTION, THE DEVELOPER SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING ON–SITE EROSION INCLUDING KEEPING THE PROPERTY SUFFICIENTLY WATERED SO AS TO MINIMIZE WIND BLOWN SEDIMENT. THE DEVELOPER SHALL ALSO BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION CONTROL FACILITIES SHOWN HEREIN.

(5.) PRE–DISTURBANCE VEGETATION SHALL BE PROTECTED AND RETAINED WHEREVER POSSIBLE. REMOVAL OR DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO THE AREA(S) REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS, AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.

(6.) ALL SOILS EXPOSED DURING LAND DISTURBING ACTIVITY (STRIPPING, GRADING, UTILITY INSTALLATIONS, STOCKPILING, FILLING, ETC.) SHALL BE KEPT IN A ROUGHENED CONDITION BY RIPPING OR DISKING ALONG LAND CONTOURS UNTIL MULCH, VEGETATION, OR OTHER PERMANENT EROSION CONTROL BMPS ARE INSTALLED. NO SOILS SHALL REMAIN EXPOSED BY LAND DISTURBING ACTIVITY FOR MORE THAN THIRTY (30) DAYS BEFORE REQUIRED TEMPORARY OR PERMANENT EROSION CONTROL (E.G. SEED/MULCH, LANDSCAPING, ETC.) IS INSTALLED, UNLESS OTHERWISE APPROVED BY THE CITY/COUNTY.

(7.) IN ORDER TO MINIMIZE EROSION POTENTIAL, ALL TEMPORARY (STRUCTURAL) EROSION CONTROL MEASURES SHALL:

(A.) BE INSPECTED AT A MINIMUM OF ONCE EVERY TWO (2) WEEKS AND AFTER EACH SIGNIFICANT STORM EVENT AND REPAIRED OR RECONSTRUCTED AS NECESSARY IN ORDER TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.

(B.) REMAIN IN PLACE UNTIL SUCH TIME AS ALL THE SURROUNDING DISTURBED AREAS ARE SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR.

(C.) BE REMOVED AFTER THE SITE HAS BEEN SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR.

(8.) WHEN TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE CLEAN UP AND REMOVAL OF ALL SEDIMENT AND DEBRIS FROM ALL DRAINAGE INFRASTRUCTURE AND OTHER PUBLIC FACILITIES.

(9.) THE CONTRACTOR SHALL IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHTS OF WAY, AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.

(10.) ALL RETAINED SEDIMENTS, PARTICULARLY THOSE ON PAVED ROADWAY SURFACES, SHALL BE REMOVED AND DISPOSED OF IN A MANNER AND LOCATION SO AS NOT TO CAUSE THEIR RELEASE INTO ANY WATERS OF THE UNITED STATES.

(11.) NO SOIL STOCKPILE SHALL EXCEED TEN (10) FEET IN HEIGHT. ALL SOIL STOCKPILES SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY SURFACE ROUGHENING, WATERING, AND PERIMETER SILT FENCING. ANY SOIL STOCKPILE REMAINING AFTER THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED.

(12.) THE STORMWATER VOLUME CAPACITY OF DETENTION PONDS WILL BE RESTORED AND STORM SEWER LINES WILL BE CLEANED UPON COMPLETION OF THE PROJECT AND BEFORE TURNING THE MAINTENANCE OVER TO THE CITY/COUNTY OR HOMEOWNERS ASSOCIATION (HOA).

(13.) CITY ORDINANCE AND COLORADO DISCHARGE PERMIT SYSTEM (CDPS) REQUIREMENTS MAKE IT UNLAWFUL TO DISCHARGE OR ALLOW THE DISCHARGE OF ANY POLLUTANT OR CONTAMINATED WATER FROM CONSTRUCTION SITES. POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, OIL AND GAS PRODUCTS, LITTER, AND SANITARY WASTE. THE DEVELOPER SHALL AT ALL TIMES TAKE WHATEVER MEASURES ARE NECESSARY TO ASSURE THE PROPER CONTAINMENT AND DISPOSAL OF POLLUTANTS ON THE SITE IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

(14.) A DESIGNATED AREA SHALL BE PROVIDED ON SITE FOR CONCRETE TRUCK CHUTE WASHOUT. THE AREA SHALL BE CONSTRUCTED SO AS TO CONTAIN WASHOUT MATERIAL AND LOCATED AT LEAST FIFTY (50) FEET AWAY FROM ANY WATERWAY DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES THE CONCRETE WASHOUT MATERIAL WILL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO THE AREA BEING RESTORED.

(15.) TO ENSURE THAT SEDIMENT DOES NOT MOVE OFF OF INDIVIDUAL LOTS ONE OR MORE OF THE FOLLOWING SEDIMENT/EROSION CONTROL BMPS SHALL BE INSTALLED AND MAINTAINED UNTIL THE LOTS ARE SUFFICIENTLY STABILIZED, AS DETERMINED BY THE EROSION CONTROL INSPECTOR, (WITHIN LOVELAND CITY LIMITS ONLY).

(A.) BELOW ALL GUTTER DOWNSPOUTS.

(B.) OUT TO DRAINAGE SWALES.

(C.) ALONG LOT PERIMETER.

(D.) OTHER LOCATIONS, IF NEEDED.

(16.) CONDITIONS IN THE FIELD MAY WARRANT EROSION CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THESE PLANS. THE DEVELOPER SHALL IMPLEMENT WHATEVER MEASURES ARE DETERMINED NECESSARY, AS DIRECTED BY THE CITY/COUNTY.

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED: ______________________ ________
City Engineer Date

CHECKED BY: ______________________ ________
Water & Wastewater Utility Date

CHECKED BY: ______________________ ________
Stormwater Utility Date

CHECKED BY: ______________________ ________
Parks & Recreation Date

CHECKED BY: ______________________ ________
Traffic Engineer Date

CHECKED BY: ______________________ ________
Date

North Star
design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

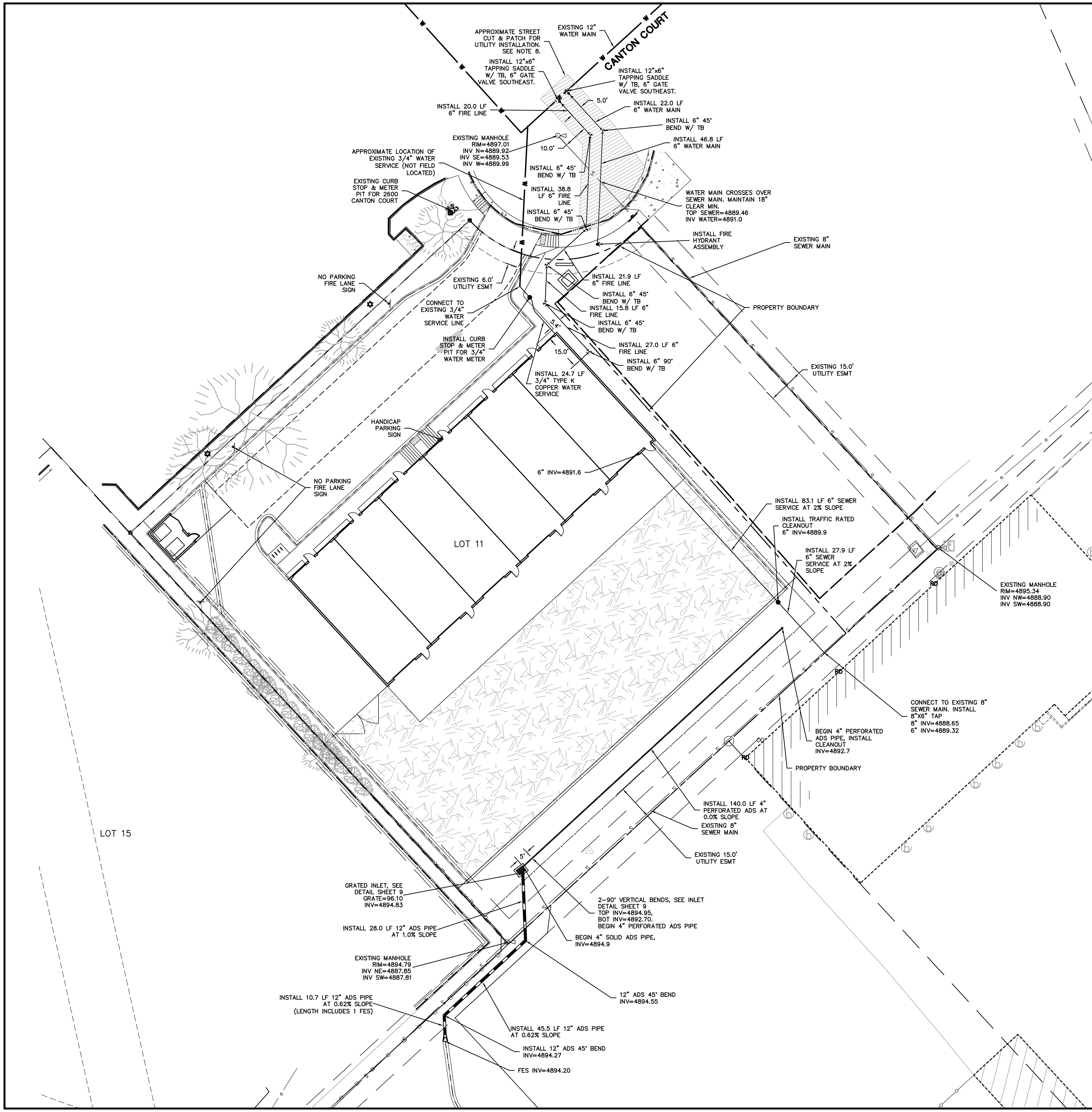
Date: 8/10/17
Scale: NONE
Designed by: PPK
Drawn by: BK

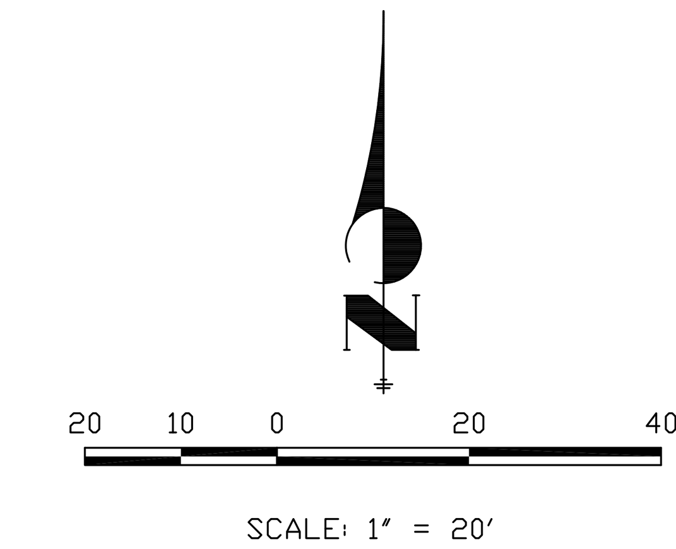
LOT 11, PROSPECT
INDUSTRIAL PARK
(2601 CANTON COURT)

GENERAL NOTES

SHEET
2
2 OF 9

Job No. 347-09





NOTES

1. SANITARY SEWER SERVICE SHALL BE 6" PVC (SDR 35) @ 2.0% UNLESS NOTED OTHERWISE.
2. ALL WATER MAINS SHALL BE DUCTILE IRON PIPE (CLASS 52), POLY-WRAPPED OR PVC w/ TRACER WIRE AS SPECIFIED BY CITY OF FORT COLLINS STANDARDS.
3. WATER SERVICE SHALL BE TYPE K COPPER – SIZE AS NOTED.
4. WATERLINE TO MAINTAIN 4.5' MINIMUM AND 5.5' MAXIMUM BURY DEPTH TO TOP OF MAIN FROM FINISHED GROUND.
5. FIRE LINE SHALL EXTEND INTO A MECHANICAL ROOM WITH A FLOOR DRAIN CAPABLE OF ACCEPTING DISCHARGE FROM THE BACKFLOW PREVENTOR.
6. EXISTING UTILITIES SHOWN ARE PER THE TOPOGRAPHIC SURVEY. OTHER UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THIS PLAN AND SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
7. ANY DAMAGED CURB, GUTTER AND SIDEWALK EXISTING PRIOR TO CONSTRUCTION, AS WELL AS STREETS SIDEWALKS, CURBS AND GUTTERS, DESTROYED, DAMAGED OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT SHALL BE REPLACED OR RESTORED TO CITY OF FORT COLLINS STANDARDS AT THE DEVELOPER'S EXPENSE PRIOR TO THE ACCEPTANCE OF COMPLETED IMPROVEMENTS AND/OR PRIOR TO THE ISSUANCE OF THE CERTIFICATION OF OCCUPANCY.
8. LIMITS OF STREET CUT ARE APPROXIMATE. FINAL LIMITS ARE TO BE DETERMINED IN THE FIELD BY CITY ENGINEERING INSPECTOR. ALL REPAIRS ARE TO BE IN ACCORDANCE WITH CITY STREET REPAIR STANDARDS.

LEGEND

DRAINAGE INLET	RIGHT-OF-WAY
DS DOWN SPOUT	LOT LINE
SERVICE CLEANOUT	EASEMENT LINE
FIRE HYDRANT	EXISTING FLOWLINE
WATER METER VAULT	EXISTING ASPHALT
CURB STOP	EXISTING DRAINAGE PIPE
IRRIGATION VALVE BOX	EXISTING SANITARY SEWER
IRRIGATION VALVE	EXISTING WATER LINE
ELECTRIC SERVICE	
ELECTRIC TRANSFORMER	
UTILITY POLE	
TELEPHONE PEDESTAL	

CALL UTILITY NOTIFICATION CENTER OF COLORADO

1-800-922-1987 (811)

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED:	City Engineer	Date
CHECKED BY:	Water & Wastewater Utility	Date
CHECKED BY:	Stormwater Utility	Date
CHECKED BY:	Parks & Recreation	Date
CHECKED BY:	Traffic Engineer	Date
CHECKED BY:		Date

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

Date:	8/10/17
Scale:	1"=20'
Designed by:	PPK
Drawn by:	BK

LOT 11, PROSPECT INDUSTRIAL PARK (2601 CANTON COURT)

UTILITY PLAN

SHEET 3

3 OF 9

Job No. 347-09

NOTES:

1. EXISTING CURB, GUTTER AND SIDEWALK ALONG THE SITE FRONTAGE THAT IS DAMAGED SHALL BE REPLACED AT THE DEVELOPER'S EXPENSE, SEE NOTES ON SHEET 2 OF THIS PLAN SET

2. WHEN AN EXISTING ASPHALT STREET MUST BE CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BY THE LOCAL ENTITY CONSTRUCTION INSPECTOR BEFORE ANY CUTS ARE MADE. PATCHING SHALL BE DONE IN ACCORDANCE WITH THE LOCAL ENTITY STREET REPAIR STANDARDS. THE FINISHED PATCH SHALL BLEND IN SMOOTHLY INTO THE EXISTING SURFACE. ALL LARGE PATCHES SHALL BE PAVED WITH AN ASPHALT LAY-DOWN MACHINE. IN STREETS WHERE MORE THAN ONE CUT IS MADE, AN OVERLAY OF THE ENTIRE STREET WIDTH, INCLUDING THE PATCHED AREA, MAY BE REQUIRED. THE DETERMINATION OF NEED FOR A COMPLETE OVERLAY SHALL BE MADE BY THE LOCAL ENTITY ENGINEER AND/OR THE LOCAL ENTITY INSPECTOR AT THE TIME THE CUTS ARE MADE.

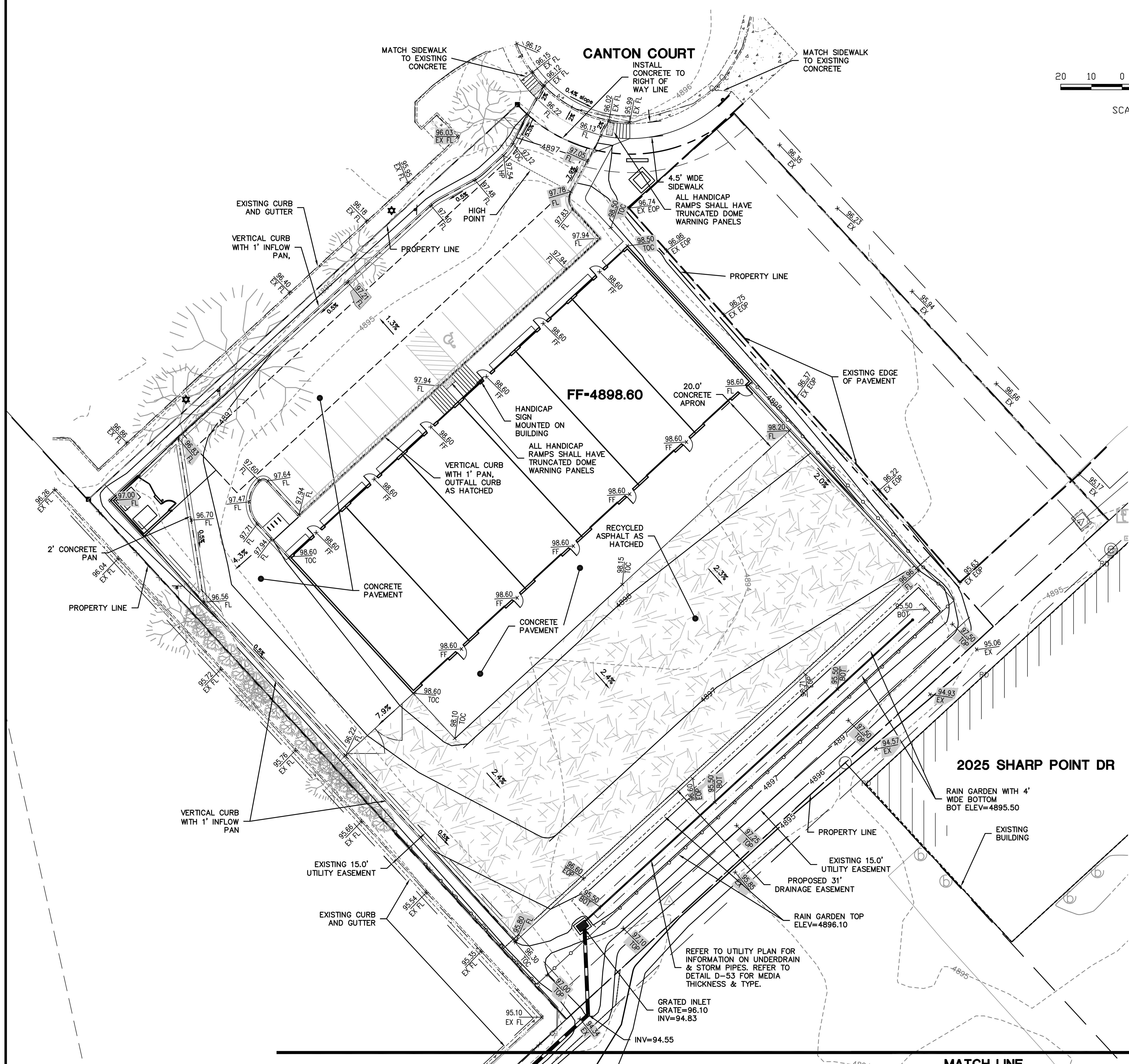
3. THE FINISHED FLOOR ELEVATION SHOWN IS THE MINIMUM ELEVATIONS REQUIRED FOR PROTECTION FROM THE 100 YEAR STORM.

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987 (811)
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

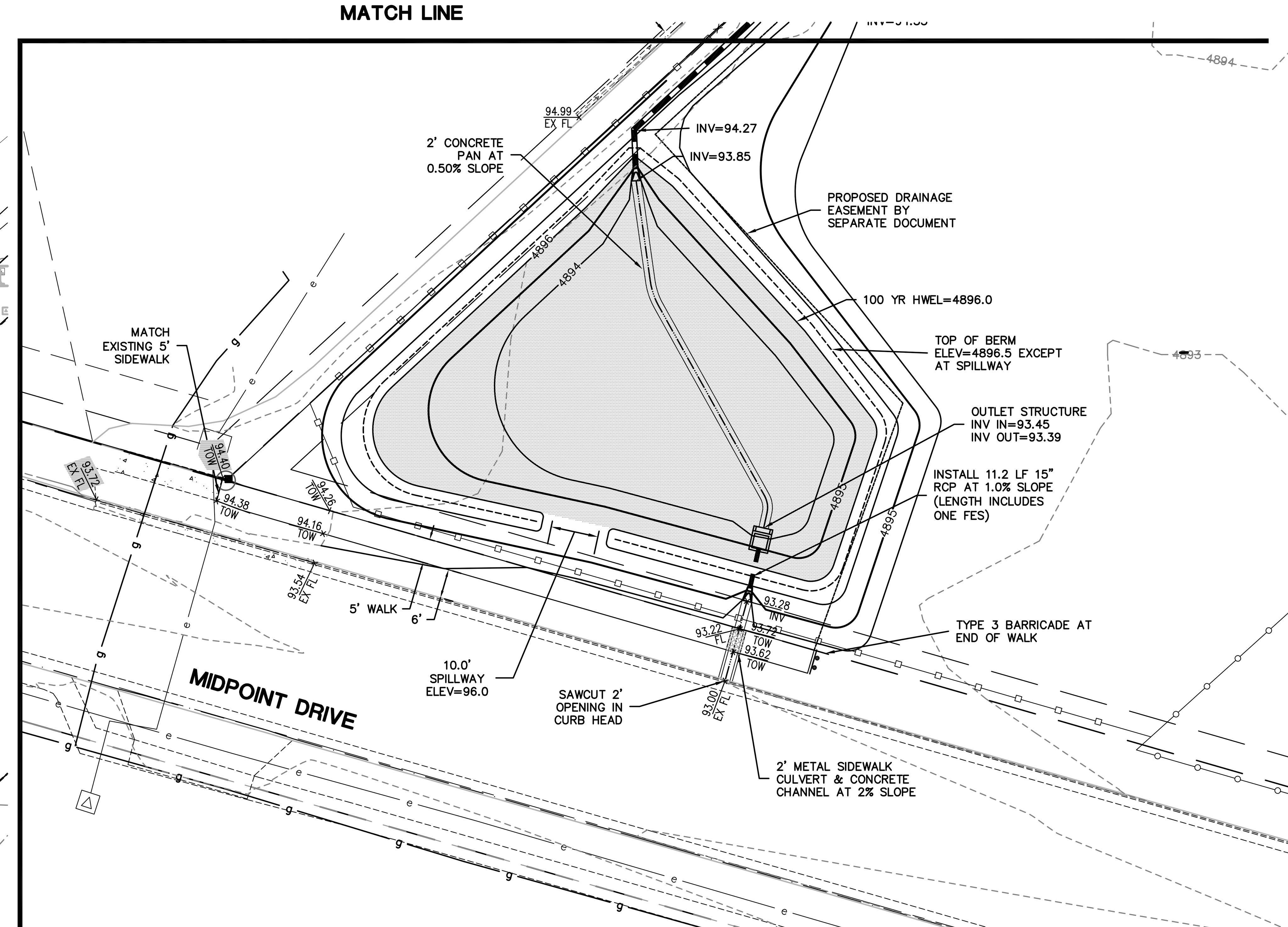
SCALE: 1" = 20'

LEGEND

	RIGHT-OF-WAY
	EASEMENT LINE
	EXISTING 1' CONTOURS
4910	EXISTING 5' CONTOURS
	PROPOSED 1' CONTOURS
4910	PROPOSED 5' CONTOURS
	PROPOSED FLOWLINE
	PROPOSED INFLOW CURB
	PROPOSED OUTFALL CURB
	PROPOSED 2' CONCRETE PAN
	PROPOSED DRAINAGE PIPE
D	EXISTING DRAINAGE PIPE
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOWLINE
HP	HIGH POINT
LP	LOW POINT
GB	GRADE BREAK
EOA	EDGE OF ASPHALT
EOC	EDGE OF CONCRETE
TOA	TOP OF ASPHALT
TOC	TOP OF CONCRETE
TOW	TOP OF WALK
EX	EXISTING
DS	DOWNSPOUT LOCATION



MATCH LINE



City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED:	City Engineer	Date
CHECKED BY:	Water & Wastewater Utility	Date
CHECKED BY:	Stormwater Utility	Date
CHECKED BY:	Parks & Recreation	Date
CHECKED BY:	Traffic Engineer	Date
CHECKED BY:		Date

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

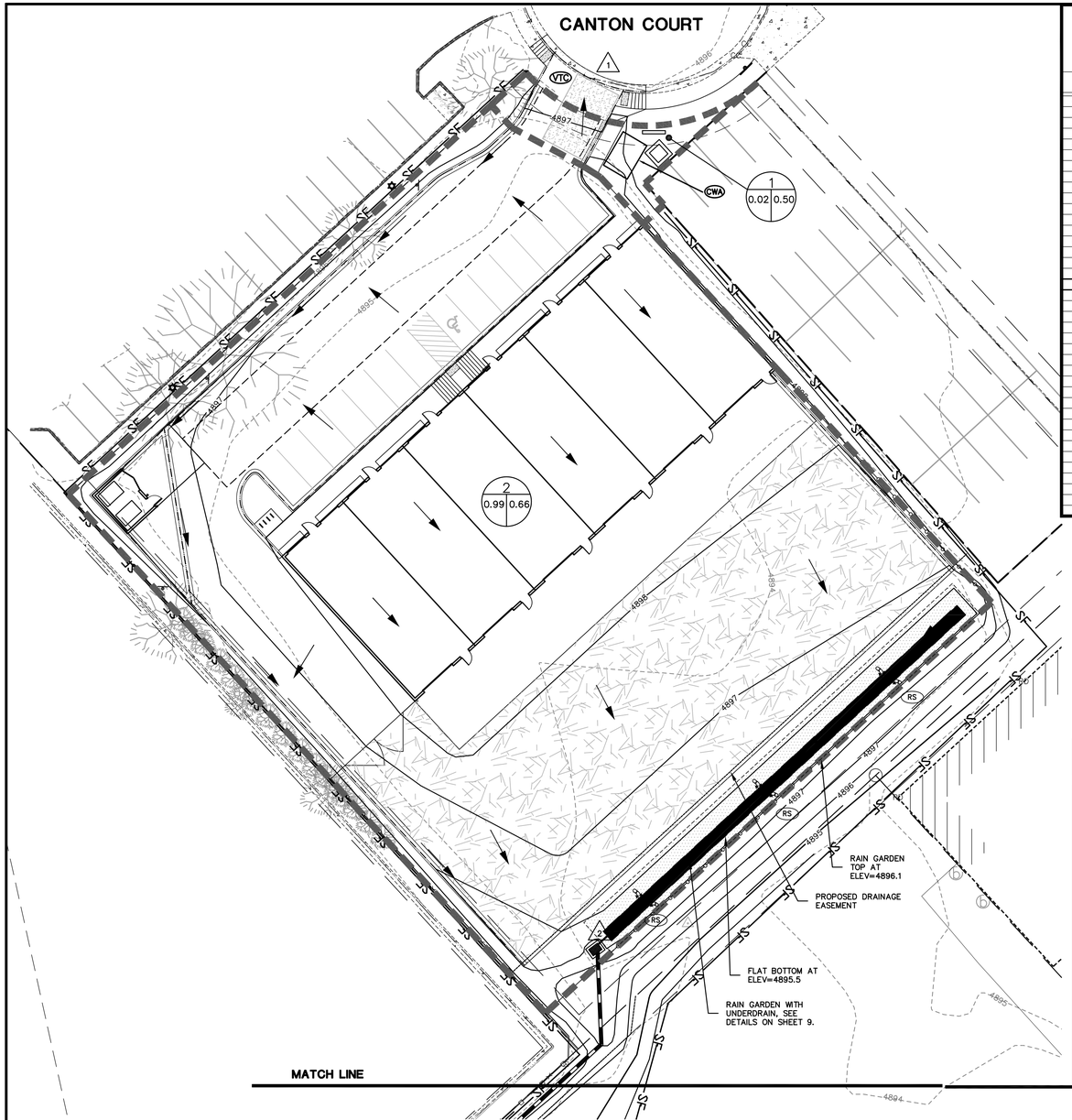
Date: 8/10/17
Scale: VARIES
Designed by: PPK
Drawn by: BK

LOT 11, PROSPECT INDUSTRIAL PARK (2601 CANTON COURT)

GRADING PLAN

SHEET
4
4 OF 9

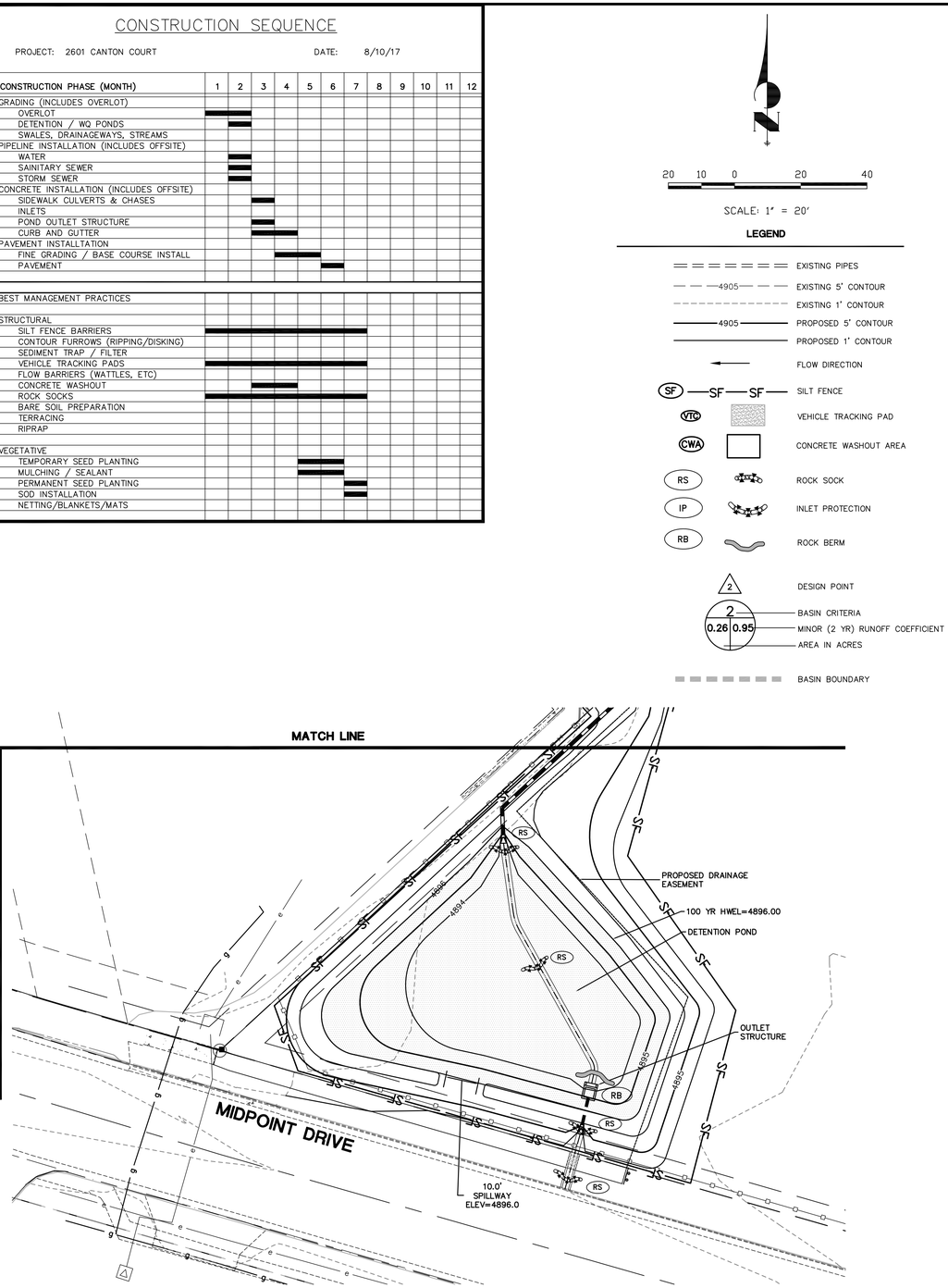
Job No. 347-09



CONSTRUCTION SEQUENCE

PROJECT: 2601 CANTON COURT DATE: 8/10/17

CONSTRUCTION PHASE (MONTH)	1	2	3	4	5	6	7	8	9	10	11	12
GRADING (INCLUDES OVERLOT)												
OVERLOT												
DETENTION / WQ PONDS												
SWALES, DRAINAGEWAYS, STREAMS												
PIPELINE INSTALLATION (INCLUDES OFFSITE)												
WATER												
SAINITARY SEWER												
STORM SEWER												
CONCRETE INSTALLATION (INCLUDES OFFSITE)												
SIDEWALK CULVERTS & CHASES												
INLETS												
POND OUTLET STRUCTURE												
CURB AND GUTTER												
PAVEMENT INSTALLTATION												
FINE GRADING / BASE COURSE INSTALL												
PAVEMENT												
BEST MANAGEMENT PRACTICES												
STRUCTURAL												
SILT FENCE BARRIERS												
CONTOUR FURROWS (RIPPING/DISKING)												
SEDIMENT TRAP / FILTER												
VEHICLE TRACKING PADS												
FLOW BARRIERS (WATTLES, ETC)												
CONCRETE WASHOUT												
ROCK SOCKS												
BARE SOIL PREPARATION												
TERRACING												
RIPRAP												
VEGETATIVE												
TEMPORARY SEED PLANTING												
MULCHING / SEALANT												
PERMANENT SEED PLANTING												
SOD INSTALLATION												
NETTING/BLANKETS/MATS												



20 10 0 20 40

SCALE: 1" = 20'

LEGEND

- EXISTING PIPES
- 4905 EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR
- 4905 PROPOSED 5' CONTOUR
- PROPOSED 1' CONTOUR
- FLOW DIRECTION
- SF SILT FENCE
- VTC VEHICLE TRACKING PAD
- CWA CONCRETE WASHOUT AREA
- RS ROCK SOCK
- IP INLET PROTECTION
- RB ROCK BERM
- 2 DESIGN POINT
- 2 / 0.26 0.95 BASIN CRITERIA; MINOR (2 YR) RUNOFF COEFFICIENT; AREA IN ACRES
- BASIN BOUNDARY

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987 (811)
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED: _____ City Engineer _____ Date
CHECKED BY: _____ Water & Wastewater Utility _____ Date
CHECKED BY: _____ Stormwater Utility _____ Date
CHECKED BY: _____ Parks & Recreation _____ Date
CHECKED BY: _____ Traffic Engineer _____ Date
CHECKED BY: _____ Date

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

Date: 8/10/17
Scale: 1"=20'
Designed by: PPK
Drawn by: BK

COLORADO REGISTERED PROFESSIONAL ENGINEER PATRICIA A. KOBERLEIN 37306 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF COLORADO

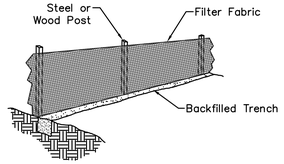
LOT 11, PROSPECT INDUSTRIAL PARK (2601 CANTON COURT)

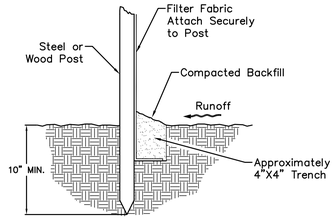
DRAINAGE & EROSION CONTROL PLAN

SHEET 5
5 OF 9

Job No. 347-09

SF





SECTION VIEW

General Notes:

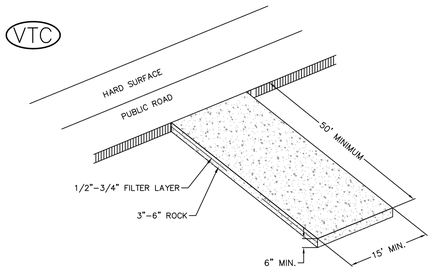
1. The maximum tributary area is limited to 0.25 acres per 100 feet of fence.
2. Inspect and repair fence after each storm event. Remove sediment when one half of the height of the fence has been filled. Removed sediment shall be deposited in an area tributary to a sediment basin or other filtering measure.

SILT FENCE

CITY OF FORT COLLINS, COLORADO
STORMWATER UTILITY

APPROVED BY:
DATE:
REVISIONS: D-28

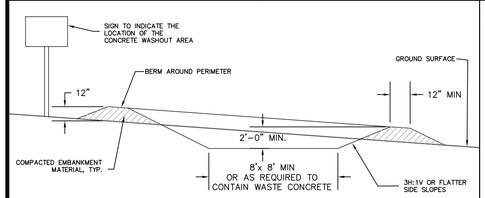
VTC



EROSION CONTROL GENERAL NOTES:

1. INSPECT AND REPAIR GRAVEL FILTERS AFTER EACH STORM EVENT. REMOVE SEDIMENT WHEN ONE HALF OF THE FILTER DEPTH HAS BEEN FILLED. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA TRIBUTARY TO A SEDIMENT BASIN OR OTHER FILTERING MEASURE.
2. EROSION CONTROL MAINTENANCE IS THE RESPONSIBILITY OF THE DEVELOPER.

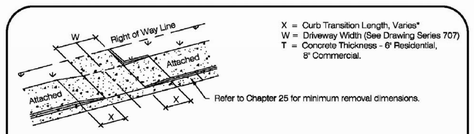
VEHICLE TRACKING CONTROL
(ON SITE)



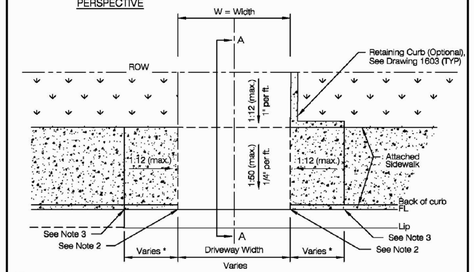
NOTES:

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL (DETAIL SW-14) IS REQUIRED IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
4. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN ACCEPTED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

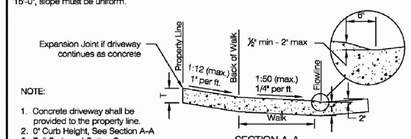
CONCRETE WASHOUT AREA CWA



PERSPECTIVE



* Ramp length not to exceed 15'-0", slope must be uniform.



NOTE:

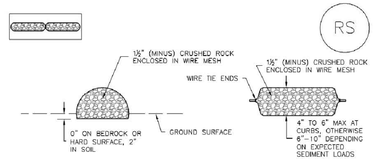
1. Concrete driveway shall be provided to the property line.
2. 0" Curb Height, See Section A-A
3. Full Curb and Gutter, See Standard Drawing 701.

SECTION A-A
N.T.S.

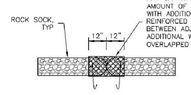
NOT TO SCALE

STANDARD DRIVEWAY APPROACH ATTACHED WALK (TYPE II)			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING
		DATE: 02/17/15	706.2

SC-5 Rock Sock (RS)



ROCK SOCK SECTION ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF ½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK, AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

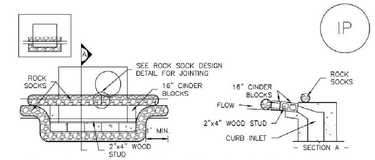
GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 - 100
1"	20 - 55
¾"	0 - 15
No. 8	0 - 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR: -LOCATION(S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE ½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (½" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½". RECOMMENDED MINIMUM ROLL WIDTH OF 48"
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS-1. ROCK SOCK PERIMETER CONTROL

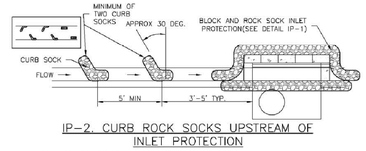
SC-6 Inlet Protection (IP)



IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

ROCK SOCK MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ~ OF THE HEIGHT OF THE ROCK SOCK.
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
- LOCATION OF INLET PROTECTION.
- TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAI VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION . INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ~ OF THE HEIGHT FOR STRAW BALES.
5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
6 . WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION . CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED: _____ City Engineer _____ Date
CHECKED BY: _____ Water & Wastewater Utility _____ Date
CHECKED BY: _____ Stormwater Utility _____ Date
CHECKED BY: _____ Parks & Recreation _____ Date
CHECKED BY: _____ Traffic Engineer _____ Date
CHECKED BY: _____ Date

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

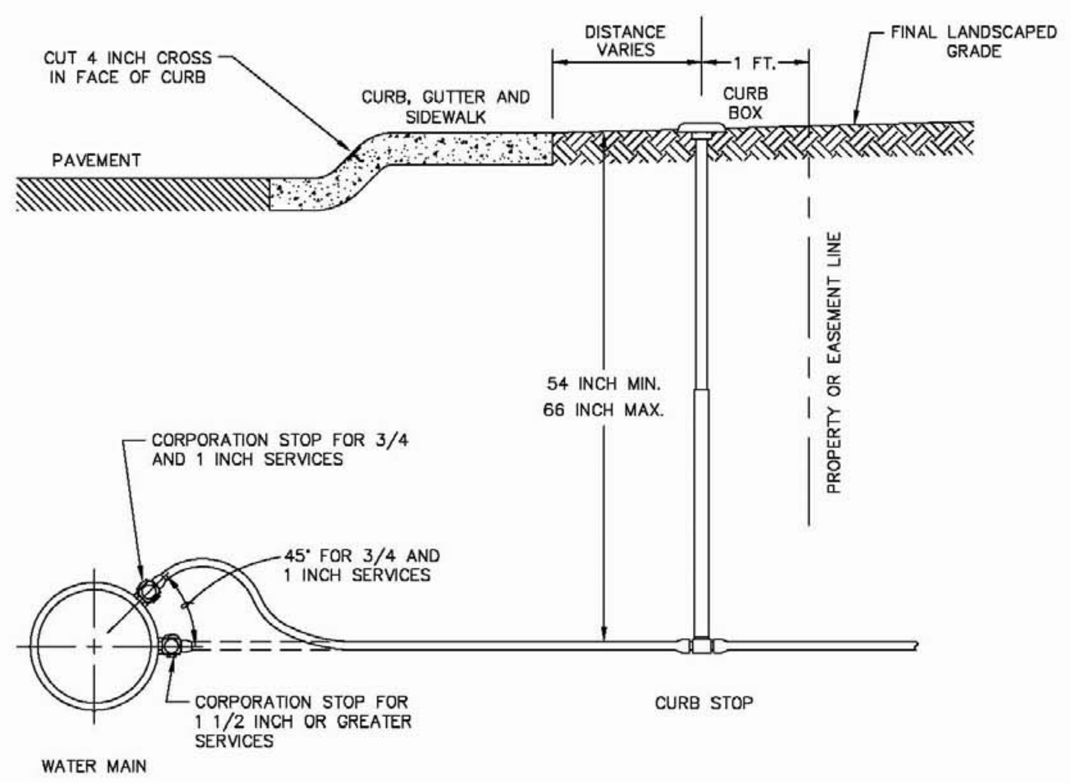
Date: 8/10/17
Scale: NONE
Designed by: PPK
Drawn by: BK

COLORADO REGISTERED PROFESSIONAL ENGINEER PATRICIA K. PORTNER 31306 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND IS BASED UPON DATA WITH WHICH I AM FAMILIAR FOR THE SITE AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

LOT 11, PROSPECT INDUSTRIAL PARK
(2601 CANTON COURT)
DETAILS

SHEET 6
6 OF 9

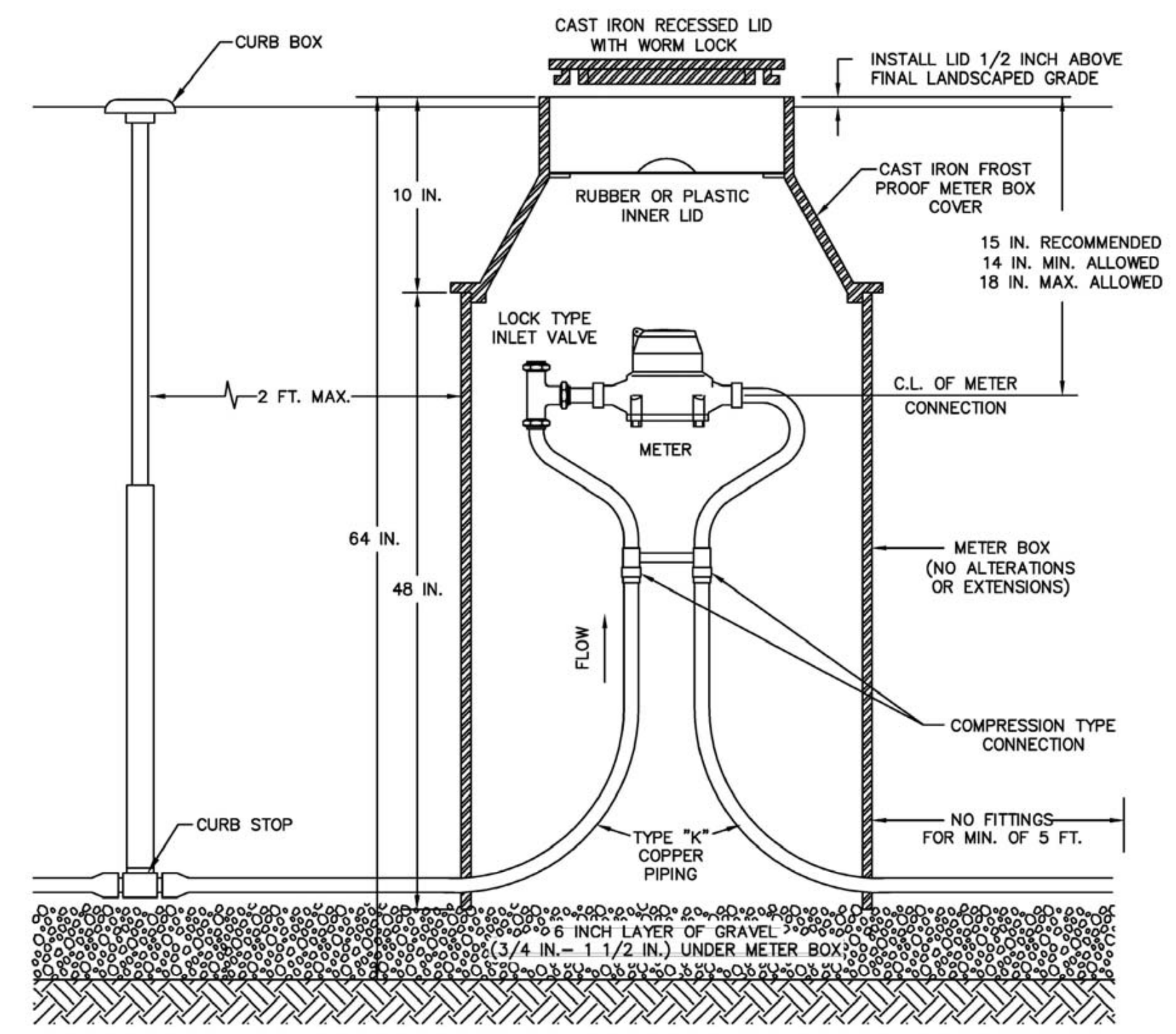
Job No. 347-09



GENERAL NOTES

1. Use direct tap (as shown) for 3/4 inch and 1 inch services unless water main is PVC, in which case, use a tapping saddle.
2. Install 1 1/2 inch and 2 inch services with tapped tee and corporation stop at time of construction or use a tapping saddle.
3. Locate curb box and meter pit according to the approved utility drawings.
4. The City is responsible for maintaining the water main, corporation stop, and service piping up to and including the curb stop. The owner is responsible for service from the curb stop, including the outlet coupling to the building.
5. No couplings allowed between curb stop and meter setting.
6. Use type K copper for the service from the corporation stop to a minimum of 5 feet past the meter pit.
7. No landscaping (shrubs, boulders, etc.), retaining walls or fences allowed within 4 feet of the curb stop and meter pit, and no trees within 10 feet of curb and meter pit.
8. All residential water service shall be installed in the center of the lot unless otherwise approved by the Utility.
9. All water and sanitary sewer service shall have a minimum horizontal separation of ten feet.

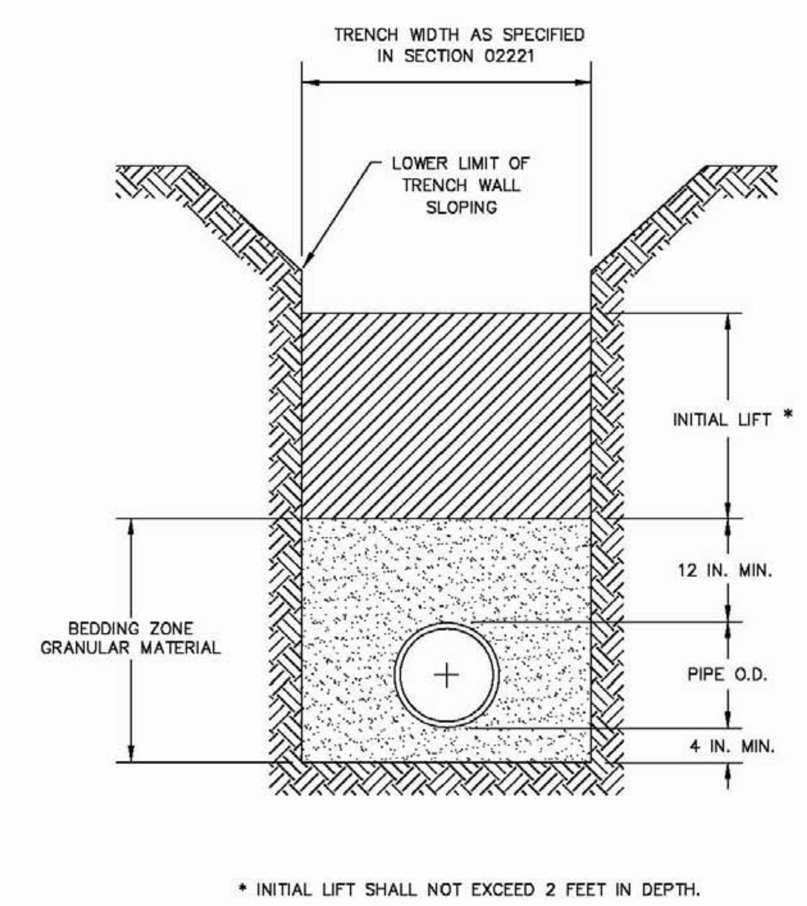
City of Fort Collins | CITY OF FORT COLLINS UTILITIES – WATER FIELD OPERATIONS P.O. BOX 580 FORT COLLINS, CO. 80550 (970) 221-6700 | TITLE OF DRAWING: TYPICAL WATER SERVICE | REVISED DATE: 4/12/11 DETAIL 11



GENERAL NOTES

1. Do not install in any street, alley, parking area, driveway, sidewalk, drainage ditch or detention basin.
2. No landscaping (shrubs, boulders, etc.) or structures to be within 4 feet of meter box, or No trees within 10 feet of meter box.
3. Slope ground surrounding meter box away from lid at 2% minimum grade.
4. Make no plumbing connections (tees, couplings, etc.) in meter box.
5. All tees and connection fittings to be a minimum of 5 feet from meter box wall on outlet side.
6. Grade acceptance after meter box installation requires that the owner adjust meter box cover to 1/2 inch above final grade.
7. If a pressure reducing valve is required by Plumbing Code, install valve inside the building, immediately following the main shut–off valve.

City of Fort Collins | CITY OF FORT COLLINS UTILITIES – WATER FIELD OPERATIONS P.O. BOX 580, FORT COLLINS, CO. 80522 (970) 221-6700 | TITLE OF DRAWING: STANDARD EXTERIOR SETTING FOR 3/4 IN. AND 1 IN. WATER METERS | REVISED DATE: 6/23/10 DETAIL 15

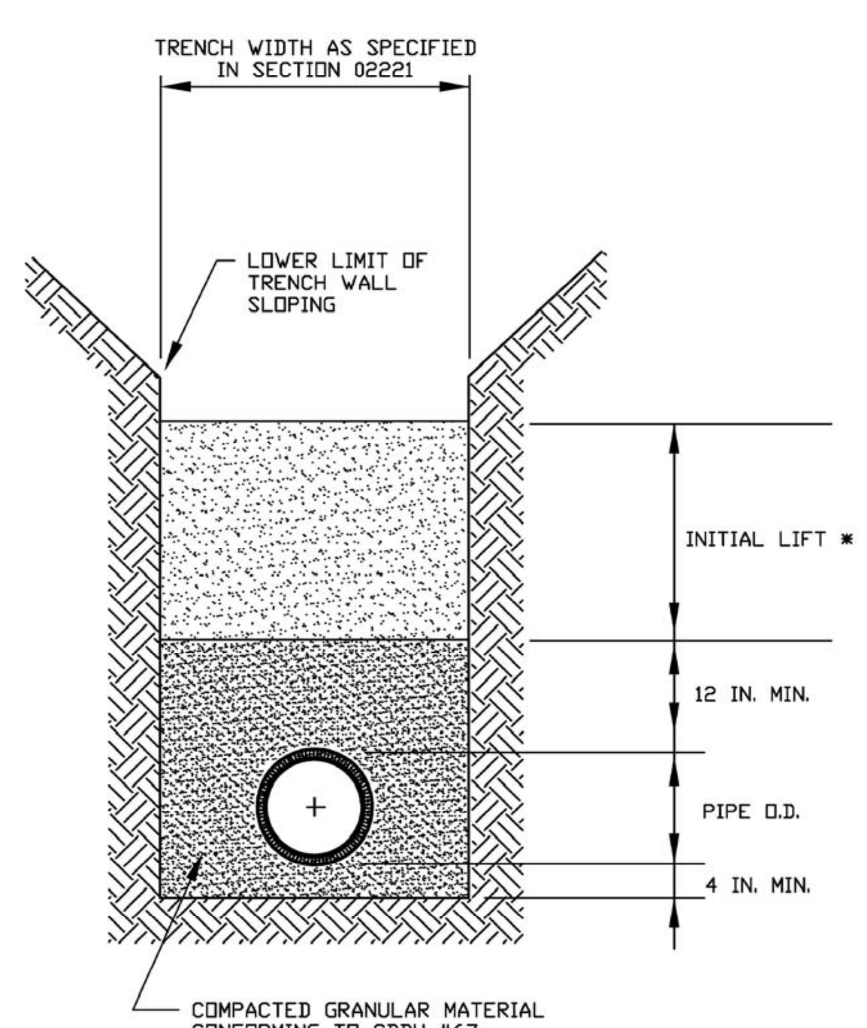


* INITIAL LIFT SHALL NOT EXCEED 2 FEET IN DEPTH.

NOTE:

GRANULAR BEDDING MATERIAL SHALL BE A MINIMUM OF 4 INCHES BELOW BOTTOM OF PIPE AND A MINIMUM OF 12 INCHES ABOVE TOP OF PIPE.

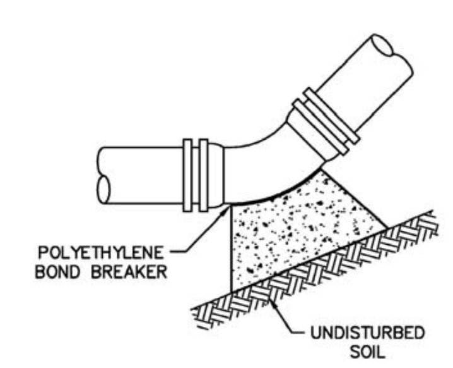
City of Fort Collins | CITY OF FORT COLLINS UTILITIES – WATER FIELD OPERATIONS P.O. BOX 580 FORT COLLINS, CO. 80550 (970) 221-6700 | TITLE OF DRAWING: WATER MAIN BEDDING REQUIREMENTS (DIP & PVC) | REVISED DATE: 4/8/11 DETAIL 1



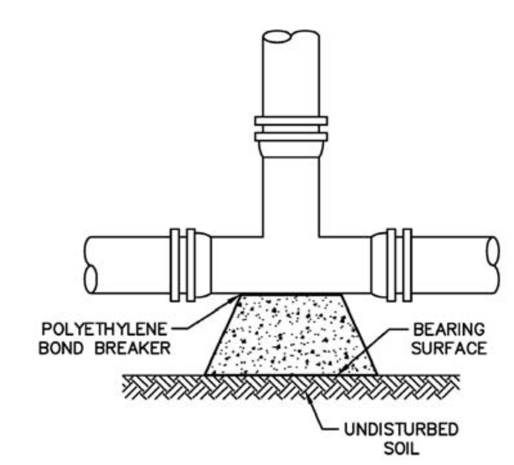
* COMPACTED GRANULAR MATERIAL CONFORMING TO CDOH #67

BEDDING REQUIRMENTS

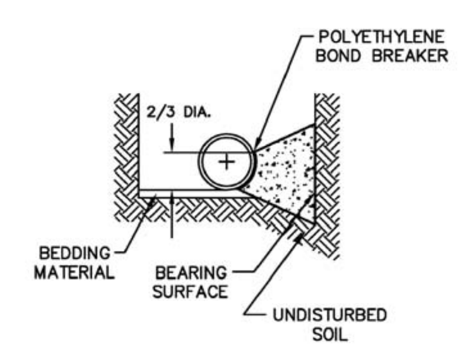
City of Fort Collins | SEWER CONSTRUCTION DETAILS | APPROVED: DATE: 08/16/02 DRAWN BY: NBJ | DETAIL WW-1



TYPICAL BEND



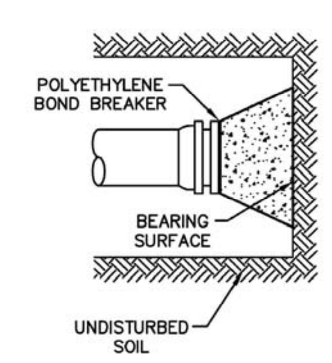
TEE



TYPICAL CROSS–SECTION

MINIMUM BEARING SURFACE AREA (SQ. FT.)					
PIPE SIZE	BENDS				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
6"	1.0	1.5	2.5	4.5	3.5
8"	1.5	2.5	4.5	8.0	5.5
12"	3.0	4.5	9.0	16.5	12.0
16"	4.8	9.6	18.9	34.7	24.5

BEARING SURFACES ARE A MINIMUM REQUIREMENT AND DO NOT RELIEVE DESIGN ENGINEER OF RESPONSIBILITY TO DESIGN EACH THRUST BLOCK.

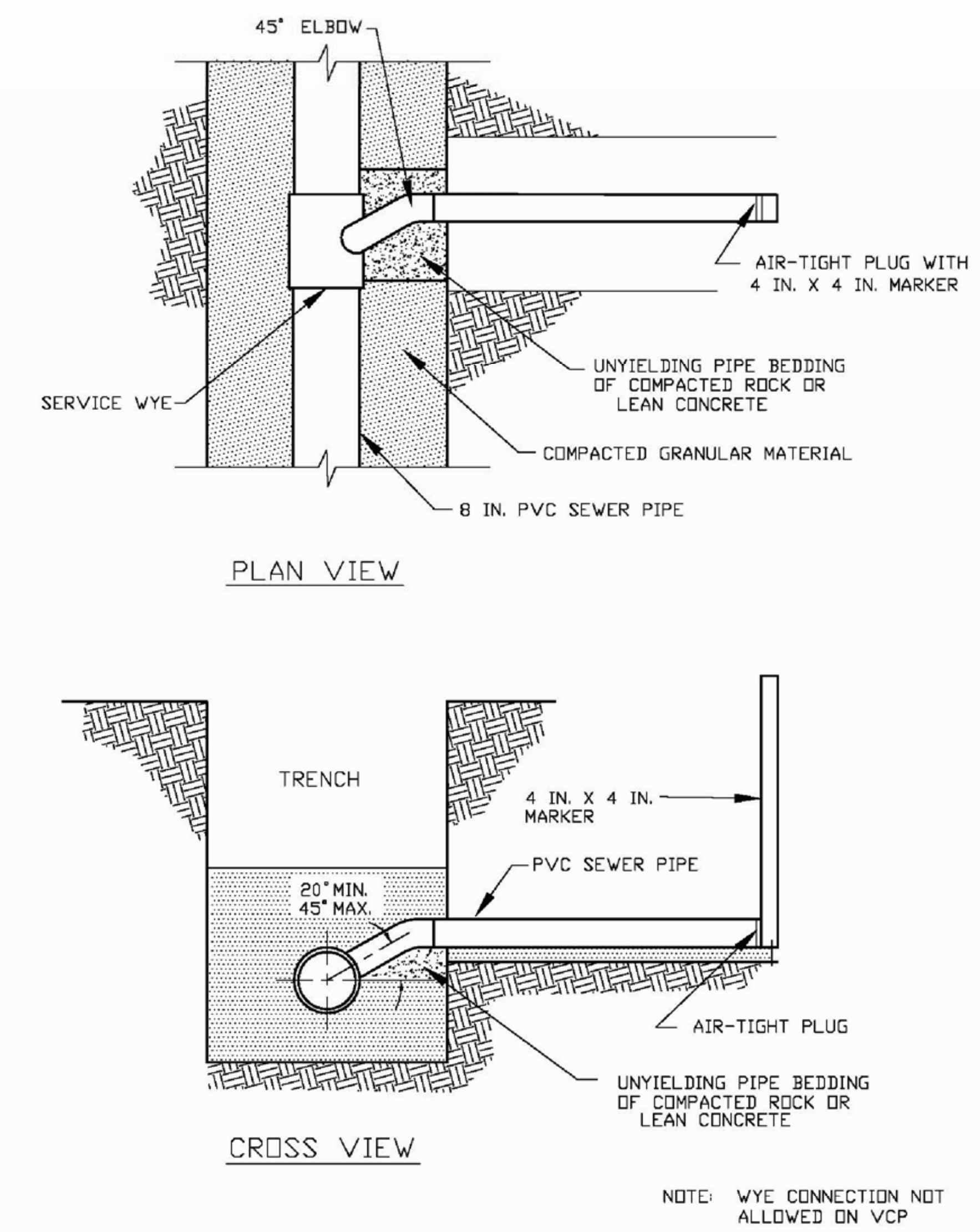


DEAD END

GENERAL NOTES:

1. Bearing surface areas shown in chart are minimum.
2. All fittings to be wrapped with polyethylene.
3. Pipe installed under conditions different from those normally encountered shall require thrust blocks designed for those particular conditions.
4. Thrust blocks on pipe larger than 16 inches diameter shall be designed for conditions existing at the installation site.
5. Refer to Section 03300 for concrete requirements.

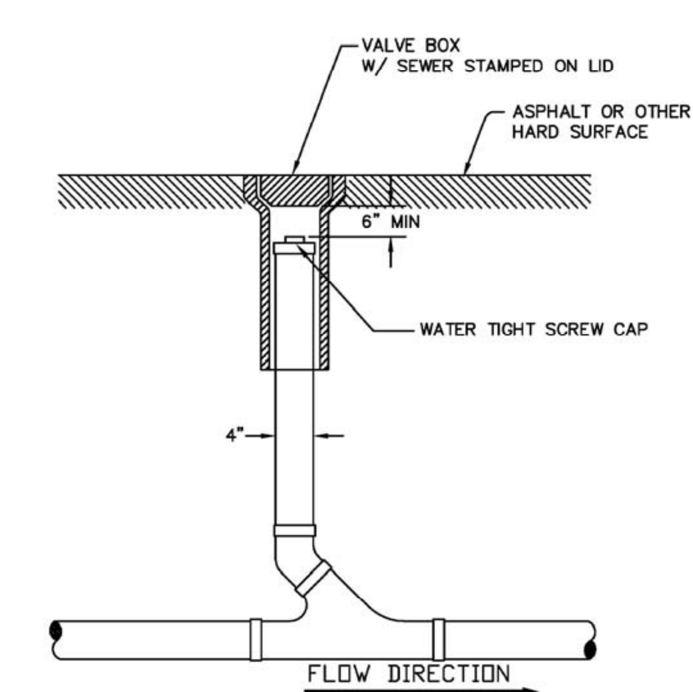
City of Fort Collins | CITY OF FORT COLLINS UTILITIES – WATER FIELD OPERATIONS P.O. BOX 580, FORT COLLINS, CO. 80522 (970) 221-6700 | TITLE OF DRAWING: STANDARD CONCRETE THRUST BLOCKS | REVISED DATE: 6/23/10 DETAIL 2



NOTE: WYE CONNECTION NOT ALLOWED ON VCP

SERVICE WYE DETAIL

City of Fort Collins | SEWER CONSTRUCTION DETAILS | APPROVED: DATE REVISED: 4/11/11 DRAWN BY: NBJ | DETAIL WW-9



TRAFFIC RATED CLEANOUT

City of Fort Collins | SEWER CONSTRUCTION DETAILS | APPROVED: DATE: 03/01/04 DRAWN BY: NBJ | DETAIL WW-15

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

Date: 8/10/17
Scale: NONE
Designed by: PPK
Drawn by: BK

LOT 11, PROSPECT INDUSTRIAL PARK (2601 CANTON COURT)

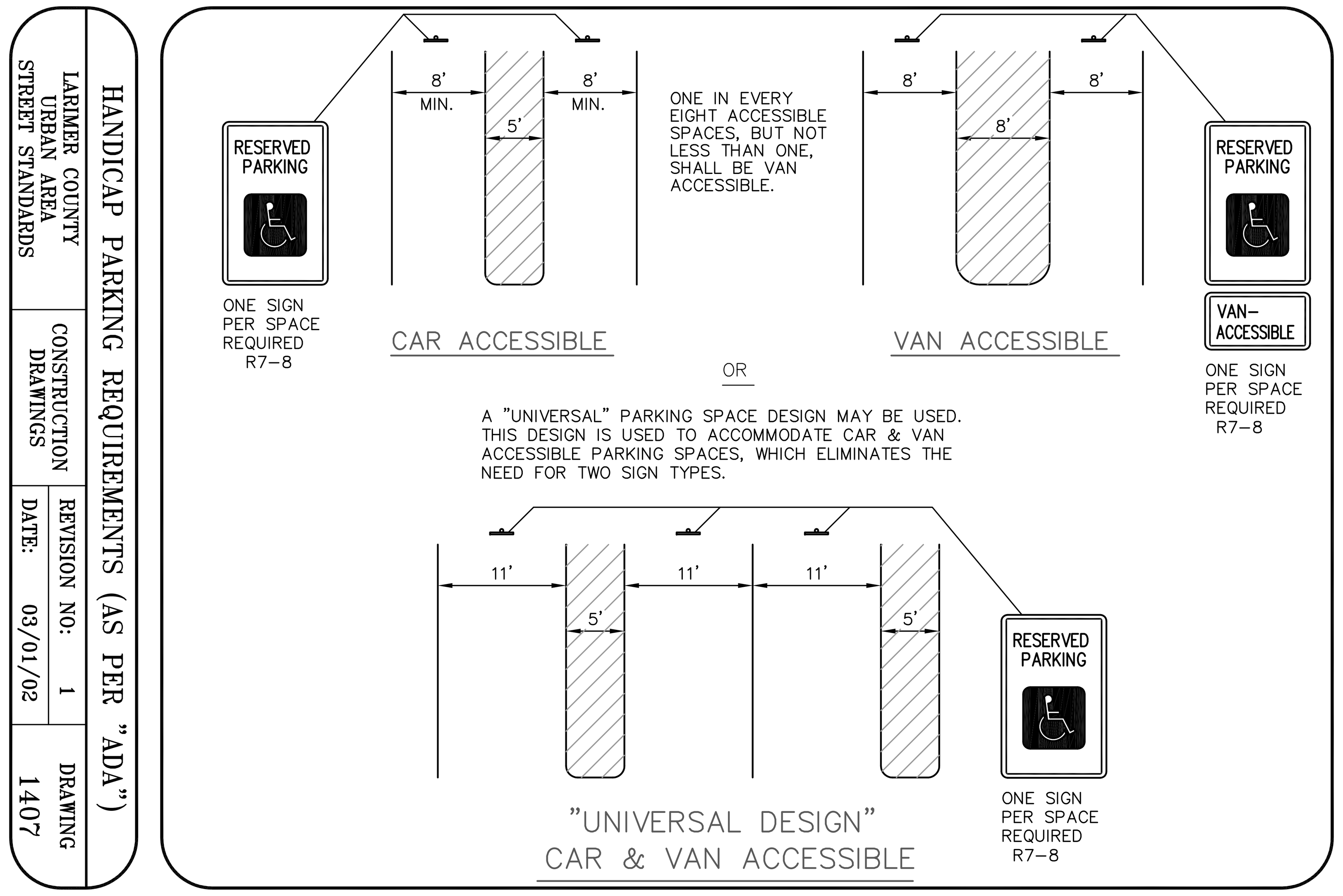
DETAILS

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

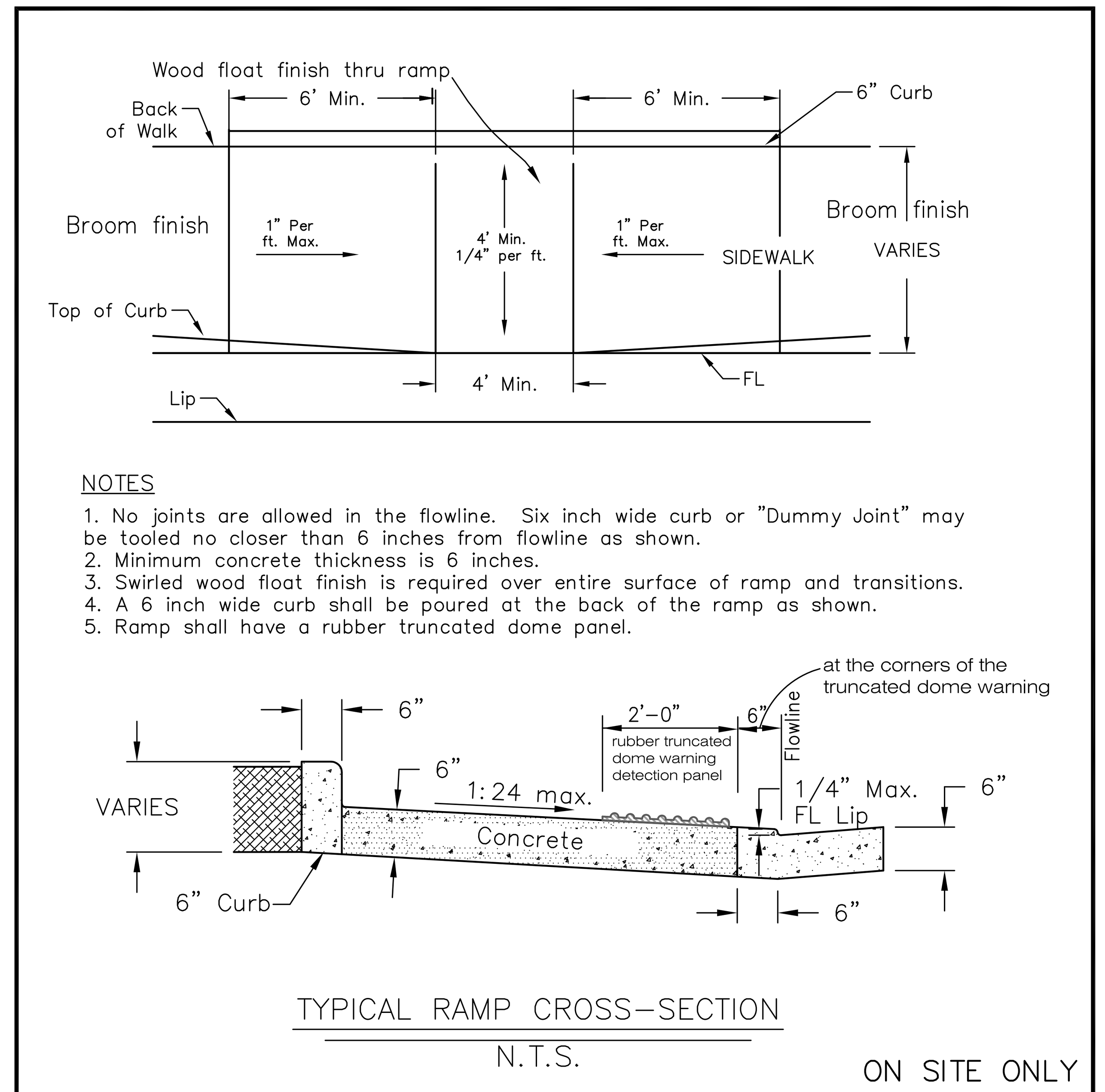
APPROVED: ______ City Engineer ______ Date
CHECKED BY: ______ Water & Wastewater Utility ______ Date
CHECKED BY: ______ Stormwater Utility ______ Date
CHECKED BY: ______ Parks & Recreation ______ Date
CHECKED BY: ______ Traffic Engineer ______ Date
CHECKED BY: ______ Date

SHEET 7

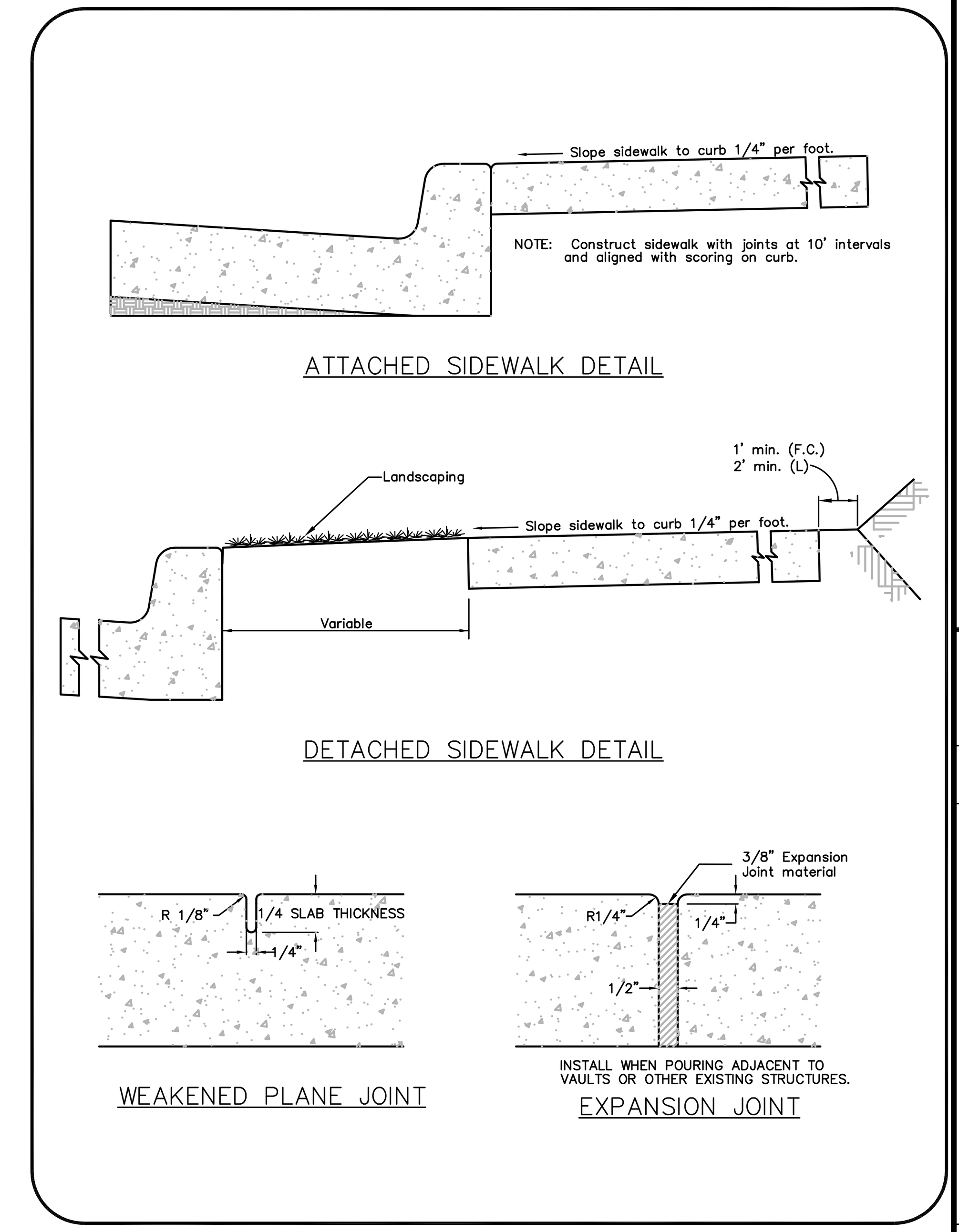
Job No. 347–09



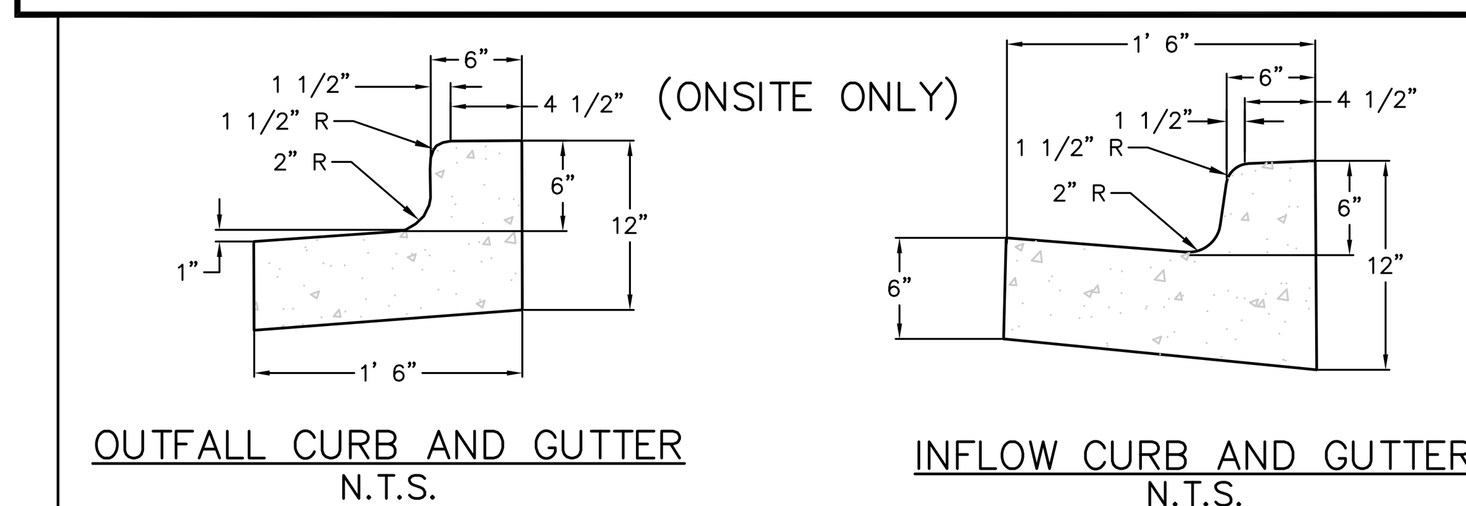
R8-31
RED LETTERS ON A WHITE REFLECTIVE BACKGROUND

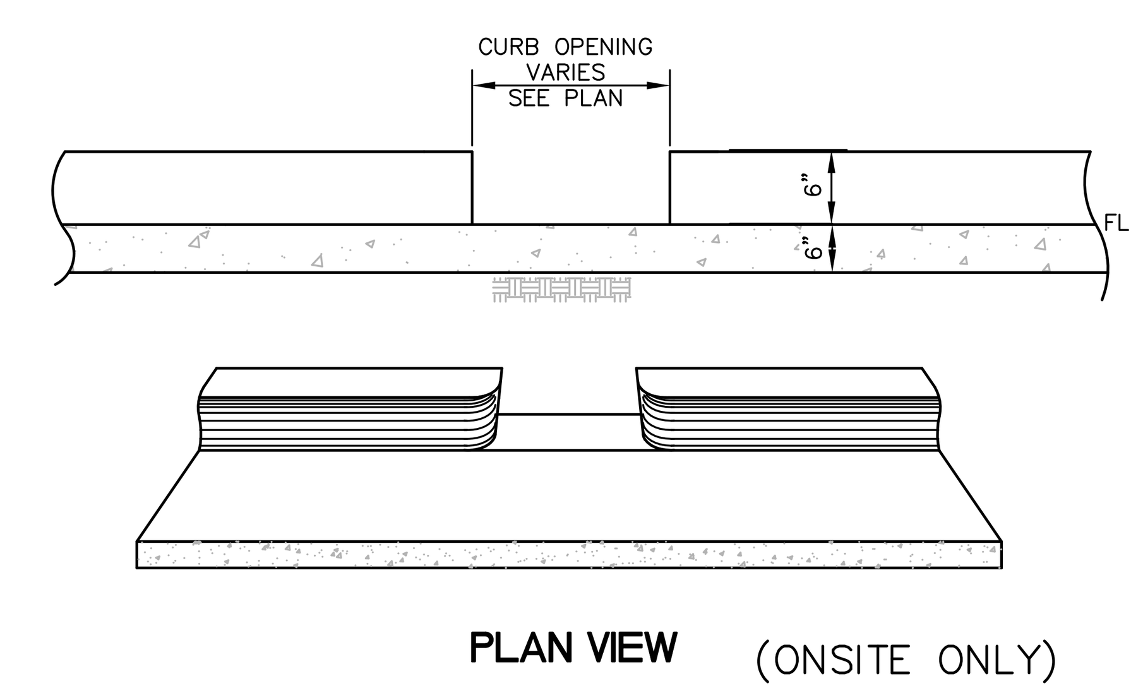


MID-BLOCK PEDESTRIAN RAMP DETAIL

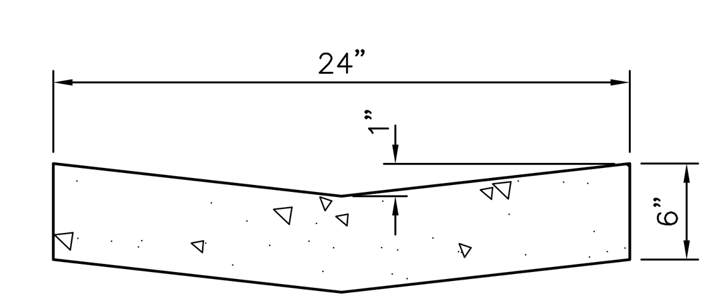


SIDEWALK DETAIL			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 DATE: 03/02/01	DRAWING 1602





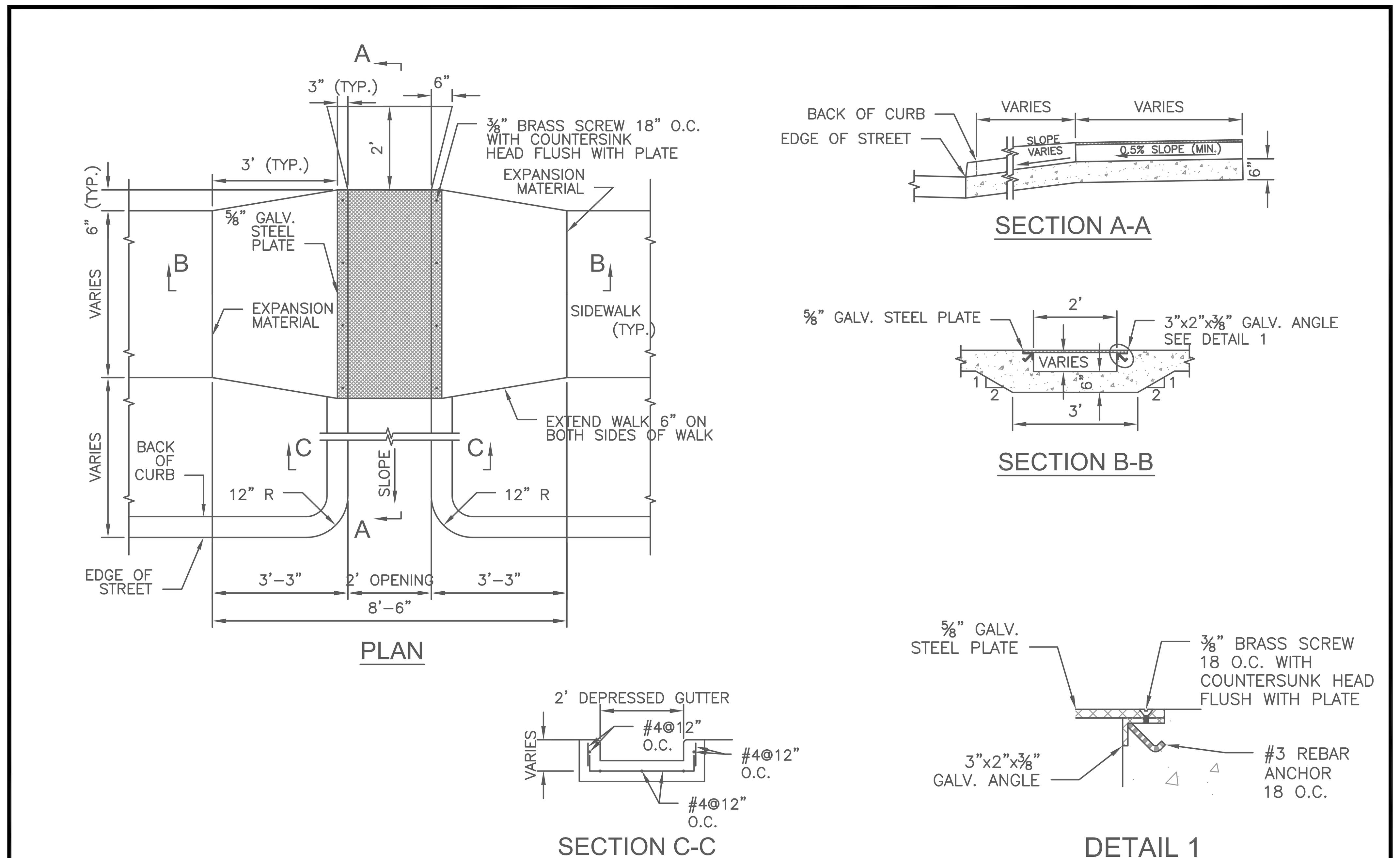
CURB OPENING DETAIL
N.T.S.



NOTE: PROVIDE CONTROL JOINT EVERY TEN (10) FEET.

2' CONCRETE PAN
NOT TO SCALE

(ONSITE ONLY)



METAL SIDEWALK CULVERT FOR VERT. CURB & GUTTER AND DETACHED SIDEWALK – OUTFALL TO CURB

City of Fort Collins	CITY OF FORT COLLINS UTILITIES FORT COLLINS, CO. (970) 221-6700	STORMWATER CONSTRUCTION DETAILS	APPROVED: DATE: 7/30/2013 DRAWN BY: D. MOGEN	DETAIL D-10B

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED:	City Engineer	Date
CHECKED BY:	Water & Wastewater Utility	Date
CHECKED BY:	Stormwater Utility	Date
CHECKED BY:	Parks & Recreation	Date
CHECKED BY:	Traffic Engineer	Date
CHECKED BY:		Date

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

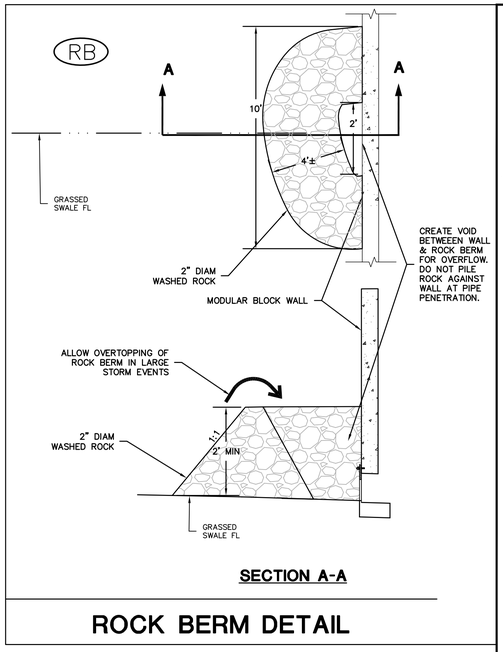
Date: 8/10/17
Scale: NONE
Designed by: PPK
Drawn by: BK

LOT 11, PROSPECT INDUSTRIAL PARK (2601 CANTON COURT)

DETAILS

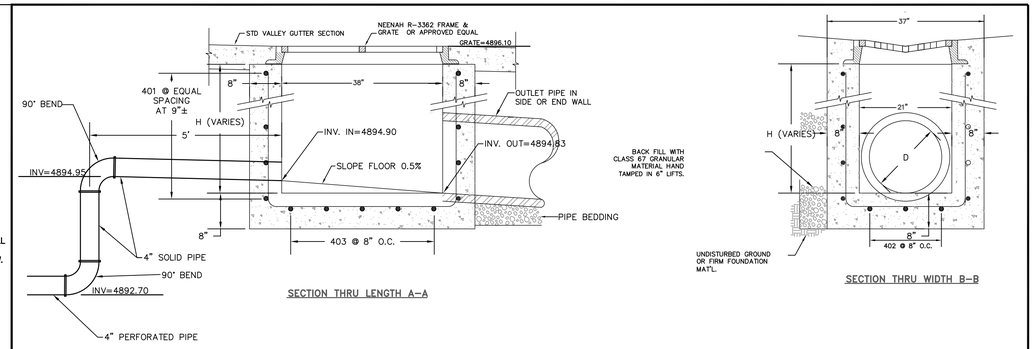
SHEET 8
8 OF 9

Job No. 347-09



SECTION A-A

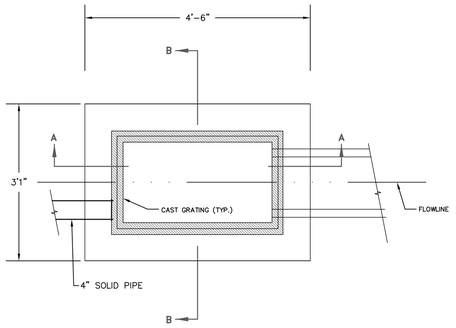
ROCK BERM DETAIL



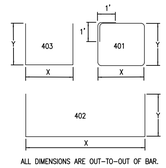
SECTION THRU LENGTH A-A

BACK FILL WITH CLASS 67 GRANULAR MATERIAL HAND TAMPED IN 6" LIFTS.

SECTION THRU WIDTH B-B



PLAN OF AREA INLET



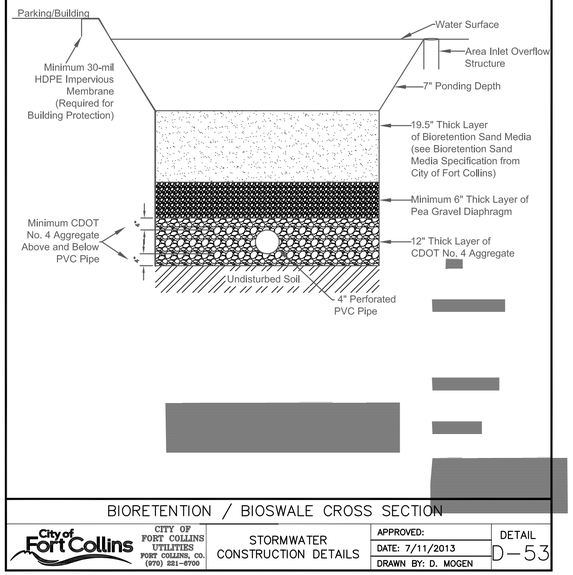
ALL DIMENSIONS ARE OUT-TO-OUT OF BAR.

BENDING DIAGRAM

NOTES:

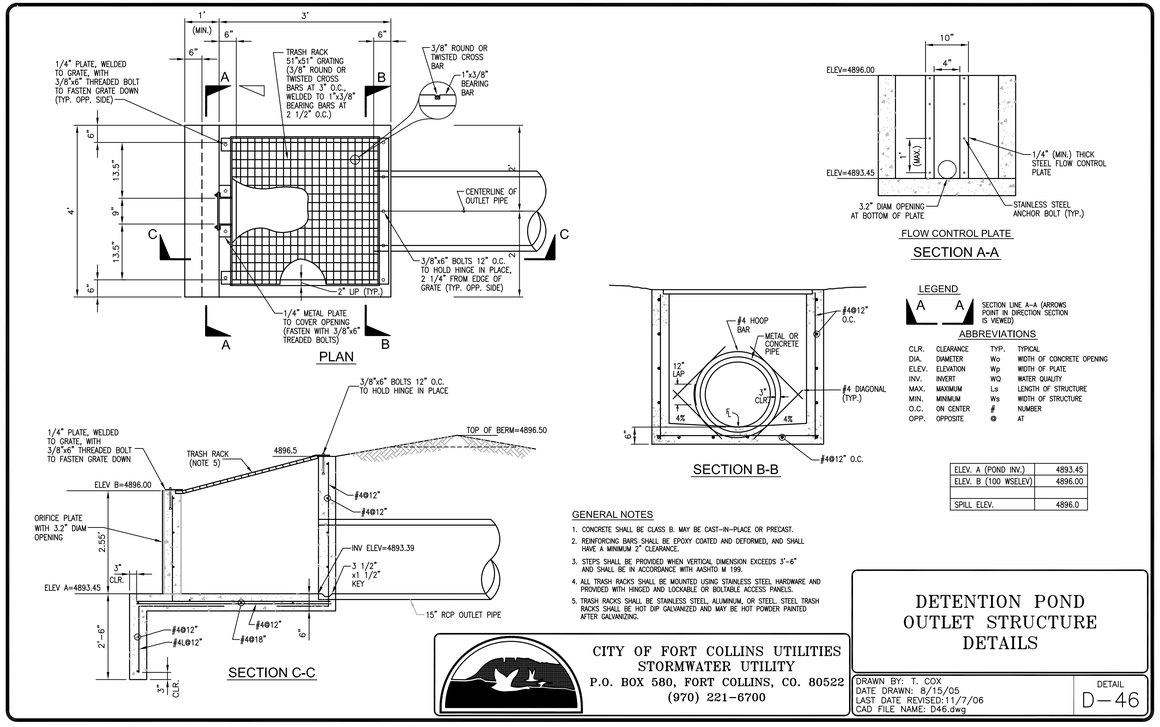
1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
2. CAST-IN-PLACE CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES.
3. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4 IN.
4. REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE.
5. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" EXCEEDS 3 FT. - 6 IN. AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
6. ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING.
7. ALL REINFORCING BARS SHALL BE NO. 4 BARS.
8. DIMENSIONS FOR C.I.P. PRECAST WALLS & FLOOR THICKNESS ARE MINIMUM 6"
9. INFORMATION FROM CDOT STANDARD PLAN M-604-13 IS REFERENCED IN THIS DETAIL.

GRATED AREA INLET



BIORETENTION / BIOSWALE CROSS SECTION

City of Fort Collins	CITY OF FORT COLLINS UTILITIES FORT COLLINS, CO. (970) 221-6700	STORMWATER CONSTRUCTION DETAILS	APPROVED: / DATE: 7/11/2013 / DRAWN BY: D. MOGEN — DETAIL D-53



PLAN

SECTION C-C

FLOW CONTROL PLATE

SECTION A-A

SECTION B-B

LEGEND

A A — SECTION LINE A-A (ARROWS POINT IN DIRECTION SECTION IS VIEWED)

ABBREVIATIONS

CLR.	CLEARANCE	TYP.	TYPICAL
DIA.	DIAMETER	Wo	WIDTH OF CONCRETE OPENING
ELEV.	ELEVATION	Wp	WIDTH OF PLATE
INV.	INVERT	WQ	WATER QUALITY
MAX.	MAXIMUM	Ls	LENGTH OF STRUCTURE
MIN.	MINIMUM	Ws	WIDTH OF STRUCTURE
O.C.	ON CENTER	#	NUMBER
OPP.	OPPOSITE	@	AT

ELEV. A (POND INV.)	4893.45
ELEV. B (100 WSELEV)	4896.00
SPILL ELEV.	4896.0

GENERAL NOTES

1. CONCRETE SHALL BE CLASS B. MAY BE CAST-IN-PLACE OR PRECAST.
2. REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED, AND SHALL HAVE A MINIMUM 2" CLEARANCE.
3. STEPS SHALL BE PROVIDED WHEN VERTICAL DIMENSION EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
4. ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
5. TRASH RACKS SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER PAINTED AFTER GALVANIZING.

CITY OF FORT COLLINS UTILITIES
STORMWATER UTILITY
P.O. BOX 580, FORT COLLINS, CO. 80522
(970) 221-6700

DETENTION POND OUTLET STRUCTURE DETAILS

DRAWN BY: T. COX
DATE DRAWN: 8/15/05
LAST DATE REVISED:11/7/06
CAD FILE NAME: D46.dwg

DETAIL D-46

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED: _____ City Engineer — Date _____
CHECKED BY: _____ Water & Wastewater Utility — Date _____
CHECKED BY: _____ Stormwater Utility — Date _____
CHECKED BY: _____ Parks & Recreation — Date _____
CHECKED BY: _____ Traffic Engineer — Date _____
CHECKED BY: _____ Date _____

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

Date: 8/10/17
Scale: NONE
Designed by: PPK
Drawn by: BK

COLORADO REGISTERED PATRICIA K. PAGE 37306 PROFESSIONAL ENGINEER

LOT 11, PROSPECT INDUSTRIAL PARK
(2601 CANTON COURT)
DETAILS

SHEET 9
9 OF 9

Job No. 347-09

FINAL DRAINAGE AND EROSION CONTROL STUDY

2601 CANTON COURT

Prepared for:

Dan Bernth
Doberstein Lemburg Commerical, Inc
1401 Riverside Avenue
Fort Collins, CO 80524

Prepared by:

North Star Design, Inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
(970) 686-6939

June 15, 2017

Job Number 347-09

North Star design
700 Automation Drive, Unit I
Windsor, CO 80550
Phone: 970-686-6939
Fax: 970-686-1188

June 15, 2017

Heather McDowell
City of Fort Collins Stormwater
700 Wood Street
Fort Collins, CO 80522-0580

RE: Final Drainage and Erosion Control Study for 2601 Canton Court

Dear Heather,

I am pleased to submit for your review and approval, this Final Drainage and Erosion Control Study for 2601 Canton Court. I certify that this report for the drainage design was prepared in accordance with the Master Plan and the criteria in the City of Fort Collins Storm Drainage Manual.

I appreciate your time and consideration in reviewing this submittal. Please call if you have any questions.

Sincerely,

Patricia Kroetch, P.E.

TABLE OF CONTENTS

1. GENERAL LOCATION AND DESCRIPTION

1.1 Location

The site is located on Lot 11, Prospect Industrial Park located in the Northeast Quarter of Section 20, Township 7 North, Range 68 West of the 9Sixth Principal Meridian, in the City of Fort Collins, Larimer County, Colorado. See the location map in Appendix A.

The project is located at the southwest end of Canton Court and is currently an undeveloped parcel. The site bounded on all sides by existing commercial or office developments.

1.2 Description of Property

The entire site consists of approximately 1.02 acres of land. The land is currently undeveloped and is lower than the surrounding development and currently does not discharge runoff. The site will be filled and shaped to drain to the southwest, onto the site at 2025 Sharp Point Drive and eventually into Midpoint Drive. Slopes on site range from approximately 0.5% to 8%.

This project will include the development of one multi tenant building with man doors on the northwest and overhead doors on the southeast. There will be a private drive, a paved parking lot on the northwest side of the building, a recycled asphalt storage area on the southeast side of the building and landscaping on the remainder of the site. The majority of the site will drain to the south and east into a rain garden (with underdrain) and then into the detention pond on the adjacent lot. This pond will be contained in a drainage easement that will be dedicated to the City with this development proposal. The water will then discharge into Midpoint Drive and be conveyed to the Prospect Ponds and eventually to the ultimate discharge into the Cache la Poudre River.

2. DRAINAGE BASINS AND SUB-BASINS

2.1 Major Basin Description

The proposed development lies within the Cache la Poudre Master Drainageway which requires that detention be provided to attenuate runoff to the 2 year historic runoff rate. It is also required that a minimum of fifty percent of the site runoff be treated using the standard water quality treatment as described in the Fort Collins Stormwater Manual and Low Impact Development (LID) treatment methods are required for seventy-five percent of the site runoff. The proposed LID treatment will be a rain garden located on the southeast edge of the site.

2.2 Sub-basin Description

This site was most likely included in the original drainage report for Prospect Industrial Park but this report cannot be located.

3. DRAINAGE DESIGN CRITERIA

3.1 Regulations

This report was prepared to meet or exceed the "City of Fort Collins Storm Drainage Design Criteria Manual" specifications. Where applicable, the criteria established in the "Urban Storm Drainage Criteria Manual" (UDFCD), developed by the Denver Regional Council of Governments, has been used.

3.2 Development Criteria Reference and Constraints

The majority of the runoff from this site has been routed to flow to the proposed rain garden on the southeast side of the site and then routed to a proposed detention pond on the adjacent property. A small portion of the site will flow to the northeast and into Canton Court without entering the rain garden or the detention pond. The detention pond will provide attenuation to the 2 year historic release and the runoff will then enter Midpoint Drive which will convey the water southeast to Sharp Point Drive and north into the Prospect Ponds via inlet and storm pipe.

3.3 Hydrologic Criteria

Runoff coefficients calculations were prepared for the 2 and 10-year minor and 100-year major storm frequency utilizing the rational method.

3.4 Hydraulic Criteria

The majority of the runoff from the site will flow to the southeast side of the lot and will enter the rain garden. A perforated pipe will collect the runoff and convey it to the detention pond. The detention pond will release to Midpoint Drive via an outlet structure and storm pipe and an overflow conveyance is also provided if the system fails or becomes overloaded. A small portion of the runoff from the site will flow to the northeast corner of the site and will be routed through the drive entrance to Canton Court.

Detention is required for this site. Detention will be provided in a pond on the adjacent lot. The detention volume was calculated to be 1.3 acre feet. The required volume will be accommodated in the proposed pond and will have a maximum water surface of 4896.0. The pond will discharge through a new drainage pipe to the curb in Midpoint Drive. This runoff will then be routed to the existing Prospect Pond on the east side of Sharp Point Drive.

3.5 Four Step Four Step Process to Minimize Adverse Impacts of Urbanization

Step 1. Employ Runoff Reduction Practices – reduction of runoff peaks, volumes, and pollutant loads as the site is developed by implementing Low-Impact Development (LID) facilities including:

- Increase time of concentration by routing flows around the building and increasing the length of the flow path.
- Routing runoff from the proposed site into a rain garden to promote infiltration and biological uptake.
- Routing flows through filter material in the rain garden to increase time of concentration, promote infiltration and provide initial water quality.

Step 2. Implement BMPs That Provide a Water Quality Capture Volume with Slow Release - The efforts outlined in Step 1 will facilitate the reduction of runoff; however, this development will also require detention. Runoff will be routed through the rain

garden and then to a pond that will provide detention with a very small release rate prior to release into the street to not only reduce the amount of runoff generated from the site through infiltration, but also treat the runoff prior to releasing it from the site.

A table showing the Low Impact Development practices being utilized within this project is provided in Appendix E.

Step 3. Stabilize Streams - There are no major drainageways in or near this site therefore Step 3 it not directly applicable this project. However, this project will pay stormwater development fees and monthly stormwater utility fees which contribute to the City's ongoing efforts to attain stream stability where and as needed.

Step 4. Implement Site Specific and Other Source Control BMPs - This step applies to covering storage/handling areas and spill containment and control. Vehicle maintenance will be completed off site to prevent potential spills of vehicle fluids. Any handling of chemicals will be completed inside the building and will be handled per the applicable MSDS (material safety data sheet). Spills will be contained immediately and cleaned up using appropriate absorption materials.

4. DRAINAGE FACILITY DESIGN

4.1 General Concept

The runoff from this site will flow into the parking lot which will be constructed using conventional materials (asphalt or concrete) or into the storage area which will be recycled asphalt. The runoff from the site will then flow to the southeast and enter the rain garden. The flow will percolated into the subsurface material and enter the perforated pipe. This perforated pipe will convey runoff directly to the detention pond and, in an overflow situation, a second pipe is provided to convey the runoff to the detention pond.

4.2 Specific Flow Routing

A summary of the drainage patterns within each basin is provided in the following paragraphs.

Basin 1 includes a small portion of the paved parking lot and sidewalk. Runoff from this basin will enter Canton Court via the drive entrance. No detention or attenuation will be provided for the runoff from this basin.

Basin 2 includes the remainder of the lot including the proposed building, a majority of the paved parking lot and sidewalk, the recycled asphalt storage area and the rain garden. The runoff from this basin will flow to the south and east and into the rain garden. A perforated pipe will collect the flow and convey it to the offsite detention pond. If the perforated pipe becomes clogged or is over capacity, the water will flow in the rain garden to the secondary pipe and be conveyed to the detention pond.

The offsite detention pond has been sized to accommodate runoff from Lot 11 but may be expanded in the future to also accommodate expansion at 2025 Sharp Point Drive. This pond provides detention and will release into a curb opening in Midpoint Drive to the southwest of this site.

LID features have been incorporated in the design of the overall site. The site plan currently shows LID measures proposed with the development plan consisting a rain garden. Please see the LID Design Information provided in Appendix D.

4.3 Drainage Summary

All runoff from this site will be safely conveyed via surface flow and piping to the detention pond. The site will generally conform to the Cache la Poudre Master Drainage plan which encompasses this site.

The City of Fort Collins will be responsible for maintenance of the existing storm drainage facilities located within the right-of-way. The proposed sidewalk culvert and concrete channel are in the right of way but are drainage facilities that will be maintained by the owner of Lot 11 and any other properties that contribute runoff to the pond. The

drainage facilities located outside of the right of way including the rain garden, the detention pond, the concrete pan in the pond and the pond outlet structure will also be maintained by the owner of Lot 11 and any other properties that will contribute runoff to the pond.

5. CONCLUSIONS

5.1 Compliance with Standards

All computations that have been completed within this report are in compliance with the City of Fort Collins Storm Drainage Design Criteria Manual and the Cache la Poudre Master Drainage Plan.

5.2 Drainage Concept

The proposed drainage concepts presented in this report and on the construction plans adequately provide for conveyance of runoff to the detention area. Conveyance elements have been designed to pass required flows and to minimize future maintenance.
If, at the time of construction, groundwater is encountered, a Colorado Department of Health Construction Dewatering Permit would be required.

6. REFERENCES

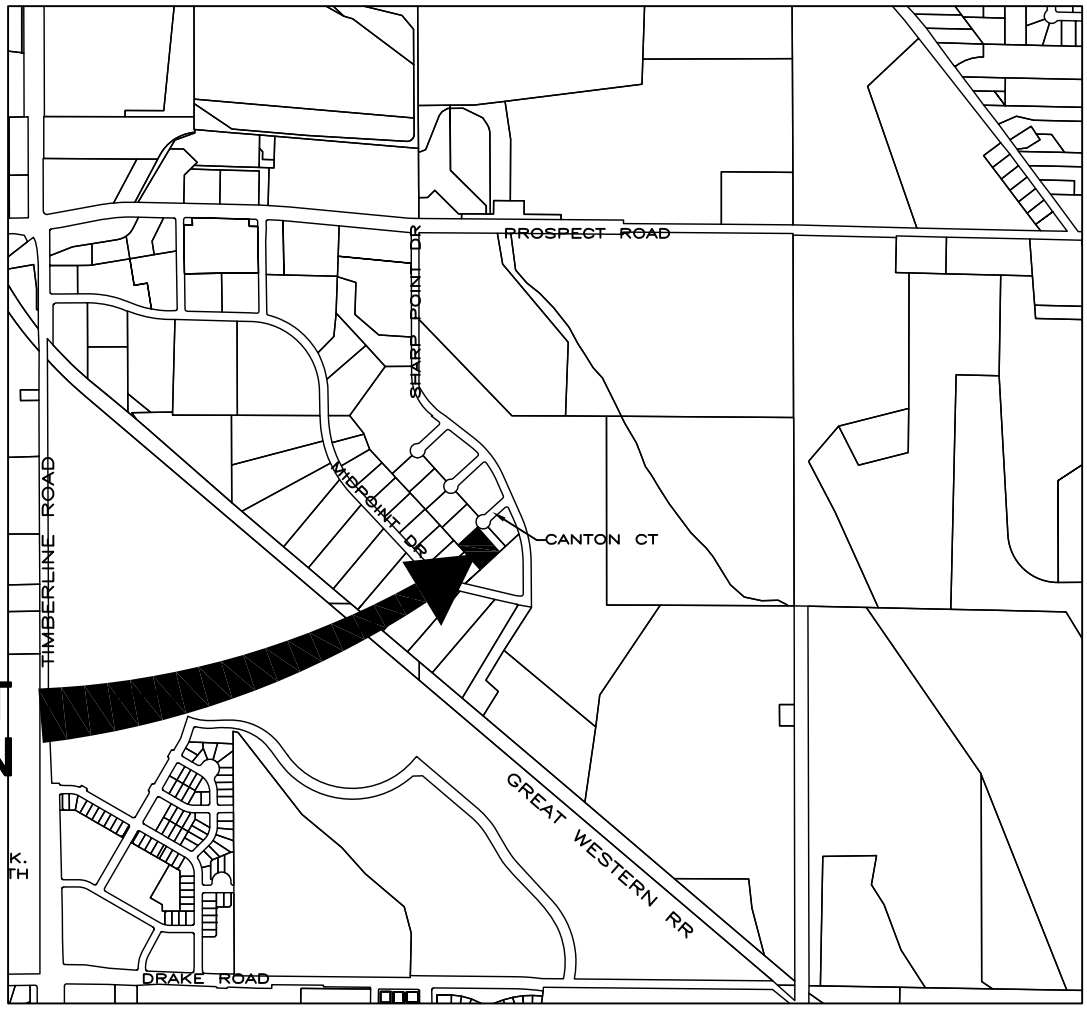
1. City of Fort Collins, “Storm Drainage Criteria Manual”, (SDCM), dated March, 1986.

2. Urban Drainage and Flood Control District, “Urban Storm Drainage Criteria Manual”, Volumes 1 and 2, dated March, 1969, and Volume 3 dated September, 1992.

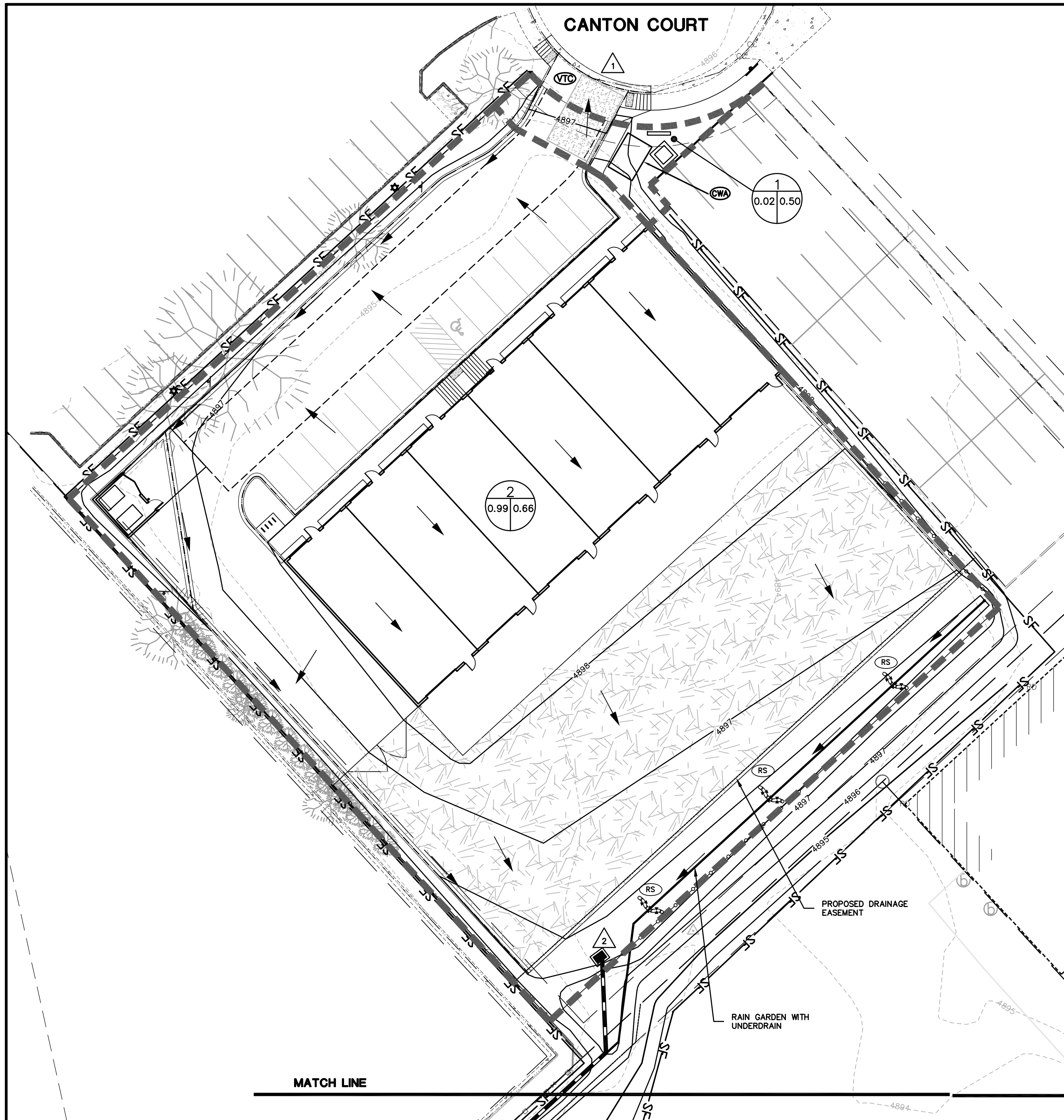
APPENDIX A

VICINITY MAP

PROJECT LOCATION



VICINITY MAP



CONSTRUCTION SEQUENCE

PROJECT: 2601 CANTON COURT DATE: 6/15/17

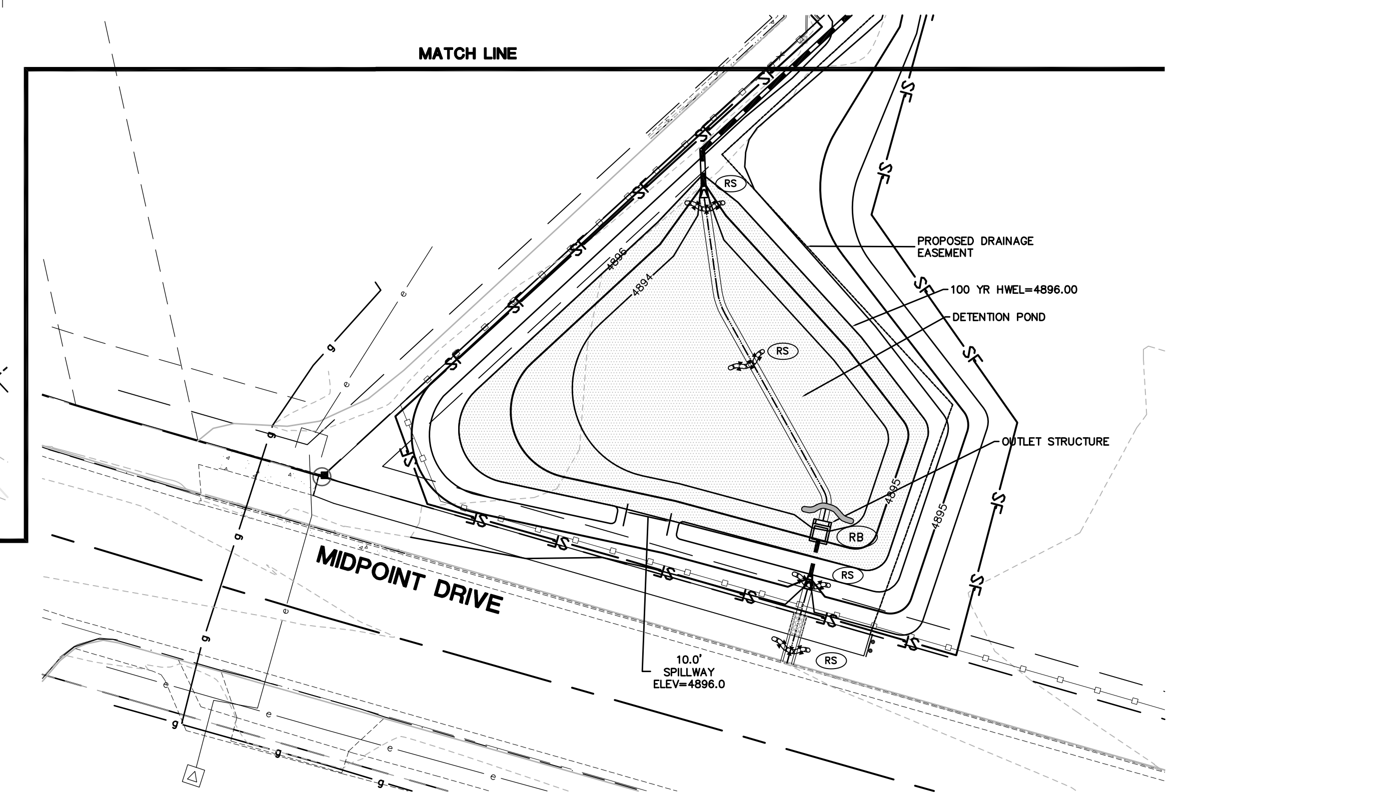
CONSTRUCTION PHASE (MONTH)	1	2	3	4	5	6	7	8	9	10	11	12
GRADING (INCLUDES OVERLOT)												
OVERLOT	■	■										
DETENTION / WQ PONDS		■										
SWALES, DRAINAGEWAYS, STREAMS												
PIPELINE INSTALLATION (INCLUDES OFFSITE)												
WATER		■										
SAINITARY SEWER		■										
STORM SEWER		■										
CONCRETE INSTALLATION (INCLUDES OFFSITE)												
SIDEWALK CULVERTS & CHASES			■									
INLETS												
POND OUTLET STRUCTURE			■									
CURB AND GUTTER			■	■								
PAVEMENT INSTALLTATION												
FINE GRADING / BASE COURSE INSTALL				■	■							
PAVEMENT						■						
BEST MANAGEMENT PRACTICES												
STRUCTURAL												
SILT FENCE BARRIERS	■	■	■	■	■	■	■					
CONTOUR FURROWS (RIPPING/DISKING)												
SEDIMENT TRAP / FILTER												
VEHICLE TRACKING PADS	■	■	■	■	■	■	■					
FLOW BARRIERS (WATTLES, ETC)												
CONCRETE WASHOUT			■	■								
ROCK SOCKS	■	■	■	■	■	■	■					
BARE SOIL PREPARATION												
TERRACING												
RIPRAP												
VEGETATIVE												
TEMPORARY SEED PLANTING					■	■						
MULCHING / SEALANT					■	■						
PERMANENT SEED PLANTING							■					
SOD INSTALLATION							■					
NETTING/BLANKETS/MATS												

20 10 0 20 40

SCALE: 1" = 20'

LEGEND

- EXISTING PIPES
- 4905 EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR
- 4905 PROPOSED 5' CONTOUR
- PROPOSED 1' CONTOUR
- FLOW DIRECTION
- SF —SF—SF— SILT FENCE
- VTC VEHICLE TRACKING PAD
- CWA CONCRETE WASHOUT AREA
- RS ROCK SOCK
- IP INLET PROTECTION
- RB ROCK BERM
- 2 DESIGN POINT
- 2 / 0.26 | 0.95 — BASIN CRITERIA; MINOR (2 YR) RUNOFF COEFFICIENT; AREA IN ACRES
- BASIN BOUNDARY



CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987 (811)
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

City of Fort Collins, Colorado
UTILITY PLAN APPROVAL

APPROVED: ______ City Engineer — Date
CHECKED BY: ______ Water & Wastewater Utility — Date
CHECKED BY: ______ Stormwater Utility — Date
CHECKED BY: ______ Parks & Recreation — Date
CHECKED BY: ______ Traffic Engineer — Date
CHECKED BY: ______ — Date

North Star design, inc.
700 Automation Drive, Unit I
Windsor, Colorado 80550
Phone: 970-686-6939
Fax: 970-686-1188

No.	REVISION	BY	DATE

Date: 6/15/17
Scale: 1"=20'
Designed by: PPK
Drawn by: BK

COLORADO REGISTERED PROFESSIONAL ENGINEER — PATRICIA KROETCH 31306

LOT 11, PROSPECT INDUSTRIAL PARK (2601 CANTON COURT)

DRAINAGE & EROSION CONTROL PLAN

SHEET 5
5 OF 9
Job No. 347-09

APPENDIX B

HYDROLOGIC COMPUTATIONS

North Star Design, Inc.
700 Automation Drive, Unit I
Windsor, CO 80550

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: ppk
DATE: 6/15/2017

Recommended Runoff Coefficients from Table RO-11 of City of Fort Collins Design Criteria
Recommended % Impervious from Urban Storm Drainage Criteria Manual

	% Impervious	Runoff coefficient C
Streets, parking lots (asphalt):	100%	0.95
Sidewalks:	90%	0.95
Recycled Asphalt:	40%	0.80
Roofs:	90%	0.95
Lawns (flat <2%, heavy soil)	0%	0.20

SUBBASIN DESIGNATION	TOTAL AREA (ac.)	TOTAL AREA (sq.ft)	ROOF AREA (sq.ft)	PAVED AREA (sq.ft)	SIDEWALK AREA (sq.ft)	REC. ASPHALT AREA (sq.ft)	LANDSCAPE AREA (sq.ft)	% Impervious	RUNOFF COEFF. (C)
1	0.02	1,060	0	354	72	0	634	40%	0.44
2	0.99	43,190	9,000	13,202	1,314	11,718	7,956	63%	0.75
TOTAL	1.02	44,250	9,000	13,556	1,386	11,718	8,590	62%	0.75
Historic Lot 11	1.02	44,250	0	0	0	0	44,250	0%	0.20

Equations

- Calculated C coefficients & % Impervious are area weighted

$C = \Sigma (Ci\ Ai) / At$

Ci = runoff coefficient for specific area, Ai
Ai = areas of surface with runoff coefficient of Ci
n = number of different surfaces to consider
At = total area over which C is applicable; the sum of all Ai's

North Star Design, Inc.
700 Automation Drive, Unit I
Windsor, CO 80550

STANDARD FORM SF-2

TIME OF CONCENTRATION - 2 YEAR

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: ppk
DATE: 6/15/2017

2-yr storm *Cf = 1.00*

SUB-BASIN DATA			INITIAL /OVERLAND TIME (ti)				TRAVEL TIME / GUTTER OR CHANNEL FLOW (tt)						tc CHECK (URBANIZED BASIN)		FINAL tc	REMARKS
DESIGN POINT	SUBBASIN(s) (1)	Area (ac) (2)	C (3)	Length (ft) (4)	Slope (%) (5)	ti (min) (6)	Length (ft) (7)	Slope (%) (8)	n Manning rough.	Vel. (ft/s) (9)	tt (min) (10)	tc = ti + tt (11)	Total L (ft) (12)	tc=(l/180)+10 (min) (13)	(min) (14)	
1	1	0.02	0.44	26	0.8	6.5	26	4.8	0.016	4.4	0.10	6.6	52	10.3	6.6	To Canton Ct
2	2	0.99	0.75	46	0.8	4.6	380	0.5	0.016	1.4	4.46	9.0	426	12.4	9.0	To rain garden & pond
	TOTAL	1.02	0.75	46	0.8	4.7	380	0.5	0.016	1.4	4.46	9.1	426	12.4	9.1	
1	Historic Lot 11	1.02	0.20	172	1.6	18.2	131	0.7	0.030	0.9	2.51	20.7	303	11.7	11.7	Historic

EQUATIONS:

$tc = ti + tt$

$ti = [1.87 (1.1 - CC_f) L^{0.5}] / S^{1/3}$

tt = L/Vel. Velocity from Manning's Equation with R=0.1 (corresponds to Figure 3-3 of City of Fort Collins Design Manual)

final tc = minimum of ti + tt and urbanized basin check
min. tc = 5 minutes

North Star Design, Inc.
700 Automation Drive, Unit I
Windsor, CO 80550

STANDARD FORM SF-2

TIME OF CONCENTRATION - 100 YR

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: ppk
DATE: 6/15/2017

100-yr storm *Cf = 1.25*

SUB-BASIN DATA			INITIAL /OVERLAND TIME (ti)					TRAVEL TIME / GUTTER OR CHANNEL FLOW (tt)						tc CHECK (URBANIZED BASIN)		FINAL tc	REMARKS
DESIGN POINT	SUBBASIN(s) (1)	Area (ac) (2)	C (3)	C*Cf	Length (ft) (4)	Slope (%) (5)	ti (min) (6)	Length (ft) (7)	Slope (%) (8)	n Manning rough.	Vel. (ft/s) (9)	tt (min) (10)	tc = ti + tt (11)	Total L (ft) (12)	tc=(l/180)+10 (min) (13)	(min) (14)	
1	1	0.02	0.44	0.55	26	0.8	5.4	26	4.8	0.016	4.4	0.10	5.5	52	10.3	5.5	
2	2	0.99	0.75	0.94	46	0.8	2.1	380	0.5	0.016	1.4	4.46	6.5	426	12.4	6.5	
0	TOTAL	1.02	0.75	0.93	46	0.8	2.2	380	0.5	0.016	1.4	4.46	6.7	426	12.4	6.7	
1	Historic Lot 11	1.02	0.20	0.25	172	1.6	17.2	131	0.7	0.030	0.9	2.51	19.7	303	11.7	11.7	

EQUATIONS:

$tc = ti + tt$

$ti = [1.87 (1.1 - CC_f) L^{0.5}] / S^{1/3}$

tt = L/Vel. Velocity from Manning's Equation with R=0.1 (corresponds to Figure 3-3 of City of Fort Collins Design Manual)

final tc = minimum of ti + tt and urbanized basin check
min. tc = 5 minutes

North Star Design, Inc.
700 Automation Drive, Unit I
Windsor, CO 80550

RATIONAL METHOD PEAK RUNOFF
(2-YEAR)

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: ppk
DATE: 6/15/2017

2-yr storm, Cf = 1.00

	DIRECT RUNOFF						CARRY OVER		TOTAL	REMARKS
Design Point	Tributary Sub-basin	A (ac)	C*Cf	tc (min)	i (in/hr)	Q (2) (cfs)	from Design Point	Q (2) (cfs)	Q(2)tot (cfs)	
1	1	0.02	0.44	6.6	2.54	0.0			0.0	To Canton Ct
2	2	0.99	0.75	9.0	2.03	1.5			1.5	To rain garden & pond
0	TOTAL	1.02	0.75	9.1	2.28	1.7			1.7	
1	Historic Lot 11	1.02	0.20	11.7	1.48	0.3			0.34	Historic

$Q = C_f C iA$

Q = peak discharge (cfs)
C = runoff coefficient
C_f = frequency adjustment factor
i = rainfall intensity (in/hr) from IDF curve
A = drainage area (acres)

North Star Design, Inc.
700 Automation Drive, Unit I
Windsor, CO 80550

RATIONAL METHOD PEAK RUNOFF
(100-YEAR)

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: ppk
DATE: 6/15/2017

100-yr storm, Cf = 1.25

	DIRECT RUNOFF						CARRY OVER		TOTAL	REMARKS
Des. Point	Area Design.	A (ac)	C*Cf	tc (min)	i (in/hr)	Q (100) (cfs)	from Design Point	Q (100) (cfs)	Q(100)tot (cfs)	
1	1	0.02	0.55	5.5	9.62	0.1			0.13	To Canton Ct
2	2	0.99	0.94	6.5	8.96	8.4			8.36	To rain garden & pond
	TOTAL	1.02	0.93	6.7	8.75	8.3			8.3	
1	Historic Lot 11	1.02	0.25	11.7	5.67	1.4			1.4	Historic

Q = C i A

Q = peak discharge (cfs)
C = runoff coefficient
I = rainfall intensity (in/hr) from IDF curve
A = drainage area (acres)

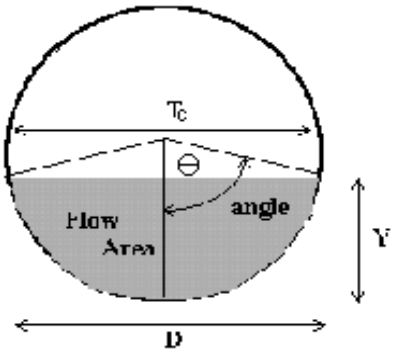
APPENDIX C

HYDRAULIC CALCULATIONS

CIRCULAR CONDUIT FLOW (Normal & Critical Depth Computation)

Project: 2601 Canton Court

Pipe ID: Storm pipe between rain garden and detention pond



Design Information (Input)			
Pipe Invert Slope	So =	0.0150	ft/ft
Pipe Manning's n-value	n =	0.0120	
Pipe Diameter	D =	15.00	inches
Design discharge	**Q =**	**8.34**	**cfs**

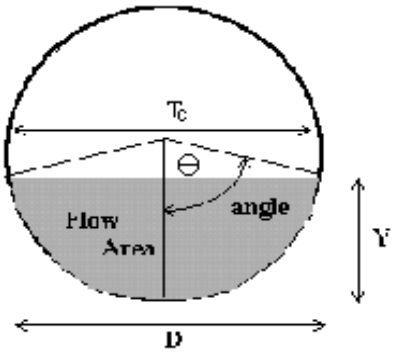
Full-flow Capacity (Calculated)			
Full-flow area	Af =	1.23	sq ft
Full-flow wetted perimeter	Pf =	3.93	ft
Half Central Angle	Theta =	3.14	radians
Full-flow capacity	**Qf =**	**8.59**	cfs

Calculation of Normal Flow Condition			
Half Central Angle (0<Theta<3.14)	Theta =	2.20	radians
Flow area	An =	1.05	sq ft
Top width	Tn =	1.01	ft
Wetted perimeter	Pn =	2.75	ft
Flow depth	Yn =	0.99	ft
Flow velocity	Vn =	7.98	fps
Discharge	**Qn =**	**8.34**	**cfs**
Percent Full Flow	**Flow =**	**97.09%**	**of full flow**
Normal Depth Froude Number	**Fr_n =**	**1.38**	**supercritical**

Calculation of Critical Flow Condition			
Half Central Angle (0<Theta-c<3.14)	Theta-c =	2.51	radians
Critical flow area	Ac =	1.17	sq ft
Critical top width	Tc =	0.74	ft
Critical flow depth	**Yc =**	**1.13**	**ft**
Critical flow velocity	Vc =	7.15	fps
Critical Depth Froude Number	Fr_c =	1.00	

CIRCULAR CONDUIT FLOW (Normal & Critical Depth Computation)

Project: 2601 Canton Court
Pipe ID: Storm pipe from detention pond



Design Information (Input)			
Pipe Invert Slope	So =	0.0100	ft/ft
Pipe Manning's n-value	n =	0.0120	
Pipe Diameter	D =	15.00	inches
Design discharge	**Q =**	**0.40**	**cfs**

Full-flow Capacity (Calculated)			
Full-flow area	Af =	1.23	sq ft
Full-flow wetted perimeter	Pf =	3.93	ft
Half Central Angle	Theta =	3.14	radians
Full-flow capacity	**Qf =**	**7.02**	cfs
Calculation of Normal Flow Condition			
Half Central Angle (0<Theta<3.14)	Theta =	0.83	radians
Flow area	An =	0.13	sq ft
Top width	Tn =	0.92	ft
Wetted perimeter	Pn =	1.04	ft
Flow depth	Yn =	0.20	ft
Flow velocity	Vn =	3.10	fps
Discharge	**Qn =**	**0.40**	**cfs**
Percent Full Flow	**Flow =**	**5.70%**	**of full flow**
Normal Depth Froude Number	**Fr_n =**	**1.46**	**supercritical**
Calculation of Critical Flow Condition			
Half Central Angle (0<Theta-c<3.14)	Theta-c =	0.92	radians
Critical flow area	Ac =	0.17	sq ft
Critical top width	Tc =	0.99	ft
Critical flow depth	**Yc =**	**0.25**	**ft**
Critical flow velocity	Vc =	2.35	fps
Critical Depth Froude Number	Fr_c =	1.00	

APPENDIX D

DETENTION POND CALCULATIONS

MINIMUM DETENTION VOLUME REQUIRED
FAA METHOD
(100-YEAR)

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: PPK
SUBMITTED BY: North Star Design, Inc.
DATE: 6/15/2017

Equations:

$Q_D = CiA$

$V_i = T*CiA = T*Q_D$

$V_o = K*Q_{PO}*T$

$S = V_i - V_o$

A trib. To pond =	0.99	acre
C_{100} =	0.94	
Developed C*A =	0.9	acre
Q_{PO} =	0.4	cfs
K =	1	(from fig 2.1)

Rainfall intensity from City of Fort Collins IDF Curve

Storm Duration, T (min)	Rainfall Intensity, i (in/hr)	Q_D (cfs)	Vol. In V_i (ft^3)	Vol. Out V_o (ft^3)	Storage S (ft^3)	Storage S (ac-ft)
5	9.95	9.2	2749	133	2616	0.060
10	7.72	7.1	4266	266	4000	0.092
20	5.60	5.2	6189	533	5656	0.130
30	4.52	4.2	7493	799	6694	0.154
40	3.74	3.4	8267	1066	7201	0.165
50	3.23	3.0	8924	1332	7592	0.174
60	2.86	2.6	9482	1598	7884	0.181
70	2.62	2.4	10134	1865	8270	0.190
80	2.38	2.2	10521	2131	8390	0.193
90	2.22	2.0	11041	2398	8643	0.198
100	2.05	1.9	11328	2664	8664	0.199
110	1.93	1.8	11731	2930	8801	0.202
120	1.80	1.7	11936	3197	8739	0.201
130	1.60	1.5	11494	3463	8031	0.184
140	1.40	1.3	10831	3730	7101	0.163
150	1.20	1.1	9947	3996	5951	0.137
160	1.15	1.1	10168	4262	5905	0.136
170	1.10	1.0	10333	4529	5805	0.133
180	1.05	1.0	10444	4795	5649	0.130

Required Storage Volume:	**8801**	**ft^3**
	0.202	**acre-ft**

STAGE - STORAGE TABLE
(100-YEAR)

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: PPK
SUBMITTED BY: North Star Design, Inc.
DATE: 6/10/2016

100 yr Detention Volume Required = 0.202

Stage (ft)	Surface Area (ft^2)	Incremental Storage (ac-ft)	Total Storage (ac-ft)	
4893.39	0			
4894.0	2,950	0.014	0.014	
4895.0	4,125	0.081	0.095	
4896.0	5,360	0.109	0.203	<==***SPILLWAY ELEV***
4896.5	5,960	0.065	0.268	

Detention Pond Outlet Sizing

(100 yr event)

LOCATION: 2601 Canton Court
PROJECT NO: 347-09
COMPUTATIONS BY: PPK
SUBMITTED BY: North Star Design, Inc.
DATE: 6/15/2017

Submerged Orifice Outlet:
release rate is described by the orifice equation,

$$Q_o = C_o A_o \text{ sqrt}(2g(h-E_o))$$

where
Q_o = orifice outflow (cfs)
C_o = orifice discharge coefficient
g = gravitational acceleration = 32.2 ft/s
A_o = effective area of the orifice (ft^2)
E_o = greater of geometric center elevation of the orifice or d/s HGL (ft)
h = water surface elevation (ft)

Q_o =	0.40	cfs
outlet pipe dia = D =	15.0	in
Invert elev. =	4893.75	ft
E_o =	4893.88	ft
h =	4896.0	ft - 100 yr WSEL
C_o =	0.62	

solve for effective area of orifice using the orifice equation

A_o =	0.055	ft^2
=	8.0	in^2
orifice dia. = d =	3.18	in

Check orifice discharge coefficient using Figure 5-21 (*Hydraulic Engineering*)

d / D =	0.21	
kinematic viscosity, u =	1.22E-05	ft^2/s
Reynolds no. = Re_d = 4Q/(pdu) =	1.57E+05	
C_o = (K in figure) =	0.62	check

Use d =	***3.20***	***in***		
A_o =	*0.056*	*ft^2 =*	*8.04*	*in^2*
Q_{max} =	*0.40*	*cfs*		

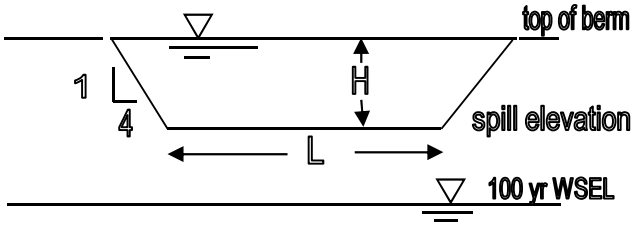
Emergency Overflow Spillway Sizing

LOCATION:	2601 Canton Court
PROJECT NO:	347-09
COMPUTATIONS BY:	PPK
SUBMITTED BY:	North Star Design, Inc.
DATE:	5/24/2005

Equation for flow over a broad crested weir

$Q = CLH^{3/2}$

where C = weir coefficient = 2.8
H = overflow height
L = length of the weir



The pond has a spill elevation 0 ft above the maximum water surface elevation in the pond
Spillways will be designed with 0.5 ft flow depth, thus H = 0.5 ft
Size the spillway assuming that the pond outlet is completely clogged.

Q (100) =	6.7	cfs			
Spill elev =	4896.00	ft	100 yr WSEL =	4896.0	ft
Top of berm elev.=	4896.50				

Weir length required:

L =	7	ft
Use L =	***10***	***ft***

v = 0.96 ft/s

APPENDIX E

LID INFORMATION
BMP SCHEDULE & COST ESTIMATE

LID Summary Table
2601 Canton Court

6/15/2017

Calculation for Required LID Treatment

New Impervious Area (including recycled asphalt)	35660	sq. ft.
Required Minimum Impervious Area to be Treated (75%)	26745	sq. ft.
Impervious Area Treated by LID Treatment Method #1 (rain garden)	35234	sq. ft.
Total Impervious Area Treated	35234	sq. ft.

CONSTRUCTION SEQUENCE

PROJECT: 2601 CANTON COURT DATE: 6/15/17

CONSTRUCTION PHASE (MONTH)	1	2	3	4	5	6	7	8	9	10	11	12
GRADING (INCLUDES OVERLOT)												
OVERLOT	■	■										
DETENTION / WQ PONDS		■										
SWALES, DRAINAGEWAYS, STREAMS												
PIPELINE INSTALLATION (INCLUDES OFFSITE)												
WATER		■										
SAINITARY SEWER		■										
STORM SEWER		■										
CONCRETE INSTALLATION (INCLUDES OFFSITE)												
SIDEWALK CULVERTS & CHASES			■									
INLETS												
POND OUTLET STRUCTURE			■									
CURB AND GUTTER			■	■								
PAVEMENT INSTALLTATION												
FINE GRADING / BASE COURSE INSTALL				■	■							
PAVEMENT						■						
BEST MANAGEMENT PRACTICES												
STRUCTURAL												
SILT FENCE BARRIERS	■	■	■	■	■	■	■					
CONTOUR FURROWS (RIPPING/DISKING)												
SEDIMENT TRAP / FILTER												
VEHICLE TRACKING PADS	■	■	■	■	■	■	■					
FLOW BARRIERS (WATTLES, ETC)												
CONCRETE WASHOUT			■	■								
ROCK SOCKS	■	■	■	■	■	■	■					
BARE SOIL PREPARATION												
TERRACING												
RIPRAP												
VEGETATIVE												
TEMPORARY SEED PLANTING					■	■						
MULCHING / SEALANT					■	■						
PERMANENT SEED PLANTING							■					
SOD INSTALLATION							■					
NETTING/BLANKETS/MATS												

Erosion and Sediment Control Escrow/Security Calculation for The City of Fort Collins

Project: 2601 Canton Court **Disturbed Acres:** 1.27

BMP Amount

EROSION CONTROL BMPs	Units	Estimated Quantity	Unit Price	Total Price
Silt Fence	L.F.	1150	$3.00	$3,450.00
Rock Sock	each	7	$85.00	$595.00
Rock Berm	each	1	$220.00	$220.00
Vehicle Tracking Control Pad	each	1	$1,500.00	$1,500.00
Concrete Washout	each	1	$1,200.00	$1,200.00
Inlet Protection	each	0	$210.00	$0.00
			Sub-Total:	$6,965.00
			1.5 x Sub-Total:	$10,447.50
			Amount of security:	***$10,447.50***

Reseeding Amount

		Total Acres x Price/acre:	$1,524.00
Unit Price of Seeding per acre:	$1,200.00	Sub-Total:	$1,524.00
		1.5 x Sub-Total:	$2,286.00
		Amount to Re-seed:	***$2,286.00***

Miniumum Escrow Amount

Minimum escrow amount:	***$3,000.00***

Final Escrow Amount

Erosion Control Escrow:	***$10,447.50***

"The amount of the security must be based on one and one-half times the estimate of the cost to install the approved measures, or one and one-half times the cost to re-vegetate the disturbed land to dry land grasses based upon unit cost determined by the City's Annual Revegetation and Stabilization Bid, whichever is greater. In no instance, will the amount of security be less than one thousand five hundred dollars ($1,500) for residential development or three thousand dollars ($3,000) for commercial development"

APPENDIX F

EROSION & SEDIMENT CONTROL REPORT

EROSION & SEDIMENT CONTROLS

1.0 Written Analysis

An Erosion and Sediment Control Plan is included herewith. It should be noted, however, that any such Erosion and Sediment Control Plan serves only as a general guide to the Contractor. Staging and/or phasing of the BMPs depicted, and additional or different BMPs from those included may be necessary during construction, or as required by the authorities having jurisdiction.

It shall be the responsibility of the Contractor to ensure erosion control measures are properly maintained and followed. The Erosion and Sediment Control Plan is intended to be a living document, constantly adapting to site conditions and needs. The Contractor shall update the location of BMPs as they are installed, removed or modified in conjunction with construction activities. It is imperative to appropriately reflect the current site conditions at all times.

The Erosion and Sediment Control Plan shall address both temporary measures to be implemented during construction, as well as permanent erosion control protection. Best Management Practices from the Volume 3, Chapter 7 - *Construction BMPs* will be utilized. Measures may include, but are not limited to, silt fencing along the disturbed perimeter, gutter protection in the adjacent roadways and inlet protection at proposed storm inlets. Vehicle tracking control pads, spill containment and clean-up procedures, designated concrete washout areas, dumpsters, and job site restrooms shall also be provided by the Contractor.

Grading and Erosion Control Notes can be found on Sheet 2 of the Utility Plans. In addition to this report and the plan sheets, the Contractor shall be aware of and adhere to the applicable requirements outlined all Development Agreements pertaining to this property. Also, the Site Contractor for this project will be required to secure a Stormwater Construction General Permit from the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division - Stormwater Program, before commencing any earth disturbing activities. The Contractor shall also develop a comprehensive Storm Water Management Plan (SWMP) conforming to applicable

requirements including descriptions of the ongoing activities, inspections and maintenance of construction BMPs.

The site is approximately 1.02 acres all of which will undergo earthmoving operations. The existing site has existing ground cover (volunteer grasses and weeds) on approximate 45% - 50% of the site as the site has been historically used for storage of materials and vehicles for adjacent properties.

Runoff from this site currently does not discharge to the offsite as this site is in a low area with all adjacent sites being raised (filled) upon development. With the proposed development, this site will also be filled and sloped to drain to the southeast. The runoff will then enter Midpoint Drive and be conveyed southeast to Sharp Point Drive, then north to a low point where it will enter the City of Fort Collins Natural Areas ponds (Prospect Ponds) via an inlet and storm pipe. Prospect Ponds discharge into the Cache la Poudre River on the east side of the ponds.

The soils on this site are classified by the USGS Soil Survey as Caruso Clay Loam and are classified in the hydrologic group D. The soils are described as having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission. The rainfall erodibility is deemed to be moderate and the wind erodibility is deemed to be moderate to high.

The site is surrounded by developed sites including streets, buildings and paved areas. The construction shall utilize silt fence around the perimeter to control sediment transport from rainfall and from wind. The silt fence that is located in the proposed pavement areas will be removed prior to placing new pavement. Rock socks will be utilized in the existing curb and proposed rain garden to capture sediments that are not fully contained by the silt fence placement. The locations of the rock socks will be in the areas of concentrated flow such as in the existing curb, at the concrete sidewalk chase and on the concrete pans.

The site will also utilize a vehicle tracking control pad to minimize sediment from being tracked onto adjacent pavements. Sediment that is tracked will be removed and placed within the site or permanently disposed of offsite. A concrete washout will be used on site during the concrete placement. All hardened concrete will be disposed of offsite. These BMP's have not been located on the site map due to the fact that the site is very small and these BMP's will need to be placed by the contractor in locations that are most beneficial and will minimize disruption of adjacent traffic.

Permanent erosion control consists of covering the soils with a building, concrete walks, concrete pavement, recycled asphalt pavement and sod. No soil will be left exposed to erosion after the construction is complete. Refer to the landscape plan for areas of and instructions for placement of sod and soil amendments required prior to placement of sod.

Refer to Appendix E for the timing of the construction phases and the sequential installation of all BMP phasing for this site.

Refer to the Appendix E for the Erosion Control Surety calculations.

2.0 SWMP contact information

Permit holder:

Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Appointed agent:

Name: _____

Address: _____

Phone Number: _____

Email Address: _____

3.0 Identification and location of all potential pollution sources

Potential Pollutant Source Activity	Potential Pollutant Generated	Applicable to this project	Control Measure
Disturbed Areas	Sediment	X	Silt Fence, Rock Socks
Soil stockpiles	Sediment	X	Silt Fence, Rock Socks
Travel to adjacent public streets	Tracked sediment	X	Tracking Pad, street sweeping
Contaminated soils	Sediment, chemicals	Possible	Remove contaminated soils from site **
Loading and unloading chemicals	Chemicals		
Unloading of building materials	Trash, debris	X	Trash dumpsters, Waste Management Firm **
Outdoor storage of chemicals	Chemicals		
On site equipment maintenance	Oil, grease		
On site equipment fueling	Diesel, gasoline	X	Containment berm **
Dust generating activities	Particulates, sediment	X	Water truck
Use of fertilizer, pesticides, herbicides	Fertilizer, pesticides		
Use of detergents, solvents, oils	Detergents, solvents, oil	X	If spilled, remove contaminated soils from site **
Waste dumpsters, waste piles	Chemicals, trash, debris	X	Waste Management Firm
Concrete washout	Concrete, sediment, wash water	X	Remove hardened concrete, dispose of offsite **
On site equipment washing	Detergents, oil		
On site asphalt batch plant	Asphaltic cement, sediment		
On site concrete batch plant	Cement, sediment		
Portable toilets	Domestic sewage	X	Waste Management Firm

** Refer to Section 1.5.2 for additional Materials Handling & Spill Prevention BMP

4.0 Best Management Practices (BMP's) for Stormwater Pollution Prevention

Structural Practices for Erosion and Sediment Control

Structural practices for the site will consist mainly of silt fence and rock sock filters and are described in detail in the following paragraphs. These BMP's are expected to change as the construction progresses and it is the responsibility of the contractor to ensure appropriate BMP's are in place and/or removed at the appropriate time in the construction sequence. All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure continued performance of their intended function.

Silt fence and rock sock filters shall be in place prior to commencement of construction activities. During clearing and grubbing necessary for silt fence installation, all cleared material shall be placed on the uphill side so that if erosion occurs from the cleared material, the sediment will be trapped and not transported downstream. Rock socks shall be implemented in the existing curb line as shown on the Drainage & Erosion Control Plan.

All BMP's shall be installed per the details shown on the construction plan set.

Temporary & Permanent Structural BMP's:

Structural BMP	Approximate location on site	Applicable to this Project
Silt Fence	Site perimeter, refer to site map	X
Straw bale dams		
Rock Socks	At existing sidewalk culverts, in existing gutters, refer to site map	X
Earthen diversion dams		
Vegetated swales		
Sediment trap/pond		
Pipe slope drains		
Geogrid		
Inlet/outlet protection	In the detention Pond	X
Culverts	Refer to site map	X
Riprap		
Erosion control mats		
Inlet protection		
Vehicle Tracking Control Pad	At site entrance, refer to site map	X
Concrete Washout	To be located by Contractor	X

Non-Structural Practices for Erosion and Sediment Control:

Soils exposed during the earthwork phase and landscape prep phase shall be kept in a roughened condition by ripping or disking along land contours until mulch, vegetation, or other permanent erosion control is installed. No large amount of soils (in excess of 15 yards) will be allowed to be stock piled on site. Overburden from the utility pipe trenching will be piled adjacent to trenches upstream of sediment controls and will be replaced in the trenches within 72 hours.

Excess excavated materials from the demolition and grading phases of the project that cannot be reused on site will be exported as it is excavated. This includes any asphalt pavement from the existing site that is to be removed.

A vehicle tracking pad will be installed at a location most beneficial to the site construction as determined by the contractor. Vehicles will not be permitted in the excavated area if soil is muddy. Gravel sub base will be placed and compacted in the areas indicated for pavement following excavation. In the current pre construction state the site enables tracking of silt onto the adjacent streets during wet conditions. During construction activities the street will be monitored for foreign debris tracked out of the site and mechanical sweeping and clean up will be performed as needed.

No area shall remain exposed by land disturbing activity for more than thirty (30) days before required temporary or permanent erosion control (e.g. seed/mulch, landscaping, etc.) is installed.

Temporary & Permanent non-structural BMP's:

Non-Structural BMP	Approximate location on site	Applicable to this Project
Surface roughening	Entire site	X
Soil stockpile height limit (less than 10')		
Perimeter vegetative buffer	northwest and southwest boundaries of site	X
Minimization of site disturbance		
Mulch		
Seed & mulch stockpiles after 30 days		
Stockpile toe protection (silt fence, wattles or ditch)		
Preservation & protection of existing vegetation & trees	northwest and southwest boundaries of site	X
Good site housekeeping (routine cleanup of trash & constr debris)	Entire Site	X
Sweeping & scraping of hardscape areas	On and off site pavements	X
Heavy equip staged on site, properly maintained & inspected daily (no onsite maintenance)	Staging area	X

5.0 BMP Implementation

5.1 Phased BMP Implementation

BMP's are expected to change as the construction progresses and it is the responsibility of the contractor to ensure appropriate BMP's are in place and/or removed at the appropriate time in the construction sequence. A construction sequence schedule has been included on the Drainage & Erosion Control Plan and included in the construction plans for this site.

All BMP's shall be inspected and repaired or replaced as required to satisfy the conditions of the Stormwater Discharge Permit. All BMP's must be maintained and repaired as needed to assure continued performance of their intended function. Refer to Appendix E for the BMP schedule and estimated costs.

5.2 Materials Handling and Spill Prevention:

Materials Handling & Spill Prevention BMP	Approximate location on site	Applicable to this Project
Portable toilets, anchored & located away from drainages	Contractor to determine	X
Fuel storage located in bulk tanks with secondary containment & spill kit		
Mobile fueling performed at least 200 feet away from drainages & fully attended	Contractor to determine	X
Fertilizers, form oil, solvents, cleaners, detergent stored in 55 gal or smaller containers, kept in storage units	Contractor to determine	X
Dumpsters containing used chemicals containers & liquid wastes kept covered	Contractor to determine	X
Equipment cleaning (on site) uses no detergents & flows to onsite retention basin		
In case of a release of fuel or other chemicals, absorbent booms or earthen berms will be immediately constructed to contain the spill & prevent runoff to adjacent surface waters	Location of spill	X
MSDS sheets for onsite chemicals will be kept at the construction trailer to facilitate spill response & cleanup	Contractor to determine	X

5.3 Dedicated Asphalt or Concrete Batch Plant:

Not proposed with this development

5.4 Vehicle Tracking Pad:

Vehicle tracking control pad shall be installed wherever construction vehicle access routes intersect paved public roads. Vehicle tracking control pads shall be installed to minimize the transport of sediment (mud) by runoff or vehicles tracking onto the paved surface. Any mud tracked to public roads shall be removed on a daily basis and after any significant storm that causes sediment to be transported. It is unlawful to track sediment/mud onto public streets and may be enforced by the City of Fort Collins, by the State of Colorado or by the EPA.

5.5 Waste Management and Disposal:

Portable toilets will be anchored & periodically maintained by waste management company. Dumpsters on site will be covered & periodically emptied by waste management company. Concrete waste will be allowed to harden and then will be removed from site.

No washing activities will occur on site.

Location of the concrete washout is shown on the site map. The washout will be sufficiently deep to accommodate all anticipated concrete truck wash water. Waste concrete will be allowed to harden and be removed from site periodically as the washout reaches 50% of its capacity. Truck wash water will not be allowed to reach the curb & gutter or any other water course.

5.6 Groundwater and Stormwater Dewatering:

No groundwater was encountered during soils exploration therefore ground water is not anticipated to be an issue. If groundwater is encountered a groundwater discharge permit shall be obtained and a detailed report shall be completed describing the location and the route of where pumped groundwater will be conveyed and the measures taken to prevent the transport of any pollutants to downstream waters.

5.7 Inspection & Maintenance:

It is required that routine site inspections are performed to effectively address maintenance and repair of Best Management Practices (BMP's). The site inspections are to performed by the contractor or an inspector designated by the administrator at a minimum of once every fourteen (14) calendar days on active construction sites and after any significant storm event (an event causing runoff). As part of the site inspections the inspector is required to keep documentation of all inspections and BMP maintenance, including an updated Site Map indicating new BMP's or the removal of BMP's since the previous inspection.

Any maintenance, repair, or necessary installation of BMP's that are noted during the inspection must be completed within seven (7) calendar days from the date of the inspection.

6.0 Soil Amendments, Permanent Seeding & Mulching

6.1 Soil Amendments

Soil in the rain garden shall be amended per the City of Fort Collins Bioretention Sand Media Specifications found at:

http://www.fcgov.com/utilities/img/site_specific/uploads/Bioretention_Sand_Media_Specs.pdf

Soil treatment in the detention area will be to spread imported or stockpiled topsoil to a minimum depth of four inches over areas to be planted.

6.2 Permanent Seeding

The following seed mix shall be applied at the rates indicated in the rain garden and in the detention pond. Other landscaped areas on site shall be treated per the landscape plan. Mulch shall be applied after seeding as the notes indicate below.

UPLAND SEED MIX (UPSM)

COMMON NAME	SCIENTIFIC NAME	SEED PER POUND (x1000)	SEEDS PER SQUARE FOOT	POUNDS (PLS) PER ACRE
Achnatherum hymenoides 'Paloma'	Indian ricegrass	141	5	1.54
Amorpha canescens	Leadplant	187	5	1.16
Artemisia ludoviciana	Prairie Sagebrush	4400	5	0.05
Bouteloua curtipendula	Sideoats grama	190	10	2.29
Bouteloua gracilis 'Hachita'	Blue grama	825	20	1.06
Buchloe dactyloides (burr)	Buffalo grass	56	20	15.56
Pascopyrum smithii 'Arriba'	Western wheatgrass	120	10	3.63
		TOTAL	**75**	**25.29**

Drill seed specified mix in two passes, each at right angles to each other. Drill half of the seed in each pass. If areas are too wet or steep to drill seed, broadcast seed in two opposite directions. Restore fine grade after seeding, and cover seed to depth of 1/4 inch by raking or dragging. Firm seeded areas with a roller weighing maximum of 100 lbs. per foot of width. Ground cover shall be considered established when 70% of the seed has been germinated. At the point that the seed is considered established, the temporary erosion control measures may be removed.

6.3 Mulching

All planted areas should be mulched preferably immediately following planting, but in no case later than 14 days from planting. Mulch conserves water and reduces erosion. The most common type of mulch used is hay or grass that is crimped into the soil to hold it. However, crimping may not be practical on slopes steeper than 3:1. The following guidelines should be followed with mulching:

- Only weed-free and seed-free straw mulch should be used (grass hay often contains weedy exotic species). Mulch should be applied at 2 tons/acre and adequately secured by crimping, tackifier, netting, or blankets.
- Crimping is appropriate on slopes of 3:1 or flatter and must be done so as to tuck mulch fibers into the soil 3 to 4 inches deep.
- Tackifier or netting and blankets anchored with staples should be used on slopes steeper than 3:1.

- Hydraulic mulching may also be used on steep slopes or where access is limited. Wood cellulose fibers mixed with water at 2,000 to 2,500 pounds/acre and organic tackifier at 100 pounds per acre should be applied with a hydraulic mulcher.

Natural Areas Department
1745 Hoffman Mill Road
PO Box 580
Fort Collins, CO 80522

970.416.2815
970.416.2211 - fax
fcgov.com/naturalareas

March 9, 2017

Ryan Mounce – City Planner
City of Fort Collins Community Development & Neighborhood Services
Current Planning
281 N. College Ave.
Fort Collins, CO 80524

Re: 2601 Canton Court & 2025 Sharp Point Dr. - Request for drainage/stormwater easement on City Natural Area

Ryan:

Natural Areas staff has been in discussions with Donna Martemucci of Doberstein Lemburg Commercial regarding the proposed development at 2601 Canton Court. The City of Fort Collins Natural Areas Department owns the property immediately east of the proposed development, known as Prospect Ponds natural Area.

The developer has requested an easement from the City for the purpose of conveying drainage and stormwater flows from 2601 Canton Court into the Natural Area.

Natural Areas staff are agreeable with this proposal in concept and have no immediate objections to the project moving forward within the Development Review process. However, Natural Areas would like to clarify that the purpose of the proposed easement will be for the purpose stated above, and not for any other purpose, such as the purpose of detaining, retaining, or storing drainage and stormwater flows. The *Final Drainage and Erosion Control Study: 2601 Canton Court*, dated February 10, 2010, prepared by Patricia Kroetch, P.E., North Start Design ("Report") contains various provisions suggesting that the pond on the Property would be used for detaining, and perhaps retaining and storing drainage and stormwater flows.[1] Such provisions of the Report are incorrect. Natural Areas and the City consider the pond on the Property to be part of the natural stream system. Natural Areas and the City do not consider the pond on the Property to be a facility where detention, retention, or storage may occur. This misunderstanding should be corrected.

We anticipate that the developers will be responsible for resolving any outstanding questions and issues with regard to the proposed easement's impact to the Natural Area as we work through the easement approval process.

Thank you,

Justin Scharton
Environmental Planner

Pc: - Eric Potyondy, Fort Collins Assistant City Attorney
- Heather McDowell, Civil Engineer II
- Patricia Kroetch, P.E., North Start Design

[1] For example, Section 1.2 of the Report states that "The water will then discharge into Midpoint Drive and be conveyed to the Prospect Ponds where detention for this site will occur. An easement from Natural Areas will be obtained to allow for detention in these ponds." Similarly, Section 3.2 of the Report states that "The Prospect Ponds will provide detention for this site therefore no onsite detention is being provided for with this design. An easement will be obtained from Natural Areas to allow for detention in the Prospect Ponds." See also Sections 3.4 and 3.5 of the Report.

Daniel R. Bernth
Doberstein Lemburg Commercial, Inc.
1401 Riverside Avenue
Fort Collins, CO 80524

March 20, 2017

Dear City of Fort Collins Planning and Development:

This is a letter of intent indicating that the landlords/owners of 2025 Sharp Point Drive will provide to the owners of 2601 Canton Court a drainage access easement across the 2025 Sharp Point Drive property.

Thank you for your consideration. Please let me know if you need further information.

Sincerely,

Daniel R. Bernth
Owner of 2025 Sharp Point Drive